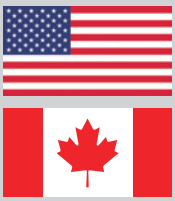
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Industrial cables

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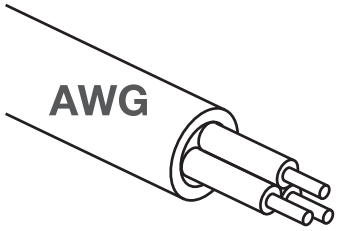
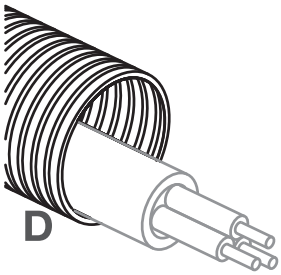
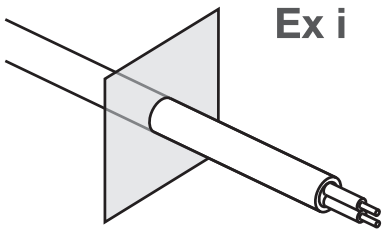
Solvtek is the web application with which it is possible to calculate:

- the voltage drop of the conductor
- the maximum length of the conductor
- the maximum load of the conductor
- the sizes of the conductors
- the diameter of the cables' bundle
- the dimensions of the most suitable heat shrink tubing
- the size of the raceways or the cable trays
- the distance of the supports

and finally, it is possible to validate intrinsically **safe systems.**

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Calculation of the conductor size and the maximum load applicable according to the NFPA 79, NFPA 70 (NEC), CSA C22.1 (CE Code), UL 2011 standards.	Sizing of the rigid or flexible tubing, metallic and non-metallic according to the requirements of the NFPA 70 (NEC) and NFPA 79 standards	Validation of the intrinsically safe system according to the requirements of EN 60079 e ANSI/UL 60079 standards
		

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Single core cables

Series	Product	Page	Insulation	Jacket	Voltage rating	Temperature rating	USA and Canada Certification	Use
N0000	Bare or tinned flexible copper braids	24	-	-	-	-	-	Fixed
900	Single core cables Style 1569/1007	25	PVC	-	300 V	-40°C +80°C/+105°C	c UL us	Fixed
910	Single core cables style 1015/1284	26	PVC	-	600 V	-40°C, +105°C	c UL us	Fixed
911	Single core cables style 1015	27	PVC	-	600 V 450/750V	-40°C +70°C/+90°C/+105°C	c UL us	Fixed
970	Silicone insulated single-core cables Style 3644	29	Silicone	-	600/1000 V 1000 V	-50°C +150°C/+180°C/+200°C	c UL us	Fixed
950	Silicone rubber braided glass cables	31	Silicone	Glass fiber	600 V	+150°C/+200°C	CSA UL	Fixed
960 960S	High flexible single core cables for dynamic application	33	PVC	PUR	600/1000 V 600 V	-40°C/-5°C +80°C/+90°C	c UL us	300 m/min 30 m/s²
1000	Single core cables type THHN MTW	37	PVC	Nylon	600 V	+90°C	UL	Fixed
1010	Single core cables type XHHW-2	39	XLPE	-	600/1000 V 600 V	-40°C/-15°C +90°C	UL	Fixed
1010S	Single core cables type XHHW-2	41	XLPE	PVC	600/1000 V 600 V	-40°C/-15°C +90°C	UL	Fixed
1050 1050S	Single core cables Style 1032	43	PVC	PVC	600/1000 V 1000 V	-40°C/-5°C +90°C	c UL us	Fixed
1060	Single core cables type THHW/TFF MTW	45	PVC	-	600 V 450/750 V	-40°C/-5°C, +70°C/+90°C	UL c UL us	Fixed
1070	Single core cables type THHW/TFF MTW CT-USE AWM TEW TW75	47	PVC	-	450/750V 600V 1000V	-40°C/-5°C, +70°C/+75°C/+90°C/+105°C	UL c UL us	Fixed
1075	Single core cables type THHW MTW CT-USE AWM TEW TW75 for dynamic applications	49	PVC	-	450/750V 600V 1000V	-40°C/-5°C, +70°C/+75°C/+90°C/+105°C	UL c UL us	180 m/min 20 m/s²
1080 1080S	Single core cables type THHW/TFF MTW CT-USE AWM	51	PVC	PVC	600/1000V 600V 1000V	-40°C/-5°C +90°C	UL c UL us	Fixed

Unarmoured cables for fixed applications

Series	Product	Page	Insulation	Jacket	Voltage rating	Temperature rating	USA and Canada Certification	Use
50 50S	"LiYY" and "LiYCY" data transmission cables	58	PVC	PVC	300/500 V	-40°C/-5°C +70°C/+80°C		Fixed
100 100S	"Flextek" high flexible oil-resistant and UV-resistant cables	62	PVC	PVC	450/750 V	-40°C/-5°C +70°C/+80°C		Fixed
100 100S	"Flextek Hybrid Black" high flexible oil-resistant and UV-resistant cables	69	PVC	PVC	450/750 V	-40°C/-5°C +70°C/+80°C		Fixed
105 105S	"Flextek-B" oil-resistant and UV-resistant cables	71	PVC	PVC	600/1000 V	-40°C/-5°C +70°C/+80°C		Fixed
160S	Low capacity VFD 3xG cables	75	XLPE	PVC	600/1000 V	-40°C/-5°C +90°C		Fixed
200 200S	"Flextek-PUR" oil-resistant high performing cables	77	PVC	PUR	300/500 V	-40°C/-15°C +70°C/+80°C		Fixed
345 345S	Multi-norm oil-resistant cables	81	PVC	PVC	300/500 V 450/750 V 1000 V	-40°C/-5°C +90°C	c UL us	Fixed
361S	Low capacity VFD 3xG cables, AWM	87	TKblend®-YP	PVC	600 V 600/1000 V	40°C/-5°C +90°C	c UL us	Fixed
361S	Low capacity VFD 1xG cables, AWM	89	TKblend®-YP	PVC	600 V 600/1000 V	40°C/-5°C +90°C	c UL us	Fixed
365S	Low capacity VFD 3xG cables, TC-ER/CIC/MTW/WTTC, Direct Burial, Sun Res	91	Special XLPE	PVC	600V 1000 V 600/1000V	-40°C/-5°C +90°C	UL c UL	Fixed
365S	Low capacity VFD 1xG cables, TC-ER/CIC/MTW/WTTC, Direct Burial, Sun Res	93	Special XLPE	PVC	600V 1000 V 600/1000V	-40°C/-5°C +90°C	UL c UL	Fixed
365S	Low capacity VFD 1xG+1xP cables, TC-ER/CIC/MTW/ WTTC, Direct Burial, Sun Res	95	Special XLPE	PVC	600V 1000 V 600/1000V	-40°C/-5°C +90°C	UL c UL	Fixed
365S	Low capacity VFD 1xG+2xP cables, TC-ER/CIC/MTW/ WTTC, Direct Burial, Sun Res	97	Special XLPE	PVC	600V 1000 V 600/1000V	-40°C/-5°C +90°C	UL c UL	Fixed
370S	Intrinsically safe cables	99	TKblend®-R	PVC	300 V 300/500 V	-25°C/-5°C +80°C	c UL us	Fixed
380 380S	High temperature multi-norm silicone cables	100	Silicone	Silicone	450/750 V 600 V	-60°C +150°C/+180°C	c UL us	Fixed
8110 8110S	Power and Control Tray Cable, TC-ER-HL/CIC/MTW/ WTTC/AWM Direct Burial, Sun Res	104	TKblend®-R	PVC	600 V 1000 V 600/1000 V	-40°C/-5°C, +75°C/+90°C	UL c UL	Fixed
8110 8110S	Power and Control Tray Cable, reduced size ground conductor, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res	110	TKblend®-R	PVC	600 V 1000 V 600/1000 V	-40°C/-5°C, +75°C/+90°C	UL c UL	Fixed
811x 811xS	Power and Control Tray Cable for 24 V circuits, TC-ER-HL/ CIC/MTW/WTTC/ AWM Direct Burial, Sun Res	114	TKblend®-R	PVC	600 V 1000 V 600/1000 V	-40°C/-5°C, +75°C/+90°C	UL c UL	Fixed
8110S	Tray Cable Instrumentation, multiple pairs, TC-ER-HL/CIC/ MTW/ WTTC/AWM Direct Burial, Sun Res	118	TKblend®-R	PVC	600 V 1000 V 600/1000 V	-40°C/-5°C, +75°C/+90°C	UL c UL	Fixed
8110S	Tray Cable Instrumentation, multiple triads, TC-ER-HL/CIC/ MTW/ WTTC/AWM Direct Burial, Sun Res	120	TKblend®-R	PVC	600 V 1000 V 600/1000 V	-40°C/-5°C, +75°C/+90°C	UL c UL	Fixed
8130 8130S	Power and Control Tray Cable, TC-ER/CIC/MTW/WTTC Direct Burial, Sun Res, XLPE	122	Special XLPE	PVC	600V 1000V 600/1000V	-40C/-5°C +90°C	UL c UL	Fixed
8100 8100S	Power and Control Tray Cable TC-ER	127	PVC/Nylon	PVC	600 V	+75°C/+90°C	UL	
8150S	Power-limited Tray Cable PLTC/ITC	132	PVC	PVC	300 V	+105°C	UL	
80010 80020	Flexible cord type S e SJ	133	Thermoset	Thermoset	300 V 600 V	-40°C, +60°C	UL SA	
80140 80160	Flexible cord type SJOOW	135	Thermoset	Thermoset	300 V	-40°C, +90°C/+105°C	UL SA	
80080	Flexible cord type STOW	136	PVC	PVC	600 V	-40°C, +90°C	UL SA	

80060	Flexible cord type SJTOW	137	PVC	PVC	300 V	-40°C, +90°C	
80050	Flexible cord type SJT	138	PVC	PVC	300 V	-20°C, +60°C	
80120 8012S	Flexible cord type SOOW	139	Thermoset	Thermoset	600 V	-40°C, +90°C	
80130	Flexible cord type W	141	Thermoset	Thermoset	2000 V	-40°C, +90°C	
80150 80155	Flexible cord type G e G-GC	143	Thermoset	Thermoset	2000 V	-40°C, +90°C	
20070	Festoon Cable Neoprene	144	Thermoset	Neoprene	600 V	-50°C, +90°C	
20020 2002S	Festoon Cable PVC	145	PVC	PVC	600 V	-10°C, +105°C	

Armoured cables for fixed applications

Series	Product	Page	Insulation	Jacket	Voltage rating	Temperature rating	USA and Canada Certification	Use
150 150S 151	"Armatek" armoured oil-resistant cables	150	PVC	PVC	300/500 V 600/1000 V	-40°C/-5°C +70°C/+80°C		Fixed
8200 8200S	Metal-Clad Cable MC-HL	158	XLPE PVC/Nylon	PVC	600 V	+90°C		
8250	Metal-Clad Cable Teck 90-HL	160	XLPE	PVC	600 V	+90°C		

Cables for dynamic applications

Series	Product	Page	Insulation	Jacket	Voltage rating	Temperature rating	USA and Canada Certification	Use
8410 8410S	Power and Control Tray Cable, TC-ER/CIC/MTW/WTTC/ AWM	164	TKblend®-R	PVC	600 V 1000 V 600/1000 V	-40°C/-5°C, +75°C/+90°C		180 m/min 10 m/s²
400S	Multi-norm oil-resistant cables for servo motors	168	TKblend®-YP	PVC	600/1000V 1000V	-40°C/-5°C +80°C		180 m/min 3 m/s²
410 410S	Multi-norm oil-resistant cables	170	PVC	PVC	300/500 V 600 V	-40°C/-0°C +90°C		180 m/min 3 m/s²
440 440S	Multi-norm oil-resistant cables	174	TKblend®-L	PVC	300 V 300/500 V 600/1000 V 1000 V	-30°C/-5°C +80°C		180 m/min 7 m/s²
440S	Multi-norm oil-resistant cables for servo motors	180	TKblend®-L	PVC	600/1000 V 1000 V	-30°C/-5°C +80°C		180 m/min 7 m/s²
600 600S	Multi-norm oil-resistant high flexible cables	182	TKblend®-L	PUR	300 V 300/500 V 600/1000 V 1000 V	-40°C/-30°C +80°C		>220 m/min 10 m/s²
600S	Multi-norm oil-resistant high flexible cables for servo motors	186	TKblend®-L	PUR	600/1000 V 1000 V	-40°C/-30°C +80°C		>220 m/min 10 m/s²
600S	Multi-norm oil-resistant high flexible cables for encoders and resolvers	188	TKblend®-L	PUR	300 V 300/500 V	-40°C/-30°C +80°C		>220 m/min 10 m/s²
605 605S	Multi-norm oil-resistant high flexible cables	190	TKblend®-L	PUR	600 V 450/750 V	-40°C/-30°C +80°C		>220 m/min 10 m/s²

Data transmission cables

Series	Product	Page	Insulation	Jacket	Voltage rating	Temperature rating	USA and Canada Certification	Use
71000	Profibus data communication cables	198	TKblend®-L	PVC	300 V	-10°C, +80°C	c UL us	Fixed
71100	Profibus data communication cables	199	TKblend®-L	PVC	30 V	-10°C, +80°C	c UL	80 m/min 7 m/s²
71140	High performances Profibus data communication cables	200	TKblend®-L	PUR	300 V	-10°C, +80°C	c UL us	180 m/min 3 m/s²
71600	High performances Profibus CMX data communication cables	201	TKblend®-L	PUR	300 V	-40°C/-30°C +70°C/+75°C	UL CSA	180 m/min 3 m/s²
73000	DeviceNet data communication cables	202	TKblend®-L	PVC	300 V	-40°C, +80°C	c UL us	Fixed
73100	DeviceNet data communication cables	203	TKblend®-L	PUR	300 V	-40°C, +80°C	c UL us	180 m/min 5 m/s²
74100	CanOpen data communication cables	204	TKblend®-L	PVC	300 V	-40°C, +80°C	c UL us	Fixed
74000	CanOpen data communication cables	205	TKblend®-L	PUR	300 V	-40°C, +80°C	c UL us	180 m/min 5 m/s²
75000	Industrial Ethernet data transmission cables	206	TKblend®-L	PVC	300 V	-30°C, +80°C	c UL us	Fixed
75500	Industrial Ethernet CMR data communication cables	207	TKblend®-L	PVC	125 V	-30°C, +75°C	UL CSA	Fixed
75100	Industrial Ethernet data transmission cables	208	TKblend®-L	TPE/PUR	125 V	-40°C, +80°C		180 m/min 3 m/s²
75200	Industrial Ethernet data transmission cables Cat. 6	209	TKblend®-L	PUR	1000 V (work 50 V)	-40°C/-30°C +80°C	c UL us	300 m/min 5 m/s²
75600	Industrial Ethernet CMX data communication cables	210	TKblend®-L	PUR	125 V	-30°C/-40°C, +70°C/+75°C	UL CSA	180 m/min 3 m/s²
75700	Industrial Ethernet CMX data communication cables Cat.6	211	TKblend®-L	PUR	300 V (work 50 V)	-40°C/-20°C +75°C/+80°C	UL CSA	300 m/min 5 m/s²
77000	Profinet data transmission cables	212	TKblend®-L	PVC	300 V	-30°C, +80°C	c UL us	Fixed
77100	Profinet data transmission cables	213	TKblend®-L	TPE/PUR	300 V	-40°C/-20°C +60°C/+80°C	c UL us	180 m/min 5 m/s²
78100	DRIVE-CLiQ data transmission cables	214	TKblend®-YP	PUR	300 V	-40°C/-30°C/-20°C +65°C/+70°C/+80°C	c UL us	180 m/min 3 m/s²
DATA	Encoder, resolver and data transmission cables	215	Various	Various	Various	Various	c UL us	Fixed

Multi-conductor “Hybrid” cables

Series	Product	Page	Insulation	Jacket	Voltage rating	Temperature rating	USA and Canada Certification	Use
HYBRID	Multi-conductor “Hybrid” cables	222				Various		

“Contek” connectorized cables

Series	Product	Page	Insulation	Jacket	Voltage rating	Temperature rating	USA and Canada Certification	Use
CONTEK	“Contek” connectorized cables	226				Various		

Fittings and cable entry systems

Product	Page	Material	Sealing material	Temperature rating	Protection class	USA and Canada Certification
Cable glands for unarmoured cables for Hazardous Locations	230	Nickel-plated brass or Stainless steel	Resin	-60°C +85°C	NEMA 4X IP 66 IP 67 IP 68	
Fittings for MC-HL and Teck90-HL cables	241	Aluminum or Brass	Resin	-25°C +60°C	NEMA 4 IP 56	
NEMA metallic cable glands	243	Nickel-plated brass or Stainless steel	EPDM	-45°C +105°C	IP 68 NEMA 4X	
Metallic cable glands	245	Nickel-plated brass	TPE, NBR	-40°C +100°C	IP 68	
High-performing metallic cable glands	249	Nickel-plated brass	TPE, NBR	-40°C +100°C	IP 68 (10 bar) IP 69K	
High-performing EMC-compatible metallic cable glands	252	Nickel-plated brass	TPE	-60°C +100°C	IP 68 (10 bar) IP 69K	
High-performing ultra-flat metallic cable glands	255	Nickel-plated brass or Stainless steel	TPE/FKM, FPM/FKM	-40°C +100°C/+200°C	IP 68 (10 bar) IP 69K	
Synthetic cable glands	257	Polyamide PA 6	TPE/CR (Neoprene)	-30°C +100°C	IP 68	
Preconfigured cable entry systems	261	Polyamide PA 6	TPU/NBR/EPDM	-30°C +70°C	IP 54 IP 65	
Configurable cable entry systems	268	Polyamide PA 6	-	-40°C +80°C	IP 54	
Grommets for cable entry system	272	-	Thermoplastic rubber	-40°C +80°C	IP 54	
Pressure balance with membrane	274	Polyamide PA 6 or Nickel-plated brass	NBR	-40°C +100°C/+110°C	IP 66 IP 68 IP 69K	
Pressure balance with sintered filter	276	Nickel-plated brass	NBR	-50°C +110°C	IP 54 IP x9K	
Drainage element	277	Nickel-plated brass	NBR	-50°C +110°C	IP 4x	

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Index based on installation area

Product		Installation area				
		Area A1	Area A2	Area A3	Area Q1	Area Q2
		Installation inside cable trays o inside raceways in direct contact with the structures of the buildings (ceiling, walls, floors).	Installation in cable trays or in raceways on the machinery.	Exposed installation on the machinery.	Installation in control panel.	Installation in control panel on the machinery.
Family	Series	Standards reference if installation is possibile				
Single core cables	900		NFPA 79 CSA C22.1 (CE Code) (1)	NFPA 79 CSA C22.1 (CE Code)	CSA C22.2 No. 286	CSA C22.2 No. 286
	910		IEC NFPA 79 CSA C22.1 (CE Code) (1)	NFPA 79 CSA C22.1 (CE Code)	UL 508a CSA C22.2 No. 286	UL 508a CSA C22.2 No. 286
	911		IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	970		IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	950			NFPA 79 CSA C22.1 (CE Code)	UL 508a CSA C22.2 No. 286	UL 508a CSA C22.2 No. 286
	960, 960S	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	1000	NFPA 70 (NEC)	NFPA 79	NFPA 79 CSA C22.1 (CE Code)	UL 508a	UL 508a
	1010, 1010S	IEC NFPA 70 (NEC)	IEC NFPA 79	IEC NFPA 79	IEC UL 508a	IEC UL 508a
	1050, 1050S	IEC	IEC	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	1060, 1070, 1080, 1080S	IEC NFPA 70 (NEC) (1)	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	1075	IEC NFPA 70 (NEC) (1)	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286

Note 1. The above table contains general suggestions that must be verified by qualified person and must be according to local regulations and standards.

Note 2. More details on the installation areas are in the image at the end of the table.

Installation area					Product	
Area M1	Area M2	Area M3	Area H1	Area H2		
Installation in drag chains.	Exposed installation on moving parts on machinery.	Installation on moving parts in direct contact with the machinery.	Installation in hazardous locations.	Installation in control panel in hazardous locations.		
Standards reference if installation is possibile					Series	Family
				IEC	900	Single core cables
				IEC	910	
				IEC	911	
				IEC	970	
					950	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)		IEC	960, 960S	
				IEC	1000	
				IEC	1010, 1010S	
				IEC	1050, 1050S	
				IEC	1060, 1070, 1080, 1080S	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)		IEC	1075	

(1) If the installation is in cable tray, the cable must be protected in a raceway.
(2) Only if protected in raceway.
(3) Only after verification of the type of movement (flexion and/or torsion).
(4) Only if protected in raceway for hazardous locations.

Product		Installation area				
		Area A1	Area A2	Area A3	Area Q1	Area Q2
		Installation inside cable trays o inside raceways in direct contact with the structures of the buildings (ceiling, walls, floors).	Installation in cable trays or in raceways on the machinery.	Exposed installation on the machinery.	Installation in control panel.	Installation in control panel on the machinery.
Family	Series	Standards reference if installation is possibile				
Unarmoured cables for fixed applications	50, 50S	IEC	IEC	IEC	IEC	IEC
	100, 100S, 105, 105S	IEC	IEC	IEC	IEC	IEC
	200, 200S	IEC	IEC	IEC	IEC	IEC
	345, 345S, 361S, 370S, 380, 380S	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	TC-ER VFD 365S	IEC NFPA 70 (NEC) CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	TC-ER-HL 8110, 8110S, 811x, 811xS TC-ER 8130, 8130S	IEC NFPA 70 (NEC) CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	TC-ER 8100, 8100S	NFPA 70 (NEC) CSA C22.1 (CE Code)	NFPA 79 CSA C22.1 (CE Code) (1)	NFPA 79	UL 508a	UL 508a
	PLTC/ITC 8150S	NFPA 70 (NEC) CSA C22.1 (CE Code)	NFPA 79 CSA C22.1 (CE Code) (1)	NFPA 79	UL 508a	UL 508a
	Flexible cord S, STOW, SOOW, W, G, G-GC	NFPA 70 (NEC) CSA C22.1 (CE Code)	NFPA 79 CSA C22.1 (CE Code) (1)	NFPA 79 CSA C22.1 (CE Code)	UL 508a	UL 508a
	Flexible cord SJ, SJOOW, SJTOW, SJT	NFPA 70 (NEC) CSA C22.1 (CE Code)	NFPA 79 CSA C22.1 (CE Code) (1)	NFPA 79 CSA C22.1 (CE Code)	UL 508a	UL 508a
Armoured cables for fixed applications	150, 150S, 151	IEC	IEC	IEC	IEC	IEC
	MC-HL 8200, 8200S	NFPA 70 (NEC) CSA C22.1 (CE Code)	NFPA 79 CSA C22.1 (CE Code) (1)	NFPA 79 CSA C22.1 (CE Code)	UL 508a	UL 508a
	Teck 90-HL 8250	CSA C22.1 (CE Code)	CSA C22.1 (CE Code)	CSA C22.1 (CE Code)	CSA C22.2 No. 286	CSA C22.2 No. 286

Note 1. The above table contains general suggestions that must be verified by qualified person and must be according to local regulations and standards.

Note 2. More details on the installation areas are in the image at the end of the table.

Installation area					Product	
Area M1	Area M2	Area M3	Area H1	Area H2		
Installation in drag chains.	Exposed installation on moving parts on machinery.	Installation on moving parts in direct contact with the machinery.	Installation in hazardous locations.	Installation in control panel in hazardous locations.		
Standards reference if installation is possibile					Series	Family
			IEC	IEC	50, 50S	Unarmoured cables for fixed applications
			IEC	IEC	100, 100S, 105, 105S	
			IEC	IEC	200, 200S	
			IEC	IEC	345, 345S, 361S, 370S, 380, 380S	
			IEC NFPA 70 (NEC) CSA C22.1	IEC NFPA 70 (NEC) CSA C22.1	TC-ER VFD 365S	
			IEC NFPA 70 (NEC) CSA C22.1	IEC NFPA 70 (NEC) CSA C22.1	TC-ER-HL 8110, 8110S, 811x, 811xS TC-ER 8130, 8130S	
			NFPA 70 (NEC) (4)	UL 508a	TC-ER 8100, 8100S	
			NFPA 70 (NEC) (4)	UL 508a	PLTC/ITC 8150S	
NFPA 79 (3)	NFPA 79 (3)	NFPA 79 (3) CSA C22.1 (CE Code) (3)	NFPA 70 (NEC) (4)	UL 508a	Flexible cord S, STOW, SOOW, W, G, G-GC	
NFPA 79 (3)	NFPA 79 (3)	NFPA 79 (3) CSA C22.1 (CE Code) (3)			Flexible cord SJ, SJOOW, SJTOW, SJT	
			IEC	IEC	150, 150S, 151	Armoured cables for fixed applications
			NFPA 70 (NEC)	UL 508a	MC-HL 8200, 8200S	
			CSA C22.1 (CE Code)	CSA C22.2 No. 286	Teck 90-HL 8250	

(1) If the installation is in cable tray, the cable must be protected in a raceway.
(2) Only if protected in raceway.
(3) Only after verification of the type of movement (flexion and/or torsion).
(4) Only if protected in raceway for hazardous locations.

Product		Installation area				
		Area A1	Area A2	Area A3	Area Q1	Area Q2
		Installation inside cable trays o inside raceways in direct contact with the structures of the buildings (ceiling, walls, floors).	Installation in cable trays or in raceways on the machinery.	Exposed installation on the machinery.	Installation in control panel.	Installation in control panel on the machinery.
Family	Series	Standards reference if installation is possibile				
Cables for dynamic applications	TC-ER-HL 8410, 8410S	IEC NFPA 70 (NEC) CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	400S	IEC	IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	410, 410S	IEC	IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	440, 440S	IEC	IEC NFPA 79 CSA C22.1 (CE Code) [1]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	600, 600S, 605, 605S	IEC	IEC NFPA 79 CSA C22.1 (CE Code) [1]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286

Note 1. The above table contains general suggestions that must be verified by qualified person and must be according to local regulations and standards.

Note 2. More details on the installation areas are in the image at the end of the table.

Installation area					Product	
Area M1	Area M2	Area M3	Area H1	Area H2		
Installation in drag chains.	Exposed installation on moving parts on machinery.	Installation on moving parts in direct contact with the machinery.	Installation in hazardous locations.	Installation in control panel in hazardous locations.		
Standards reference if installation is possibile					Series	Family
IEC NFPA 79 CSA C22.1 (CE Code)	IEC (3) NFPA 79 (3) CSA C22.1 (CE Code) (3)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 70 (NEC) (4)	IEC NFPA 70 (NEC) CSA C22.1	**TC-ER-HL 8410, 8410S**	Cavi multipolari per posa mobile
IEC NFPA 79 CSA C22.1 (CE Code)	IEC (3) NFPA 79 (3) CSA C22.1 (CE Code) (3)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	**400S**	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC (3) NFPA 79 (3) CSA C22.1 (CE Code) (3)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	**410, 410S**	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC (3) NFPA 79 (3) CSA C22.1 (CE Code) (3)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	**440, 440S**	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	**600, 600S, 605, 605S**	

(1) If the installation is in cable tray, the cable must be protected in a raceway.
(2) Only if protected in raceway.
(3) Only after verification of the type of movement (flexion and/or torsion).
(4) Only if protected in raceway for hazardous locations.

Product		Installation area				
		Area A1	Area A2	Area A3	Area Q1	Area Q2
		Installation inside cable trays o inside raceways in direct contact with the structures of the buildings (ceiling, walls, floors).	Installation in cable trays or in raceways on the machinery.	Exposed installation on the machinery.	Installation in control panel.	Installation in control panel on the machinery.
Family	Series	Standards reference if installation is possibile				
Data transmission cables	71000	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	71100, 71140	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	71600	IEC NFPA 70 (NEC) CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	73000	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	73100	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	74100	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	74000	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	75000	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	75500	IEC NFPA 70 (NEC) CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	75100	IEC	IEC	IEC	IEC	IEC
	75200	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	75600, 75700	IEC NFPA 70 (NEC) CSA C22.1 (CE Code)	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	77000	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	77100	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	78100	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286
	DATA	IEC	IEC NFPA 79 CSA C22.1 (CE Code) (1)	IEC NFPA 79 CSA C22.1 (CE Code)	IEC UL 508a CSA C22.2 No. 286	IEC UL 508a CSA C22.2 No. 286

Note 1. The above table contains general suggestions that must be verified by qualified person and must be according to local regulations and standards.

Note 2. More details on the installation areas are in the image at the end of the table.

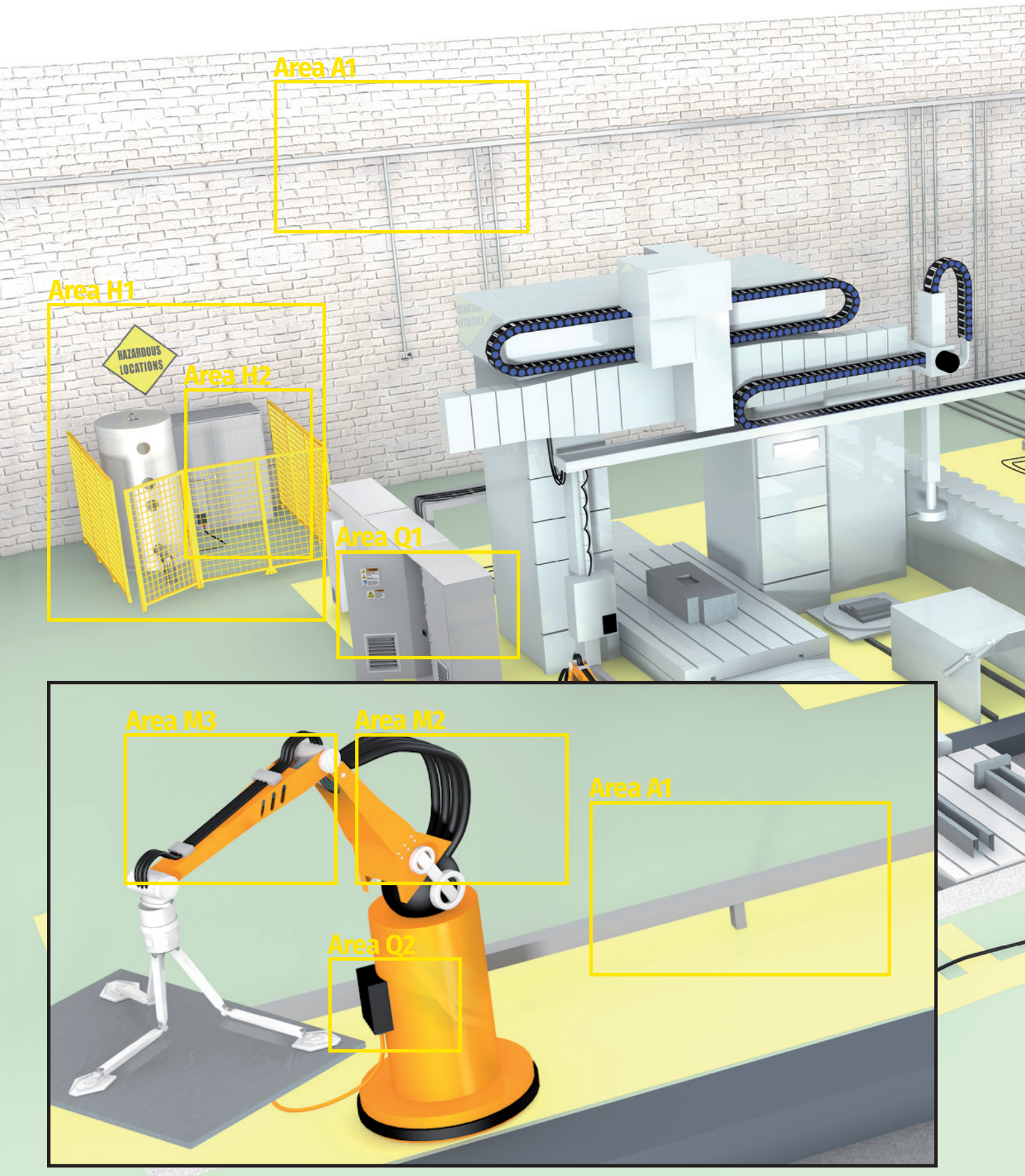
(1) If the installation is in cable tray, the cable must be protected in a raceway.

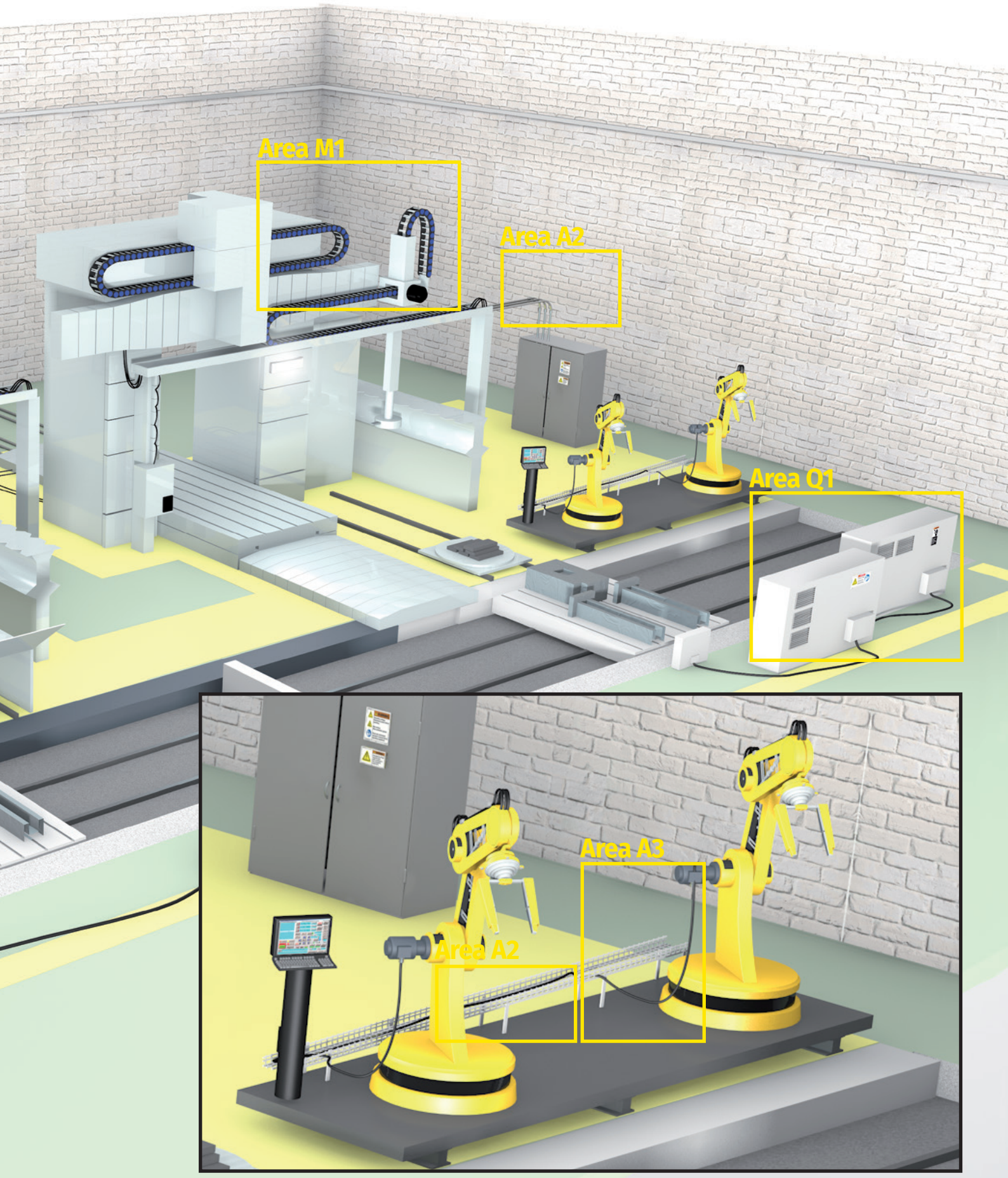
(2) Only if protected in raceway.

(3) Only after verification of the type of movement (flexion and/or torsion).

(4) Only if protected in raceway for hazardous locations.

Installation area					Product	
Area M1	Area M2	Area M3	Area H1	Area H2		
Installation in drag chains.	Exposed installation on moving parts on machinery.	Installation on moving parts in direct contact with the machinery.	Installation in hazardous locations.	Installation in control panel in hazardous locations.		
Standards reference if installation is possibile					Series	Family
			IEC	IEC	71000	Data transmission cables
IEC CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	71100, 71140	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 70 (NEC) [4]	IEC NFPA 70 (NEC) CSA C22.1	71600	
			IEC	IEC	73000	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	73100	
			IEC	IEC	74100	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	74000	
			IEC	IEC	75000	
			IEC NFPA 70 (NEC) [4]	IEC NFPA 70 (NEC) CSA C22.1	75500	
IEC	IEC [3]	IEC	IEC	IEC	75100	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	75200	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC NFPA 70 (NEC) [4]	IEC NFPA 70 (NEC) CSA C22.1	75600, 75700	
			IEC	IEC	77000	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	77100	
IEC NFPA 79 CSA C22.1 (CE Code)	IEC [3] NFPA 79 [3] CSA C22.1 (CE Code) [3]	IEC NFPA 79 CSA C22.1 (CE Code)	IEC	IEC	78100	
			IEC	IEC	DATA	


Area A1
Area H1
HAZARDOUS LOCATIONS
Area H2
Area Q1
Area M3
Area M2
Area A1
Area Q2


Area M1
Area A2
Area Q1
Area A3
Area A2





Single core cables

tekima

SERIES N0000

Bare or tinned flexible copper braids



Coding and dimensions

Code	Size [mm²]	Diameter [mm (inch)]	Wire [mm (inch)]	Weight [kg/km (lb/mft)]	Copper type
CVC600_NR600	6	4,0 (0.157)	0,2 (0.008)	60 (40)	Bare
CVCB10_NR600	10	4,5 (0.177)	0,2 (0.008)	100 (67)	Bare
CVCB16_NR600	16	5,8 (0.228)	0,2 (0.008)	160 (108)	Bare
CVCB25_NR600	25	7,3 (0.287)	0,2 (0.008)	250 (168)	Bare
CVCB35_NR600	35	8,2 (0.323)	0,2 (0.008)	350 (235)	Bare
CVCB50_NR600	50	9,6 (0.378)	0,2 (0.008)	500 (336)	Bare
CVCB75_NR600	75	12,0 (0.472)	0,2 (0.008)	750 (504)	Bare
CVCL10_NR600	100	14,0 (0.551)	0,2 (0.008)	1000 (672)	Bare
CVC600_NS600	6	4,0 (0.157)	0,2 (0.008)	60 (40)	Tinned
CVCB10_NS600	10	4,5 (0.177)	0,2 (0.008)	100 (67)	Tinned
CVCB16_NS600	16	5,8 (0.228)	0,2 (0.008)	160 (108)	Tinned
CVCB25_NS600	25	7,3 (0.287)	0,2 (0.008)	250 (168)	Tinned
CVCB35_NS600	35	8,2 (0.323)	0,2 (0.008)	350 (235)	Tinned
CVCB50_NS600	50	9,6 (0.378)	0,2 (0.008)	500 (336)	Tinned
CVCB75_NS600	75	12,0 (0.472)	0,2 (0.008)	750 (504)	Tinned
CVCL10_NS600	100	14,0 (0.551)	0,2 (0.008)	1000 (672)	Tinned

Code composition

CVC □□□ _ □□□□□

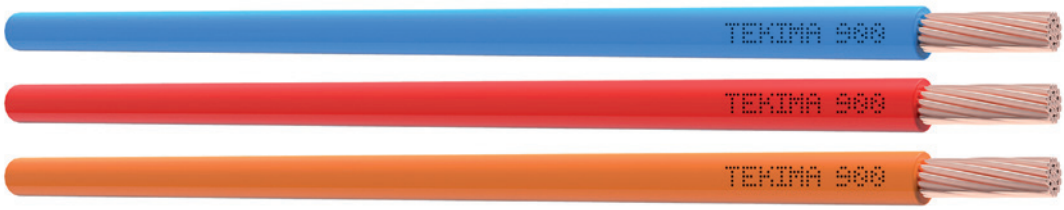
Size	To be inserted
1, 1,5, ..., 6 mm²	100, 150, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
100, 120, ..., 240 mm²	L10, L12, ..., L24

Copper type	To be inserted
Bare	NR600
Tinned	NS600

SERIES 900

Single core cables Style 1569/1007

Fixed application, unshielded



Use

Internal Wiring of Appliances with temperature ranges up to 105°C or 80°C (based onthe style) and 300V voltages.

Technical data

Characteristics	Value/property
Conductor	Copper strand
Insulation	PVC according to UL 1581
Temperature range	+80°C (Style 1007), +105°C (Style 1569)
Voltage rating	300 V
Bending radius	6 x cable outer diameter
Standards of construction	UL 758, UL 1581, cURus AWM Style 1569/1007
Standards of use	Style 1569/1007, CSA C22.1 (CE Code), CSA C22.2 No.286

Marking

TEKIMA 09000 – c(UR)us AWM Style 1569 AWG 16 300 V 105°C VW-1 - AWM Style 1007 AWG 16 300 V 80°C VW-1 E314444 AWM I A/B FT2 – (prod. reference)

Coding and dimensions

Code	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVCW26_09000_□□	26	0,129	1,4 (0.055)	3,2 (2.2)	500 (1640) S
CVCW24_09000_□□	24	0,205	1,5 (0.057)	4 (3)	500 (1640) S
CVCW22_09000_□□	22	0,326	1,7 (0.065)	6 (4)	500 (1640) S
CVCW20_09000_□□	20	0,518	1,9 (0.075)	8 (5)	500 (1640) S
CVCW18_09000_□□	18	0,823	2,2 (0.087)	12 (8)	300 (984) S
CVCW16_09000_□□	16	1,31	2,4 (0.093)	16 (11)	300 (984) S
CVCW14_09000_□□	14	2,08	2,8 (0.110)	25 (17)	100 (328) C
CVCW12_09000_□□	12	3,31	3,5 (0.136)	37 (25)	100 (328) C
CVCW10_09000_□□	10	5,26	4,0 (0.157)	60 (40)	100 (328) C

When ordering the style according to which the cable is required must be specified, subject to availability cable will have a marking comprising both Style.
Packaging type: S = spool, C = coil, R = reel

Code composition

CVC | □□□ | **_09000_** | □□

Size	To be inserted
28, ..., 10 AWG	W28, ..., W10

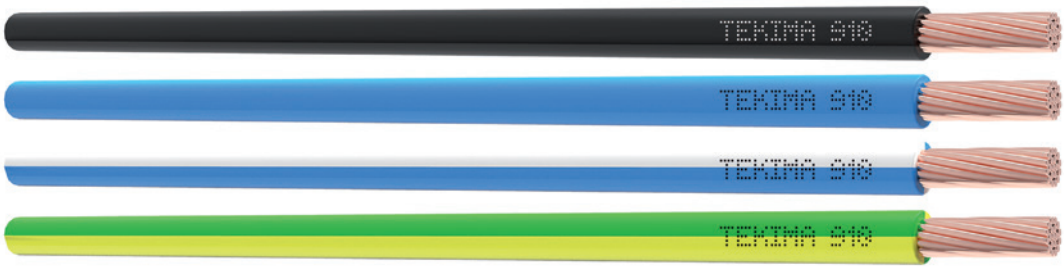
Color	To be inserted
Orange	AR
White	BI
White/blue	BB
White/orange	BA
Blue Ral 5010	BU
Blue Ral 5015	BL
Yellow	GI
Yellow/green	GV

Color	To be inserted
Gray	GR
Brown	MR
Black	NE
Pink	RS
Red	RO
Green	VE
Violet	VI

SERIES 910

Single core cables Style 1015/1284

Fixed application, unshielded



Use

Internal Wiring of Appliances with Temperature ranges up to 105°C and 600 V voltages.

Technical data

Characteristics	Value/property
Conductor	Red or tinned copper flexible strand
Insulation	PVC according to UL 1581
Temperature range	-40°C, +105°C
Voltage rating	600 V
Bending radius	6 x cable outer diameter
Standards of construction	UL 758, UL 1581, EN 60332-1-2, UL VW-1, UL/CSA FT1 (Style 1015), UL/CSA FT2 (Style 1015/1284), cURus AWM Style 1015/1284
Standards of use	Style 1015/1284, ANSI/NFPA 79, UL 508a

Marking

TEKIMA 09100 – c(UR)us AWM Style 1015 AWG 16 600 V 105°C VW-1 - E314444 AWM I A/B 600V 105°C FT1/FT2 – (prod.reference)

Coding and dimensions

Code	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Style	Packaging [m (ft)]
CVCW26_09100_ □□	26	0,129	2,1 (0.083)	6 (4)	1015	500 (1640) S
CVCW24_09100_ □□	24	0,205	2,3 (0.091)	8 (5)	1015	500 (1640) S
CVCW22_09100_ □□	22	0,326	2,4 (0.094)	10 (7)	1015	500 (1640) S
CVCW20_09100_ □□	20	0,518	2,6 (0.102)	12 (8)	1015	500 (1640) S
CVCW18_09100_ □□	18	0,823	2,9 (0.114)	16 (11)	1015	100 (328) C
CVCW16_09100_ □□	16	1,31	3,2 (0.126)	22 (15)	1015	100 (328) C
CVCW14_09100_ □□	14	2,08	3,6 (0.142)	31 (21)	1015	100 (328) C
CVCW12_09100_ □□	12	3,31	4,1 (0.161)	45 (30)	1015	100 (328) C
CVCW10_09100_ □□	10	5,26	5,1 (0.201)	65 (44)	1015	100 (328) C
CVCW08_09100_ □□	8	8,37	6,2 (0.244)	110 (74)	1015	100 (328) C
CVCW06_09100_ □□	6	13,30	8,1 (0.319)	175 (118)	1015	100 (328) C
CVCW04_09100_ □□	4	21,20	9,3 (0.366)	260 (175)	1015	100 (328) C
CVCW02_09100_ □□	2	33,60	11,8 (0.465)	380 (255)	1015	50 (164) C
CVCW/1_09100_ □□	1/0	53,50	15,0 (0.591)	615 (413)	1015/1284	50 (164) C
CVCW/2_09100_ □□	2/0	67,40	16,0 (0.630)	750 (504)	1015/1284	50 (164) C
CVCW/3_09100_ □□	3/0	85,00	18,5 (0.728)	900 (605)	1015/1284	50 (164) C
CVCW/4_09100_ □□	4/0	107,00	20,2 (0.795)	1070 (719)	1015/1284	50 (164) C

Packaging type: S = spool, C = coil, R = reel

Code composition

CVC | **□□□** | **_09100_** | **□□**

Size	To be inserted
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4

Color	To be inserted
Orange	AR
White	BI
White/blue	BB
Blue Ral 5010	BU
Blue Ral 5015	BL
Yellow	GI
Yellow/green	GV

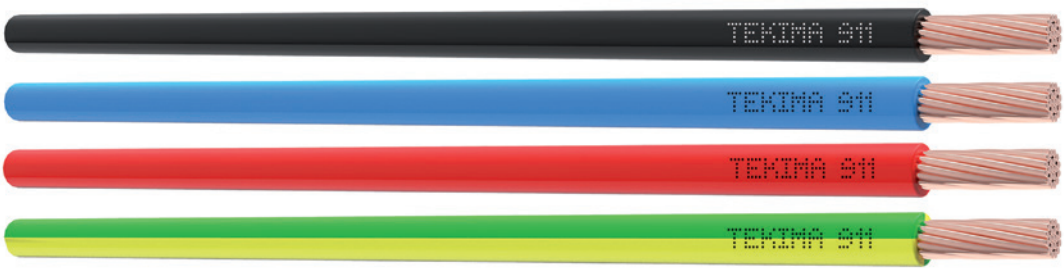
Color	To be inserted
Gray	GR
Brown	MR
Black	NE
Pink	RS
Red	RO
Green	VE
Violet	VI

Note. The double color is such that one of the colours covers at least 30% and not more than 70% of the surface, the other colour covering the remainder of that surface.

SERIES 911

Single core cables Style 1015

Fixed application, unshielded



Use

Single core cables for Internal Wiring of Appliances. The product has a double certifification, IEC for uses up to 90°C and voltages 450/750 and UL for uses up to 105°C and voltages of 600V.



Packaging "Cable Box"
L400xL400xH500 mm
L15.7"xL15.7"x19.7"

Technical data

Characteristics	Value/property
Conductor	Red or tinned copper flexible strand, Class 5
Insulation	PVC according to UL 758
Temperature range	+105°C (AWM), +90°C (IEC), +90°C (HAR H05V2-K/ H07V2-K <50 mm²), +70°C (HAR H07V-K ≥50 mm²) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 Vac, 750 Vdc (AWM) 300/500 V ≤1 mm² (HAR), 450/750 V >1 mm² (HAR) 300/500V ≤0,34 mm² (IEC), 450/750 V >0,34 mm² (IEC)
Spark test	6000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL 758 | Flame res.: Test B acc. to DIN VDE 0472 part 804, IEC 60332-1-2, UL VW-1, UL/CSA FT1 | Other: CEI EN 50525-2-31 and HD 21.3 S3:1995+A1:1999+A2:2008, CSA AWM I A/B, cURus AWM Style 1015
Standards of use	ANSI/NFPA 79, UL 508a, Style 1015

Marking

TEKIMA 09110 – H07V2-K IEMMEQU <HAR> 90°C CE 2,5 mm² 90°C 450/750V IEC 60332-1-2 RoHS c(UR)us E314444 14 AWG 600V 105°C VW-1 AWM Style 1015 AWM I A/B 105°C 600V FT1 – (prod.reference)

NOTE. For "Cable Box" packaging the marking is by engraving and is neutral while for reels and spool it is by ink jet.

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]	Packaging "Cable Box" [m (ft)]
CVC034_09110_□□ (1)	22	0,34	2,3 (0.091)	9 (6)	500 (1640) S	3000 (9843)
CVC050_09110_□□	21	0,5	2,5 (0.098)	11 (7)	500 (1640) S	2500 (8202)
CVCW20_09110_□□ (1)	20	0,518	2,5 (0.098)	11 (7)	500 (1640) S	2500 (8202)
CVC075_09110_□□	19	0,75	2,7 (0.106)	14 (9)	100 (328) C	2000 (6562)
CVC100_09110_□□	18	1	2,8 (0.110)	16 (11)	100 (328) C	2000 (6562)
CVC150_09110_□□	16	1,5	3,1 (0.122)	22 (15)	100 (328) C	1500 (4921)
CVC250_09110_□□	14	2,5	3,5 (0.138)	32 (22)	100 (328) C	1000 (3281)
CVC400_09110_□□	12	4	4,2 (0.165)	48 (32)	100 (328) C	500 (1640)
CVC600_09110_□□	10	6	4,7 (0.185)	68 (46)	100 (328) C	400 (1312)
CVCB10_09110_□□	8	10	6,5 (0.256)	119 (80)	100 (328) C	-
CVCB16_09110_□□	6	16	8,2 (0.323)	191 (128)	50 (164) C	-
CVCB25_09110_□□	4	25	9,7 (0.382)	285 (192)	50 (164) C	-
CVCB35_09110_□□	2	35	10,9 (0.429)	383 (257)	50 (164) C	-
CVCB50_09110_□□	1	50	13,7 (0.539)	567 (381)	500* (1640*) R	-
CVCB70_09110_□□	2/0	70	15,1 (0.594)	748 (503)	500* (1640*) R	-
CVCB95_09110_□□	3/0	95	17,3 (0.681)	1008 (677)	500* (1640*) R	-

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]	Packaging "Cable Box" [m (ft)]
CVCL12_09110_□□	4/0	120	18,4 (0.724)	1223 (822)	500* (1640*) R	-
CVCL15_09110_□□	250	150	20,7 (0.815)	1542 (1036)	500* (1640*) R	-
CVCL18_09110_□□	350	185	22,5 (0.886)	1862 (1251)	500* (1640*) R	-
CVCL24_09110_□□	450	240	25,4 (1.000)	2415 (1623)	500* (1640*) R	-

* For this article, an additional UL certified cut-to-length service is carried out on request ("Processed Wire").
Packaging type: S = spool, C = coil, R = reel
(1) This article is not HAR.

Code composition

CVC □□□ **_09110_** □□ □□□

Size	To be inserted
0,34, 0,5, ..., 6 mm²	034, 050, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
120, 150, ..., 240 mm²	L12, L15, ..., L24
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4

Color	To be inserted
Orange	AR
White	BI
White/orange	BA**
White/blue**	BB**
Blue Ral 5010	BU
Blue Ral 5015	BL
Yellow*	GI*
Yellow/green	GV
Gray	GR
Brown	MR
Black	NE
Pink	RS
Red	RO
Green*	VE*
Violet	VI

Packaging	To be inserted
Reel/spool	<keep this field empty>
"Cable Box"	_CB

* For these colors the product is not HAR.
** For these colors the product is not HAR for sizes > 1 mm².
Note. The double color is such that one of the colours covers at least 30% and not more than 70% of the surface, the other colour covering the remainder of that surface.

SERIES 970

Silicone insulated single-core cables Style 3644

Fixed application, unshielded



Use

Silicone insulated single-core cables designed for fixed applications or for occasional and non-cyclic mobile use. They are used for equipments meant for the European (EC), North American and Canadian markets where the temperatures can reach up 200°C. Thanks to their flexibility they are easy to install in narrow spaces and the good flame resistance makes them suitable for the installation in any industrial environment.

Technical data

Characteristics	Value/property
Conductor	Tinned copper flexible strand, Class 5
Insulation	Silicone halogen-free according to UL 758
Temperature range	-50°C, +180°C (IEC), +150°C/+200°C (UL)
Voltage rating	600/1000 V (IEC), 1000 V (UL)
Spark test	3000 V
Bending radius	5 x cable outer diameter
Standards of construction	UL 758 | Flame res.: IEC 60332-1-2, UL/ CSA FT2 | Halogen-free: IEC 60754-1 | UV res.: ISO 4892-2 | Other: ISO 60228, IEC 60754-2, CSA AWM I A, cURus AWM Style 3644
Standards of use	ANSI/NFPA 79, UL 508a, Style 3644

Marking

TEKIMA 09700 – CE 10 mm² c(UR)us E314444 AWM Style 3644 8 AWG 1000V 150°C AWM I A FT2 – (prod.reference)
TEKIMA 09710 – CE 10 mm² c(UR)us E314444 AWM Style 3644 8 AWG 1000V 200°C AWM I A FT2 – (prod.reference)

Coding and dimensions

Code	Temperature rating	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC250_09700_□□	150°C (UL)	14 AWG	2,5	3,6 (0.142)	30 (20)	500 (1640)
CVC400_09700_□□	150°C (UL)	12	4	4,2 (0.165)	50 (34)	500 (1640)
CVC600_09700_□□	150°C (UL)	10	6	4,8 (0.189)	70 (47)	500 (1640)*
CVCB10_09700_□□	150°C (UL)	8	10	7,0 (0.276)	120 (81)	500 (1640)*
CVCB16_09700_□□	150°C (UL)	6	16	8,6 (0.339)	195 (131)	500 (1640)*
CVCB25_09700_□□	150°C (UL)	4	25	10,0 (0.394)	285 (191)	500 (1640)*
CVCB35_09700_□□	150°C (UL)	2	35	11,1 (0.437)	385 (259)	500 (1640)*
CVCB50_09700_□□	150°C (UL)	1	50	13,6 (0.535)	565 (380)	500 (1640)*
CVCB70_09700_□□	150°C (UL)	2/0	70	15,6 (0.614)	765 (514)	500 (1640)*
CVCB95_09700_□□	150°C (UL)	3/0	95	17,6 (0.693)	1000 (672)	500 (1640)*
CVCL12_09700_□□	150°C (UL)	4/0	120	19,0 (0.748)	1240 (833)	500 (1640)*
CVCL15_09700_□□	150°C (UL)	250 kcmil	150	21,4 (0.843)	1550 (1041)	500 (1640)*
CVCL18_09700_□□	150°C (UL)	350	185	23,5 (0.925)	1900 (1277)	500 (1640)*
CVCL24_09700_□□	150°C (UL)	450	240	26,0 (1.024)	2410 (1619)	500 (1640)*
CVCL30_09700_□□	150°C (UL)	550	300	29,0 (1.142)	3050 (2050)	500 (1640)*
CVC250_09710_□□	200°C (UL)	14 AWG	2,5	3,6 (0.142)	30 (20)	500 (1640)
CVC400_09710_□□	200°C (UL)	12	4	4,2 (0.165)	50 (34)	500 (1640)
CVC600_09710_□□	200°C (UL)	10	6	4,8 (0.189)	70 (47)	500 (1640)*
CVCB10_09710_□□	200°C (UL)	8	10	7,0 (0.276)	120 (81)	500 (1640)*
CVCB16_09710_□□	200°C (UL)	6	16	8,6 (0.339)	195 (131)	500 (1640)*
CVCB25_09710_□□	200°C (UL)	4	25	10,0 (0.394)	285 (191)	500 (1640)*
CVCB35_09710_□□	200°C (UL)	2	35	11,1 (0.437)	385 (259)	500 (1640)*
CVCB50_09710_□□	200°C (UL)	1	50	13,6 (0.535)	565 (380)	500 (1640)*
CVCB70_09710_□□	200°C (UL)	2/0	70	15,6 (0.614)	765 (514)	500 (1640)*
CVCB95_09710_□□	200°C (UL)	3/0	95	17,6 (0.693)	1000 (672)	500 (1640)*

Code	Temperature rating	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVCL12_09710_□□	200°C (UL)	4/0	120	19,0 (0.748)	1240 (833)	500 (1640)*
CVCL15_09710_□□	200°C (UL)	250 kcmil	150	21,4 (0.843)	1550 (1041)	500 (1640)*
CVCL18_09710_□□	200°C (UL)	350	185	23,5 (0.925)	1900 (1277)	500 (1640)*
CVCL24_09710_□□	200°C (UL)	450	240	26,0 (1.024)	2410 (1619)	500 (1640)*
CVCL30_09710_□□	200°C (UL)	550	300	29,0 (1.142)	3050 (2050)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

Code composition

CVC	□□□	_097	□	0_	□□

Size	To be inserted
0,34, 0,5, ..., 6 mm²	034, 050, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
120, 150, ..., 240 mm²	L12, L15, ..., L24
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 350, ..., 500 kcmil	X25, X35, ..., X50

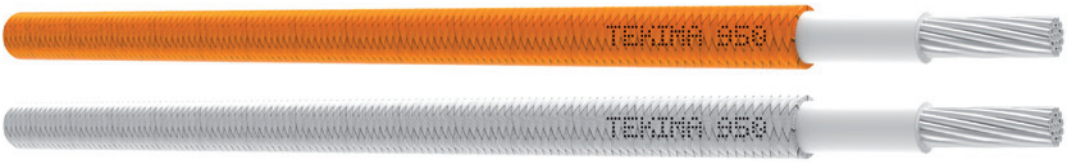
Temperature	To be inserted
150°C	0
200°C	1

Color	To be inserted
Orange	AR
White	BI
Blue Ral 5010	BU
Blue Ral 5015	BL
Yellow	GI
Yellow/green	GV
Gray	GR
Brown	MR
Black	NE
Pink	RS
Red	RO
Green	VE
Violet	VI

SERIES 950

Silicone rubber braided glass cables

Fixed application, unshielded



Use

Single core cable planned for the harness of electrical equipment where there is the presence of humidity, low temperatures or heating sources. The silicone rubber, if burnt, produces a non-conductive ash, maintaining the dielectric properties; this permits to carry out the stop routine of the equipment in safety. The external glass fiber jacket grants a good mechanical, flame and humidity resistance.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand
Insulation	Silicone rubber
External jacket	Braided glass fiber
Bending radius	8 x cable outer diameter
Temperature range	+150°C/+200°C -60°C
Voltage rating	600 V

Coding and dimensions

Code	Size [AWG/kcmil]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]	Current [A]	Temperature [°C]	Style
CVCW18_09500_ □□	18 AWG	3,1 (0.122)	18 (12)	600	31	150	3070, 3123
CVCW18_09510_ □□	18	3,2 (0.126)	18 (12)	600	32	200	3071, 3172
CVCW16_09500_ □□	16	3,3 (0.130)	24 (16)	600	34	150	3070, 3123
CVCW16_09510_ □□	16	3,5 (0.138)	24 (16)	600	35	200	3071
CVCW14_09500_ □□	14	3,7 (0.146)	33 (22)	600	40	150	3070
CVCW14_09510_ □□	14	3,7 (0.146)	33 (22)	600	45	200	3071
CVCW12_09500_ □□	12	4,2 (0.165)	48 (32)	600	50	150	3070
CVCW12_09510_ □□	12	4,2 (0.165)	48 (32)	600	55	200	3074
CVCW10_09500_ □□	10	5,7 (0.224)	92 (62)	600	70	150	3101
CVCW10_09510_ □□	10	5,5 (0.217)	92 (62)	600	75	200	3075
CVCW08_09500_ □□	8	8,0 (0.315)	134 (90)	600	95	150	3278
CVCW06_09500_ □□	6	9,1 (0.358)	208 (140)	600	130	150	3278
CVCW04_09510_ □□	4	10,4 (0.409)	305 (205)	600	180	200	3125
CVCW02_09510_ □□	2	12,3 (0.484)	446 (300)	600	240	200	3125
CVCW01_09510_ □□	1	14,5 (0.571)	539 (362)	600	280	200	3231
CVCW/1_09510_ □□	1/0	15,6 (0.614)	662 (445)	600	325	200	3231
CVCW/2_09510_ □□	2/0	17,0 (0.669)	819 (550)	600	370	200	3231
CVCW/3_09510_ □□	3/0	18,5 (0.728)	1005 (675)	600	430	200	3231
CVCW/4_09510_ □□	4/0	20,3 (0.799)	1235 (830)	600	510	200	3231
CVCX25_09510_ □□	250 kcmil	23,4 (0.921)	1399 (940)	600	706	200	3410
CVCX35_09510_ □□	350	26,2 (1.031)	1905 (1280)	600	877	200	3410
CVCX50_09510_ □□	500	30,3 (1.193)	2619 (1760)	600	1103	200	3410

Remark: verify the availability of colors at the moment of the order.

Code composition

CVC □□□ _ □□□□□ _ □□

Size	To be inserted
1, 2, ..., 22 AWG	W01, W02, ..., W22
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4

Type	To be inserted
150°C	09500
200°C	09510

Color	To be inserted
Orange	AR
White	BI
White/blue	BB
Blue	BU
Yellow	GI
Yellow/green	GV
Gray	GR

SERIES 960

High flexible single core cables for dynamic applications

Dynamic application, unshielded



Use

Unshielded single core cables suitable for mobile use in power chains or moving machine parts for travel distances up to 10 m and voltage up to 600V.

Technical data

Characteristics	Value/property
Conductor	Extra-flexible bare copper strand, class 6
Insulation	PVC compound
Jacket	PUR compound. Metric. marking.
Temperature range	+90°C (IEC), +80°C (UL) -40°C (fixed); -5°C (dynamic)
Voltage rating	600/1000 V (IEC), 1000 V (UL)
Spark test	10000 V
Speed	300 m/min
Acceleration	30 m/s²
Bending radius	5 x cable outer diameter for fixed applications, 8 x cable outer diameter for dynamic applications, 12 x cable outer diameter for drag chain applications
Standards of construction	UL 758, CSA AWM II A/B, cURus AWM Style 11624 | Oil res.:EN 60811-1-2 | Flame res.: IEC 60332-1-2, UL/CSA FT2 | UV res.: UNI EN ISO 4892-3 (colored), UNI EN ISO 4892-2 (black) | Other: 2014/35/EU (Low Voltage Directive)
Standards of use	ANSI/NFPA 79, UL 508A, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 11624

Marking

TEKIMA 09600 - CE 1x6 mm² 90°C 600/1000V IEC 60332-1-2 RoHS c(UR)us
E314444 AWM Style 11624 1x10 AWG AWM II A/B 80°C 1000V FT2 - (prod. reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC150_09600_□□	16 AWG	1,5	4,8 (0.189)	37 (25)	500 (1640)
CVC250_09600_□□	14	2,5	5,7 (0.224)	52 (35)	500 (1640)
CVC400_09600_□□	12	4	6,4 (0.252)	71 (48)	500 (1640)
CVC600_09600_□□	10	6	7,0 (0.276)	94 (63)	500 (1640)*
CVCB10_09600_□□	8	10	8,3 (0.327)	144 (97)	500 (1640)*
CVCB16_09600_□□	6	16	10,2 (0.402)	225 (151)	500 (1640)*
CVCB25_09600_□□	4	25	11,4 (0.449)	316 (212)	500 (1640)*
CVCB35_09600_□□	2	35	13,4 (0.528)	444 (298)	500 (1640)*
CVCB50_09600_□□	1	50	16,2 (0.638)	641 (431)	500 (1640)*
CVCB70_09600_□□	2/0	70	17,3 (0.681)	864 (581)	500 (1640)*
CVCB95_09600_□□	3/0	95	19,7 (0.776)	1092 (734)	500 (1640)*
CVCL12_09600_□□	4/0	120	21,0 (0.827)	1320 (887)	500 (1640)*
CVCL15_09600_□□	250 kcmil	150	24,1 (0.949)	1688 (1134)	500 (1640)*
CVCL18_09600_□□	350	185	26,1 (1.028)	2041 (1371)	500 (1640)*
CVCL24_09600_□□	450	240	29,6 (1.165)	2784 (1871)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

Code composition

CVC	□□□	_09600_	□□

Size	To be inserted
1.5, 2.5, ..., 6 mm^2	150, 250, ..., 600
10, 16, ..., 95 mm^2	B10, B16, ..., B95
120, 150, ..., 240 mm^2	L12, L15, ..., L24

Color	To be inserted
Yellow/green	GV
Black	NE

Note. The double color is such that one of the colours covers at least 30% and not more than 70% of the surface, the other colour covering the remainder of that surface.

SERIES 960S

High flexible single core cables for dynamic applications

Dynamic application, shielded



Use

Shielded single core cables suitable for mobile use in power chains or moving machine parts for travel distances up to 10 m and voltage up to 600V.

Technical data

Characteristics	Value/property
Conductor	Extra-flexible bare copper strand, class 6
Insulation	PVC compound
Internal tape	Nonwoven tape
Shield	Tinned copper braid, nom. coverage 85%
External tape	Nonwoven tape
Jacket	PUR compound. Metric. marking.
Temperature range	-40°C (fixed); -5°C (dynamic)
Voltage rating	600/1000 V (IEC), 1000 V (UL)
Spark test	10000 V
Speed	300 m/min
Acceleration	30 m/s2
Bending radius	5 x cable outer diameter for fixed applications, 8 x cable outer diameter for dynamic applications, 12 x cable outer diameter for drag chain applications
Standards of construction	UL 758, CSA AWM II A/B, cURus AWM Style 11624 | Oil res.:EN 60811-1-2 | Flame res.: IEC 60332-1-2, UL/CSA FT2 | UV res.: UNI EN ISO 4892-3 (colored), UNI EN ISO 4892-2 (black) | Other: 2014/35/EU (Low Voltage Directive)
Standards of use	ANSI/NFPA 79, UL 508A, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 11624

Marking

TEKIMA 0960S - CE 1x6 mm² 90°C 600/1000V IEC 60332-1-2 RoHS c(UR)us E314444 AWM Style 11624 1x10 AWG AWM II A/B 80°C 1000V FT2 - (prod. reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC250_0960S_□□	14 AWG	2,5	6,3 (0.248)	71 (48)	500 (1640)
CVC400_0960S_□□	12	4	7,0 (0.276)	94 (63)	500 (1640)
CVC600_0960S_□□	10	6	7,6 (0.299)	118 (79)	500 (1640)*
CVCB10_0960S_□□	8	10	8,9 (0.350)	176 (118)	500 (1640)*
CVCB16_0960S_□□	6	16	10,8 (0.425)	265 (178)	500 (1640)*
CVCB25_0960S_□□	4	25	12,0 (0.472)	362 (243)	500 (1640)*
CVCB35_0960S_□□	2	35	14,2 (0.559)	510 (343)	500 (1640)*
CVCB50_0960S_□□	1	50	17,0 (0.669)	729 (490)	500 (1640)*
CVCB70_0960S_□□	2/0	70	18,3 (0.720)	972 (653)	500 (1640)*
CVCB95_0960S_□□	3/0	95	20,7 (0.815)	1211 (814)	500 (1640)*
CVCL12_0960S_□□	4/0	120	22,0 (0.866)	1443 (970)	500 (1640)*
CVCL15_0960S_□□	250 kcmil	150	25,1 (0.988)	1836 (1234)	500 (1640)*
CVCL18_0960S_□□	350	185	27,1 (1.067)	2205 (1482)	500 (1640)*
CVCL24_0960S_□□	450	240	30,4 (1.197)	2987 (2007)	500 (1640)*
CVCL30_0960S_□□	550	300	33,8 (1.331)	3528 (2371)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

Code composition

CVC	□□□	_0960S_	□□

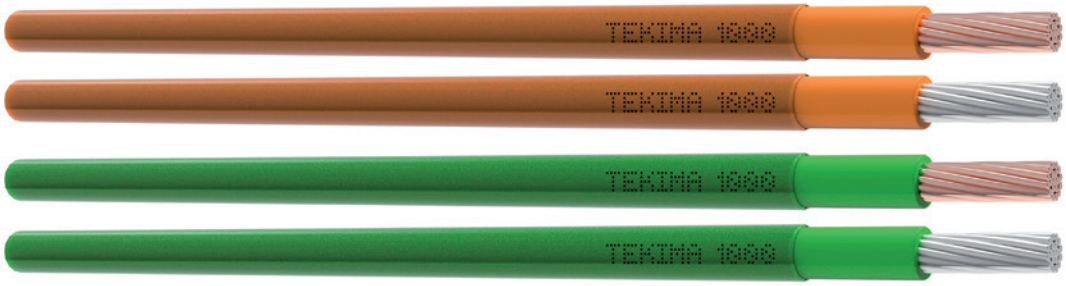
Size	To be inserted
2,5, 4, ..., 6 mm^2	250, 400, ..., 600
10, 16, ..., 95 mm^2	B10, B16, ..., B95
120, 150, ..., 240 mm^2	L12, L15, ..., L24

Color	To be inserted
Black	NE

SERIES 1000

Single core cables type THHN MTW

Fixed application, unshielded



Use

As specified by ANSI/NFPA 70 "National Electrical Code" (NEC), type THHN wires are used mainly for trade and industrial applications, type MTW wires are used mainly for the machinery wire harness. They are made of thermoplastic material with nylon jacket, resistant to heat, humidity and oils for applications not exceeding 600 V.

Technical data

Characteristics	Value/property
Conductor	Red or tinned copper
Insulation	PVC according to UL 1581
Jacket	Nylon
Temperature range	+90°C
Voltage rating	600 V
Standards of construction	UL 83, UL 1063
Standards of use	ANSI/NFPA 70 (NEC) ANSI/NFPA 79, UL 508a

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVCW18_10000_ □□ (1)	18 AWG	0,82	2,2 (0.088)	6 (4)
CVCW16_10000_ □□ (1)	16	1,31	2,6 (0.102)	17 (11)
CVCW14_10000_ □□	14	2,08	3,0 (0.118)	25 (17)
CVCW12_10000_ □□	12	3,31	3,5 (0.138)	37 (25)
CVCW10_10000_ □□	10	5,26	4,3 (0.169)	60 (40)
CVCW08_10000_ □□	8	8,37	5,8 (0.228)	95 (64)
CVCW06_10000_ □□	6	13,3	6,7 (0.264)	143 (96)
CVCW04_10000_ □□	4	21,2	8,5 (0.335)	229 (154)
CVCW02_10000_ □□	2	33,6	10,0 (0.394)	349 (235)
CVCW01_10000_ □□	1	42,4	11,2 (0.441)	451 (303)
CVCW/1_10000_ □□	1/0	53,5	12,2 (0.480)	560 (376)
CVCW/2_10000_ □□	2/0	67,4	13,5 (0.531)	695 (467)
CVCW/3_10000_ □□	3/0	85,0	14,7 (0.579)	865 (581)
CVCW/4_10000_ □□	4/0	107	16,0 (0.630)	1077 (724)
CVCX25_10000_NE	250 kcmil	127	18,3 (0.720)	1347 (905)
CVCX30_10000_NE	300	152	19,6 (0.772)	1577 (1060)
CVCX35_10000_NE	350	177	21,1 (0.831)	1823 (1225)
CVCX40_10000_NE	400	203	22,1 (0.870)	2053 (1380)
CVCX50_10000_NE	500	253	24,4 (0.961)	2567 (1725)
CVCX60_10000_NE	600	304	26,9 (1.059)	3110 (2090)
CVCX75_10000_NE	750	380	29,7 (1.169)	3839 (2580)
CVCY10_10000_NE	1000	507	33,5 (1.319)	5104 (3430)

(1) Not THHN listed, only MTW.

Code composition

CVC	□□□	_10000_	□□

Size	To be inserted
1, 2, ..., 18 AWG	W01, W02, ..., W18
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 750 kcmil	X25, X30, ..., X75
1000 kcmil	Y10

Color	To be inserted
Orange	AR
White	BI
White/blue	BB
Blue	BU
Yellow	GI
Yellow/green	GV
Gray	GR
Brown	MR
Black	NE
Pink	RS
Red	RO
Green	VE
Violet	VI

SERIES 1010

Single core cable type XHHW-2

Fixed application, unshielded



Use

As specified by ANSI/NFPA 70 “National Electrical Code” (NEC), type XHHW-2 wires are used for residential, commercial and industrial applications even in wet locations according to Art. 310. They are made of XLPE insulation material and they can be used for fixed or occasional mobile applications up to 600 V and 90°C.

Technical data

Characteristics	Value/property
Conductor	Extra-flexible bare copper strand, class 5
Insulation	XLPE
Temperature range	+90°C -40°C (fixed); -15°C (not fixed)
Voltage rating	600/1000 V (IEC), 600 V (UL)
Spark test	6000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL 44, Nec Art. 310 | Oil res.: UL 83, UL 1063 | Flame res.: Test B acc. to DIN 0472 part 804, UL FT1 | Other: 2014/35/EU (Low Voltage Directive)
Standards of use	ANSI/NFPA 70 (NEC), ANSI/NFPA 79

Marking

TEKIMA 10100 – CE 1x2,5 mm² 600/1000V RoHS (UL) E501777 XHHW-2 1x14 AWG 90°C 1000V FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC150_10100_□□	16 AWG	1,5	3,2 (0.126)	19 (13)	500 (1640)
CVC250_10100_□□	14	2,5	3,6 (0.142)	30 (20)	500 (1640)
CVC400_10100_□□	12	4	4,2 (0.165)	45 (30)	500 (1640)
CVC600_10100_□□	10	6	4,8 (0.189)	64 (43)	500 (1640)*
CVCB10_10100_□□	8	10	6,5 (0.256)	111 (75)	500 (1640)*
CVCB16_10100_□□	6	16	7,5 (0.295)	168 (113)	500 (1640)*
CVCB25_10100_□□	4	25	9,0 (0.354)	256 (172)	500 (1640)*
CVCB35_10100_□□	2	35	10,2 (0.402)	349 (235)	500 (1640)*
CVCB50_10100_□□	1	50	12,4 (0.488)	503 (338)	500 (1640)*
CVCB70_10100_□□	2/0	70	14,5 (0.571)	695 (467)	500 (1640)*
CVCB95_10100_□□	3/0	95	16,0 (0.630)	921 (619)	500 (1640)*
CVCL12_10100_□□	4/0	120	17,6 (0.693)	1148 (771)	500 (1640)*
CVCL15_10100_□□	250 kcmil	150	19,2 (0.756)	1421 (955)	500 (1640)*
CVCL18_10100_□□	350	185	21,0 (0.827)	1730 (1163)	500 (1640)*
CVCL24_10100_□□	450	240	23,9 (0.941)	2254 (1515)	500 (1640)*
CVCL30_10100_□□	550	300	29,1 (1.146)	2938 (1974)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

Code composition

CVC	□□□	_10100_	□□

Size	To be inserted
1.5, 2.5, ..., 6 mm^2	150, 250, ..., 600
10, 16, ..., 95 mm^2	B10, B16, ..., B95
120, 150, ..., 300 mm^2	L12, L15, ..., L30

Color	To be inserted
Black	NE

SERIES 1010S

Single core cable type XHHW-2

Fixed application, shielded



Use

As specified by ANSI/NFPA 70 “National Electrical Code” (NEC), type XHHW-2 wires are used for residential, commercial and industrial applications even in wet locations according to Art. 310. They are made of XLPE insulation material and they can be used for fixed or occasional mobile applications up to 600 V and 90°C.

Dati tecnici - Technical data

Characteristics	Value/property
Conductor	Extra-flexible bare copper strand, class 5
Insulation	XLPE
Internal tape	Polyester tape
Shield	Tinned copper braid, nom. coverage 85%
Jacket	PVC compound. Metric. marking.
Temperature range	+90°C -40°C (fixed); -15°C (not fixed)
Voltage rating	600/1000 V (IEC), 600 V (UL)
Spark test	6000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL 44, Nec Art. 310 | Oil res.: UL 83, UL 1063 | Flame res.: Test B acc. to DIN 0472 part 804, UL FT1 | Other: 2014/35/EU (Low Voltage Directive)
Standards of use	ANSI/NFPA 70 (NEC), ANSI/NFPA 79

Marking

TEKIMA 1010S – CE 1x2,5 mm² 600/1000V RoHS (UL) E501777 XHHW-2 1x14 AWG 90°C 1000V FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC250_1010S_□□	14 AWG	2,5	5,8 (0.228)	62 (42)	500 (1640)
CVC400_1010S_□□	12	4	6,5 (0.256)	83 (56)	500 (1640)
CVC600_1010S_□□	10	6	7,0 (0.276)	104 (70)	500 (1640)*
CVCB10_1010S_□□	8	10	8,6 (0.339)	161 (108)	500 (1640)*
CVCB16_1010S_□□	6	16	9,8 (0.386)	228 (153)	500 (1640)*
CVCB25_1010S_□□	4	25	12,1 (0.476)	348 (234)	500 (1640)*
CVCB35_1010S_□□	2	35	13,5 (0.531)	458 (308)	500 (1640)*
CVCB50_1010S_□□	1	50	16,2 (0.638)	659 (443)	500 (1640)*
CVCB70_1010S_□□	2/0	70	17,8 (0.701)	858 (577)	500 (1640)*
CVCB95_1010S_□□	3/0	95	20,8 (0.819)	1161 (780)	500 (1640)*
CVCL12_1010S_□□	4/0	120	22,1 (0.870)	1402 (942)	500 (1640)*
CVCL15_1010S_□□	250 kcmil	150	24,3 (0.957)	1725 (1159)	500 (1640)*
CVCL18_1010S_□□	350	185	26,9 (1.059)	2103 (1413)	500 (1640)*
CVCL24_1010S_□□	450	240	30,2 (1.189)	2692 (1809)	500 (1640)*
CVCL30_1010S_□□	550	300	32,7 (1.287)	3289 (2210)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

Code composition

CVC	□□□	_1010S_	□□

Size	To be inserted
2,5, 4, ..., 6 mm^2	250, 400, ..., 600
10, 16, ..., 95 mm^2	B10, B16, ..., B95
120, 150, ..., 300 mm^2	L12, L15, ..., L30

Color	To be inserted
Black	NE

SERIES 1050

Single core cables Style 1032

Fixed application, unshielded



Use

Oil resistant unshielded single core cables suitable for machine tools subjected to medium mechanical stresses up to 1000V. They can be used for fixed or flexible installation, where free movement is required without tensile stresses and without forced guidance systems in dry, damp and wet interiors.

Technical data

Characteristics	Value/property
Conductor	Flexible bare copper strand, class 5
Insulation	PVC compound
Jacket	PVC compound
Temperature range	+90°C -40°C (fixed); -5°C (not fixed)
Voltage rating	1000 V (UL-CSA), 600/1000 V (IEC)
Spark test	10000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL 758 | Flame res.: Test B acc. to DIN VDE 0472 part 804, IEC 60332-1-2, IEC 60332-3-24, UL 1581 sec. 1080 VW-1, CSA C22.2 No.2556 FT1 | Oil res.: DIN EN 50290-2-22, VDE 0819-102 | Other: CSA AWM I A/B, cURus AWM Style 1032
Standards of use	ANSI/NFPA 79, UL 508A, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 1032

Marking

TEKIMA 10500 – CE 4 mm² 600/1000V 90°C IEC 60332-1-2 c(UR)us AWM Style 1032 E314444 12 AWG 1000V 90°C VW-1 AWM I A/B 90°C 1000V FT1 – (prod. reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC250_10500_□□	14 AWG	2,5	6,0 (0.236)	60 (40)	1000 (3281)
CVC400_10500_□□	12	4	6,6 (0.260)	79 (53)	1000 (3281)
CVC600_10500_□□	10	6	7,2 (0.283)	104 (70)	1000 (3281)*
CVCB10_10500_□□	8	10	8,9 (0.350)	165 (111)	500 (1640)*
CVCB16_10500_□□	6	16	9,9 (0.390)	251 (169)	500 (1640)*
CVCB25_10500_□□	4	25	11,4 (0.449)	345 (232)	500 (1640)*
CVCB35_10500_□□	2	35	13,9 (0.547)	478 (321)	500 (1640)*
CVCB50_10500_□□	1	50	15,6 (0.614)	697 (468)	500 (1640)*
CVCB70_10500_□□	2/0	70	17,7 (0.697)	939 (631)	500 (1640)*
CVCB95_10500_□□	3/0	95	19,2 (0.756)	1172 (788)	500 (1640)*
CVCL12_10500_□□	4/0	120	22,0 (0.866)	1407 (945)	500 (1640)*
CVCL15_10500_□□	250 kcmil	150	23,6 (0.929)	1774 (1192)	500 (1640)*
CVCL18_10500_□□	350	185	26,2 (1.031)	2136 (1435)	500 (1640)*
CVCL24_10500_□□	450	240	31,0 (1.220)	2907 (1953)	500 (1640)*
CVCL30_10500_□□	550	300	34,7 (1.366)	3630 (2439)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

Code composition

CVC | **□□□** | **_10500_** | **□□**

Size	To be inserted
2,5, 4, ..., 6 mm²	250, 400, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
120, 150, ..., 300 mm²	L12, L15, ..., L30

Color	To be inserted
Yellow/green	GV
Black	NE

Note. The double color is such that one of the colours covers at least 30% and not more than 70% of the surface, the other colour covering the remainder of that surface.

SERIES 1050S

Single core cables Style 1032

Fixed application, shielded



Use

Oil resistant shielded single core cables suitable for machine tools subjected to medium mechanical stresses up to 1000V. They can be used for fixed or flexible installation, where free movement is required without tensile stresses and without forced guidance systems in dry, damp and wet interiors.

Marking

TEKIMA 1050S – CE 4 mm² 600/1000V 90°C IEC 60332-1-2 c(UR)us AWM Style 1032 E314444 12 AWG 1000V 90°C AWM I A/B 90°C 1000V FT1 – (prod. reference) = (metric) =

Technical data

Characteristics	Value/property
Conductor	Flexible bare copper strand, class 5
Insulation	PVC compound
Internal tape	Polyester tape
Shield	Tinned copper braid, coverage 85%
Jacket	PVC compound
Temperature range	+90°C -40°C (fixed); -5°C (not fixed)
Voltage rating	1000 V (UL-CSA), 600/1000 V (IEC)
Spark test	10000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL 758 | Flame res.: Test B acc. to DIN VDE 0472 part 804, IEC 60332-1-2, IEC 60332-3-24, UL 1581 sec. 1080 VW-1, CSA C22.2 No.2556 FT1 | Oil res.: DIN EN 50290-2-22, VDE 0819-102 | Other: CSA AWM I A/B, cURus AWM Style 1032
Standards of use	ANSI/NFPA 79, UL 508A, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 1032

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC250_1050S_□□	14 AWG	2,5	6,6 (0.260)	81 (54)	1000 (3281)
CVC400_1050S_□□	12	4	7,2 (0.283)	104 (70)	1000 (3281)
CVC600_1050S_□□	10	6	7,9 (0.311)	133 (89)	1000 (3281)*
CVCB10_1050S_□□	8	10	9,6 (0.378)	202 (136)	500 (1640)*
CVCB16_1050S_□□	6	16	11,5 (0.453)	296 (199)	500 (1640)*
CVCB25_1050S_□□	4	25	12,7 (0.500)	396 (266)	500 (1640)*
CVCB35_1050S_□□	2	35	15,1 (0.594)	562 (378)	500 (1640)*
CVCB50_1050S_□□	1	50	18,2 (0.717)	799 (537)	500 (1640)*
CVCB70_1050S_□□	2/0	70	20,7 (0.815)	1065 (716)	500 (1640)*
CVCB95_1050S_□□	3/0	95	21,7 (0.854)	1290 (867)	500 (1640)*
CVCL12_1050S_□□	4/0	120	23,0 (0.906)	1534 (1031)	500 (1640)*
CVCL15_1050S_□□	250 kcmil	150	25,8 (1.016)	1917 (1288)	500 (1640)*
CVCL18_1050S_□□	350	185	28,0 (1.102)	2310 (1552)	500 (1640)*
CVCL24_1050S_□□	450	240	33,8 (1.331)	3166 (2127)	500 (1640)*
CVCL30_1050S_□□	550	300	37,4 (1.472)	3924 (2637)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

Code composition

CVC	□□□	_1050S_	□□

Size	To be inserted
2,5, 4, ..., 6 mm²	250, 400, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
120, 150, ..., 300 mm²	L12, L15, ..., L30

Color	To be inserted
Black	NE

SERIES 1060

Single core cables type THHW/TFF MTW

Fixed application, unshielded



Use

Oil resistant single core cables suitable for machine tools subjected to medium mechanical stresses, for fixed or flexible installation, where free movement is required without tensile stresses and without forced guidance systems. The THHW/TFF MTW single core cables are in accordance with the ANSI/NFPA 79 and ANSI/NFPA 70 “National Electrical Code” (NEC) Art. 336.10 (7).

Technical data

Characteristics	Value/property
Conductor	Flexible bare copper strand, class 5
Insulation	PVC compound
Temperature range	+90°C (UL), +70°C (HAR) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (UL-CSA), 300/500 V (IEC, ≤1 mm²), 450/750 V (IEC, >1 mm²)
Spark test	6000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for wwnon-cyclical mobile uses)
Standards of construction	Nec Art. 336.10 (7) - Oil res.: UL 1277, UL 1063, TFF (≤1,5 mm²) / THHW (≥2,5 mm2) | Flame res.: Test B acc. to DIN VDE 0472 part 804, IEC 60332-1-2, UL/CSA FT1 Other: CEI EN 50525-2-31 and HD 21.3 S3:1995+A1:1999+A2:2008, CSA AWM I A/B, cURus AWM Style 1015
Standards of use	ANSI/NFPA 70 (NEC), ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 1015

Marking

TEKIMA 10600 – CE H07V-K IEMMEQU <HAR> 1x2,5 mm² 450/750V IEC 60332-1-2 RoHS (UL) E361260 MTW 1x14 AWG 600V THHW or AWM Style 1015 c(UR) AWM I A/B 600V 90°C FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC100_10600_ □□	18 AWG	1	2,9 (0.114)	16 (11)	1000 (3281)
CVC150_10600_ □□	16	1,5	3,2 (0.126)	23 (15)	1000 (3281)
CVC250_10600_ □□	14	2,5	3,6 (0.142)	33 (22)	1000 (3281)
CVC400_10600_ □□	12	4	4,3 (0.169)	49 (33)	1000 (3281)
CVC600_10600_ □□	10	6	4,8 (0.189)	69 (46)	1000 (3281)*
CVCB10_10600_ □□	8	10	6,5 (0.256)	118 (79)	500 (1640)*
CVCB16_10600_ □□	6	16	8,3 (0.327)	191 (128)	500 (1640)*
CVCB25_10600_ □□	4	25	9,8 (0.386)	284 (191)	500 (1640)*
CVCB35_10600_ □□	2	35	11,0 (0.433)	382 (257)	500 (1640)*
CVCB50_10600_ □□	1	50	13,7 (0.539)	564 (379)	500 (1640)*
CVCB70_10600_ □□	2/0	70	15,8 (0.622)	774 (520)	500 (1640)*
CVCB95_10600_ □□	3/0	95	17,3 (0.681)	1003 (674)	500 (1640)*
CVCL12_10600_ □□	4/0	120	18,4 (0.724)	1221 (820)	500 (1640)*
CVCL15_10600_ □□	250 kcmil	150	20,8 (0.819)	1537 (1033)	500 (1640)*
CVCL18_10600_ □□	350	185	22,6 (0.890)	1869 (1256)	500 (1640)*
CVCL24_10600_ □□	450	240	27,4 (1.079)	2528 (1699)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

Code composition

CVC	□□□	_10600_	□□

Size	To be inserted
1, 1,5, ..., 6 mm^2	100, 150, ..., 600
10, 16, ..., 95 mm^2	B10, B16, ..., B95
120, 150, ..., 240 mm^2	L12, L15, ..., L24

Color	To be inserted
Yellow/green	GV
Gray	GR
Brown	MR
Black	NE

Note. The double color is such that one of the colours covers at least 30% and not more than 70% of the surface, the other colour covering the remainder of that surface.

SERIES 1070

Single core cables type THHW/TFF MTW CT-USE AWM TEW TW75

Fixed application, unshielded



Use

Oil resistant single core cables suitable for machine tools subjected to medium mechanical stresses, for fixed or flexible installation, where free movement is required without tensile stresses and without forced guidance systems. The THHW/TFF, MTW, AWM single core cables are in accordance with the ANSI/NFPA 79 and ANSI/ NFPA 70 "National Electrical Code" (NEC) Art. 310 and 402. They are also certified "for CT use" for 4 AWG sections for ground conductors and 1/0 AWG for power conductors. These cables are TW75, TEW, AWM according to CSA C22.1 "Canadian Electrical Code" (CE Code).

* Important. The "for CT use" and TW75 version is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible bare copper strand, class 5
Insulation	PVC compound
Temperature range	+90°C (MTW), +105°C (AWM/TEW), +75°C (TW75), +90°C (IEC), +90°C (HAR H05V2-K/H07V2-K <50 mm²), +70°C (HAR H07V-K ≥50 mm²) -40°C (fixed); -5°C (not fixed)
Voltage rating	1000 V (AWM), 600 V (MTW/TEW/TW75), 300/500 V (IEC/HAR ≤1 mm²), 450/750 V (IEC/HAR >1 mm²)
Spark test	6000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL/CSA approvals: (UL) Type MTW, THHW (≥2,5 mm²), for CT use (≥4 AWG ground cond., ≥1/0 AWG for ungrounded cond.), c(UL) TW75 (≥2,5 mm²), (UR) AWM Style 10269, AWM Style 1015, TFF (≤1,5 mm²), c(UR) TEW (≤4/0 AWG), AWM I A/B; NEC Art. 310, 402; CSA C22.1 Tab. 19; UL 1581, UL 758, UL 1277, UL 1063, CSA C22.2 No. 75, CSA C22.2 No. 127, CSA C22.2 No. 210 | Flame res.: Test B acc. to DIN VDE 0472 part 804, IEC 60332- 1-2, UL/CSA FT1 | UV res.: UNI EN ISO 4892-2 (black), UNI EN ISO 4892-3 (other colors) | Other: CEI EN 50525-2-31 and HD 21.3 S3:1995+A1:1999+A2:2008, Low Voltage Directive (LVD) 2014/35/EU
Standards of use	ANSI/NFPA 70 (NEC), ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 10269, Style 1015

Marking

TEKIMA 10700 – H07V2-K IEMMEQU <HAR> 90°C CE 1x2,5 mm² 90°C 450/750V IEC 60332-1-2 RoHS (UL) E361260 MTW 1x14 AWG 600V or THHW or AWM 10269 105°C 1000V or AWM 1015 105°C 600V c(UL) TW75 1x14 AWG 600V or TEW 105°C or AWM I A/B 105°C 1000V FT1 – (prod.reference) = (metric) =

TEKIMA 10700 – H07V2-K IEMMEQU <HAR> 90°C CE 1x35 mm² 90°C 450/750V IEC 60332-1-2 RoHS (UL) E361260 MTW 1x2 AWG 600V or THHW "FOR CT USE" or AWM 10269 105°C 1000V or AWM 1015 105°C 600V c(UL) TW75 1x14 AWG 600V or TEW 105°C or AWM I A/B 105°C 1000V FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]	Large packaging [m (ft)]
CVC034_10700_□□ (1) (3)	22 AWG	0,34	2,3 (0.091)	8 (5)	500 (1640) C	-
CVC050_10700_□□ (2) (3)	21	0,5	2,5 (0.098)	11 (7)	500 (1640) C	-
CVC075_10700_□□ (2) (3)	19	0,75	2,7 (0.106)	14 (9)	100 (328) C	-
CVC100_10700_□□ (3)	18	1	2,9 (0.114)	16 (11)	100 (328) C	153 (500) S
CVC150_10700_□□ (3)	16	1,5	3,2 (0.126)	23 (15)	100 (328) C	153 (500) S
CVC250_10700_□□	14	2,5	3,6 (0.142)	33 (22)	100 (328) C	153 (500) S
CVC400_10700_□□	12	4	4,3 (0.169)	49 (33)	100 (328) C	153 (500) S
CVC600_10700_□□	10	6	4,8 (0.189)	69 (46)	100 (328) C	153 (500) S
CVCB10_10700_□□	8	10	6,5 (0.256)	118 (79)	100 (328) C	153 (500) S
CVCB16_10700_□□	6	16	8,3 (0.327)	191 (128)	500* (1640*) R	-
CVCB25_10700_□□ (4)	4	25	9,8 (0.386)	284 (191)	500* (1640*) R	-
CVCW03_10700_□□ (4)	3	26,7	10,5 (0.413)	326 (219)	500* (1640)* B	-

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]	Large packaging [m (ft)]
CVCB35_10700_□□ (4)	2	35	11,0 (0.433)	382 (257)	500* (1640*) R	-
CVCB50_10700_□□ (4)	1	50	13,7 (0.539)	564 (379)	500* (1640*) R	-
CVCW/1_10700_□□ (5)	1/0	53,5	14,4 (0.567)	641 (431)	500* (1640)* B	-
CVCB70_10700_□□ (5)	2/0	70	15,8 (0.622)	774 (520)	500* (1640*) R	-
CVCB95_10700_□□ (5)	3/0	95	17,3 (0.681)	1003 (674)	500* (1640*) R	-
CVCL12_10700_□□ (5)	4/0	120	18,4 (0.724)	1221 (820)	500* (1640*) R	-
CVCL15_10700_□□ (5)	250 kcmil	150	20,8 (0.819)	1537 (1033)	500* (1640*) R	-
CVCX30_10700_□□ (5)	300	152	21,7 (0.868)	1677 (1127)	500* (1640)* B	-
CVCL18_10700_□□ (5)	350	185	22,6 (0.890)	1869 (1256)	500* (1640*) R	-
CVCL24_10700_□□ (5)	450	240	27,4 (1.079)	2528 (1699)	500* (1640*) R	-
CVCX50_10700_□□ (5)	500	254	27,4 (1.079)	2760 (1855)	500* (1640)* B	-

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).
Packaging type: S = spool, C = coil, R = reel
(1)This article is not HAR and is not THHW/TFF.
(2) This article is not THHW/TFF.
(3) This article is c(UR) AWM and TEW but it cannot be c(UL) TW75.
(4) This article is "for CT use" in green or green/yellow colors (grounding conductors).
(5)This article is "for CT use" in all colors.

Code composition

CVC □□□ _10700_ □□ □□□

Packaging	To be inserted
Standard	<keep this field empty>
Large	_LR

Size	To be inserted
1, 1,5, ..., 6 mm²	100, 150, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
120, 150, ..., 240 mm²	L12, L15, ..., L24
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 500 kcmil	X25, X30, ..., X50

Color	To be inserted
Orange	AR
White/orange**	BA**
White	BI
White/blue**	BB**
White/yellow**	BG**
Blue Ral 5010	BU
Yellow*	GI*
Yellow/green	GV
Gray	GR
Brown	MR
Black	NE
Pink	RS
Red	RO
Green*	VE*

* For these colors the product is not HAR.
** For these colors the product is not HAR for sizes > 1 mm².
Note. The double color is such that one of the colours covers at least 30% and not more than 70% of the surface, the other colour covering the remainder of that surface.

SERIES 1075

Single core cables type THHW MTW CT-USE AWM TEW TW75

Dynamic application, unshielded



Use

Single core cables suitable for mobile use in power chains or moving machine parts for travel distances up to 10 m. The THHW/TFF, MTW, AWM single core cables are in accordance with the ANSI/NFPA 79 and ANSI/ NFPA 70 “National Electrical Code” (NEC) Art. 310 and 402. They are also certified "for CT use" for 4 AWG sections for ground conductors and 1/0 AWG for power conductors. These cables are TW75, TEW, AWM according to CSA C22.1 "Canadian Electrical Code" (CE Code).

* Important. The "for CT use" and TW75 version is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Extra-flexible bare copper strand, class 6
Insulation	PVC compound
Temperature range	+90°C (MTW), +105°C (AWM/TEW), +75°C (TW75), +90°C (IEC), +90°C (HAR H05V2-K/H07V2-K <50 mm²), +70°C (HAR H07V-K ≥50 mm²) -40°C (fixed); -5°C (dynamic)
Voltage rating	1000 V (AWM), 600 V (MTW/TEW/TW75), 300/500 V (IEC/ HAR ≤1 mm²), 450/750 V (IEC/HAR >1 mm²)
Spark test	10000 V
Speed	180 m/min
Acceleration	20 m/s²
Bending radius	8 x cable outer diameter for fixed applications, 12 x cable outer diameter for dynamic applications, 15 x cable outer diameter for drag chain applications
Standards of construction	UL/CSA approvals: (UL) Type MTW, THHW (≥2,5 mm²), for CT use (≥4 AWG ground cond., ≥1/0 AWG for ungrounded cond.), c(UL) TW75 (≥2,5 mm²), (UR) AWM Style 10269, AWM Style 1015, TFF (≤1,5 mm²), c(UR) TEW (≤4/0 AWG), AWM I A/B; NEC Art. 310, 402; CSA C22.1 Tab. 19; UL 1581, UL 758, UL 1277, UL 1063, CSA C22.2 No. 75, CSA C22.2 No. 127, CSA C22.2 No. 210 | Flame res.: Test B acc. to DIN VDE 0472 part 804, IEC 60332- 1-2, UL/CSA FT1 | UV res.: UNI EN ISO 4892-2 (nero/black), UNI EN ISO 4892-3 (altri colori/other colors) | Other: CEI EN 50525-2-31 and HD 21.3 S3:1995+A1:1999+A2:2008, Low Voltage Directive (LVD) 2014/35/EU
Standards of use	ANSI/NFPA 70 (NEC), ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 10269, Style 1015

Marking

TEKIMA 10750 – H07V2-K IEMMEQU <HAR> 90°C CE 1x2,5 mm² 90°C 450/750V IEC 60332-1-2 RoHS (UL) E361260 MTW 1x14 AWG 600V or THHW or AWM 10269 105°C 1000V or AWM 1015 105°C 600V c(UL) TW75 1x14 AWG 600V or TEW 105°C or AWM I A/B 105°C 1000V FT1 – (prod.reference) = (metric) =

TEKIMA 10750 – H07V2-K IEMMEQU <HAR> 90°C CE 1x35 mm² 90°C 450/750V IEC 60332-1-2 RoHS (UL) E361260 MTW 1x2 AWG 600V or THHW "FOR CT USE" or AWM 10269 105°C 1000V or AWM 1015 105°C 600V c(UL) TW75 1x14 AWG 600V or TEW 105°C or AWM I A/B 105°C 1000V FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC150_10750_□□ (1)	16 AWG	1,5	3,2 (0.126)	23 (15)	1000 (3281)
CVC250_10750_□□	14	2,5	4,2 (0.165)	33 (22)	1000 (3281)
CVC400_10750_□□	12	4	4,3 (0.169)	49 (33)	1000 (3281)
CVC600_10750_□□	10	6	4,9 (0.193)	69 (46)	1000 (3281)*
CVCB10_10750_□□	8	10	6,7 (0.264)	118 (79)	500 (1640)*
CVCB16_10750_□□	6	16	8,5 (0.335)	191 (128)	500 (1640)*
CVCB25_10750_□□ (4)	4	25	9,7 (0.382)	284 (191)	500 (1640)*
CVCB35_10750_□□ (4)	2	35	11,5 (0.453)	382 (257)	500 (1640)*
CVCB50_10750_□□ (4)	1	50	14,3 (0.563)	564 (379)	500 (1640)*
CVCB70_10750_□□ (5)	2/0	70	16,4 (0.646)	774 (520)	500 (1640)*
CVCB95_10750_□□ (5)	3/0	95	17,4 (0.685)	1003 (674)	500 (1640)*

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVCL12_10750_□□ (5)	4/0	120	18,5 (0.728)	1221 (820)	500 (1640)*
CVCL15_10750_□□ (5)	250 kcmil	150	20,8 (0.819)	1537 (1033)	500 (1640)*
CVCL18_10750_□□ (5)	350	185	22,6 (0.890)	1869 (1256)	500 (1640)*
CVCL24_10750_□□ (5)	450	240	25,5 (1.004)	2528 (1699)	500 (1640)*

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).
(1) This article is c(UR) AWM and TEW but it cannot be c(UL) TW75.
(4) This article is "for CT use" in green or green/yellow colors (grounding conductors).
(5)This article is "for CT use" in all colors.

Code composition

CVC | □□□ | **_10750_** | □□

Size	To be inserted
1,5, 2,5, ..., 6 mm²	150, 250, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
120, 150, ..., 240 mm²	L12, L15, ..., L24
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 450 kcmil	X25, X30, ..., X45

Color	To be inserted
Yellow/green	GV
Black	NE

Note. The double color is such that one of the colours covers at least 30% and not more than 70% of the surface, the other colour covering the remainder of that surface.

SERIES 1080

Single core cables type THHW/TFF MTW CT-USE AWM

Fixed application, unshielded



Use

Unshielded single-core cables used for wiring machine tools, industrial electrical and electronic equipments. They are suitable for use in fixed or non-cyclic mobile installations and are certified "for CT use" for 4 AWG sizes for ground conductors and 1/0 AWG for power conductors. The single-core THHW/TFF MTW AWM cables comply with ANSI/NFPA 79, Articles 310 and 402 of ANSI/NFPA 70 “National Electrical Code” (NEC), and CSA C22.1 "Canadian Electrical Code" (CE Code).

Technical data

Characteristics	Value/property
Conductor	Flexible bare copper strand, class 5
Insulation	PVC compound
Jacket	PVC compound. Metric marking.
Temperature range	+90°C -40°C (fixed); -5°C (occasional flexing)
Voltage rating	600 V (MTW), 1000 V (AWM), 600/1000 V (IEC)
Spark test	10000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL/CSA approvals: (UL) Type MTW, TFF (1,5 mm²) / THHW (2,5 mm²), for CT use (≥4 AWG ground cond., ≥1/0 AWG for ungrounded cond.), c(UR)us AWM Style 1032, AWM I A/B; Nec Art. 310, 402; UL 1581, UL 758, UL 1277, UL 1063 | Flame res.: Test B acc. to DIN VDE 0472 part 804, IEC 60332-1-2, UL VW-1, CSA FT1 | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	ANSI/NFPA 70 (NEC), ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 1032

Marking

TEKIMA 10800 – CE 1x2,5 mm² 90°C 600/1000V IEC 60332-1-2 (UL) E361260 MTW 1x14 AWG 600V or THHW or AWM Style 1032 1000V VW-1 c(UR) AWM I A/B 1000V FT1 14 AWG – (prod.reference) = (metric) =

TEKIMA 10800 – CE 1x70 mm² 90°C 600/1000V IEC 60332-1-2 (UL) E361260 MTW 1x2/0 AWG 600V or THHW "FOR CT USE" or AWM Style 1032 1000V VW-1 c(UR) AWM I A/B 1000V FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC250_10800_□□	14 AWG	2,5	5,9 (0.232)	58 (39)	500 (1640)
CVC400_10800_□□	12	4	6,5 (0.256)	77 (52)	500 (1640)
CVC600_10800_□□	10	6	7,1 (0.280)	101 (68)	500* (1640*)
CVCB10_10800_□□	8	10	8,8 (0.346)	161 (108)	500* (1640*)
CVCB16_10800_□□	6	16	10,6 (0.417)	244 (164)	500* (1640*)
CVCW05_10800_□□	5	16,8	10,7 (0.421)	318 (214)	500* (1640*)
CVCB25_10800_□□ (4)	4	25	12,1 (0.476)	430 (289)	500* (1640*)
CVCW03_10800_□□ (4)	3	26,7	12,8 (0.504)	570 (383)	500* (1640*)
CVCB35_10800_□□ (4)	2	35	14,0 (0.551)	768 (516)	500* (1640*)
CVCB50_10800_□□ (4)	1	50	16,7 (0.657)	1054 (708)	500* (1640*)
CVCW/1_10800_□□ (5)	1/0	53,5	17,4 (0.685)	1280 (860)	500* (1640*)
CVCB70_10800_□□ (5)	2/0	70	18,1 (0.713)	1537 (1033)	500* (1640*)
CVCB95_10800_□□ (5)	3/0	95	19,8 (0.780)	1873 (1259)	500* (1640*)
CVCL12_10800_□□ (5)	4/0	120	22,5 (0.886)	2423 (1628)	500* (1640*)
CVCL15_10800_□□ (5)	250 kcmil	150	24,9 (0.980)	2517 (1692)	500* (1640*)
CVCX30_10800_□□ (5)	300	152	25,8 (1.016)	2558 (1719)	500* (1640*)
CVCL18_10800_□□ (5)	350	185	26,7 (1.051)	2562 (1722)	500* (1640*)

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVCX40_10800_□□ (5)	400	203	28,0 (1.102)	2618 (1759)	500* (1640*)
CVCL24_10800_□□ (5)	450	240	29,6 (1.165)	2685 (1804)	500* (1640*)
CVCX50_10800_□□ (5)	500	254	31,5 (1.240)	2789 (1874)	500* (1640*)
CVCL30_10800_□□ (5)	550	300	34,7 (1.366)	2984 (2005)	500* (1640*)
CVCL40_10800_□□ (5)	750	400	37,7 (1.484)	3494 (2348)	500* (1640*)

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

(4) This article is "for CT use" in green or green/yellow colors (grounding conductors).

(5) This article is "for CT use" in all colors.

Code composition

CVC | **□□□** | **_10800_** | **□□**

Size	To be inserted
2,5, 4, ..., 6 mm²	250, 400, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
120, 150, ..., 400 mm²	L12, L15, ..., L40
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 500 kcmil	X25, X30, ..., X50

Color	To be inserted
Yellow/green	GV
Black	NE

Note. The double color is such that one of the colours covers at least 30% and not more than 70% of the surface, the other colour covering the remainder of that surface.

SERIES 1080S

Single core cables type THHW/TFF MTW CT-USE AWM

Dynamic application, shielded



Use

Shielded single-core cables used for wiring machine tools, industrial electrical and electronic equipments. They are suitable for use in fixed or non-cyclic mobile installations and are certified "for CT use" for 4 AWG sizes for ground conductors and 1/0 AWG for power conductors. The single-core THHW/TFF MTW AWM cables comply with ANSI/NFPA 79, Articles 310 and 402 of ANSI/NFPA 70 “National Electrical Code” (NEC), and CSA C22.1 "Canadian Electrical Code" (CE Code).

Technical data

Characteristics	Value/property
Conductor	Flexible bare copper strand, class 5
Insulation	PVC compound
Internal tape	Polyester tape
Shield	Tinned copper braid, nom. coverage 85%
Jacket	PVC compound. Metric marking.
Temperature range	+90°C -40°C (fixed); -5°C (occasional flexing)
Voltage rating	600 V (MTW), 1000 V (AWM), 600/1000 V (IEC)
Spark test	10000 V
Bending radius	4 x cable outer diameter (13 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL/CSA approvals: (UL) Type MTW, TFF (1,5 mm²) / THHW (2,5 mm²), for CT use (≥4 AWG ground cond., ≥1/0 AWG for ungrounded cond.), c(UR)us AWM Style 1032, AWM I A/B; Nec Art. 310, 402; UL 1581, UL 758, UL 1277, UL 1063 | Flame res.: Test B acc. to DIN VDE 0472 part 804, IEC 60332-1-2, UL VW-1, CSA FT1 | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	ANSI/NFPA 70 (NEC), ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 1032

Marking

TEKIMA 1080S – CE 1x2,5 mm² 90°C 600/1000V IEC 60332-1-2 (UL) E361260 MTW 1x14 AWG 600V or THHW or AWM Style 1032 1000V VW-1 c(UR) AWM I A/B 1000V FT1 14 AWG – (prod.reference) = (metric) =

TEKIMA 1080S – CE 1x70 mm² 90°C 600/1000V IEC 60332-1-2 (UL) E361260 MTW 1x2/0 AWG 600V or THHW "FOR CT USE" or AWM Style 1032 1000V VW-1 c(UR) AWM I A/B 1000V FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVC250_1080S_□□	14 AWG	2,5	6,4 (0.252)	71 (48)	500 (1640)
CVC400_1080S_□□	12	4	7,1 (0.280)	98 (66)	500 (1640)
CVC600_1080S_□□	10	6	7,7 (0.303)	121 (81)	500* (1640*)
CVCB10_1080S_□□	8	10	9,4 (0.370)	189 (127)	500* (1640*)
CVCB16_1080S_□□	6	16	11,2 (0.441)	276 (185)	500* (1640*)
CVCW05_1080S_□□	5	16,8	11,3 (0.445)	292 (196)	500* (1640*)
CVCB25_1080S_□□ (4)	4	25	12,7 (0.500)	387 (260)	500* (1640*)
CVCW03_1080S_□□ (4)	3	26,7	14,3 (0.563)	471 (316)	500* (1640*)
CVCB35_1080S_□□ (4)	2	35	14,8 (0.583)	533 (358)	500* (1640*)
CVCB50_1080S_□□ (4)	1	50	17,5 (0.689)	751 (505)	500* (1640*)
CVCW/1_1080S_□□ (5)	1/0	53,5	18,2 (0.717)	828 (556)	500* (1640*)
CVCB70_1080S_□□ (5)	2/0	70	18,9 (0.744)	950 (638)	500* (1640*)
CVCB95_1080S_□□ (5)	3/0	95	20,6 (0.811)	1207 (811)	500* (1640*)
CVCL12_1080S_□□ (5)	4/0	120	23,3 (0.917)	1519 (1021)	500* (1640*)
CVCL15_1080S_□□ (5)	250 kcmil	150	25,7 (1.012)	1871 (1257)	500* (1640*)
CVCX30_1080S_□□ (5)	300	152	26,6 (1.047)	2021 (1358)	500* (1640*)

Coding and dimensions

Code	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Packaging [m (ft)]
CVCL18_1080S_□□ (5)	350	185	27,5 (1.083)	2218 (1490)	500* (1640*)
CVCX40_1080S_□□ (5)	400	203	28,8 (1.134)	2545 (1710)	500* (1640*)
CVCL24_1080S_□□ (5)	450	240	30,4 (1.197)	2813 (1890)	500* (1640*)
CVCX50_1080S_□□ (5)	500	254	32,3 (1.272)	3184 (2140)	500* (1640*)
CVCL30_1080S_□□ (5)	550	300	35,7 (1.406)	3687 (2478)	500* (1640*)

* For this article, an additional UL certified cut-to-length service is carried out on request (“Processed Wire”).

(4) This article is "for CT use" in green or green/yellow colors (grounding conductors).

(5) This article is "for CT use" in all colors.

Code composition

CVC | □□□ | **_1080S_** | □□

Color	To be inserted
Black	NE

Size	To be inserted
2,5, 4, ..., 6 mm²	250, 400, ..., 600
10, 16, ..., 95 mm²	B10, B16, ..., B95
120, 150, ..., 400 mm²	L12, L15, ..., L40
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 500 kcmil	X25, X30, ..., X50



Unarmoured cables for fixed applications

tekima

SERIES 50

“LiYY” data transmission cables

Fixed application, unshielded



Use

These are communication and control cables for mobile use with scarcely repetitive movements and designed for general purpose installation in industrial signal and bus applications that utilize the DIN 47100 color code.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	PVC compound
Conductor distinction	According to DIN 47100 Standard
Jacket	PVC compund, RAL 7001 gray color. Metric marking
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	300/300 V (≤0,34 mm²) 300/500 V (>0,34 mm²)
Test voltage	3000 V
Capacitance	0,14 mm²: 120 nF/km; >0,14 mm²: 150 nF/km
Linear inductance	approx. 0,65 mH/km
Bending radius	4 x cable outer diameter (fixed) 15 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, DIN VDE 0472 part. 804 | Other: CEI EN 60228, VDE 0295, VDE 0207, 2014/35/EU (Low Voltage Directive), UE 305/2011, EN 50575 (CPR, Class Eca)

* The CPR for this product is valid in the EU, not in UK.

Marking

TEKIMA 00500 “LiYY” – CE 4x1 mm² 300/500 V – IEC 60332-1-2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X014_00500_GR	2	0,14	3,4 (0.134)	15 (10)	300/300
CV02X025_00500_GR	2	0,25	3,7 (0.146)	21 (14)	300/300
CV02X034_00500_GR	2	0,34	4,0 (0.157)	29 (19)	300/300
CV03X014_00500_GR	3	0,14	3,5 (0.138)	17 (11)	300/300
CV03X025_00500_GR	3	0,25	3,9 (0.154)	25 (17)	300/300
CV03X034_00500_GR	3	0,34	4,3 (0.169)	34 (23)	300/300
CV04X014_00500_GR	4	0,14	3,9 (0.154)	21 (14)	300/300
CV04X025_00500_GR	4	0,25	4,3 (0.169)	31 (21)	300/300
CV04X034_00500_GR	4	0,34	4,7 (0.185)	41 (28)	300/300
CV05X014_00500_GR	5	0,14	4,2 (0.165)	25 (17)	300/300
CV05X025_00500_GR	5	0,25	4,7 (0.185)	36 (24)	300/300
CV05X034_00500_GR	5	0,34	5,2 (0.205)	49 (33)	300/300
CV06X014_00500_GR	6	0,14	4,6 (0.181)	31 (21)	300/300
CV06X025_00500_GR	6	0,25	5,2 (0.205)	42 (28)	300/300
CV06X034_00500_GR	6	0,34	5,7 (0.224)	58 (39)	300/300
CV07X014_00500_GR	7	0,14	4,6 (0.181)	32 (22)	300/300
CV07X025_00500_GR	7	0,25	5,2 (0.205)	44 (30)	300/300
CV07X034_00500_GR	7	0,34	5,7 (0.224)	60 (40)	300/300
CV08X014_00500_GR	8	0,14	5,0 (0.197)	35 (24)	300/300
CV08X025_00500_GR	8	0,25	5,6 (0.220)	52 (35)	300/300

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV08X034_00500_GR	8	0,34	6,9 (0.272)	75 (50)	300/300
CV10X014_00500_GR	10	0,14	5,9 (0.232)	47 (32)	300/300
CV10X025_00500_GR	10	0,25	6,6 (0.260)	69 (46)	300/300
CV10X034_00500_GR	10	0,34	7,9 (0.311)	95 (64)	300/300
CV12X014_00500_GR	12	0,14	6,1 (0.240)	51 (34)	300/300
CV12X025_00500_GR	12	0,25	6,8 (0.268)	75 (50)	300/300
CV12X034_00500_GR	12	0,34	8,2 (0.323)	105 (71)	300/300
CV14X014_00500_GR	14	0,14	6,4 (0.252)	56 (38)	300/300
CV14X025_00500_GR	14	0,25	7,2 (0.283)	83 (56)	300/300
CV14X034_00500_GR	14	0,34	8,6 (0.339)	116 (78)	300/300
CV16X014_00500_GR	16	0,14	6,8 (0.268)	62 (42)	300/300
CV16X025_00500_GR	16	0,25	7,6 (0.299)	92 (62)	300/300
CV16X034_00500_GR	16	0,34	9,0 (0.354)	127 (85)	300/300
CV18X014_00500_GR	18	0,14	7,2 (0.283)	71 (48)	300/300
CV18X025_00500_GR	18	0,25	8,1 (0.319)	99 (67)	300/300
CV18X034_00500_GR	18	0,34	9,5 (0.374)	145 (97)	300/300
CV25X014_00500_GR	25	0,14	8,0 (0.315)	95 (64)	300/300
CV25X025_00500_GR	25	0,25	9,5 (0.374)	115 (77)	300/300
CV25X034_00500_GR	25	0,34	11,3 (0.445)	187 (126)	300/300

Code composition



Color	To be inserted
Gray	GR

Number of conductors	To be inserted
2, ..., 25	02X, ..., 25X

Size	To be inserted
0,14 mm², ..., 0,34 mm²	014, ..., 034

SERIES 50S

"LiYCY" data transmission cables

Fixed application, shielded



Use

These are communication and control cables for mobile use with scarcely repetitive movements and designed for general purpose installation in industrial signal and bus applications that utilize the DIN 47100 color code.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	PVC compound
Conductor distinction	According to DIN 47100 Standard
Shield	Tinned copper braid, nom. coverage 80%
Jacket	PVC compund, RAL 7001 gray color. Metric marking
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	300/300 V (≤0,34 mm^2) 300/500 V (>0,34 mm^2)
Test voltage	3000 V
Capacitance	0,14 mm^2: 120 nF/km; >0,14 mm^2: 150 nF/km (cond.) 0,14 mm^2: 200 nF/km; >0,14 mm^2: 270 nF/km (shield)
Linear inductance	approx. 0,65 mH/km
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, DIN VDE 0472 part. 804 | Other: CEI EN 60228, VDE 0295, VDE 0207, 2014/35/EU (Low Voltage Directive), UE 305/2011, EN 50575 (CPR, Class Eca)

* The CPR for this product is valid in the EU, not in UK.

Marking

TEKIMA 0050S "LiYCY" – CE 4x1 mm^2 300/500 V – IEC 60332-1-2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm^2]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X014_0050S_GR	2	0,14	3,6 (0.142)	17 (11)	300/300
CV02X025_0050S_GR	2	0,25	3,9 (0.154)	21 (14)	300/300
CV02X034_0050S_GR	2	0,34	4,4 (0.173)	29 (19)	300/300
CV03X014_0050S_GR	3	0,14	3,7 (0.146)	20 (13)	300/300
CV03X025_0050S_GR	3	0,25	4,1 (0.161)	27 (18)	300/300
CV03X034_0050S_GR	3	0,34	4,9 (0.193)	35 (24)	300/300
CV04X014_0050S_GR	4	0,14	4,0 (0.157)	23 (15)	300/300
CV04X025_0050S_GR	4	0,25	4,6 (0.181)	33 (22)	300/300
CV04X034_0050S_GR	4	0,34	5,3 (0.209)	43 (29)	300/300
CV05X014_0050S_GR	5	0,14	4,5 (0.177)	29 (19)	300/300
CV05X025_0050S_GR	5	0,25	4,9 (0.193)	40 (27)	300/300
CV05X034_0050S_GR	5	0,34	5,8 (0.228)	54 (36)	300/300
CV06X014_0050S_GR	6	0,14	4,8 (0.189)	33 (22)	300/300
CV06X025_0050S_GR	6	0,25	5,5 (0.217)	44 (30)	300/300
CV06X034_0050S_GR	6	0,34	6,3 (0.248)	60 (40)	300/300
CV07X014_0050S_GR	7	0,14	5,2 (0.205)	35 (24)	300/300
CV07X025_0050S_GR	7	0,25	5,5 (0.217)	48 (32)	300/300
CV07X034_0050S_GR	7	0,34	6,3 (0.248)	65 (44)	300/300

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV08X014_0050S_GR	8	0,14	5,4 (0.213)	40 (27)	300/300
CV08X025_0050S_GR	8	0,25	6,0 (0.236)	57 (38)	300/300
CV08X034_0050S_GR	8	0,34	7,0 (0.276)	75 (50)	300/300
CV10X014_0050S_GR	10	0,14	5,7 (0.224)	51 (34)	300/300
CV10X025_0050S_GR	10	0,25	6,6 (0.260)	69 (46)	300/300
CV10X034_0050S_GR	10	0,34	7,9 (0.311)	94 (63)	300/300
CV12X014_0050S_GR	12	0,14	6,0 (0.236)	56 (38)	300/300
CV12X025_0050S_GR	12	0,25	7,2 (0.283)	77 (52)	300/300
CV12X034_0050S_GR	12	0,34	8,2 (0.323)	105 (71)	300/300
CV14X014_0050S_GR	14	0,14	6,6 (0.260)	69 (46)	300/300
CV14X025_0050S_GR	14	0,25	7,6 (0.299)	105 (71)	300/300
CV14X034_0050S_GR	14	0,34	8,8 (0.346)	144 (97)	300/300
CV16X014_0050S_GR	16	0,14	6,8 (0.268)	83 (56)	300/300
CV16X025_0050S_GR	16	0,25	8,2 (0.323)	119 (80)	300/300
CV16X034_0050S_GR	16	0,34	9,5 (0.374)	157 (105)	300/300
CV18X014_0050S_GR	18	0,14	7,3 (0.287)	98 (66)	300/300
CV18X025_0050S_GR	18	0,25	8,5 (0.335)	128 (86)	300/300
CV18X034_0050S_GR	18	0,34	9,7 (0.382)	173 (116)	300/300
CV25X014_0050S_GR	25	0,14	8,6 (0.339)	125 (84)	300/300
CV25X025_0050S_GR	25	0,25	10,1 (0.398)	165 (111)	300/300
CV25X034_0050S_GR	25	0,34	11,8 (0.465)	206 (138)	300/300

Code composition



Color	To be inserted
Gray	GR

Number of conductors	To be inserted
2, ..., 25	02X, ..., 25X

Size	To be inserted
0,14 mm², ..., 0,34 mm²	014, ..., 034

SERIES 100

“Flextek” high flexible oil-resistant and UV-resistant cables

Fixed application, unshielded



Use

They are cables designed for fixed applications or for occasional and non-cyclic mobile use even in drag-chains up to 5 meters and for sizes from 0.5 mm² to 2.5 mm² with a maximum of 6 conductors without tensile stress. They are normally used for equipments meant for the European market (EC). Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. They are also suitable for the installation in any industrial environment, both indoor and outdoor. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Flexible red copper strand
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Jacket	Oil-resistant PVC compound, RAL 7001 gray color or black. Metric marking.
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	450/750 V
Test voltage	4000 V
Bending radius	4 x external cable diameter (fixed) 15 x external cable diameter (not fixed)
Standards	Flame res.: IEC 60332-1-2 | Oil res.: CEI 20-34 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: CEI EN 60228, VDE 0295, CEI 20-11, VDE 0207, 2014/35/EU (Low Voltage Directive), UE 305/2011, EN 50575 (CPR, Class Eca)

* The CPR for this product is valid in the EU, not in UK.

Marking

TEKIMA 01000 “FLEXTEK” – CE 50G1 mm² 450/750 V – IEC 60332-1-2 – UV RESISTANT – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X050_01000_GR	2	0,5	4,4 (0.173)	30 (20)	450/750
CV02X075_01000_GR	2	0,75	4,8 (0.189)	37 (25)	450/750
CV02X100_01000_GR	2	1,0	5,1 (0.201)	44 (30)	450/750
CV02X150_01000_GR	2	1,5	5,7 (0.224)	59 (40)	450/750
CV02X250_01000_GR	2	2,5	7,1 (0.280)	94 (63)	450/750
CV02X400_01000_GR	2	4,0	8,6 (0.339)	143 (96)	450/750
CV02X600_01000_GR	2	6,0	10,0 (0.394)	201 (135)	450/750
CV03G050_01000_GR	3	0,5	4,7 (0.185)	36 (24)	450/750
CV03G075_01000_GR	3	0,75	5,1 (0.201)	46 (31)	450/750
CV03G100_01000_GR	3	1,0	5,5 (0.217)	56 (38)	450/750
CV03G150_01000_GR	3	1,5	6,3 (0.248)	78 (52)	450/750
CV03G250_01000_GR	3	2,5	7,6 (0.299)	120 (81)	450/750
CV03G400_01000_GR	3	4,0	9,1 (0.358)	181 (122)	450/750
CV03G600_01000_GR	3	6,0	10,9 (0.429)	265 (178)	450/750
CV03GB10_01000_GR	3	10	13,7 (0.539)	430 (289)	450/750
CV03GB16_01000_GR	3	16	16,0 (0.630)	637 (428)	450/750
CV03GB50_01000_GR	3	50	27,6 (1.087)	1939 (1303)	450/750
CV04G050_01000_GR	4	0,5	5,1 (0.201)	44 (30)	450/750
CV04G075_01000_GR	4	0,75	5,6 (0.220)	57 (38)	450/750

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04G100_01000_GR	4	1,0	6,2 (0.244)	73 (49)	450/750
CV04G150_01000_GR	4	1,5	6,9 (0.272)	98 (66)	450/750
CV04G250_01000_GR	4	2,5	8,5 (0.335)	155 (104)	450/750
CV04G400_01000_GR	4	4,0	10,1 (0.398)	232 (156)	450/750
CV04G600_01000_GR	4	6,0	12,0 (0.472)	337 (226)	450/750
CV04GB10_01000_GR	4	10	15,3 (0.602)	554 (372)	450/750
CV04GB16_01000_GR	4	16	17,8 (0.701)	821 (552)	450/750
CV04GB25_01000_GR	4	25	22,3 (0.878)	1284 (863)	450/750
CV04GB35_01000_GR	4	35	25,3 (0.996)	1728 (1161)	450/750
CV04GB50_01000_GR	4	50	30,9 (1.217)	2514 (1689)	450/750
CV04GB70_01000_GR	4	70	34,4 (1.354)	3317 (2229)	450/750
CV04GB95_01000_GR	4	95	41,2 (1.622)	4630 (3111)	450/750
CV05G050_01000_GR	5	0,5	5,7 (0.224)	55 (37)	450/750
CV05G075_01000_GR	5	0,75	6,4 (0.252)	74 (50)	450/750
CV05G100_01000_GR	5	1,0	6,8 (0.268)	89 (60)	450/750
CV05G150_01000_GR	5	1,5	7,6 (0.299)	120 (81)	450/750
CV05G250_01000_GR	5	2,5	9,4 (0.370)	192 (129)	450/750
CV05G400_01000_GR	5	4,0	11,3 (0.445)	290 (195)	450/750
CV05G600_01000_GR	5	6,0	13,5 (0.531)	424 (285)	450/750
CV05GB10_01000_GR	5	10	17,2 (0.677)	696 (468)	450/750
CV05GB16_01000_GR	5	16	20,0 (0.787)	1031 (693)	450/750
CV05GB25_01000_GR	5	25	25,0 (0.984)	1608 (1081)	450/750
CV05GB35_01000_GR	5	35	28,6 (1.126)	2181 (1466)	450/750
CV05GB50_01000_GR	5	50	34,6 (1.362)	3147 (2115)	450/750
CV05GB95_01000_GR	5	95	46,5 (1.831)	5835 (3921)	450/750
CV06G050_01000_GR	6	0,5	6,4 (0.252)	69 (46)	450/750
CV06G075_01000_GR	6	0,75	7,0 (0.276)	89 (60)	450/750
CV06G100_01000_GR	6	1,0	7,4 (0.291)	106 (71)	450/750
CV06G150_01000_GR	6	1,5	8,5 (0.335)	148 (99)	450/750
CV07G050_01000_GR	7	0,5	6,4 (0.252)	72 (48)	450/750
CV07G075_01000_GR	7	0,75	7,0 (0.276)	94 (63)	450/750
CV07G100_01000_GR	7	1,0	7,4 (0.291)	112 (75)	450/750
CV07G150_01000_GR	7	1,5	8,5 (0.335)	158 (106)	450/750
CV07G250_01000_GR	7	2,5	10,3 (0.406)	247 (166)	450/750
CV07G400_01000_GR	7	4,0	12,4 (0.488)	376 (253)	450/750
CV07G600_01000_GR	7	6,0	15,1 (0.594)	561 (377)	450/750
CV07GB10_01000_GR	7	10	18,8 (0.740)	903 (607)	450/750
CV07GB16_01000_GR	7	16	22,2 (0.874)	1364 (917)	450/750
CV07GB25_01000_GR	7	25	27,7 (1.091)	2125 (1428)	450/750
CV08G050_01000_GR	8	0,5	7,5 (0.295)	94 (63)	450/750
CV08G075_01000_GR	8	0,75	8,2 (0.323)	120 (81)	450/750
CV08G100_01000_GR	8	1,0	8,9 (0.350)	148 (99)	450/750
CV08G150_01000_GR	8	1,5	10,0 (0.394)	201 (135)	450/750
CV08G250_01000_GR	8	2,5	12,3 (0.484)	318 (214)	450/750
CV09G050_01000_GR	9	0,5	7,9 (0.311)	104 (70)	450/750
CV09G075_01000_GR	9	0,75	8,8 (0.346)	137 (92)	450/750
CV09G100_01000_GR	9	1,0	9,4 (0.370)	166 (112)	450/750
CV09G150_01000_GR	9	1,5	10,7 (0.421)	229 (154)	450/750
CV10G050_01000_GR	10	0,5	8,0 (0.315)	110 (74)	450/750
CV10G075_01000_GR	10	0,75	9,0 (0.354)	147 (99)	450/750
CV10G100_01000_GR	10	1,0	9,6 (0.378)	177 (119)	450/750
CV10G150_01000_GR	10	1,5	11,0 (0.433)	247 (166)	450/750
CV10G250_01000_GR	10	2,5	13,5 (0.531)	390 (262)	450/750
CV12G050_01000_GR	12	0,5	8,5 (0.335)	126 (85)	450/750
CV12G075_01000_GR	12	0,75	9,3 (0.366)	163 (110)	450/750
CV12G100_01000_GR	12	1,0	9,9 (0.390)	198 (133)	450/750
CV12G150_01000_GR	12	1,5	11,3 (0.445)	276 (185)	450/750
CV12G250_01000_GR	12	2,5	14,0 (0.551)	441 (296)	450/750
CV14G050_01000_GR	14	0,5	8,9 (0.350)	141 (95)	450/750
CV14G075_01000_GR	14	0,75	9,8 (0.386)	185 (124)	450/750

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV14G100_01000_GR	14	1,0	10,4 (0.409)	223 (150)	450/750
CV14G150_01000_GR	14	1,5	11,9 (0.469)	313 (210)	450/750
CV14G250_01000_GR	14	2,5	14,7 (0.579)	499 (335)	450/750
CV16G050_01000_GR	16	0,5	9,4 (0.370)	159 (107)	450/750
CV16G075_01000_GR	16	0,75	10,3 (0.406)	207 (139)	450/750
CV16G100_01000_GR	16	1,0	11,2 (0.441)	257 (173)	450/750
CV16G150_01000_GR	16	1,5	12,6 (0.496)	354 (238)	450/750
CV16G250_01000_GR	16	2,5	15,7 (0.618)	570 (383)	450/750
CV18G050_01000_GR	18	0,5	10,0 (0.394)	179 (120)	450/750
CV18G075_01000_GR	18	0,75	11,2 (0.441)	240 (161)	450/750
CV18G100_01000_GR	18	1,0	11,9 (0.469)	290 (195)	450/750
CV18G150_01000_GR	18	1,5	13,6 (0.535)	406 (273)	450/750
CV18G250_01000_GR	18	2,5	16,7 (0.657)	643 (432)	450/750
CV19G050_01000_GR	19	0,5	10,0 (0.394)	183 (123)	450/750
CV19G075_01000_GR	19	0,75	11,2 (0.441)	245 (165)	450/750
CV19G100_01000_GR	19	1,0	11,9 (0.469)	297 (200)	450/750
CV19G150_01000_GR	19	1,5	13,6 (0.535)	417 (280)	450/750
CV21G100_01000_GR	21	1,0	13,3 (0.524)	352 (237)	450/750
CV24G050_01000_GR	24	0,5	11,7 (0.461)	243 (163)	450/750
CV24G075_01000_GR	24	0,75	13,0 (0.512)	322 (216)	450/750
CV24G100_01000_GR	24	1,0	13,9 (0.547)	392 (263)	450/750
CV24G150_01000_GR	24	1,5	15,8 (0.622)	545 (366)	450/750
CV25G050_01000_GR	25	0,5	11,7 (0.461)	247 (166)	450/750
CV25G075_01000_GR	25	0,75	13,1 (0.516)	330 (222)	450/750
CV25G100_01000_GR	25	1,0	13,9 (0.547)	399 (268)	450/750
CV25G150_01000_GR	25	1,5	15,8 (0.622)	556 (374)	450/750
CV25G250_01000_GR	25	2,5	19,7 (0.776)	894 (601)	450/750
CV34G050_01000_GR	34	0,5	13,9 (0.547)	344 (231)	450/750
CV34G075_01000_GR	34	0,75	15,5 (0.610)	457 (307)	450/750
CV34G100_01000_GR	34	1,0	16,5 (0.650)	553 (372)	450/750
CV34G150_01000_GR	34	1,5	18,8 (0.740)	772 (519)	450/750
CV34G250_01000_GR	34	2,5	23,3 (0.917)	1234 (829)	450/750
CV36G100_01000_GR	36	1,0	16,5 (0.650)	567 (381)	450/750
CV37G050_01000_GR	37	0,5	13,9 (0.547)	354 (238)	450/750
CV37G075_01000_GR	37	0,75	15,5 (0.610)	473 (318)	450/750
CV37G100_01000_GR	37	1,0	16,5 (0.650)	574 (386)	450/750
CV37G150_01000_GR	37	1,5	18,8 (0.740)	803 (540)	450/750
CV41G050_01000_GR	41	0,5	15,1 (0.594)	409 (275)	450/750
CV41G075_01000_GR	41	0,75	16,6 (0.654)	535 (360)	450/750
CV41G100_01000_GR	41	1,0	18,0 (0.709)	662 (445)	450/750
CV41G150_01000_GR	41	1,5	20,4 (0.803)	919 (618)	450/750
CV42G050_01000_GR	42	0,5	15,1 (0.594)	412 (277)	450/750
CV42G075_01000_GR	42	0,75	16,6 (0.654)	540 (363)	450/750
CV42G100_01000_GR	42	1,0	18,0 (0.709)	669 (450)	450/750
CV42G150_01000_GR	42	1,5	20,4 (0.803)	930 (625)	450/750
CV43G050_01000_GR	43	0,5	15,3 (0.602)	423 (284)	450/750
CV50G050_01000_GR	50	0,5	16,4 (0.646)	488 (328)	450/750
CV50G075_01000_GR	50	0,75	18,2 (0.717)	647 (435)	450/750
CV50G100_01000_GR	50	1,0	19,7 (0.776)	799 (537)	450/750
CV50G150_01000_GR	50	1,5	22,4 (0.882)	1114 (749)	450/750
CV56G050_01000_GR	56	0,5	17,4 (0.685)	548 (368)	450/750
CV56G075_01000_GR	56	0,75	19,4 (0.764)	731 (491)	450/750
CV56G100_01000_GR	56	1,0	20,7 (0.815)	888 (597)	450/750
CV56G150_01000_GR	56	1,5	23,5 (0.925)	1236 (831)	450/750
CV61G050_01000_GR	61	0,5	17,7 (0.697)	578 (388)	450/750
CV61G075_01000_GR	61	0,75	19,7 (0.776)	770 (517)	450/750
CV61G100_01000_GR	61	1,0	21,0 (0.827)	937 (630)	450/750
CV61G150_01000_GR	61	1,5	24,0 (0.945)	1317 (885)	450/750
CV65G100_01000_GR	65	1,0	22,5 (0.886)	1041 (700)	450/750

Code composition

CV	□□□	□□□	_01000_	□□

Number of conductors	To be inserted
2	02X
3, ..., 65	03G, ..., 65G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95

Color	To be inserted
Gray	GR
Black	NE

SERIES 100S

“Flextek” high flexible oil-resistant and UV-resistant cables

Fixed application, shielded



CPR COMPLIANT

RoHS

CE | UK CA

Use

These are machine tool wire cables planned also for occasional non-cyclical mobile uses. They are normally used for equipments meant for the European market (EC). Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. They are also suitable for the installation in any industrial environment, both indoor and outdoor. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Flexible red copper strand
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Shield	Tinned copper braid, nom. coverage 75%
Jacket	Oil-resistant PVC compound, RAL 7001 gray color or black. Metric marking.
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	450/750 V
Test voltage	4000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of use	Flame res.: IEC 60332-1-2 | Oil res.: CEI 20-34 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: CEI EN 60228, VDE 0295, CEI 20-11, VDE 0207, 2014/35/EU (Low Voltage Directive), UE 305/2011, EN 50575 (CPR, Class Eca)

* The CPR for this product is valid in the EU, not in UK.

Marking

TEKIMA 0100S “FLEXTEK”– CE 50G1 mm² 450/750 V – IEC 60332-1-2 – UV RESISTANT – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X050_0100S_GR	2	0,5	5,4 (0.213)	45 (30)	450/750
CV02X075_0100S_GR	2	0,75	6,0 (0.236)	55 (37)	450/750
CV02X100_0100S_GR	2	1,0	6,3 (0.248)	61 (41)	450/750
CV02X150_0100S_GR	2	1,5	6,9 (0.272)	74 (50)	450/750
CV02X250_0100S_GR	2	2,5	8,3 (0.327)	108 (73)	450/750
CV02X400_0100S_GR	2	4,0	9,8 (0.386)	157 (105)	450/750
CV02X600_0100S_GR	2	6,0	11,4 (0.449)	217 (146)	450/750
CV03G050_0100S_GR	3	0,5	5,7 (0.224)	52 (35)	450/750
CV03G075_0100S_GR	3	0,75	6,3 (0.248)	64 (43)	450/750
CV03G100_0100S_GR	3	1,0	6,7 (0.264)	73 (49)	450/750
CV03G150_0100S_GR	3	1,5	7,5 (0.295)	94 (63)	450/750
CV03G250_0100S_GR	3	2,5	9,0 (0.354)	142 (95)	450/750
CV03G400_0100S_GR	3	4,0	10,5 (0.413)	202 (136)	450/750
CV03G600_0100S_GR	3	6,0	12,3 (0.484)	286 (192)	450/750
CV03GB10_0100S_GR	3	10	15,3 (0.602)	450 (302)	450/750
CV03GB16_0100S_GR	3	16	18,0 (0.709)	674 (453)	450/750

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04G050_0100S_GR	4	0,5	6,3 (0.248)	64 (43)	450/750
CV04G075_0100S_GR	4	0,75	6,8 (0.268)	76 (51)	450/750
CV04G100_0100S_GR	4	1,0	7,2 (0.283)	87 (58)	450/750
CV04G150_0100S_GR	4	1,5	8,1 (0.319)	121 (81)	450/750
CV04G250_0100S_GR	4	2,5	9,7 (0.382)	182 (122)	450/750
CV04G400_0100S_GR	4	4,0	11,5 (0.453)	263 (177)	450/750
CV04G600_0100S_GR	4	6,0	13,6 (0.535)	377 (253)	450/750
CV04GB10_0100S_GR	4	10	17,1 (0.673)	610 (410)	450/750
CV04GB16_0100S_GR	4	16	19,8 (0.780)	888 (597)	450/750
CV04GB25_0100S_GR	4	25	24,5 (0.965)	1362 (915)	450/750
CV04GB35_0100S_GR	4	35	33,7 (1.327)	2117 (1423)	450/750
CV04GB50_0100S_GR	4	50	37,4 (1.472)	2757 (1853)	450/750
CV05G050_0100S_GR	5	0,5	6,9 (0.272)	74 (50)	450/750
CV05G075_0100S_GR	5	0,75	7,6 (0.299)	96 (65)	450/750
CV05G100_0100S_GR	5	1,0	8,0 (0.315)	110 (74)	450/750
CV05G150_0100S_GR	5	1,5	9,0 (0.354)	147 (99)	450/750
CV05G250_0100S_GR	5	2,5	10,8 (0.425)	221 (149)	450/750
CV05G400_0100S_GR	5	4,0	12,7 (0.500)	321 (216)	450/750
CV05G600_0100S_GR	5	6,0	15,1 (0.594)	459 (308)	450/750
CV05GB10_0100S_GR	5	10	19,2 (0.756)	752 (505)	450/750
CV05GB16_0100S_GR	5	16	22,2 (0.874)	1092 (734)	450/750
CV05GB25_0100S_GR	5	25	27,9 (1.098)	1702 (1144)	450/750
CV07G050_0100S_GR	7	0,5	7,6 (0.299)	95 (64)	450/750
CV07G075_0100S_GR	7	0,75	8,2 (0.323)	115 (77)	450/750
CV07G100_0100S_GR	7	1,0	8,6 (0.339)	137 (92)	450/750
CV07G150_0100S_GR	7	1,5	9,7 (0.382)	184 (124)	450/750
CV07G250_0100S_GR	7	2,5	11,9 (0.469)	283 (190)	450/750
CV07G400_0100S_GR	7	4,0	14,0 (0.551)	417 (280)	450/750
CV07G600_0100S_GR	7	6,0	16,7 (0.657)	598 (402)	450/750
CV07GB10_0100S_GR	7	10	21,0 (0.827)	976 (656)	450/750
CV07GB16_0100S_GR	7	16	24,4 (0.961)	1434 (964)	450/750
CV10G050_0100S_GR	10	0,5	9,4 (0.370)	130 (87)	450/750
CV12G050_0100S_GR	12	0,5	9,7 (0.382)	148 (99)	450/750
CV12G075_0100S_GR	12	0,75	10,7 (0.421)	188 (126)	450/750
CV12G100_0100S_GR	12	1,0	11,3 (0.445)	223 (150)	450/750
CV12G150_0100S_GR	12	1,5	12,7 (0.500)	302 (203)	450/750
CV12G250_0100S_GR	12	2,5	15,6 (0.614)	469 (315)	450/750
CV14G050_0100S_GR	14	0,5	10,1 (0.398)	165 (111)	450/750
CV14G075_0100S_GR	14	0,75	11,2 (0.441)	213 (143)	450/750
CV14G100_0100S_GR	14	1,0	12,0 (0.472)	256 (172)	450/750
CV14G150_0100S_GR	14	1,5	13,5 (0.531)	347 (233)	450/750
CV14G250_0100S_GR	14	2,5	16,5 (0.650)	539 (362)	450/750
CV16G050_0100S_GR	16	0,5	10,8 (0.425)	190 (128)	450/750
CV16G075_0100S_GR	16	0,75	11,9 (0.469)	242 (163)	450/750
CV16G100_0100S_GR	16	1,0	12,6 (0.496)	289 (194)	450/750
CV16G150_0100S_GR	16	1,5	14,2 (0.559)	392 (263)	450/750
CV16G250_0100S_GR	16	2,5	17,7 (0.697)	629 (423)	450/750
CV18G050_0100S_GR	18	0,5	11,4 (0.449)	209 (140)	450/750
CV18G075_0100S_GR	18	0,75	12,6 (0.496)	272 (183)	450/750
CV18G100_0100S_GR	18	1,0	13,5 (0.531)	327 (220)	450/750
CV18G150_0100S_GR	18	1,5	15,2 (0.598)	442 (297)	450/750
CV18G250_0100S_GR	18	2,5	18,7 (0.736)	705 (474)	450/750
CV25G050_0100S_GR	25	0,5	13,3 (0.524)	279 (187)	450/750
CV25G075_0100S_GR	25	0,75	14,7 (0.579)	362 (243)	450/750
CV25G100_0100S_GR	25	1,0	15,5 (0.610)	432 (290)	450/750
CV25G150_0100S_GR	25	1,5	17,8 (0.701)	606 (407)	450/750
CV25G250_0100S_GR	25	2,5	21,7 (0.854)	939 (631)	450/750
CV34G050_0100S_GR	34	0,5	15,5 (0.610)	374 (251)	450/750
CV34G075_0100S_GR	34	0,75	17,3 (0.681)	496 (333)	450/750

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV34G100_0100S_GR	34	1,0	18,5 (0.728)	602 (405)	450/750
CV34G150_0100S_GR	34	1,5	21,0 (0.827)	824 (554)	450/750
CV34G250_0100S_GR	34	2,5	25,7 (1.012)	1279 (859)	450/750
CV37G075_0100S_GR	37	0,75	17,3 (0.681)	520 (349)	450/750
CV37G100_0100S_GR	37	1,0	18,5 (0.728)	633 (425)	450/750
CV37G150_0100S_GR	37	1,5	21,0 (0.827)	869 (584)	450/750
CV41G075_0100S_GR	41	0,75	18,6 (0.732)	596 (400)	450/750
CV41G100_0100S_GR	41	1,0	20,0 (0.787)	716 (481)	450/750
CV41G150_0100S_GR	41	1,5	22,6 (0.890)	987 (663)	450/750
CV42G075_0100S_GR	42	0,75	18,6 (0.732)	606 (407)	450/750
CV42G100_0100S_GR	42	1,0	20,0 (0.787)	728 (489)	450/750
CV42G150_0100S_GR	42	1,5	22,6 (0.890)	1005 (675)	450/750
CV50G075_0100S_GR	50	0,75	20,2 (0.795)	697 (468)	450/750
CV50G100_0100S_GR	50	1,0	21,7 (0.854)	839 (564)	450/750
CV50G150_0100S_GR	50	1,5	24,6 (0.969)	1157 (777)	450/750
CV61G075_0100S_GR	61	0,75	21,7 (0.854)	823 (553)	450/750
CV61G100_0100S_GR	61	1,0	23,2 (0.913)	1000 (672)	450/750
CV61G150_0100S_GR	61	1,5	26,4 (1.039)	1393 (936)	450/750

Code composition

CV □□□ □□□ **_0100S_** □□

Number of conductors	To be inserted
2	02X
3, ..., 61	03G, ..., 61G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95

Color	To be inserted
Gray	GR
Black	NE

SERIES 100 100S

"Flextek Hybrid Black" high flexible, UV-resistant cables

Fixed application, shielded and unshielded



CPR COMPLIANT

CE RoHS

Use

These are machine tool wire UV-resistant cables planned also for occasional non-cyclical mobile uses. They are normally used for equipments meant for the European market (EC). Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. The good flame and UV resistance makes them suitable for the installation in any industrial environment, both indoor and outdoor. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Flexible red copper strand
Insulation	TKblend®-R
Conductor distinction	Power: Brown, Black, Gray, Yellow/Green Signal: Red, Red/White (if 1 pair), Black numbered (if >1 pair)
Shield	Tinned copper braid, coverage >85%
Jacket	Oil, flame-resistant and UV-resistant PVC compound, black color. Metric marking.
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	450/750 V
Test voltage	4000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards	Flame res.: IEC 60332-1-2 | Oil res.: CEI 20-34 | UV res.: UNI EN ISO 4892-2 (black) | Other: CEI EN 60228, VDE 0295, CEI 20-11, VDE 0207, 2014/35/EU (Low Voltage Directive), UE 305/2011, EN 50575 (CPR, Class Eca)

* The CPR for this product is valid in the EU, not in UK.

Marking

TEKIMA 01000 "FLEXTEK BLACK" – CE 4G1,5+2x1 mm² 450/750 V – IEC 60332-1-2 – UV RESISTANT – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CVCC00011_01000_NE	4G1,5+2x0,5	8,5 (0.335)	134 (90)	450/750
CVCC00003_01000_NE	4G1,5+2x1	9,1 (0.358)	183 (123)	450/750
CVCC00017_0100S_NE	(4G1,5+2x(2x1))	12,6 (0.496)	271 (182)	450/750
CVCC00012_01000_NE	4G2,5+2x0,5	10,6 (0.417)	209 (140)	450/750
CVCC00006_01000_NE	4G2,5+2x1	10,6 (0.417)	216 (145)	450/750
CVCC00018_0100S_NE	(4G2,5+2x(2x1))	14,3 (0.563)	350 (235)	450/750
CVCC00008_01000_NE	4G4+2x1	12,0 (0.472)	295 (198)	450/750
CVCC00019_0100S_NE	(4G4+2x(2x1))	15,7 (0.618)	441 (296)	450/750
CVCC00009_01000_NE	4G6+2x1	14,3 (0.563)	422 (284)	450/750
CVCC00020_0100S_NE	(4G6+2x(2x1))	17,3 (0.681)	445 (299)	450/750
CVCC00010_01000_NE	4G10+2x1	17,7 (0.697)	661 (444)	450/750
CVCC00014_0100S_NE	4G1,5+(4x0,75)	10,6 (0.417)	185 (124)	450/750
CVCC00013_0100S_NE	4G2,5+(4x0,75)	11,9 (0.469)	236 (159)	450/750

Code composition

CVCC	□□□□□	_0100	□	_	□□

Construction	
Identifier code of the special cable construction.	

Shield	To be inserted
No	0
Yes	S

Color	To be inserted
Black	NE

SERIES 105

"Flextek-B" oil-resistant and UV-resistant cables

Fixed application, unshielded



CPR COMPLIANT
RoHS
CE UK CA

Use

They are cables designed for fixed applications or for occasional and non-cyclic mobile use even in drag-chains up to 5 meters and for sizes from 0.5 mm² to 2.5 mm² with a maximum of 6 conductors without tensile stress. They are normally used for equipments meant for the European market (EC). Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. They are suitable for the installation in dry and damp industrial environments, both indoor and outdoor. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Copper strand, class 5 - CEI EN 60228
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Jacket	Oil and flame-resistant PVC compound, RAL 7001 gray color or black. Metric marking.
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	600/1000 V
Test voltage	6000 V
Bending radius	4 x cable outer diameter (fixed) 15 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, DIN VDE 0472 part 804 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: CEI EN 60228, VDE 0295, CEI 20-11, VDE 0207, 2014/35/EU (Low Voltage Directive), UE 305/2011, EN 50575 (CPR, Class Eca)

* The CPR for this product is valid in the EU, not in UK.

Marking

TEKIMA 01050 "FLEXTEK-B" – CE 12G2,5 mm² 600/1000 V – IEC 60332-1-2 – UV RESISTANT – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X050_01050_□□	2	0,5	6,6 (0.260)	58 (39)	600/1000
CV02X075_01050_□□	2	0,75	7,0 (0.276)	68 (46)	600/1000
CV02X100_01050_□□	2	1,0	7,3 (0.287)	76 (51)	600/1000
CV02X150_01050_□□	2	1,5	8,3 (0.327)	101 (68)	600/1000
CV02X250_01050_□□	2	2,5	9,5 (0.374)	140 (94)	600/1000
CV03G050_01050_□□	3	0,5	7,0 (0.276)	67 (45)	600/1000
CV03G075_01050_□□	3	0,75	7,4 (0.291)	80 (54)	600/1000
CV03G100_01050_□□	3	1,0	7,7 (0.303)	90 (60)	600/1000
CV03G150_01050_□□	3	1,5	8,8 (0.346)	121 (81)	600/1000
CV03G250_01050_□□	3	2,5	10,2 (0.402)	175 (118)	600/1000
CV03G400_01050_□□	3	4,0	11,6 (0.457)	241 (162)	600/1000
CV03G600_01050_□□	3	6,0	13,0 (0.512)	322 (216)	600/1000
CV03GB10_01050_□□	3	10	16,1 (0.634)	512 (344)	600/1000
CV03GB16_01050_□□	3	16	18,3 (0.720)	722 (485)	600/1000
CV04G050_01050_□□	4	0,5	7,5 (0.295)	80 (54)	600/1000
CV04G075_01050_□□	4	0,75	8,0 (0.315)	95 (64)	600/1000
CV04G100_01050_□□	4	1,0	8,3 (0.327)	109 (73)	600/1000
CV04G150_01050_□□	4	1,5	9,5 (0.374)	147 (99)	600/1000
CV04G250_01050_□□	4	2,5	11,1 (0.437)	214 (144)	600/1000

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04G400_01050_□□	4	4,0	12,9 (0.508)	305 (205)	600/1000
CV04G600_01050_□□	4	6,0	14,2 (0.559)	401 (269)	600/1000
CV04GB10_01050_□□	4	10	17,7 (0.697)	642 (431)	600/1000
CV04GB16_01050_□□	4	16	20,3 (0.799)	922 (620)	600/1000
CV04GB25_01050_□□	4	25	25,2 (0.992)	1431 (962)	600/1000
CV04GB35_01050_□□	4	35	28,2 (1.110)	1896 (1274)	600/1000
CV04GB50_01050_□□	4	50	33,4 (1.315)	2683 (1803)	600/1000
CV04GB70_01050_□□	4	70	38,8 (1.528)	3688 (2478)	600/1000
CV04GB95_01050_□□	4	95	43,7 (1.720)	4849 (3258)	600/1000
CV05G050_01050_□□	5	0,5	8,1 (0.319)	95 (64)	600/1000
CV05G075_01050_□□	5	0,75	8,7 (0.343)	114 (77)	600/1000
CV05G100_01050_□□	5	1,0	9,1 (0.358)	131 (88)	600/1000
CV05G150_01050_□□	5	1,5	10,6 (0.417)	184 (124)	600/1000
CV05G250_01050_□□	5	2,5	12,2 (0.480)	261 (175)	600/1000
CV05G400_01050_□□	5	4,0	14,1 (0.555)	372 (250)	600/1000
CV05G600_01050_□□	5	6,0	15,6 (0.614)	493 (331)	600/1000
CV05GB10_01050_□□	5	10	19,8 (0.780)	802 (539)	600/1000
CV05GB16_01050_□□	5	16	22,6 (0.890)	1151 (773)	600/1000
CV05GB25_01050_□□	5	25	28,1 (1.106)	1786 (1200)	600/1000
CV05GB35_01050_□□	5	35	31,5 (1.240)	2367 (1591)	600/1000
CV07G050_01050_□□	7	0,5	8,8 (0.346)	115 (77)	600/1000
CV07G075_01050_□□	7	0,75	9,4 (0.370)	140 (94)	600/1000
CV07G100_01050_□□	7	1,0	10,0 (0.394)	166 (112)	600/1000
CV07G150_01050_□□	7	1,5	11,5 (0.453)	228 (153)	600/1000
CV07G250_01050_□□	7	2,5	13,5 (0.531)	334 (224)	600/1000
CV07G400_01050_□□	7	4,0	15,4 (0.606)	472 (317)	600/1000
CV07G600_01050_□□	7	6,0	17,3 (0.681)	638 (429)	600/1000
CV12G050_01050_□□	12	0,5	11,3 (0.445)	192 (129)	600/1000
CV12G075_01050_□□	12	0,75	12,1 (0.476)	235 (158)	600/1000
CV12G100_01050_□□	12	1,0	13,0 (0.512)	280 (188)	600/1000
CV12G150_01050_□□	12	1,5	15,0 (0.591)	387 (260)	600/1000
CV12G250_01050_□□	12	2,5	17,6 (0.693)	571 (384)	600/1000
CV18G050_01050_□□	18	0,5	13,4 (0.528)	272 (183)	600/1000
CV18G075_01050_□□	18	0,75	14,3 (0.563)	334 (224)	600/1000
CV18G100_01050_□□	18	1,0	15,1 (0.594)	391 (263)	600/1000
CV18G150_01050_□□	18	1,5	17,7 (0.697)	555 (373)	600/1000
CV18G250_01050_□□	18	2,5	20,9 (0.823)	821 (552)	600/1000
CV25G050_01050_□□	25	0,5	15,2 (0.598)	358 (241)	600/1000
CV25G075_01050_□□	25	0,75	16,6 (0.654)	451 (303)	600/1000
CV25G100_01050_□□	25	1,0	17,4 (0.685)	529 (355)	600/1000
CV25G150_01050_□□	25	1,5	20,5 (0.807)	751 (505)	600/1000
CV25G250_01050_□□	25	2,5	24,2 (0.953)	1116 (750)	600/1000
CV34G050_01050_□□	34	0,5	17,8 (0.701)	491 (330)	600/1000
CV34G075_01050_□□	34	0,75	19,4 (0.764)	618 (415)	600/1000
CV34G100_01050_□□	34	1,0	20,5 (0.807)	725 (487)	600/1000
CV34G150_01050_□□	34	1,5	24,1 (0.949)	1032 (693)	600/1000
CV42G100_01050_□□	42	1,0	22,2 (0.874)	865 (581)	600/1000
CV42G150_01050_□□	42	1,5	26,1 (1.028)	1232 (828)	600/1000
CV50G100_01050_□□	50	1,0	24,0 (0.945)	1019 (685)	600/1000
CV50G150_01050_□□	50	1,5	28,5 (1.122)	1468 (986)	600/1000
CV61G100_01050_□□	61	1,0	25,7 (1.012)	1197 (804)	600/1000
CV61G150_01050_□□	61	1,5	30,4 (1.197)	1709 (1148)	600/1000

Code composition

CV	□□□	□□□	_01050_	□□

Number of conductors	To be inserted
2	02X
3, ..., 61	03G, ..., 61G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95

Color	To be inserted
Gray	GR
Black	NE

SERIES 105S

"Flextek-B" oil-resistant and UV-resistant cables

Fixed application, shielded



Use

These are machine tool wire cables planned also for occasional non-cyclical mobile uses up to 0,6/1 kV.They are normally used for equipments meant for the European market (EC).Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. They are suitable for the installation in dry and damp industrial environments, both indoor and outdoor. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Copper strand, class 5 - CEI EN 60228
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Shield	Tinned copper braid, nom. coverage 85%
Jacket	Oil and flame-resistant PVC compound, RAL 7001 gray color or black. Metric marking.
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	600/1000 V
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, DIN VDE 0472 part 804 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: CEI EN 60228, VDE 0295, CEI 20-11, VDE 0207, 2014/35/EU (Low Voltage Directive), UE 305/2011, EN 50575 (CPR, Class Eca)

* The CPR for this product is valid in the EU, not in UK.

Marking

TEKIMA 0105S "FLEXTEK-B" – CE 12G2,5 mm² 600/1000 V – IEC 60332-1-2 – UV RESISTANT – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X050_0105S_□□	2	0,5	7,2 (0.283)	70 (47)	600/1000
CV02X075_0105S_□□	2	0,75	7,6 (0.299)	78 (52)	600/1000
CV02X100_0105S_□□	2	1,0	7,9 (0.311)	85 (57)	600/1000
CV02X150_0105S_□□	2	1,5	8,9 (0.350)	109 (73)	600/1000
CV02X250_0105S_□□	2	2,5	10,3 (0.406)	149 (100)	600/1000
CV02X400_0105S_□□	2	4,0	11,5 (0.453)	194 (130)	600/1000
CV02X600_0105S_□□	2	6,0	12,8 (0.504)	251 (169)	600/1000
CV03G050_0105S_□□	3	0,5	7,6 (0.299)	81 (54)	600/1000
CV03G075_0105S_□□	3	0,75	8,0 (0.315)	92 (62)	600/1000
CV03G100_0105S_□□	3	1,0	8,3 (0.327)	106 (71)	600/1000
CV03G150_0105S_□□	3	1,5	9,4 (0.370)	133 (89)	600/1000
CV03G250_0105S_□□	3	2,5	10,8 (0.425)	190 (128)	600/1000
CV03G400_0105S_□□	3	4,0	12,2 (0.480)	252 (169)	600/1000
CV03G600_0105S_□□	3	6,0	13,8 (0.543)	346 (233)	600/1000
CV03GB10_0105S_□□	3	10	16,9 (0.665)	519 (349)	600/1000
CV03GB16_0105S_□□	3	16	19,3 (0.760)	731 (491)	600/1000
CV04G050_0105S_□□	4	0,5	8,1 (0.319)	94 (63)	600/1000
CV04G075_0105S_□□	4	0,75	8,6 (0.339)	113 (76)	600/1000
CV04G100_0105S_□□	4	1,0	8,9 (0.350)	126 (85)	600/1000
CV04G150_0105S_□□	4	1,5	10,3 (0.406)	170 (114)	600/1000
CV04G250_0105S_□□	4	2,5	11,7 (0.461)	230 (155)	600/1000
CV04G400_0105S_□□	4	4,0	13,7 (0.539)	331 (222)	600/1000

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04G600_0105S_□□	4	6,0	15,0 (0.591)	427 (287)	600/1000
CV04GB10_0105S_□□	4	10	18,5 (0.728)	660 (444)	600/1000
CV04GB16_0105S_□□	4	16	21,1 (0.831)	934 (628)	600/1000
CV04GB25_0105S_□□	4	25	26,0 (1.024)	1416 (952)	600/1000
CV04GB35_0105S_□□	4	35	29,0 (1.142)	1859 (1249)	600/1000
CV04GB50_0105S_□□	4	50	34,6 (1.362)	2645 (1777)	600/1000
CV04GB70_0105S_□□	4	70	39,8 (1.567)	3578 (2404)	600/1000
CV05G050_0105S_□□	5	0,5	8,7 (0.343)	114 (77)	600/1000
CV05G075_0105S_□□	5	0,75	9,3 (0.366)	132 (89)	600/1000
CV05G100_0105S_□□	5	1,0	9,9 (0.390)	156 (105)	600/1000
CV05G150_0105S_□□	5	1,5	11,2 (0.441)	204 (137)	600/1000
CV05G250_0105S_□□	5	2,5	13,0 (0.512)	285 (192)	600/1000
CV05G400_0105S_□□	5	4,0	14,9 (0.587)	403 (271)	600/1000
CV05G600_0105S_□□	5	6,0	16,6 (0.654)	530 (356)	600/1000
CV05GB10_0105S_□□	5	10	20,6 (0.811)	828 (556)	600/1000
CV05GB16_0105S_□□	5	16	23,4 (0.921)	1160 (779)	600/1000
CV05GB25_0105S_□□	5	25	28,9 (1.138)	1770 (1189)	600/1000
CV05GB35_0105S_□□	5	35	32,5 (1.280)	2357 (1584)	600/1000
CV07G050_0105S_□□	7	0,5	9,4 (0.370)	133 (89)	600/1000
CV07G075_0105S_□□	7	0,75	10,2 (0.402)	165 (111)	600/1000
CV07G100_0105S_□□	7	1,0	10,6 (0.417)	186 (125)	600/1000
CV07G150_0105S_□□	7	1,5	12,1 (0.476)	251 (169)	600/1000
CV07G250_0105S_□□	7	2,5	14,3 (0.563)	371 (249)	600/1000
CV07G400_0105S_□□	7	4,0	16,4 (0.646)	515 (346)	600/1000
CV07G600_0105S_□□	7	6,0	18,1 (0.713)	672 (452)	600/1000
CV12G050_0105S_□□	12	0,5	11,9 (0.469)	206 (138)	600/1000
CV12G075_0105S_□□	12	0,75	12,9 (0.508)	255 (171)	600/1000
CV12G100_0105S_□□	12	1,0	13,8 (0.543)	303 (204)	600/1000
CV12G150_0105S_□□	12	1,5	16,0 (0.630)	421 (283)	600/1000
CV12G250_0105S_□□	12	2,5	18,4 (0.724)	585 (393)	600/1000
CV18G050_0105S_□□	18	0,5	14,2 (0.559)	309 (208)	600/1000
CV18G075_0105S_□□	18	0,75	15,1 (0.594)	366 (246)	600/1000
CV18G100_0105S_□□	18	1,0	16,1 (0.634)	434 (292)	600/1000
CV18G150_0105S_□□	18	1,5	18,5 (0.728)	583 (392)	600/1000
CV18G250_0105S_□□	18	2,5	21,7 (0.854)	843 (566)	600/1000
CV25G050_0105S_□□	25	0,5	16,2 (0.638)	394 (265)	600/1000
CV25G075_0105S_□□	25	0,75	17,4 (0.685)	480 (323)	600/1000
CV25G100_0105S_□□	25	1,0	18,2 (0.717)	550 (370)	600/1000
CV25G150_0105S_□□	25	1,5	21,3 (0.839)	764 (513)	600/1000
CV25G250_0105S_□□	25	2,5	25,2 (0.992)	1118 (751)	600/1000
CV34G050_0105S_□□	34	0,5	18,6 (0.732)	505 (339)	600/1000
CV34G075_0105S_□□	34	0,75	20,2 (0.795)	628 (422)	600/1000
CV34G100_0105S_□□	34	1,0	21,3 (0.839)	732 (492)	600/1000
CV34G150_0105S_□□	34	1,5	25,1 (0.988)	1028 (691)	600/1000
CV42G075_0105S_□□	42	0,75	21,6 (0.850)	752 (505)	600/1000
CV42G100_0105S_□□	42	1,0	23,0 (0.906)	890 (598)	600/1000
CV42G150_0105S_□□	42	1,5	26,9 (1.059)	1239 (833)	600/1000
CV50G075_0105S_□□	50	0,75	23,5 (0.925)	860 (578)	600/1000
CV50G100_0105S_□□	50	1,0	24,8 (0.976)	1007 (677)	600/1000
CV50G150_0105S_□□	50	1,5	29,3 (1.154)	1427 (959)	600/1000
CV61G075_0105S_□□	61	0,75	25,2 (0.992)	1020 (685)	600/1000
CV61G100_0105S_□□	61	1,0	26,5 (1.043)	1197 (804)	600/1000
CV61G150_0105S_□□	61	1,5	31,6 (1.244)	1738 (1168)	600/1000

Code composition

CV	□□□	□□□	_0105S_	□□

Number of conductors	To be inserted
2	02X
3, ..., 61	03G, ..., 61G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 70,0 mm²	B10, ..., B70

Color	To be inserted
Gray	GR
Black	NE

SERIES 160S

Low capacity VFD cables

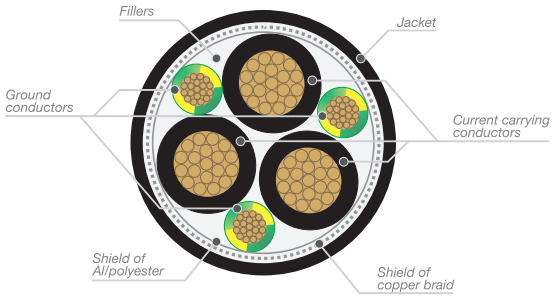
Fixed application, shielded



Use

These are low capacitance servo motor (Variable Frequency Driver) cables planned for fixed application but also for occasional non-cyclical mobile uses. They are normally used wherever the potential for electromagnetic interference due to drives, frequency converter and motor is high. These cables are different than the traditional ones for their constructive peculiarities, including the double screen, the compounds used for the insulation and the constructive geometry. It is thanks to these and many other factors that this range of cables is able to ensure a low operational capacity, to limit overvoltage peaks which often cause damage to connected equipment and, not least, a consequent reduction of the losses. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	XLPE
Conductor distinction	Black numbered + yellow/green
Fillers	Central or side fillers, if any
Shield	Aluminum/polyester foil, coverage 100% + Tinned copper braid
Jacket	PVC compound, oil-resistant, black color. Metric marking.
Temperature range	-40°C (fixed); -5°C (not fixed), +90°C
Voltage rating	600/1000V
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Oil res.: IEC 60811-404 | Other: CEI 20-29, DIN VDE 0295, DIN VDE 0293, Low Voltage Directive (LVD) 2014/35/EC

Marking

TEKIMA 0160S – CE (3x2,5+3G0,5) mm² 600/1000 V IEC 60332-1-2 – (prod. reference) = (metric) =

Coding and dimensions

Code	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0001_0160S_GR	(3x1,5+3G0,25)	10,0 (0.394)	133 (89)
CVFM0002_0160S_GR	(3x2,5+3G0,5)	11,3 (0.445)	189 (127)
CVFM0003_0160S_GR	(3x4+3G0,75)	12,5 (0.492)	252 (169)
CVFM0004_0160S_GR	(3x6+3G1)	14,2 (0.559)	345 (232)
CVFM0005_0160S_GR	(3x10+3G1,5)	16,4 (0.646)	507 (341)
CVFM0006_0160S_GR	(3x16+3G2,5)	18,6 (0.732)	728 (489)
CVFM0007_0160S_GR	(3x25+3G4)	22,6 (0.890)	1109 (745)
CVFM0008_0160S_GR	(3x35+3G6)	25,6 (1.008)	1488 (1000)
CVFM0009_0160S_GR	(3x50+3G10)	30,2 (1.189)	2126 (1429)
CVFM0010_0160S_GR	(3x70+3G10)	34,4 (1.354)	2858 (1920)
CVFM0011_0160S_GR	(3x95+3G16)	39,8 (1.567)	3795 (2550)
CVFM0012_0160S_GR	(3x120+3G16)	43,0 (1.693)	4536 (3048)
CVFM0013_0160S_GR	(3x150+3G25)	47,8 (1.882)	5787 (3889)
CVFM0014_0160S_GR	(3x185+3G35)	53,3 (2.098)	7221 (4852)
CVFM0015_0160S_GR	(3x240+3G50)	60,9 (2.398)	9498 (6383)

Code composition

CVFM	□□□□	_0160S_	□□

Color	To be inserted
Black	NE

Construction
Identifier code of the special cable construction.

SERIES 200

"Flextek-PUR" oil-resistant high performing cables

Fixed application, unshielded



RoHS

CE UK CA

Use

These are oil resistant and flame resistant high performing machine tool wire cables planned also for occasional non-cyclical mobile uses. They are normally used for equipment meant for the European market (EC). Their excellent abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. They are suitable for indoor and outdoor installations in dry and damp environments also exposed to UV rays. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Copper strand, class 5 - CEI EN 60228
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Jacket	Oil and flame-resistant PUR compound, RAL 7001 gray color. Metric marking.
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	300/500 V
Test voltage	3000 V
Bending radius	4 x cable outer diameter (fixed); 12,5 x cable outer diameter (mobile)
Standards of construction	Flame res.: IEC 60332-1-2, DIN VDE 0472 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: CEI 20-11, VDE 0207, CEI EN 60228, VDE 0295, LVD 2006/95/EC (Low Voltage Directive)

Marking

TEKIMA 02000 "FLEXTEK-PUR" – CE 12G2,5 mm² 300/500 V – IEC 60332-1-2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X050_02000_□□	2	0,5	5,0 (0.197)	29 (19)	300/500
CV02X075_02000_□□	2	0,75	5,4 (0.213)	36 (24)	300/500
CV02X100_02000_□□	2	1	5,7 (0.224)	43 (29)	300/500
CV02X150_02000_□□	2	1,5	6,3 (0.248)	56 (38)	300/500
CV02X250_02000_□□	2	2,5	7,7 (0.303)	88 (59)	300/500
CV03G050_02000_□□	3	0,5	5,3 (0.209)	36 (24)	300/500
CV03G075_02000_□□	3	0,75	5,7 (0.224)	46 (31)	300/500
CV03G100_02000_□□	3	1	6,1 (0.240)	55 (37)	300/500
CV03G150_02000_□□	3	1,5	6,7 (0.264)	73 (49)	300/500
CV03G250_02000_□□	3	2,5	8,2 (0.323)	114 (77)	300/500
CV03G400_02000_□□	3	4	9,7 (0.382)	172 (116)	300/500
CV03G600_02000_□□	3	6	11,5 (0.453)	250 (168)	300/500
CV03GB10_02000_□□	3	10	14,5 (0.571)	407 (273)	300/500
CV03GB16_02000_□□	3	16	17,0 (0.669)	607 (408)	300/500
CV04G050_02000_□□	4	0,5	5,7 (0.224)	44 (30)	300/500
CV04G075_02000_□□	4	0,75	6,2 (0.244)	57 (38)	300/500
CV04G100_02000_□□	4	1	6,6 (0.260)	68 (46)	300/500
CV04G150_02000_□□	4	1,5	7,5 (0.295)	94 (63)	300/500
CV04G250_02000_□□	4	2,5	9,1 (0.358)	148 (99)	300/500
CV04G400_02000_□□	4	4	10,9 (0.429)	223 (150)	300/500
CV04G600_02000_□□	4	6	12,8 (0.504)	324 (218)	300/500
CV04GB10_02000_□□	4	10	16,3 (0.642)	531 (357)	300/500

Code	Number	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04GB16_02000_□□	4	16	19,0 (0.748)	792 (532)	300/500
CV04GB25_02000_□□	4	25	23,7 (0.933)	1233 (829)	300/500
CV04GB35_02000_□□	4	35	26,9 (1.059)	1669 (1122)	300/500
CV05G050_02000_□□	5	0,5	6,3 (0.248)	54 (36)	300/500
CV05G075_02000_□□	5	0,75	6,8 (0.268)	70 (47)	300/500
CV05G100_02000_□□	5	1	7,2 (0.283)	84 (56)	300/500
CV05G150_02000_□□	5	1,5	8,2 (0.323)	115 (77)	300/500
CV05G250_02000_□□	5	2,5	10,0 (0.394)	182 (122)	300/500
CV05G400_02000_□□	5	4	12,1 (0.476)	279 (187)	300/500
CV05G600_02000_□□	5	6	14,3 (0.563)	405 (272)	300/500
CV05GB10_02000_□□	5	10	18,2 (0.717)	662 (445)	300/500
CV05GB16_02000_□□	5	16	21,2 (0.835)	987 (663)	300/500
CV07G050_02000_□□	7	0,5	6,8 (0.268)	69 (46)	300/500
CV07G075_02000_□□	7	0,75	7,6 (0.299)	92 (62)	300/500
CV07G100_02000_□□	7	1	8,0 (0.315)	111 (75)	300/500
CV07G150_02000_□□	7	1,5	9,1 (0.358)	153 (103)	300/500
CV07G250_02000_□□	7	2,5	11,1 (0.437)	242 (163)	300/500
CV07G400_02000_□□	7	4	13,4 (0.528)	370 (249)	300/500
CV07G600_02000_□□	7	6	15,9 (0.626)	539 (362)	300/500
CV07GB10_02000_□□	7	10	20,0 (0.787)	880 (591)	300/500
CV12G050_02000_□□	12	0,5	9,1 (0.358)	121 (81)	300/500
CV12G075_02000_□□	12	0,75	9,9 (0.390)	157 (105)	300/500
CV12G100_02000_□□	12	1	10,7 (0.421)	193 (130)	300/500
CV12G150_02000_□□	12	1,5	12,1 (0.476)	266 (179)	300/500
CV12G250_02000_□□	12	2,5	15,0 (0.591)	424 (285)	300/500
CV18G050_02000_□□	18	0,5	10,8 (0.425)	175 (118)	300/500
CV18G075_02000_□□	18	0,75	12,0 (0.472)	232 (156)	300/500
CV18G100_02000_□□	18	1	12,7 (0.500)	281 (189)	300/500
CV18G150_02000_□□	18	1,5	14,4 (0.567)	388 (261)	300/500
CV18G250_02000_□□	18	2,5	17,9 (0.705)	624 (419)	300/500
CV25G050_02000_□□	25	0,5	12,5 (0.492)	238 (160)	300/500
CV25G075_02000_□□	25	0,75	13,9 (0.547)	316 (212)	300/500
CV25G100_02000_□□	25	1	14,9 (0.587)	389 (261)	300/500
CV25G150_02000_□□	25	1,5	16,8 (0.661)	535 (360)	300/500
CV25G250_02000_□□	25	2,5	20,9 (0.823)	860 (578)	300/500
CV34G075_02000_□□	34	0,75	16,5 (0.650)	438 (294)	300/500
CV34G100_02000_□□	34	1	17,7 (0.697)	537 (361)	300/500
CV34G150_02000_□□	34	1,5	20,0 (0.787)	738 (496)	300/500
CV42G150_02000_□□	42	1,5	21,6 (0.850)	891 (599)	300/500
CV50G150_02000_□□	50	1,5	23,8 (0.937)	1068 (718)	300/500

Code composition

CV	□□□	□□□	_02000_	□□

Number of conductors	To be inserted
2	02X
3, ..., 37	03G, ..., 37G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 25,0 mm²	B10, ..., B25

Color	To be inserted
Gray	GR

SERIES 200S

"Flextek-PUR" oil-resistant high performing cables

Fixed application, shielded



RoHS

CE | UK CA

Impiego - Use

These are oil resistant and flame resistant high performing machine tool wire cables planned also for occasional non-cyclical mobile uses. They are normally used for equipment meant for the European market (EC). Their excellent abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. They are suitable for indoor and outdoor installations in dry and damp environments also exposed to UV rays. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Copper strand, class 5 - CEI EN 60228
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Shield	Tinned copper braid, nom. coverage 85%
Jacket	Oil and flame-resistant PUR compound, RAL 7001 gray color. Metric marking.
Temperature range	-40°C, +80°C (fixed); -5°C, +70°C (not fixed)
Voltage rating	300/500 V
Test voltage	3000 V
Bending radius	6 x cable outer diameter (fixed); 20 x cable outer diameter (mobile)
Standards of construction	Flame res.: IEC 60332-1-2, DIN VDE 0472 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: CEI 20-11, VDE 0207, CEI EN 60228, VDE 0295, LVD 2006/95/EC (Low Voltage Directive)

Marking

TEKIMA 0200S "FLEXTEK-PUR" – CE 12G2,5 mm² 300/500 V – IEC 60332-1-2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X050_0200S_□□	2	0,5	5,5 (0.217)	40 (27)	300/500
CV02X075_0200S_□□	2	0,75	5,9 (0.232)	52 (35)	300/500
CV02X100_0200S_□□	2	1	6,3 (0.248)	58 (39)	300/500
CV02X150_0200S_□□	2	1,5	6,9 (0.272)	72 (48)	300/500
CV02X250_0200S_□□	2	2,5	8,3 (0.327)	106 (71)	300/500
CV03G050_0200S_□□	3	0,5	5,8 (0.228)	47 (32)	300/500
CV03G075_0200S_□□	3	0,75	6,3 (0.248)	61 (41)	300/500
CV03G100_0200S_□□	3	1	6,7 (0.264)	70 (47)	300/500
CV03G150_0200S_□□	3	1,5	7,4 (0.291)	93 (62)	300/500
CV03G250_0200S_□□	3	2,5	8,9 (0.350)	137 (92)	300/500
CV04G050_0200S_□□	4	0,5	6,3 (0.248)	61 (41)	300/500
CV04G075_0200S_□□	4	0,75	6,9 (0.272)	74 (50)	300/500
CV04G100_0200S_□□	4	1	7,3 (0.287)	90 (60)	300/500
CV04G150_0200S_□□	4	1,5	8,1 (0.319)	115 (77)	300/500
CV04G250_0200S_□□	4	2,5	9,8 (0.386)	176 (118)	300/500
CV04G400_0200S_□□	4	4	11,5 (0.453)	257 (173)	300/500
CV04G600_0200S_□□	4	6	13,8 (0.543)	378 (254)	300/500
CV04GB10_0200S_□□	4	10	17,1 (0.673)	591 (397)	300/500
CV04GB16_0200S_□□	4	16	19,9 (0.783)	860 (578)	300/500
CV05G050_0200S_□□	5	0,5	6,9 (0.272)	72 (48)	300/500

Code	Number	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV05G075_0200S_□□	5	0,75	7,5 (0.295)	93 (62)	300/500
CV05G100_0200S_□□	5	1	8,0 (0.315)	108 (73)	300/500
CV05G150_0200S_□□	5	1,5	8,9 (0.350)	143 (96)	300/500
CV05G250_0200S_□□	5	2,5	10,8 (0.425)	212 (142)	300/500
CV05G400_0200S_□□	5	4	12,8 (0.504)	313 (210)	300/500
CV05G600_0200S_□□	5	6	15,3 (0.602)	462 (310)	300/500
CV05GB10_0200S_□□	5	10	19,1 (0.752)	723 (486)	300/500
CV05GB16_0200S_□□	5	16	22,2 (0.874)	1053 (708)	300/500
CV07G050_0200S_□□	7	0,5	7,5 (0.295)	92 (62)	300/500
CV07G075_0200S_□□	7	0,75	8,2 (0.323)	113 (76)	300/500
CV07G100_0200S_□□	7	1	8,7 (0.343)	138 (93)	300/500
CV07G150_0200S_□□	7	1,5	9,8 (0.386)	183 (123)	300/500
CV07G250_0200S_□□	7	2,5	11,8 (0.465)	273 (183)	300/500
CV12G050_0200S_□□	12	0,5	9,7 (0.382)	148 (99)	300/500
CV12G075_0200S_□□	12	0,75	10,7 (0.421)	183 (123)	300/500
CV12G100_0200S_□□	12	1	11,4 (0.449)	221 (149)	300/500
CV12G150_0200S_□□	12	1,5	12,8 (0.504)	294 (198)	300/500
CV18G050_0200S_□□	18	0,5	11,5 (0.453)	207 (139)	300/500
CV18G075_0200S_□□	18	0,75	12,6 (0.496)	266 (179)	300/500
CV18G100_0200S_□□	18	1	13,7 (0.539)	333 (224)	300/500
CV18G150_0200S_□□	18	1,5	15,4 (0.606)	446 (300)	300/500
CV25G050_0200S_□□	25	0,5	13,4 (0.528)	285 (192)	300/500
CV25G075_0200S_□□	25	0,75	14,8 (0.583)	367 (247)	300/500
CV25G100_0200S_□□	25	1	15,8 (0.622)	435 (292)	300/500
CV25G150_0200S_□□	25	1,5	17,8 (0.701)	593 (398)	300/500
CV34G100_0200S_□□	34	1	18,5 (0.728)	588 (395)	300/500
CV42G100_0200S_□□	42	1	20,0 (0.787)	715 (480)	300/500
CV50G100_0200S_□□	50	1	21,8 (0.858)	823 (553)	300/500
CV61G100_0200S_□□	61	1	23,3 (0.917)	979 (658)	300/500

Code composition

CV □□□ □□□ **_0200S_** □□

Color	To be inserted
Gray	GR

Number of conductors	To be inserted
2	02X
3, ..., 34	03G, ..., 34G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 16,0 mm²	B10, ..., B16

SERIES 345

Multi-norm oil-resistant and UV-resistant cables

Fixed application, unshielded



Use

They are cables designed for fixed applications or for occasional and non-cyclic mobile use even in drag-chains up to 5 meters and for sizes from 0.5 mm² to 2.5 mm² with a maximum of 6 conductors without tensile stress. They are normally used for equipments meant for the European (EC), North American and Canadian markets. Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties The good flame resistance makes them suitable for the installation in any industrial environment. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or, on request, black. Metric marking.
Temperature range	-40°C (fixed); -5°C (not fixed), +90°C
Voltage rating	Fixed: 1000 V (UL-CSA), 450/750 V (IEC) Not fixed: 1000 V (UL-CSA), 300/500 V (IEC)
Test voltage	6000 V
Bending radius	4 x cable outer diameter (fixed) 15 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, IEC 60332-3-24, UL VW-1, CSA FT1 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: CEI EN 60228, VDE 0295, UL 1581, UL 758, CSA AWM I/II A/B, cURus AWM Style 21179, 2014/35/EC (Low Voltage Directive)
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 03450 – CE 4G1,5 mm² 90°C 450/750 V IEC 60332-1-2 IEC 60332-3-24 - UV RESISTANT - c(UR)us AWM Style 21179 E314444 4x16 AWG 90°C 1000 V VW-1 AWM I/II A/B 90°C 1000 V FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X034_03450_□□	2	22	0,34	4,6 (0.181)	30 (20)
CV02X050_03450_□□	2	21	0,5	5,0 (0.197)	36 (24)
CV02X075_03450_□□	2	19	0,75	5,4 (0.213)	45 (30)
CV02X100_03450_□□	2	18	1	5,7 (0.224)	52 (35)
CV02X150_03450_□□	2	16	1,5	6,3 (0.248)	68 (46)
CV02X250_03450_□□	2	14	2,5	7,5 (0.295)	101 (68)
CV02X400_03450_□□	2	12	4	8,8 (0.346)	147 (99)
CV02X600_03450_□□	2	10	6	10,4 (0.409)	211 (142)
CV03G034_03450_□□	3	22	0,34	4,9 (0.193)	36 (24)
CV03G050_03450_□□	3	21	0,5	5,3 (0.209)	43 (29)
CV03G075_03450_□□	3	19	0,75	5,7 (0.224)	54 (36)
CV03X075_03450_□□	3	19	0,75	5,7 (0.224)	54 (36)
CV03G100_03450_□□	3	18	1	6,1 (0.240)	64 (43)
CV03G150_03450_□□	3	16	1,5	6,7 (0.264)	84 (56)
CV03G250_03450_□□	3	14	2,5	8,0 (0.315)	128 (86)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03G400_03450_□□	3	12	4	9,3 (0.366)	186 (125)
CV03G600_03450_□□	3	10	6	11,1 (0.437)	271 (182)
CV03GB10_03450_□□	3	8	10	14,5 (0.571)	456 (306)
CV03GB16_03450_□□	3	6	16	16,8 (0.661)	668 (449)
CV03GB25_03450_□□	3	4	25	21,6 (0.850)	1073 (721)
CV03GB35_03450_□□	3	2	35	24,2 (0.953)	1420 (954)
CV03GB50_03450_□□	3	1	50	29,6 (1.165)	2074 (1394)
CV04G034_03450_□□	4	22	0,34	5,3 (0.209)	43 (29)
CV04G050_03450_□□	4	21	0,5	5,7 (0.224)	52 (35)
CV04X050_03450_□□	4	21	0,5	5,7 (0.224)	52 (35)
CV04G075_03450_□□	4	19	0,75	6,2 (0.244)	66 (44)
CV04G100_03450_□□	4	18	1	6,6 (0.260)	79 (53)
CV04X100_03450_□□	4	18	1	6,6 (0.260)	79 (53)
CV04G150_03450_□□	4	16	1,5	7,3 (0.287)	105 (71)
CV04G250_03450_□□	4	14	2,5	8,7 (0.343)	159 (107)
CV04G400_03450_□□	4	12	4	10,5 (0.413)	241 (162)
CV04G600_03450_□□	4	10	6	12,4 (0.488)	348 (234)
CV04GB10_03450_□□	4	8	10	15,9 (0.626)	576 (387)
CV04GB16_03450_□□	4	6	16	18,7 (0.736)	859 (577)
CV04GB25_03450_□□	4	4	25	23,8 (0.937)	1365 (917)
CV04GB35_03450_□□	4	2	35	26,7 (1.051)	1813 (1218)
CV04GB50_03450_□□	4	1	50	32,6 (1.283)	2641 (1775)
CV05G034_03450_□□	5	22	0,34	5,8 (0.228)	52 (35)
CV05G050_03450_□□	5	21	0,5	6,3 (0.248)	64 (43)
CV05G075_03450_□□	5	19	0,75	6,8 (0.268)	80 (54)
CV05G100_03450_□□	5	18	1	7,2 (0.283)	95 (64)
CV05G150_03450_□□	5	16	1,5	8,0 (0.315)	128 (86)
CV05G250_03450_□□	5	14	2,5	9,6 (0.378)	196 (132)
CV05G400_03450_□□	5	12	4	11,5 (0.453)	295 (198)
CV05G600_03450_□□	5	10	6	13,7 (0.539)	430 (289)
CV05GB10_03450_□□	5	8	10	17,9 (0.705)	725 (487)
CV05GB16_03450_□□	5	6	16	21,4 (0.843)	1099 (738)
CV05GB25_03450_□□	5	4	25	26,4 (1.039)	1693 (1138)
CV05GB35_03450_□□	5	2	35	30,6 (1.205)	2320 (1559)
CV05GB50_03450_□□	5	1	50	36,2 (1.425)	3280 (2204)
CV05GB70_03450_□□	5	2/0	70	37,6 (1.480)	4173 (2804)
CV06G050_03450_□□	6	21	0,5	6,8 (0.268)	75 (50)
CV06G075_03450_□□	6	19	0,75	7,4 (0.291)	95 (64)
CV06G100_03450_□□	6	18	1	7,8 (0.307)	113 (76)
CV06G150_03450_□□	6	16	1,5	8,7 (0.343)	152 (102)
CV07G034_03450_□□	7	22	0,34	6,3 (0.248)	64 (43)
CV07G050_03450_□□	7	21	0,5	6,8 (0.268)	78 (52)
CV07G075_03450_□□	7	19	0,75	7,4 (0.291)	100 (67)
CV07G100_03450_□□	7	18	1	7,8 (0.307)	120 (81)
CV07G150_03450_□□	7	16	1,5	8,7 (0.343)	162 (109)
CV07G250_03450_□□	7	14	2,5	10,7 (0.421)	257 (173)
CV07G400_03450_□□	7	12	4	12,8 (0.504)	388 (261)
CV07G600_03450_□□	7	10	6	15,3 (0.602)	568 (382)
CV07GB10_03450_□□	7	8	10	19,8 (0.780)	949 (638)
CV10G034_03450_□□	10	22	0,34	7,8 (0.307)	97 (65)
CV10G050_03450_□□	10	21	0,5	8,4 (0.331)	117 (79)
CV10G075_03450_□□	10	19	0,75	9,2 (0.362)	151 (101)
CV10G100_03450_□□	10	18	1	10,0 (0.394)	186 (125)
CV10G150_03450_□□	10	16	1,5	11,2 (0.441)	252 (169)
CV12G034_03450_□□	12	22	0,34	8,0 (0.315)	105 (71)
CV12G050_03450_□□	12	21	0,5	8,7 (0.343)	130 (87)
CV12X050_03450_□□	12	21	0,5	8,7 (0.343)	130 (87)
CV12G075_03450_□□	12	19	0,75	9,5 (0.374)	168 (113)
CV12G100_03450_□□	12	18	1	10,3 (0.406)	207 (139)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV12G150_03450_□□	12	16	1,5	11,5 (0.453)	281 (189)
CV12G250_03450_□□	12	14	2,5	14,4 (0.567)	454 (305)
CV16G050_03450_□□	16	21	0,5	9,6 (0.378)	163 (110)
CV16G075_03450_□□	16	19	0,75	10,7 (0.421)	217 (146)
CV16G100_03450_□□	16	18	1	11,4 (0.449)	263 (177)
CV16G150_03450_□□	16	16	1,5	13,0 (0.512)	366 (246)
CV18G034_03450_□□	18	22	0,34	9,5 (0.374)	151 (101)
CV18G050_03450_□□	18	21	0,5	10,4 (0.409)	189 (127)
CV18G075_03450_□□	18	19	0,75	11,4 (0.449)	245 (165)
CV18G100_03450_□□	18	18	1	12,3 (0.484)	301 (202)
CV18G150_03450_□□	18	16	1,5	13,8 (0.543)	413 (278)
CV18G250_03450_□□	18	14	2,5	17,1 (0.673)	659 (443)
CV20G050_03450_□□	20	21	0,5	11,0 (0.433)	211 (142)
CV20G075_03450_□□	20	19	0,75	12,2 (0.480)	278 (187)
CV20G100_03450_□□	20	18	1	13,0 (0.512)	336 (226)
CV20G150_03450_□□	20	16	1,5	14,8 (0.583)	467 (314)
CV25G034_03450_□□	25	22	0,34	11,0 (0.433)	204 (137)
CV25G050_03450_□□	25	21	0,5	12,1 (0.476)	258 (173)
CV25G075_03450_□□	25	19	0,75	13,3 (0.524)	337 (226)
CV25G100_03450_□□	25	18	1	14,3 (0.563)	412 (277)
CV25G150_03450_□□	25	16	1,5	16,0 (0.630)	563 (378)
CV25G250_03450_□□	25	14	2,5	19,9 (0.783)	904 (607)
CV27G050_03450_□□	27	21	0,5	12,8 (0.504)	285 (192)
CV27G075_03450_□□	27	19	0,75	14,0 (0.551)	369 (248)
CV27G100_03450_□□	27	18	1	15,1 (0.594)	453 (304)
CV27G150_03450_□□	27	16	1,5	17,2 (0.677)	631 (424)
CV32G050_03450_□□	32	21	0,5	13,3 (0.524)	318 (214)
CV32G075_03450_□□	32	19	0,75	14,8 (0.583)	422 (284)
CV32G100_03450_□□	32	18	1	15,8 (0.622)	513 (345)
CV32G150_03450_□□	32	16	1,5	17,9 (0.705)	712 (478)
CV34G034_03450_□□	34	22	0,34	12,8 (0.504)	277 (186)
CV34G050_03450_□□	34	21	0,5	14,3 (0.563)	357 (240)
CV34G075_03450_□□	34	19	0,75	15,7 (0.618)	465 (312)
CV34G100_03450_□□	34	18	1	16,9 (0.665)	569 (382)
CV34G150_03450_□□	34	16	1,5	19,2 (0.756)	790 (531)
CV37G050_03450_□□	37	21	0,5	14,3 (0.563)	367 (247)
CV37G075_03450_□□	37	19	0,75	15,7 (0.618)	480 (323)
CV37G100_03450_□□	37	18	1	16,9 (0.665)	589 (396)
CV37G150_03450_□□	37	16	1,5	19,2 (0.756)	821 (552)
CV41G050_03450_□□	41	21	0,5	15,3 (0.602)	416 (280)
CV41G075_03450_□□	41	19	0,75	17,0 (0.669)	551 (370)
CV41G100_03450_□□	41	18	1	18,2 (0.717)	671 (451)
CV41G150_03450_□□	41	16	1,5	21,2 (0.835)	958 (644)
CV42G100_03450_□□	42	18	1	18,2 (0.717)	683 (459)
CV50G050_03450_□□	50	21	0,5	16,8 (0.661)	503 (338)
CV50G075_03450_□□	50	19	0,75	18,4 (0.724)	655 (440)
CV50G100_03450_□□	50	18	1	19,9 (0.783)	808 (543)
CV50G150_03450_□□	50	16	1,5	23,0 (0.906)	1146 (770)

Code composition

CV	□□□	□□□	_03450_	□□

Number of conductors	To be inserted
2	02X
3, ..., 50	03G, ..., 50G

Size	To be inserted
0,34 mm², ..., 6,00 mm²	034, ..., 600
10 mm², ..., 70 mm²	B10, ..., B70

Color	To be inserted
Gray	GR
Black	NE

SERIES 345S

Multi-norm oil-resistant and UV-resistant cables

Fixed application, shielded



Use

These are machine tool wire cables planned also for occasional non-cyclical mobile uses. They are normally used for equipments meant for the European (EC), North American and Canadian markets. Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties The good flame resistance makes them suitable for the installation in any industrial environment. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Shield	Tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or, on request, black. Metric marking.
Temperature range	-40°C (fixed); -5°C (not fixed), +90°C
Voltage rating	Fixed: 1000 V (UL-CSA), 450/750 V (IEC) Not fixed: 1000 V (UL-CSA), 300/500 V (IEC)
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, IEC 60332-3-24, UL VW-1, CSA FT1 |UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: CEI EN 60228, VDE 0295, UL 1581, UL 758, CSA AWM I/II A/B, cURus AWM Style 21179, 2014/35/EC (Low Voltage Directive)
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 0345S – CE 4G1,5 mm² 90°C 450/750 V IEC 60332-1-2 IEC 60332-3-24 - UV RESISTANT - c(UR)us AWM Style 21179 E314444 4x16 AWG 90°C 1000 V VW-1 AWM I/II A/B 90°C 1000 V FT1 – (prod.reference) = (metric) =

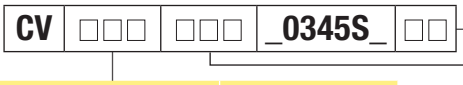
Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X034_0345S_□□	2	22	0,34	5,2 (0.205)	42 (28)
CV02X050_0345S_□□	2	21	0,5	5,6 (0.220)	47 (32)
CV02X075_0345S_□□	2	19	0,75	6,0 (0.236)	54 (36)
CV02X100_0345S_□□	2	18	1	6,3 (0.248)	65 (44)
CV02X150_0345S_□□	2	16	1,5	6,9 (0.272)	79 (53)
CV02X250_0345S_□□	2	14	2,5	8,1 (0.319)	111 (75)
CV02X400_0345S_□□	2	12	4	9,4 (0.370)	158 (106)
CV02X600_0345S_□□	2	10	6	11,0 (0.433)	217 (146)
CV03G034_0345S_□□	3	22	0,34	5,5 (0.217)	48 (32)
CV03G050_0345S_□□	3	21	0,5	5,9 (0.232)	54 (36)
CV03X050_0345S_□□	3	21	0,5	5,9 (0.232)	54 (36)
CV03G075_0345S_□□	3	19	0,75	6,3 (0.248)	68 (46)
CV03G100_0345S_□□	3	18	1	6,7 (0.264)	77 (52)
CV03X100_0345S_□□	3	18	1	6,7 (0.264)	77 (52)
CV03G150_0345S_□□	3	16	1,5	7,3 (0.287)	100 (67)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03X150_0345S_□□	3	16	1,5	7,3 (0.287)	100 (67)
CV03G250_0345S_□□	3	14	2,5	8,6 (0.339)	142 (95)
CV03G400_0345S_□□	3	12	4	10,1 (0.398)	203 (136)
CV03G600_0345S_□□	3	10	6	11,7 (0.461)	282 (189)
CV03GB10_0345S_□□	3	8	10	15,3 (0.602)	467 (314)
CV03GB16_0345S_□□	3	6	16	17,6 (0.693)	674 (453)
CV04G034_0345S_□□	4	22	0,34	5,9 (0.232)	58 (39)
CV04G050_0345S_□□	4	21	0,5	6,3 (0.248)	68 (46)
CV04X050_0345S_□□	4	21	0,5	6,3 (0.248)	68 (46)
CV04G075_0345S_□□	4	19	0,75	6,8 (0.268)	80 (54)
CV04X075_0345S_□□	4	19	0,75	6,8 (0.268)	80 (54)
CV04G100_0345S_□□	4	18	1	7,2 (0.283)	97 (65)
CV04X100_0345S_□□	4	18	1	7,2 (0.283)	97 (65)
CV04G150_0345S_□□	4	16	1,5	7,9 (0.311)	121 (81)
CV04G250_0345S_□□	4	14	2,5	9,3 (0.366)	179 (120)
CV04G400_0345S_□□	4	12	4	11,1 (0.437)	262 (176)
CV04G600_0345S_□□	4	10	6	13,2 (0.520)	384 (258)
CV04GB10_0345S_□□	4	8	10	16,9 (0.665)	616 (414)
CV04GB16_0345S_□□	4	6	16	19,5 (0.768)	890 (598)
CV04GB25_0345S_□□	4	4	25	24,6 (0.969)	1380 (927)
CV04GB35_0345S_□□	4	2	35	27,7 (1.091)	1823 (1225)
CV04GB50_0345S_□□	4	1	50	33,6 (1.323)	2645 (1777)
CV04GB70_0345S_□□	4	2/0	70	38,8 (1.528)	2935 (1972)
CV05G034_0345S_□□	5	22	0,34	6,4 (0.252)	67 (45)
CV05G050_0345S_□□	5	21	0,5	6,9 (0.272)	79 (53)
CV05G075_0345S_□□	5	19	0,75	7,4 (0.291)	98 (66)
CV05G100_0345S_□□	5	18	1	7,8 (0.307)	113 (76)
CV05G150_0345S_□□	5	16	1,5	8,6 (0.339)	147 (99)
CV05G250_0345S_□□	5	14	2,5	10,4 (0.409)	219 (147)
CV05G400_0345S_□□	5	12	4	12,3 (0.484)	321 (216)
CV05G600_0345S_□□	5	10	6	14,7 (0.579)	471 (316)
CV05GB10_0345S_□□	5	8	10	18,9 (0.744)	764 (513)
CV05GB16_0345S_□□	5	6	16	22,2 (0.874)	1121 (753)
CV05GB25_0345S_□□	5	4	25	27,2 (1.071)	1686 (1133)
CV05GB35_0345S_□□	5	2	35	31,6 (1.244)	2334 (1568)
CV07G034_0345S_□□	7	22	0,34	6,9 (0.272)	81 (54)
CV07G050_0345S_□□	7	21	0,5	7,4 (0.291)	97 (65)
CV07G075_0345S_□□	7	19	0,75	8,0 (0.315)	118 (79)
CV07G100_0345S_□□	7	18	1	8,4 (0.331)	141 (95)
CV07G150_0345S_□□	7	16	1,5	9,3 (0.366)	185 (124)
CV07G250_0345S_□□	7	14	2,5	11,3 (0.445)	278 (187)
CV07G400_0345S_□□	7	12	4	13,6 (0.535)	422 (284)
CV07G600_0345S_□□	7	10	6	16,1 (0.634)	604 (406)
CV10G034_0345S_□□	10	22	0,34	8,4 (0.331)	108 (73)
CV12G034_0345S_□□	12	22	0,34	8,7 (0.343)	122 (82)
CV12G050_0345S_□□	12	21	0,5	9,3 (0.366)	149 (100)
CV12G075_0345S_□□	12	19	0,75	10,3 (0.406)	188 (126)
CV12G100_0345S_□□	12	18	1	10,9 (0.429)	224 (151)
CV12G150_0345S_□□	12	16	1,5	12,3 (0.484)	302 (203)
CV12G250_0345S_□□	12	14	2,5	15,2 (0.598)	476 (320)
CV18G034_0345S_□□	18	22	0,34	10,1 (0.398)	171 (115)
CV18G050_0345S_□□	18	21	0,5	11,0 (0.433)	210 (141)
CV18G075_0345S_□□	18	19	0,75	12,2 (0.480)	272 (183)
CV18G100_0345S_□□	18	18	1	12,9 (0.508)	320 (215)
CV18G150_0345S_□□	18	16	1,5	14,8 (0.583)	454 (305)
CV18G250_0345S_□□	18	14	2,5	17,9 (0.705)	693 (466)
CV25G034_0345S_□□	25	22	0,34	11,6 (0.457)	222 (149)
CV25G050_0345S_□□	25	21	0,5	12,7 (0.500)	273 (183)
CV25G075_0345S_□□	25	19	0,75	14,3 (0.563)	374 (251)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV25G100_0345S_□□	25	18	1	15,1 (0.594)	439 (295)
CV25G150_0345S_□□	25	16	1,5	17,0 (0.669)	595 (400)
CV25G250_0345S_□□	25	14	2,5	21,3 (0.839)	949 (638)
CV30G050_0345S_□□	30	21	0,5	13,8 (0.543)	338 (227)
CV30G075_0345S_□□	30	19	0,75	15,3 (0.602)	429 (288)
CV30G100_0345S_□□	30	18	1	16,2 (0.638)	514 (345)
CV30G150_0345S_□□	30	16	1,5	18,3 (0.720)	697 (468)
CV34G034_0345S_□□	34	22	0,34	13,8 (0.543)	311 (209)
CV34G050_0345S_□□	34	21	0,5	15,1 (0.594)	381 (256)
CV34G075_0345S_□□	34	19	0,75	16,7 (0.657)	493 (331)
CV34G100_0345S_□□	34	18	1	17,7 (0.697)	590 (396)
CV34G150_0345S_□□	34	16	1,5	20,0 (0.787)	798 (536)
CV34G250_0345S_□□	34	14	2,5	24,7 (0.972)	1255 (843)
CV37G050_0345S_□□	37	21	0,5	15,1 (0.594)	399 (268)
CV37G075_0345S_□□	37	19	0,75	16,7 (0.657)	517 (347)
CV37G100_0345S_□□	37	18	1	17,7 (0.697)	621 (417)
CV37G150_0345S_□□	37	16	1,5	20,0 (0.787)	843 (566)
CV41G050_0345S_□□	41	21	0,5	16,1 (0.634)	450 (302)
CV41G075_0345S_□□	41	19	0,75	17,8 (0.701)	583 (392)
CV41G100_0345S_□□	41	18	1	19,2 (0.756)	709 (476)
CV41G150_0345S_□□	41	16	1,5	22,0 (0.866)	979 (658)
CV42G050_0345S_□□	42	21	0,5	16,1 (0.634)	457 (307)
CV42G075_0345S_□□	42	19	0,75	17,8 (0.701)	593 (398)
CV42G100_0345S_□□	42	18	1	19,2 (0.756)	721 (484)
CV42G150_0345S_□□	42	16	1,5	22,0 (0.866)	997 (670)
CV50G050_0345S_□□	50	21	0,5	17,6 (0.693)	527 (354)
CV50G075_0345S_□□	50	19	0,75	19,4 (0.764)	682 (458)
CV50G100_0345S_□□	50	18	1	21,3 (0.839)	850 (571)
CV50G150_0345S_□□	50	16	1,5	23,8 (0.937)	1146 (770)
CV61G050_0345S_□□	61	21	0,5	18,4 (0.724)	608 (409)
CV61G075_0345S_□□	61	19	0,75	21,0 (0.827)	831 (558)
CV61G100_0345S_□□	61	18	1	22,3 (0.878)	997 (670)
CV61G150_0345S_□□	61	16	1,5	24,9 (0.980)	1343 (902)

Code composition



Number of conductors	To be inserted
2	02X
3, ..., 61	03G, ..., 61G

Size	To be inserted
0,34 mm², ..., 6,00 mm²	034, ..., 600
10 mm², ..., 70 mm²	B10, ..., B70

Color	To be inserted
Gray	GR
Black	NE

SERIES 361S

Low capacity VFD 3xG cables, AWM

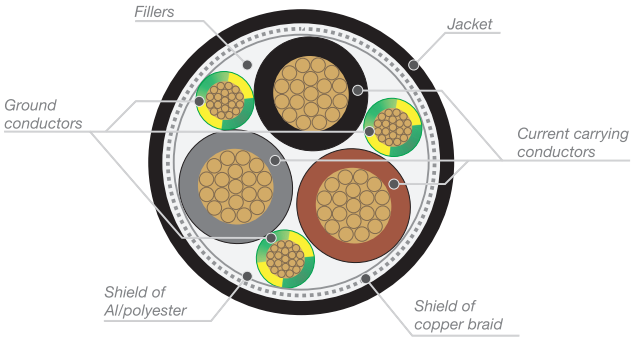
Fixed application, shielded



Use

These are low capacitance servo motor (Variable Frequency Driver) cables planned for fixed application but also for occasional non-cyclical mobile uses. They are normally used wherever the potential for electromagnetic interference due to drives, frequency converter and motor is high. These cables are different than the traditional ones for their constructive peculiarities, including the double screen, the compounds used for the insulation and the constructive geometry. It is thanks to these and many other factors that this range of cables is able to ensure a low operational capacity, to limit overvoltage peaks which often cause damage to connected equipment and, not least, a consequent reduction of the losses. These cables are produced to meet the requirements of the European (EC), North American and Canadian markets. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-YP
Conductor distinction	3 wires gray, black, brown + 3 wires yellow/green (acc. to DIN VDI 0293)
Fillers	Central or side fillers, if any
Shield	Aluminum/polyester foil, coverage 100% + Tinned copper braid
Jacket	PVC compound, oil-resistant, black or RAL 7001 gray color on request. Metric marking.
Temperature range	+90°C (IEC), +80°C (UL/CSA) -40°C (fixed); -5°C (not fixed)
Voltage rating	1000 V (UL-CSA), 600/1000V (IEC)
Test voltage	6000 V
Bending radius	4 x cable outer diameter (fixed) 15 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, IEC 60332-3-24, NBN C30-004 cat. F2, UL VW-1, CSA FT1 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Oil res.: DIN EN 50290-2-22, VDE 0819-102 | Other: CEI EN 60228, DIN VDE 0295, IEC 60228, DIN VDE 0293, UL 758, CSA AWM I/II A/B, cURus AWM Style 2570, Low Voltage, Directive (LVD) 2006/95/EC
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2570

Marking

TEKIMA 0361S – CE VFD (3x2,5+3G0,5) mm² 90°C 600/1000 V IEC 60332-1-2 – c(UR)us E314444 AWM Style 2570 (3x14+3x21) AWG 80°C 1000 V AWM Class I/II A/B – (prod. reference) = (metric) =

Coding and dimensions

Code	Num. conductors x size [AWG/kcmil]	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0015_0361S_NE	(3x16+3G24)	(3x1,5+3G0,25)	8,7 (0.343)	117 (79)
CVFM0001_0361S_NE	(3x14+3G21)	(3x2,5+3G0,5)	10,1 (0.398)	168 (113)
CVFM0002_0361S_NE	(3x12+3G19)	(3x4+3G0,75)	11,3 (0.445)	228 (153)
CVFM0003_0361S_NE	(3x10+3G18)	(3x6+3G1)	12,4 (0.488)	302 (203)
CVFM0004_0361S_NE	(3x8+3G16)	(3x10+3G1,5)	15,2 (0.598)	470 (316)
CVFM0005_0361S_NE	(3x8+3G14)	(3x16+3G2,5)	18,3 (0.720)	719 (483)
CVFM0006_0361S_NE	(3x4+3G12)	(3x25+3G4)	22,5 (0.886)	1089 (732)
CVFM0007_0361S_NE	(3x2+3G10)	(3x35+3G6)	25,5 (1.004)	1467 (986)
CVFM0008_0361S_NE	(3x1+3G8)	(3x50+3G10)	30,8 (1.213)	2130 (1431)
CVFM0009_0361S_NE	(3x2/0+3G8)	(3x70+3G10)	36,1 (1.421)	2828 (1900)
CVFM0010_0361S_NE	(3x3/0+3G6)	(3x95+3G16)	41,0 (1.614)	3844 (2583)
CVFM0011_0361S_NE	(3x4/0+3G6)	(3x120+3G16)	43,8 (1.724)	4556 (3061)
CVFM0012_0361S_NE	(3x250+3G4)	(3x150+3G25)	48,7 (1.917)	5811 (3905)
CVFM0013_0361S_NE	(3x350+3G2)	(3x185+3G35)	54,2 (2.134)	7226 (4856)
CVFM0014_0361S_NE	(3x450+3G1)	(3x240+3G50)	61,4 (2.417)	9478 (6369)

Code composition

CVFM	□□□□	_0361S_	□□

Construction

Identifier code of the special cable construction.

Color	To be inserted
Gray	GR
Black	NE

SERIES 361S

Low capacity VFD 1xG cables, AWM

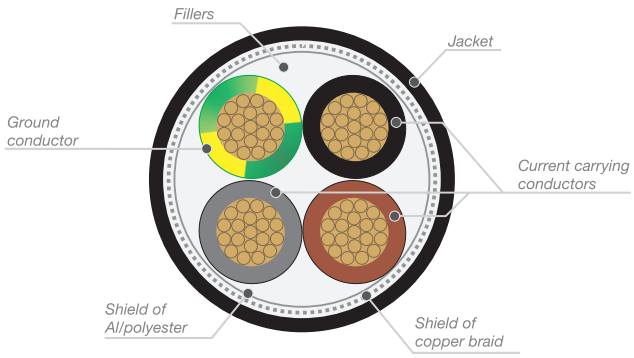
Fixed application, shielded



Use

These are low capacitance servo motor (Variable Frequency Driver) cables planned for fixed application but also for occasional non-cyclical mobile uses. They are normally used wherever the potential for electromagnetic interference due to drives, frequency converter and motor is high. These cables are different than the traditional ones for their constructive peculiarities, including the double screen, the compounds used for the insulation and the constructive geometry. It is thanks to these and many other factors that this range of cables is able to ensure a low operational capacity, to limit overvoltage peaks which often cause damage to connected equipment and, not least, a consequent reduction of the losses. These cables are produced to meet the requirements of the European (EC), North American and Canadian markets. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-YP
Conductor distinction	Wires gray, black, brown, wires yellow/green (acc. to DIN VDI 0293)
Fillers	Central or side fillers, if any
Shield	Aluminum/polyester foil, coverage 100% + Tinned copper braid
Jacket	PVC compound, oil-resistant, black or RAL 7001 gray color on request. Metric marking.
Temperature range	+90°C (IEC), +80°C (UL/CSA) -40°C (fixed); -5°C (not fixed)
Voltage rating	1000 V (UL-CSA), 600/1000V (IEC)
Test voltage	6000 V
Bending radius	4 x cable outer diameter (fixed) 15 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, IEC 60332-3-24, NBN C30-004 cat. F2, UL VW-1, CSA FT1 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Oil res.: DIN EN 50290-2-22, VDE 0819-102 | Other: CEI EN 60228, DIN VDE 0295, IEC 60228, DIN VDE 0293, UL 758, CSA AWM I/II A/B, cURus AWM Style 2570, Low Voltage, Directive (LVD) 2006/95/EC
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2570

Marking

TEKIMA 0361S – CE VFD (4G1,5) mm² 90°C 600/1000 V IEC 60332-1-2 – c(UR)us E314444 AWM Style 2570 (4x16) AWG 80°C 1000 V AWM Class I/II A/B – (prod. reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G150_0361S_□□	4	16 AWG	1,5	8,8 (0.346)	112 (75)
CV04G250_0361S_□□	4	14	2,5	10,1 (0.398)	164 (110)
CV04G400_0361S_□□	4	12	4	11,7 (0.461)	232 (156)
CV04G600_0361S_□□	4	10	6	13,5 (0.531)	327 (220)
CV04GB10_0361S_□□	4	8	10	16,5 (0.650)	523 (351)
CV04GB16_0361S_□□	4	6	16	20,0 (0.787)	793 (533)
CV04GB25_0361S_□□	4	4	25	24,5 (0.965)	1211 (814)
CV04GB35_0361S_□□	4	2	35	27,9 (1.098)	1636 (1099)
CV04GB50_0361S_□□	4	1	50	33,9 (1.335)	2365 (1589)
CV04GB70_0361S_□□	4	2/0	70	39,7 (1.563)	3241 (2178)
CV04GB95_0361S_□□	4	3/0	95	44,8 (1.764)	4308 (2895)
CV04GL12_0361S_□□	4	4/0	120	47,8 (1.882)	5229 (3514)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04GL15_0361S_□□	4	250 kcmil	150	53,3 (2.098)	6531 (4389)
CV04GL18_0361S_□□	4	350	185	59,3 (2.335)	7998 (5374)
CV04GL24_0361S_□□	4	450	240	68,0 (2.677)	10399 (6988)

Code composition

CV	□□□	□□□	_0361S_	□□

Color	To be inserted
Gray	GR
Black	NE

Number of conductors	To be inserted
4	04X

Size	To be inserted
1,5 mm², ..., 6,00 mm²	150, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95
120 mm², ..., 240 mm²	L12, ..., L24

SERIES 365S

Low capacity VFD 3xG cables, TC-ER/CIC/MTW/WTTC Dir Bur, Sun Res

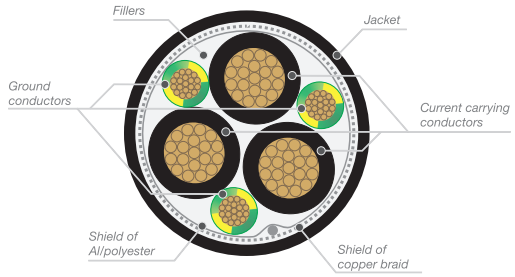
Fixed application, shielded



Use

These are UL Listed, oil resistant, low capacitance servo motor cables (Variable Frequency Drive) planned for fixed application but also for occasional non-cyclical mobile uses. They are used wherever the potential for electromagnetic interference due to drives, frequency converter and motor is high. These cables are different than the traditional ones for their constructive peculiarities, including the double screen, the compounds used for the insulation and the constructive geometry. It is thanks to these and many other factors that this range of cables is able to ensure a low operational capacity, to limit overvoltage peaks which often cause damage to connected equipment and, not least, a consequent reduction of the losses. They are Type TC-ER (Exposed Run) cables suitable for the uses specified by ANSI/NFPA 79 and by articles 336, 392, 501 of the ANSI/NFPA 70 "National Electrical Code" (NEC) and suitable for use in Class I, Division 2, Hazardous Locations. They are certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind applications. They are also Type TC-ER/CIC for uses in accordance with CSA C22.1 (CE Code). The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits. These cables can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277) and are produced to meet the requirements of the European (EC) and North American markets. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	Special XLPE (type XHHW-2)
Conductor distinction	Black numbered + yellow/green
Fillers	Central or side fillers, if any
Shield	Aluminum/polyester foil, coverage 100% + Tinned copper braid + Drain wire
Jacket	PVC compound, oil-resistant, black or RAL 7001 gray color. Metric marking.
Temperature range	+90°C (dry and wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (WTTC), 600/1000 V (IEC)
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER, MTW, WTTC, Dir Bur, Sun Res Oil Res I, c(UL) Type CIC/TC-ER, Dir Bur, Sun Res, Oil Res I, Type RW90 (≥14 AWG); NFPA 79; Class 1, Div. 2 NEC Art. 336, 392, 501, CSA C22.1 Tab.19; UL 1063, UL 1277, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT4/IEEE UL 1685 | UV res.: UNI EN ISO 4892-2 (black) | Oil res.: Oil Res I UL 1277; Water res.: 90°C UL 1277; Other: Direct Burial UL 1277, Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286

Marking

TEKIMA 0365S – CE VFD (3x16+3G2,5) mm² 600/1000 V - (UL) E361258 TC-ER (3x6+3x14) AWG DIR BUR SUN RES OIL RES I 600V XHHW-2 90°C Dry / 90°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I 600V 90°C Dry / 90°C Wet FT4 or RW90 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x size [AWG/kcmil]	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0003_0365S_NE	((3x10+3G18)	(3x6+3G1)	14,9 (0.587)	343 (230)
CVFM0004_0365S_NE	(3x8+3G16)	(3x10+3G1,5)	16,7 (0.657)	489 (329)
CVFM0005_0365S_NE	(3x6+3G14)	(3x16+3G2,5)	20,1 (0.791)	798 (536)
CVFM0006_0365S_NE	(3x4+3G12)	(3x25+3G4)	24,4 (0.961)	1203 (808)
CVFM0017_0365S_NE	(3x3+3G12)	(3x27+3G4)	25,8 (1.016)	1320 (887)
CVFM0007_0365S_NE	(3x2+3G10)	(3x35+3G6)	27,0 (1.063)	1572 (1056)
CVFM0008_0365S_NE	(3x1+3G8)	(3x50+3G10)	32,0 (1.260)	2272 (1527)
CVFM0009_0365S_NE	(3x2/0+3G8)	(3x70+3G10)	36,5 (1.437)	2915 (1959)
CVFM0010_0365S_NE	(3x3/0+3G6)	(3x95+3G16)	39,8 (1.567)	3804 (2556)

Code	Num. conductors x size [AWG/kcmil]	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0011_0365S_NE	(3x4/0+3G6)	(3x120+3G16)	44,7 (1.760)	4698 (3157)
CVFM0012_0365S_NE	(3x250+3G4)	(3x150+3G25)	48,2 (1.898)	5837 (3922)
CVFM0018_0365S_NE	(3x300+3G4)	(3x152+3G25)	49,8 (1.961)	6305 (4237)
CVFM0013_0365S_NE	(3x350+3G2)	(3x185+3G35)	52,1 (2.051)	7116 (4782)
CVFM0015_0365S_NE	(3x400+3G2)	(3x203+3G35)	57,3 (2.256)	8938 (6006)
CVFM0014_0365S_NE	(3x450+3G1)	(3x240+3G50)	58,5 (2.303)	9221 (6196)
CVFM0016_0365S_NE	(3x500+3G1)	(3x254+3G50)	62,9 (2.476)	10623 (7138)
CVFM0019_0365S_NE	(3x600+3G1/0)	(3x304+3G53,5)	72,1 (2.839)	12244 (8228)

Code composition

CVFM □□□□ **_0365S_** □□

Color	To be inserted
Black	NE

Construction

Identifier code of the special cable construction.

SERIES 365S

Low capacity VFD 1xG cables, TC-ER/CIC/MTW/WTTC, Dir Bur, Sun Res

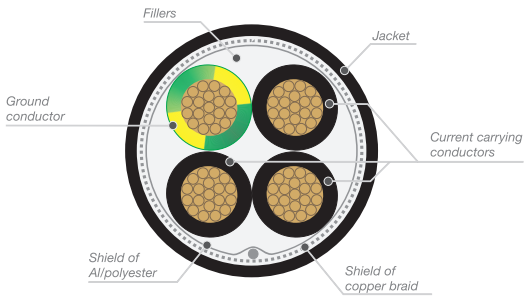
Fixed application, shielded



Use

These are UL Listed, oil resistant, low capacitance servo motor cables (Variable Frequency Drive) planned for fixed application but also for occasional non-cyclical mobile uses. They are used wherever the potential for electromagnetic interference due to drives, frequency converter and motor is high. These cables are different than the traditional ones for their constructive peculiarities, including the double screen, the compounds used for the insulation and the constructive geometry. It is thanks to these and many other factors that this range of cables is able to ensure a low operational capacity, to limit overvoltage peaks which often cause damage to connected equipment and, not least, a consequent reduction of the losses. They are Type TC-ER (Exposed Run) cables suitable for the uses specified by ANSI/NFPA 79 and by articles 336, 392, 501 of the ANSI/NFPA 70 "National Electrical Code" (NEC) and suitable for use in Class I, Division 2, Hazardous Locations. They are certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind applications. They are also Type TC-ER/CIC for uses in accordance with CSA C22.1 (CE Code). The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits. These cables can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277) and are produced to meet the requirements of the European (EC) and North American markets. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	Special XLPE (type XHHW-2)
Conductor distinction	Black numbered + yellow/green
Fillers	Central or side fillers, if any
Shield	Aluminum/polyester foil, coverage 100% + Tinned copper braid + Drain wire
Jacket	PVC compound, oil-resistant, black or RAL 7001 gray color. Metric marking.
Temperature range	+90°C (dry and wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (WTTC), 600/1000 V (IEC)
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER, MTW, WTTC, Dir Bur, Sun Res Oil Res I, c(UL) Type CIC/TC-ER, Dir Bur, Sun Res, Oil Res I, Type RW90 (≥14 AWG); NFPA 79; Class 1, Div. 2 NEC Art. 336, 392, 501, CSA C22.1 Tab.19; UL 1063, UL 1277, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT4/IEEE UL 1685 | UV res.: UNI EN ISO 4892-2 (black) | Oil res.: Oil Res I UL 1277; Water res.: 90°C UL 1277; Other: Direct Burial UL 1277, Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286

Marking

TEKIMA 0365S – CE VFD (4G16) mm² 600/1000 V - (UL) E361258 TC-ER (4x6) AWG DIR BUR SUN RES OIL RES I 600V XHHW-2 90°C Dry / 90°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I 600V 90°C Dry / 90°C Wet FT4 or RW90 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G100_0365S_NE	4	18 AWG	1	9,7 (0.382)	129 (87)
CV04G150_0365S_NE	4	16	1,5	10,4 (0.409)	157 (105)
CV04G250_0365S_NE	4	14	2,5	11,3 (0.445)	207 (139)
CV04G400_0365S_NE	4	12	4	13,1 (0.516)	293 (197)
CV04G600_0365S_NE	4	10	6	15,1 (0.594)	414 (278)
CV04GB10_0365S_NE	4	8	10	19,2 (0.756)	656 (441)
CV04GB16_0365S_NE	4	6	16	22,7 (0.894)	976 (656)
CV04GB25_0365S_NE	4	4	25	26,2 (1.031)	1388 (933)
CV04GB35_0365S_NE	4	2	35	29,1 (1.146)	1811 (1217)
CV04GB50_0365S_NE	4	1	50	34,5 (1.358)	2544 (1709)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04GB70_0365S_NE	4	2/0	70	37,8 (1.488)	3425 (2301)
CV04GB95_0365S_NE	4	3/0	95	44,5 (1.752)	4563 (3066)
CV04GL12_0365S_NE	4	4/0	120	48,3 (1.902)	5569 (3742)
CV04GL15_0365S_NE	4	250 kcmil	150	52,1 (2.051)	6761 (4543)
CV04GL18_0365S_NE	4	350	185	56,4 (2.220)	8112 (5451)
CV04GL24_0365S_NE	4	450	240	63,2 (2.488)	10400 (6988)
CV04GX50_0365S_NE	4	500	254	73,1 (2.878)	12330 (8285)

Code composition



Color	To be inserted
Black	NE

Number of conductors	To be inserted
4	04X

Size	To be inserted
1,0 mm², ..., 6,00 mm²	100, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95
120 mm², ..., 240 mm2	L12, ..., L24
250 kcmil, ..., 500 kcmil	X25, ..., X50

SERIES 365S

Low capacity VFD 1xG+1xP cables, TC-ER/CIC/MTW/WTTC, Dir Bur, Sun Res

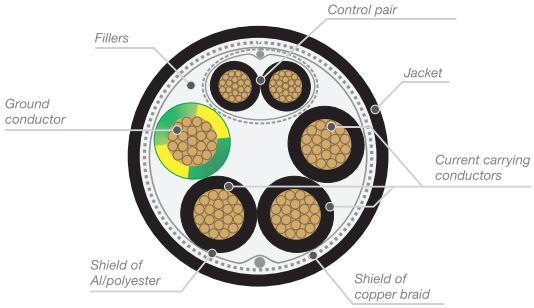
Fixed application, shielded with control pair



Use

These are UL Listed, oil resistant, low capacitance servo motor cables (Variable Frequency Drive) planned for fixed application but also for occasional non-cyclical mobile uses. They are used wherever the potential for electromagnetic interference due to drives, frequency converter and motor is high. These cables are different than the traditional ones for their constructive peculiarities, including the double screen, the compounds used for the insulation and the constructive geometry. It is thanks to these and many other factors that this range of cables is able to ensure a low operational capacity, to limit overvoltage peaks which often cause damage to connected equipment and, not least, a consequent reduction of the losses. They are Type TC-ER (Exposed Run) cables suitable for the uses specified by ANSI/NFPA 79 and by articles 336, 392, 501 of the ANSI/NFPA 70 "National Electrical Code" (NEC) and suitable for use in Class I, Division 2, Hazardous Locations. They are certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind applications. They are also Type TC-ER/CIC for uses in accordance with CSA C22.1 (CE Code). The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits. These cables can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277) and are produced to meet the requirements of the European (EC) and North American markets. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	Special XLPE (type XHHW-2)
Conductor distinction	Black numbered + yellow/green
Fillers	Central or side fillers, if any
Shield on pairs	Aluminum/polyester foil, coverage 100% + Tinned copper braid + Drain wire
Shield	Aluminum/polyester foil, coverage 100% + Tinned copper braid + Drain wire
Jacket	PVC compound, oil-resistant, black color. Metric marking.
Temperature range	+90°C (dry and wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (WTTC), 600/1000 V (IEC)
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER, MTW, WTTC, Dir Bur, Sun Res Oil Res I, c(UL) Type CIC/TC-ER, Dir Bur, Sun Res, Oil Res I, Type RW90 (≥14 AWG); NFPA 79; Class 1, Div. 2 NEC Art. 336, 392, 501, CSA C22.1 Tab.19; UL 1063, UL 1277, 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT4/IEEE UL 1685 | UV res.: UNI EN ISO 4892-2 (black) | Oil res.: Oil Res I UL 1277; Water res.: 90°C UL 1277; Other: Direct Burial UL 1277, Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286

Marking

TEKIMA 0365S – CE VFD ((4G16)+1X(2X1,5)) mm² 600/1000 V - (UL) E361258 TC-ER ((4X6)+1X(2X16)) AWG DIR BUR SUN RES OIL RES I 600V XHHW-2 90°C Dry / 90°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I 600V 90°C Dry / 90°C Wet FT4 or RW90 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x size [AWG/kcmil]	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0101_0365S_□□	(4x16+1x(2x18))	(4G1,5+1x(2x1))	14,3 (0.562)	267 (179)
CVFM0102_0365S_□□	(4x16+1x(2x16))	(4G1,5+1x(2x1,5))	14,9 (0.586)	286 (192)
CVFM0103_0365S_□□	(4x14+1x(2x18))	(4G2,5+1x(2x1))	15,0 (0.590)	316 (212)
CVFM0104_0365S_□□	(4x14+1x(2x16))	(4G2,5+1x(2x1,5))	15,5 (0.610)	339 (227)
CVFM0105_0365S_□□	(4x12+1x(2x18))	(4G4+1x(2x1))	16,5 (0.649)	414 (278)
CVFM0106_0365S_□□	(4x12+1x(2x16))	(4G4+1x(2x1,5))	17,0 (0.669)	432 (290)
CVFM0107_0365S_□□	(4x12+1x(2x14))	(4G4+1x(2x2,5))	17,4 (0.685)	466 (313)
CVFM0108_0365S_□□	(4x10+1x(2x18))	(4G6+1x(2x1))	17,5 (0.688)	508 (341)
CVFM0109_0365S_□□	(4x10+1x(2x16))	(4G6+1x(2x1,5))	17,6 (0.692)	519 (348)
CVFM0110_0365S_□□	(4x10+1x(2x14))	(4G6+1x(2x2,5))	18,5 (0.728)	553 (371)

Code	Num. conductors x size [AWG/kcmil]	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0111_0365S_□□	(4x8+1x(2x18))	(4G10+1x(2x1))	22,4 (0.881)	804 (540)
CVFM0112_0365S_□□	(4x8+1x(2x16))	(4G10+1x(2x1,5))	22,7 (0.893)	820 (551)
CVFM0113_0365S_□□	(4x8+1x(2x14))	(4G10+1x(2x2,5))	23,3 (0.917)	851 (571)
CVFM0114_0365S_□□	(4x6+1x(2x18))	(4G16+1x(2x1))	24,5 (0.964)	1060 (712)
CVFM0115_0365S_□□	(4x6+1x(2x16))	(4G16+1x(2x1,5))	24,8 (0.976)	1081 (726)
CVFM0116_0365S_□□	(4x6+1x(2x14))	(4G16+1x(2x2,5))	25,4 (1.000)	1122 (753)
CVFM0117_0365S_□□	(4x4+1x(2x16))	(4G25+1x(2x1,5))	28,2 (1.110)	1494 (1003)
CVFM0118_0365S_□□	(4x4+1x(2x14))	(4G25+1x(2x2,5))	28,3 (1.114)	1522 (1022)
CVFM0119_0365S_□□	(4x2+1x(2x16))	(4G35+1x(2x1,5))	30,8 (1.212)	1910 (1283)
CVFM0120_0365S_□□	(4x2+1x(2x14))	(4G35+1x(2x2,5))	31,2 (1.228)	1940 (1303)
CVFM0121_0365S_□□	(4x1+1x(2x16))	(4G50+1x(2x1,5))	35,8 (1.409)	2613 (1755)

Code composition

CVFM | □□□□ | **_0365S_** | □□

Construction

Identifier code of the special cable construction.

Color	To be inserted
Black	NE

SERIES 365S

Low capacity VFD 1xG+2xP cables, TC-ER/CIC/MTW/WTTC, Dir Bur, Sun Res

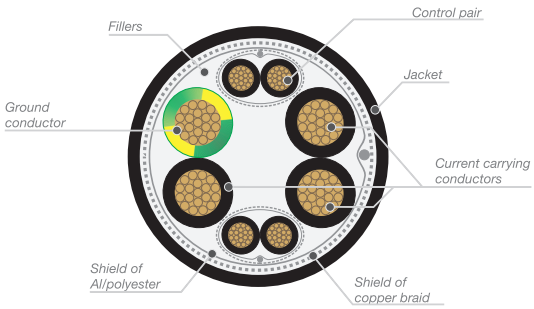
Fixed application, shielded with 2 control pairs



Use

These are UL Listed, oil resistant, low capacitance servo motor cables (Variable Frequency Drive) planned for fixed application but also for occasional non-cyclical mobile uses. They are used wherever the potential for electromagnetic interference due to drives, frequency converter and motor is high. These cables are different than the traditional ones for their constructive peculiarities, including the double screen, the compounds used for the insulation and the constructive geometry. It is thanks to these and many other factors that this range of cables is able to ensure a low operational capacity, to limit overvoltage peaks which often cause damage to connected equipment and, not least, a consequent reduction of the losses. They are Type TC-ER (Exposed Run) cables suitable for the uses specified by ANSI/NFPA 79 and by articles 336, 392, 501 of the ANSI/NFPA 70 "National Electrical Code" (NEC) and suitable for use in Class I, Division 2, Hazardous Locations. They are certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind applications. They are also Type TC-ER/CIC for uses in accordance with CSA C22.1 (CE Code). The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits. These cables can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277) and are produced to meet the requirements of the European (EC) and North American markets. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	Special XLPE (type XHHW-2)
Conductor distinction	Black numbered + yellow/green
Fillers	Central or side fillers, if any
Shield on pairs	Aluminum/polyester foil, coverage 100% + Tinned copper braid + Drain wire
Shield	Aluminum/polyester foil, coverage 100% + Tinned copper braid + Drain wire
Jacket	PVC compound, oil-resistant, black color. Metric marking.
Temperature range	+90°C (dry and wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (WTTC), 600/1000 V (IEC)
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER, MTW, WTTC, Dir Bur, Sun Res Oil Res I, c(UL) Type CIC/TC-ER, Dir Bur, Sun Res, Oil Res I, Type RW90 (≥14 AWG); NFPA 79; Class 1, Div. 2 NEC Art. 336, 392, 501, CSA C22.1 Tab.19; UL 1063, UL 1277, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT4/IEEE UL 1685 | UV res.: UNI EN ISO 4892-2 (black) | Oil res.: Oil Res I UL 1277; Water res.: 90°C UL 1277; Other: Direct Burial UL 1277, Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286

Marking

TEKIMA 0365S – CE VFD ((4G16)+2X(2X1,5)) mm² 600/1000 V - (UL) E361258 TC-ER ((4X6)+2X(2X16)) AWG DIR BUR SUN RES OIL RES I 600V XHHW-2 90°C Dry / 90°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I 600V 90°C Dry / 90°C Wet FT4 or RW90 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x size [AWG/kcmil]	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0201_0365S_NE	(4x16+2x(2x18))	(4G1,5+2x(2x1))	16,5 (0,651)	382 (257)
CVFM0202_0365S_NE	(4x16+2x(2x16))	(4G1,5+2x(2x1,5))	17,4 (0,687)	423 (284)
CVFM0203_0365S_NE	(4x14+2x(2x18))	(4G2,5+2x(2x1))	17,1 (0,675)	429 (288)
CVFM0204_0365S_NE	(4x14+2x(2x16))	(4G2,5+2x(2x1,5))	17,7 (0,699)	455 (305)
CVFM0205_0365S_NE	(4x12+2x(2x18))	(4G4+2x(2x1))	18,4 (0,726)	535 (360)
CVFM0223_0365S_NE	(4x12+1x(1x18)+1x(1x16))	(4G4+1x(2x1)+1x(2x1,5))	18,8 (0,742)	526 (354)
CVFM0206_0365S_NE	(4x12+2x(2x16))	(4G4+2x(2x1,5))	19,1 (0,754)	539 (362)
CVFM0207_0365S_NE	(4x12+2x(2x14))	(4G4+2x(2x2,5))	19,8 (0,781)	615 (413)
CVFM0208_0365S_NE	(4x10+2x(2x18))	(4G6+2x(2x1))	19,5 (0,770)	628 (422)
CVFM0224_0365S_NE	(4x10+1x(1x18)+1x(1x16))	(4G6+1x(2x1)+1x(2x1,5))	19,9 (0,785)	616 (414)

Code	Num. conductors x size [AWG/kcmil]	Num. conductors x size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0209_0365S_NE	(4x10+2x(2x16))	(4G6+2x(2x1,5))	20,2 (0,797)	624 (419)
CVFM0210_0365S_NE	(4x10+2x(2x14))	(4G6+2x(2x2,5))	22,0 (0,865)	766 (515)
CVFM0211_0365S_NE	(4x8+2x(2x18))	(4G10+2x(2x1))	24,2 (0,951)	887 (596)
CVFM0225_0365S_NE	(4x8+1x(1x18)+1x(1x16))	(4G10+1x(2x1)+1x(2x1,5))	24,4 (0,959)	899 (604)
CVFM0212_0365S_NE	(4x8+2x(2x16))	(4G10+2x(2x1,5))	24,9 (0,979)	892 (600)
CVFM0213_0365S_NE	(4x8+2x(2x14))	(4G10+2x(2x2,5))	25,5 (1,003)	976 (656)
CVFM0214_0365S_NE	(4x6+2x(2x18))	(4G16+2x(2x1))	26,1 (1,026)	1142 (767)
CVFM0215_0365S_NE	(4x6+2x(2x16))	(4G16+2x(2x1,5))	26,8 (1,054)	1174 (789)
CVFM0216_0365S_NE	(4x6+2x(2x14))	(4G16+2x(2x2,5))	26,5 (1,042)	1226 (824)
CVFM0226_0365S_NE	(4x4+2x(2x18))	(4G25+2x(2x1))	29,1 (1.146)	1550 (1042)
CVFM0217_0365S_NE	(4x4+2x(2x16))	(4G25+2x(2x1,5))	29,8 (1,172)	1565 (1052)
CVFM0218_0365S_NE	(4x4+2x(2x14))	(4G25+2x(2x2,5))	30,6 (1,203)	1641 (1103)
CVFM0219_0365S_NE	(4x2+2x(2x16))	(4G35+2x(2x1,5))	32,2 (1,266)	1972 (1325)
CVFM0220_0365S_NE	(4x2+2x(2x14))	(4G35+2x(2x2,5))	33,0 (1,298)	2048 (1376)
CVFM0221_0365S_NE	(4x1+2x(2x16))	(4G50+2x(2x1,5))	36,8 (1,447)	2683 (1803)

Code composition

CVFM □□□□ **_0365S_** □□

Color	To be inserted
Black	NE

Construction

Identifier code of the special cable construction.

SERIES 370S

Intrinsically safe cables

Fixed application, shielded



Use

These are control cables with a blue outer sheath and a blue conductors' insulation for easy identification. They are designed for fixed installations but also for occasional non-cyclical mobile uses in intrinsically safe circuits. They are used in hazardous areas for instinsically safe circuits and they meet the requirements of EN 60079-14. The jacket, made of PVC compound, grants a good flexibility and a very good resistance to abrasion.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Copper strand
Insulation	TKblend®-R
Conductor distinction	Blue RAL 5015, numbered
Shield	Copper braid, nom. coverage 75%
Jacket	PVC compound, blue RAL 5015
Temperature range	-5°C, +80°C (not fixed); -25°C, +80°C (fixed)
Voltage rating	300 V (UL), 300/500V (IEC)
Test voltage	4000 V (cond. / cond.) 2000 V (cond. / shield)
Linear inductance	<0,7 mH/km
Typical capacity	0,11 µF/km @ 20°C
Max capacity	0,19 µF/km @ 20°C
Bending radius	8 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1-2, CSA FT1 | Other: UL 758, CSA AWM I/II A/B, cURus AWM Style 2655 or 2464
Standards of use	ANSI/NFPA 79, UL 508a, Style 2655 or 2464

Marking

TEKIMA 0370S – CE (2x2x0,75) mm² 80°C 300 V – (UR) AWM Style 2655 (2x2x19) AWG 80°C 300 V E314444 – Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFS0001_0370S_BL	(1x2x19)	(1x2x0,75)	7,2 (0.283)	69 (46)
CVFS0002_0370S_BL	(2x2x19)	(2x2x0,75)	11,2 (0.441)	166 (112)
CVFS0003_0370S_BL	(4x2x19)	(4x2x0,75)	13,0 (0.512)	222 (149)
CVFS0004_0370S_BL	(25x24)	(25x0,25)	10,6 (0.417)	172 (116)
CVFS0005_0370S_BL	(3x19)	(3x0,75)	7,7 (0.303)	87 (58)

SERIES 380

High temperature multi-norm silicone cables

Fixed application, unshielded



Use

They are cables designed for fixed applications or for occasional and non-cyclic mobile use. They are used for equipments meant for the European (EC), North American and Canadian markets where the temperatures can reach up 180°C. Thanks to their flexibility they are easy to install in narrow spaces and the good flame resistance makes them suitable for the installation in any industrial environment. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	Silicone compound
Conductor distinction	Colored* according to HD 308 S2 and black numbered + yellow/green (beginning from 6 conductors)
Fillers	Central or side fillers, if any
Jacket	Silicone compound, black or orange (on request) color. Metric marking.
Temperature range	-60°C; +150°C (UL/CSA); +180°C (IEC)
Voltage rating	600 V (UL/CSA); 450/750 V (IEC)
Test voltage	2000 V
Bending radius	5 x cable outer diameter (fixed) 10 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, UL/CSA FT1 | Other: CEI EN 60228, VDE 0295, UL 1581, UL 758, CSA AWM II A/B, cURus AWM Style 4476, 2014/35/EC (Low Voltage Directive)
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 4476

* 2 cond.: blue, brown; 3 cond.: yellow/green, blue, brown; 4 cond.: yellow/green, brown, black, gray; 5 cond.: yellow/green, blue, brown, black gray

Marking

TEKIMA 03800 – CE 4G1,5 mm² 180°C 450/750 V – c(UR)us AWM Style 4476 E314444 4x16 AWG 150°C 600 V AWM II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X050_03800_□□ (1)	2	20	0,5	7,4 (0.291)	71 (48)
CV02X100_03800_□□	2	18	1	8,2 (0.323)	92 (62)
CV02X150_03800_□□	2	16	1,5	8,8 (0.346)	110 (74)
CV02X250_03800_□□	2	14	2,5	9,6 (0.378)	143 (96)
CV03G050_03800_□□ (1)	3	20	0,5	7,8 (0.307)	83 (56)
CV03G100_03800_□□	3	18	1	8,6 (0.339)	107 (72)
CV03G150_03800_□□	3	16	1,5	9,3 (0.366)	131 (88)
CV03G250_03800_□□	3	14	2,5	10,2 (0.402)	174 (117)
CV03G400_03800_□□	3	12	4	11,5 (0.453)	237 (159)
CV03G600_03800_□□	3	10	6	14,9 (0.587)	382 (257)
CV04G050_03800_□□ (1)	4	20	0,5	8,5 (0.335)	100 (67)
CV04G100_03800_□□	4	18	1	9,4 (0.370)	130 (87)
CV04G150_03800_□□	4	16	1,5	10,1 (0.398)	160 (108)
CV04G250_03800_□□	4	14	2,5	11,1 (0.437)	213 (143)
CV02X050_03800_□□ (1)	2	20	0,5	7,4 (0.291)	71 (48)
CV02X100_03800_□□	2	18	1	8,2 (0.323)	92 (62)
CV02X150_03800_□□	2	16	1,5	8,8 (0.346)	110 (74)
CV02X250_03800_□□	2	14	2,5	9,6 (0.378)	143 (96)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03G050_03800_□□ (1)	3	20	0,5	7,8 (0.307)	83 (56)
CV03G100_03800_□□	3	18	1	8,6 (0.339)	107 (72)
CV03G150_03800_□□	3	16	1,5	9,3 (0.366)	131 (88)
CV03G250_03800_□□	3	14	2,5	10,2 (0.402)	174 (117)
CV03G400_03800_□□	3	12	4	11,5 (0.453)	237 (159)
CV03G600_03800_□□	3	10	6	14,9 (0.587)	382 (257)
CV04G050_03800_□□ (1)	4	20	0,5	8,5 (0.335)	100 (67)
CV04G100_03800_□□	4	18	1	9,4 (0.370)	130 (87)
CV04G150_03800_□□	4	16	1,5	10,1 (0.398)	160 (108)
CV04G250_03800_□□	4	14	2,5	11,1 (0.437)	213 (143)
CV04G400_03800_□□	4	12	4	12,6 (0.496)	296 (199)
CV04G600_03800_□□	4	10	6	16,4 (0.646)	478 (321)
CV04GB10_03800_□□	4	8	10	22,0 (0.866)	818 (550)
CV05G050_03800_□□ (1)	5	20	0,5	9,2 (0.362)	118 (79)
CV05G100_03800_□□	5	18	1	10,6 (0.417)	157 (105)
CV05G150_03800_□□	5	16	1,5	11,1 (0.437)	194 (130)
CV05G250_03800_□□	5	14	2,5	12,2 (0.480)	245 (165)
CV05G400_03800_□□	5	12	4	14,2 (0.559)	373 (251)
CV05G600_03800_□□	5	10	6	18,0 (0.709)	583 (392)
CV07G050_03800_□□ (1)	7	20	0,5	9,9 (0.390)	140 (94)
CV07G100_03800_□□	7	18	1	11,1 (0.437)	185 (124)
CV07G150_03800_□□	7	16	1,5	12,0 (0.472)	230 (155)
CV12G100_03800_□□	12	18	1	14,9 (0.587)	339 (228)
CV12G150_03800_□□	12	16	1,5	16,1 (0.634)	424 (285)
CV18G150_03800_□□	18	16	1,5	18,8 (0.740)	594 (399)
CV25G150_03800_□□	25	16	1,5	22,9 (0.902)	865 (581)

(1) The conductors are stranded in AWG, the effective section is 0.518 mm²

Code composition

CV | □□□ | □□□ | _03800_ | □□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
0,34 mm², ..., 6,00 mm²	034, ..., 600
10 mm²	B10

Color	To be inserted
Black	NE
Orange	AR

SERIES 380S

High temperature multi-norm silicone cables

Fixed application, shielded



Use

These are machine tool wire cables planned also for occasional non-cyclical mobile uses. They are normally used for equipments meant for the European (EC), North American and Canadian markets. Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties The good flame resistance makes them suitable for the installation in any industrial environment. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	Silicone compound
Conductor distinction	Colored* according to HD 308 S2 and black numbe-red + yellow/green (beginning from 6 conductors)
Fillers	Central or side fillers, if any
Shield	Tinned copper braid, nom. coverage 85%
Jacket	Silicone compound, black or orange (on request) color. Metric marking.
Temperature range	-60°C; +150°C (UL/CSA); +180°C (IEC)
Voltage rating	600 V (UL/CSA); 450/750 V (IEC)
Test voltage	2000 V
Bending radius	5 x cable outer diameter (fixed) 12 x cable outer diameter (not fixed)
Standards of construction	Flame res.: IEC 60332-1-2, UL/CSA FT1 | Other: CEI EN 60228, VDE 0295, UL 1581, UL 758, CSA AWM II A/B, cURus AWM Style 4476, 2014/35/EC (Low Voltage Directive)
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 4476

* 2 cond.: blue, brown; 3 cond.: yellow/green, blue, brown; 4 cond.: yellow/green, brown, black, gray; 5 cond.: yellow/green, blue, brown, black gray

Marking

TEKIMA 0380S – CE 4G1,5 mm² 180°C 450/750 V – c(UR)us AWM Style 4476 E314444 4x16 AWG 150°C 600 V AWM II A/B FT1 – (prod.reference) = (metric) =

Codifiche e dimensioni - Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_0380S_□□	2	18	1	9,0 (0.354)	110 (74)
CV02X150_0380S_□□	2	16	1,5	9,6 (0.378)	125 (84)
CV03G050_0380S_□□ (1)	3	20	0,5	8,6 (0.339)	100 (67)
CV03G100_0380S_□□	3	18	1	9,5 (0.374)	130 (87)
CV03G150_0380S_□□	3	16	1,5	10,1 (0.398)	150 (101)
CV03G250_0380S_□□	3	14	2,5	11,0 (0.433)	195 (131)
CV02X100_0380S_□□	2	18	1	9,0 (0.354)	110 (74)
CV02X150_0380S_□□	2	16	1,5	9,6 (0.378)	125 (84)
CV03G050_0380S_□□ (1)	3	20	0,5	8,6 (0.339)	100 (67)
CV03G100_0380S_□□	3	18	1	9,5 (0.374)	130 (87)
CV03G150_0380S_□□	3	16	1,5	10,1 (0.398)	150 (101)
CV03G250_0380S_□□	3	14	2,5	11,0 (0.433)	195 (131)
CV03G400_0380S_□□	3	12	4	12,3 (0.484)	255 (171)
CV04G050_0380S_□□ (1)	4	20	0,5	9,3 (0.366)	125 (84)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G100_0380S_□□	4	18	1	10,2 (0.402)	150 (101)
CV04G150_0380S_□□	4	16	1,5	10,9 (0.429)	185 (124)
CV04G250_0380S_□□	4	14	2,5	11,9 (0.469)	230 (155)
CV04G400_0380S_□□	4	12	4	13,4 (0.528)	320 (215)
CV04G600_0380S_□□	4	10	6	17,2 (0.677)	490 (329)
CV04GB10_0380S_□□	4	8	10	22,8 (0.898)	785 (527)
CV05G050_0380S_□□ (1)	5	20	0,5	10,0 (0.394)	140 (94)
CV05G100_0380S_□□	5	18	1	11,0 (0.433)	180 (121)
CV05G150_0380S_□□	5	16	1,5	11,8 (0.465)	210 (141)
CV05G250_0380S_□□	5	14	2,5	12,9 (0.508)	275 (185)
CV05G400_0380S_□□	5	12	4	14,9 (0.587)	385 (259)
CV05G600_0380S_□□	5	10	6	18,7 (0.736)	570 (383)
CV07G100_0380S_□□	7	18	1	11,9 (0.469)	215 (144)
CV07G150_0380S_□□	7	16	1,5	12,8 (0.504)	265 (178)
CV12G150_0380S_□□	12	16	1,5	16,9 (0.665)	435 (292)
CV18G150_0380S_□□	18	16	1,5	19,6 (0.772)	595 (400)
CV25G150_0380S_□□	25	16	1,5	24,1 (0.949)	820 (551)

(1) The conductors are stranded in AWG, the effective section is 0.518 mm²

Code composition

CV | □□□ | □□□ | _0380S_ | □□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
0,34 mm², ..., 6,00 mm²	034, ..., 600
10 mm²	B10

Color	To be inserted
Black	NE
Orange	AR

SERIES 8110

Power and Control Tray Cable, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res, Hazardous Locations

Fixed application, unshielded



Use

Unshielded UL Listed cables built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 "National Electrical Code" (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. They can be used for fixed and occasional and non-cyclical mobile use also in drag-chains up to 5 meters and for sizes from 0.5 mm² to 2.5 mm² with a maximum of 6 conductors without tensile stress. The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables Type MC (Metal Clad Cable); this type of connection is called Open Wiring. The TC-ER / MTW type cables must comply with the impact resistance requirements required for MC type cables, they are oil resistant, sun resistant and can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277). These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications where they are able to withstand the torsional stresses due to the loop between the nacelle and the tower.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-R
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or black color. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Bending radius	4 x cable outer diameter (15 x cable outer diameter for non-cyclical mobile uses)
Torsion movements	±150° / 1 m
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, Oil Res II, cURus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 81100 – CE 4G2,5 mm² (UL) E361258 TC-ER-HL 4x14 AWG DIR BUR SUN RES OIL RES I OIL RES II 600V THHW 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC FT4 or AWM I/II A/B 90°C 1000V FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_81100_□□**	2	18	1	7,9 (0.311)	87 (59)
CV02X150_81100_□□**	2	16	1,5	8,6 (0.338)	107 (72)
CV02X250_81100_□□**	2	14	2,5	9,4 (0.370)	139 (93)
CV03G100_81100_□□	3	18	1	8,3 (0.326)	101 (68)
CV03G150_81100_□□	3	16	1,5	9,1 (0.357)	128 (86)
CV03G250_81100_□□	3	14	2,5	9,9 (0.390)	168 (113)
CV03G400_81100_□□	3	12	4	11,3 (0.445)	234 (157)
CV03G600_81100_□□	3	10	6	12,5 (0.492)	309 (208)
CV03GB10_81100_□□	3	8	10	17,0 (0.667)	547 (368)
CV03GB16_81100_□□	3	6	16	20,7 (0.813)	838 (563)
CV03GB25_81100_□□	3	4	25	24,9 (0.980)	1253 (842)
CV03GB35_81100_□□	3	2	35	27,3 (1.075)	1594 (1071)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03GB50_81100_□□	3	1	50	36,6 (1.441)	2547 (1711)
CV03GL15_81100_□□	3	250	150	49,6 (1.953)	5341 (3589)
CV03GL18_81100_□□	3	350	185	53,4 (2.102)	6367 (4278)
CV04G100_81100_□□	4	18	1	9,1 (0.357)	124 (84)
CV04G150_81100_□□	4	16	1,5	9,9 (0.389)	156 (105)
CV04G250_81100_□□	4	14	2,5	10,8 (0.425)	207 (139)
CV04G400_81100_□□	4	12	4	12,4 (0.488)	293 (197)
CV04G600_81100_□□	4	10	6	14,5 (0.569)	413 (278)
CV04GB10_81100_□□	4	8	10	18,6 (0.730)	683 (459)
CV04GB16_81100_□□	4	6	16	23,8 (0.937)	1115 (749)
CV04GB25_81100_□□	4	4	25	27,3 (1.075)	1575 (1059)
CV04GW03_81100_□□	4	3	26,7	28,7 (1.130)	1772 (1191)
CV04GB35_81100_□□	4	2	35	30,2 (1.189)	2048 (1376)
CV04GB50_81100_□□	4	1	50	36,7 (1.445)	2976 (2000)
CV04GW/1_81100_□□	4	1/0	53,5	38,2 (1.504)	3298 (2216)
CV04GB70_81100_□□	4	2/0	70	41,7 (1.642)	3971 (2668)
CV04GB95_81100_□□	4	3/0	95	46,7 (1.839)	5198 (3493)
CV04GL12_81100_□□	4	4/0	120	49,3 (1.941)	6169 (4145)
CV04GL15_81100_□□	4	250	150	54,9 (2.161)	7700 (5174)
CV04GX30_81100_□□	4	300	152	54,9 (2.161)	8087 (5434)
CV04GL18_81100_□□	4	350	185	59,2 (2.331)	9190 (6176)
CV04GL24_81100_□□	4	450	240	65,9 (2.594)	11735 (7885)
CV04GX50_81100_□□	4	500	254	71,9 (2.831)	13609 (9145)
CV05G100_81100_□□	5	18	1	9,9 (0.389)	149 (100)
CV05G150_81100_□□	5	16	1,5	10,8 (0.424)	188 (126)
CV05G250_81100_□□	5	14	2,5	11,9 (0.469)	254 (171)
CV05G400_81100_□□	5	12	4	14,4 (0.565)	382 (257)
CV05G600_81100_□□	5	10	6	15,9 (0.624)	505 (339)
CV05GB10_81100_□□	5	8	10	20,6 (0.809)	845 (568)
CV05GB16_81100_□□	5	6	16	26,3 (1.035)	1374 (923)
CV05GB25_81100_□□	5	4	25	30,3 (1.193)	1953 (1313)
CV05GB35_81100_□□	5	2	35	33,5 (1.319)	2539 (1706)
CV05GB50_81100_□□	5	1	50	40,8 (1.606)	3697 (2484)
CV05GB70_81100_□□	5	2/0	70	47,9 (1.886)	5106 (3431)
CV05GB95_81100_□□	5	3/0	95	51,9 (2.043)	6460 (4341)
CV05GL12_81100_□□	5	4/0	120	54,9 (2.161)	7683 (5163)
CV05GL18_81100_□□	5	350	185	65,8 (2.591)	11427 (7679)
CV06G100_81100_□□	6	18	1	10,8 (0.425)	178 (120)
CV07G100_81100_□□	7	18	1	10,8 (0.425)	185 (124)
CV07G150_81100_□□	7	16	1,5	11,8 (0.464)	235 (158)
CV07G250_81100_□□	7	14	2,5	13,0 (0.512)	321 (216)
CV07G400_81100_□□	7	12	4	15,7 (0.616)	484 (325)
CV07G600_81100_□□	7	10	6	17,4 (0.685)	647 (435)
CV07GB10_81100_□□	7	8	10	23,6 (0.929)	1143 (768)
CV07GB16_81100_□□	7	6	16	28,6 (1.126)	1744 (1172)
CV08G100_81100_□□	8	18	1	12,7 (0.500)	244 (164)
CV08G150_81100_□□	8	16	1,5	14,5 (0.571)	331 (222)
CV08G250_81100_□□	8	14	2,5	16,0 (0.628)	439 (295)
CV09G100_81100_□□	9	18	1	13,9 (0.547)	291 (195)
CV09G150_81100_□□	9	16	1,5	15,0 (0.591)	357 (240)
CV09G250_81100_□□	9	14	2,5	16,5 (0.650)	477 (321)
CV09G600_81100_□□	9	10	6	22,2 (0.874)	948 (637)
CV10G100_81100_□□	10	18	1	14,1 (0.555)	304 (205)
CV11G150_81100_□□	11	16	1,5	15,4 (0.606)	392 (263)
CV12G100_81100_□□	12	18	1	14,6 (0.576)	334 (225)
CV12G150_81100_□□	12	16	1,5	16,0 (0.631)	426 (286)
CV12G250_81100_□□	12	14	2,5	17,7 (0.695)	577 (388)
CV12G400_81100_□□	12	12	4	20,1 (0.791)	806 (542)
CV12G600_81100_□□	12	10	6	23,4 (0.921)	1136 (763)
CV16G100_81100_□□	16	18	1	16,0 (0.630)	413 (278)
CV16G150_81100_□□	16	16	1,5	17,4 (0.685)	522 (351)
CV16G250_81100_□□	16	14	2,5	19,2 (0.756)	710 (477)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV18G100_81100_□□	18	18	1	17,0 (0.671)	465 (313)
CV18G150_81100_□□	18	16	1,5	18,7 (0.738)	598 (402)
CV18G250_81100_□□	18	14	2,5	20,8 (0.817)	822 (552)
CV18G400_81100_□□	18	12	4	24,7 (0.972)	1209 (812)
CV18G600_81100_□□	18	10	6	27,4 (1.079)	1621 (1089)
CV19G100_81100_□□	19	18	1	17,0 (0.669)	472 (317)
CV19G150_81100_□□	19	16	1,5	18,5 (0.728)	598 (402)
CV19G250_81100_□□	19	14	2,5	20,4 (0.803)	818 (550)
CV25G100_81100_□□	25	18	1	19,4 (0.765)	616 (414)
CV25G150_81100_□□	25	16	1,5	22,6 (0.888)	855 (575)
CV25G250_81100_□□	25	14	2,5	24,9 (0.980)	1167 (784)
CV25G400_81100_□□	25	12	4	28,3 (1.114)	1625 (1092)
CV25G600_81100_□□	25	10	6	31,5 (1.240)	2193 (1474)
CV33G100_81100_□□	33	18	1	23,2 (0.913)	858 (577)
CV33G150_81100_□□	33	16	1,5	25,2 (0.992)	1084 (728)
CV34G100_81100_□□	34	18	1	23,8 (0.937)	898 (603)
CV34G150_81100_□□	34	16	1,5	25,8 (1.016)	1130 (759)
CV41G100_81100_□□	41	18	1	25,5 (1.004)	1044 (702)
CV41G150_81100_□□	41	16	1,5	27,7 (1.091)	1321 (888)
CV42G100_81100_□□	42	18	1	25,5 (1.004)	1051 (706)
CV42G150_81100_□□	42	16	1,5	27,7 (1.091)	1331 (894)
CV49G150_81100_□□	49	16	1,5	30,0 (1.181)	1559 (1048)
CV61G100_81100_□□	61	18	1	29,3 (1.154)	1426 (958)
CV61G150_81100_□□	61	16	1,5	32,0 (1.260)	1828 (1228)
CV65G100_81100_□□	65	18	1	31,1 (1.224)	1581 (1062)

** According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).

Code composition

CV | □□□ | □□□ | _81100_ | □□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
1,00 mm², ..., 6,00 mm²	100, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95
120 mm², ..., 185 mm²	L12, ..., L18
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 550 kcmil	X25, X30, ..., X55

Color	To be inserted
Gray	GR
Black	NE

SERIES 8110S

Power and Control Tray Cable, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res, Hazardous Locations

Fixed application, shielded



Use

Shielded UL Listed cables built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 "National Electrical Code" (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables MC type (Metal Clad Cable); this type of connection is called Open Wiring. The TC-ER / MTW type cables must comply with the impact resistance requirements required for MC type cables, they are oil resistant, sun resistant and can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277). These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) ffor wind turbine applications where they are able to withstand the torsional stresses due to the loop between the nacelle and the tower.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-R
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Shield	Gray version: Tinned copper braid, nom. coverage 85% Black version: Aluminum/polyester + Tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or black color. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Bending radius	6 x cable outer diameter (20 x cable outer diameter for non-cyclical mobile uses)
Torsion movements	±150° / 1 m
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, Oil Res II, cURus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 8110S – CE 4G2,5 mm² (UL) E361258 TC-ER-HL 4x14 AWG DIR BUR SUN RES OIL RES I OIL RES II 600V THHW 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC SHIELDED FT4 or AWM I/II A/B 90°C 1000V FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_8110S_□□**	2	18	1	8,5 (0.335)	100 (67)
CV02X150_8110S_□□**	2	16	1,5	9,2 (0.362)	122 (82)
CV02X250_8110S_□□**	2	14	2,5	10,0 (0.394)	156 (105)
CV03G100_8110S_□□	3	18	1	8,9 (0.350)	120 (81)
CV03G150_8110S_□□	3	16	1,5	9,7 (0.382)	144 (97)
CV03X150_8110S_□□	3	16	1,5	9,7 (0.382)	144 (97)
CV03G250_8110S_□□	3	14	2,5	10,5 (0.413)	188 (127)
CV03G400_8110S_□□	3	12	4	11,9 (0.469)	256 (172)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03G600_8110S_□□	3	10	6	13,9 (0.545)	354 (238)
CV03GB25_8110S_□□	3	4	25	25,6 (1.008)	1185 (796)
CV03GB50_8110S_□□	3	1	50	34,1 (1.343)	2190 (1472)
CV03GX30_8110S_□□	3	300	152	52,7 (2.075)	5813 (3906)
CV04G100_8110S_□□	4	18	1	9,7 (0.382)	143 (96)
CV04G150_8110S_□□	4	16	1,5	10,5 (0.413)	182 (122)
CV04G250_8110S_□□	4	14	2,5	11,4 (0.449)	240 (161)
CV04G400_8110S_□□	4	12	4	13,0 (0.512)	330 (222)
CV04G600_8110S_□□	4	10	6	15,3 (0.600)	475 (319)
CV04GB10_8110S_□□	4	8	10	19,4 (0.762)	766 (515)
CV04GB16_8110S_□□	4	6	16	24,6 (0.969)	1201 (807)
CV04GB25_8110S_□□	4	4	25	28,1 (1.106)	1694 (1138)
CV04GW03_8110S_□□	4	3	26,7	31,1 (1.224)	1904 (1279)
CV04GB35_8110S_□□	4	2	35	31,0 (1.220)	2202 (1480)
CV04GB50_8110S_□□	4	1	50	37,7 (1.484)	3204 (2153)
CV04GW/1_8110S_□□	4	1/0	53,5	39,2 (1.543)	3149 (2116)
CV04GB70_8110S_□□	4	2/0	70	44,2 (1.740)	4397 (2955)
CV04GB95_8110S_□□	4	3/0	95	47,7 (1.878)	5566 (3740)
CV04GL12_8110S_□□	4	4/0	120	50,3 (1.980)	6652 (4470)
CV04GL15_8110S_□□	4	250	150	55,9 (2.201)	7564 (5083)
CV04GX30_8110S_□□	4	300	152	58,1 (2.287)	7837 (5266)
CV04GL18_8110S_□□	4	350	185	60,0 (2.362)	8953 (6016)
CV04GX50_8110S_□□	4	500	254	73,1 (2.878)	12413 (8341)
CV05G100_8110S_□□	5	18	1	10,5 (0.413)	172 (116)
CV05G150_8110S_□□	5	16	1,5	11,4 (0.449)	216 (145)
CV05G250_8110S_□□	5	14	2,5	12,5 (0.492)	286 (192)
CV05G400_8110S_□□	5	12	4	15,2 (0.596)	434 (291)
CV05G600_8110S_□□	5	10	6	16,7 (0.656)	569 (382)
CV05GB10_8110S_□□	5	8	10	22,4 (0.882)	957 (643)
CV05GB16_8110S_□□	5	6	16	27,1 (1.067)	1445 (971)
CV05GB25_8110S_□□	5	4	25	31,1 (1.224)	2059 (1383)
CV07G100_8110S_□□	7	18	1	11,4 (0.449)	210 (141)
CV07G150_8110S_□□	7	16	1,5	12,4 (0.488)	267 (179)
CV07G250_8110S_□□	7	14	2,5	14,6 (0.573)	386 (259)
CV07G400_8110S_□□	7	12	4	16,5 (0.648)	545 (366)
CV08G100_8110S_□□	8	18	1	13,9 (0.545)	276 (185)
CV08G150_8110S_□□	8	16	1,5	15,4 (0.604)	370 (249)
CV09G100_8110S_□□	9	18	1	14,7 (0.579)	303 (204)
CV09G150_8110S_□□	9	16	1,5	15,0 (0.591)	357 (240)
CV09G250_8110S_□□	9	14	2,5	17,3 (0.681)	476 (320)
CV09G600_8110S_□□	9	10	6	23,0 (0.906)	983 (661)
CV12G100_8110S_□□	12	18	1	15,5 (0.608)	348 (234)
CV12G150_8110S_□□	12	16	1,5	16,9 (0.663)	447 (300)
CV12G250_8110S_□□	12	14	2,5	18,5 (0.726)	605 (407)
CV12G400_8110S_□□	12	12	4	22,0 (0.866)	858 (577)
CV12G600_8110S_□□	12	10	6	24,2 (0.953)	1134 (762)
CV18G100_8110S_□□	18	18	1	17,9 (0.703)	483 (325)
CV18G150_8110S_□□	18	16	1,5	19,6 (0.770)	626 (421)
CV18G250_8110S_□□	18	14	2,5	22,6 (0.890)	847 (569)
CV18G400_8110S_□□	18	12	4	25,5 (1.004)	1201 (807)
CV18G600_8110S_□□	18	10	6	28,2 (1.110)	1592 (1070)
CV25G100_8110S_□□	25	18	1	20,3 (0.797)	606 (407)
CV25G150_8110S_□□	25	16	1,5	23,4 (0.921)	767 (515)
CV25G250_8110S_□□	25	14	2,5	25,4 (1.000)	1132 (761)
CV25G400_8110S_□□	25	12	4	29,1 (1.146)	1597 (1073)
CV25G600_8110S_□□	25	10	6	32,5 (1.280)	2175 (1462)
CV33G150_8110S_□□	33	16	1,5	26,0 (1.024)	1185 (796)
CV34G100_8110S_□□	34	18	1	24,6 (0.969)	883 (593)
CV34G150_8110S_□□	34	16	1,5	26,6 (1.047)	1100 (739)
CV41G100_8110S_□□	41	18	1	26,3 (1.035)	1024 (688)
CV41G150_8110S_□□	41	16	1,5	28,5 (1.122)	1276 (857)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV50G100_8110S_□□	50	18	1	28,4 (1.118)	1196 (804)
CV50G150_8110S_□□	50	16	1,5	31,0 (1.220)	1545 (1038)
CV61G100_8110S_□□	61	18	1	30,1 (1.185)	1404 (943)
CV61G150_8110S_□□	61	16	1,5	33,0 (1.299)	1826 (1227)

** According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).

Code composition

CV □□□ □□□ _8110S_ □□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
1,00 mm², ..., 6,00 mm²	100, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95
120 mm², ..., 185 mm²	L12, ..., L18
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 550 kcmil	X25, X30, ..., X55

Color	To be inserted
Gray	GR
Black	NE

SERIES 8110

Power and Control Tray Cable, TC-ER-HL/CIC/MTW/WTTC/AWM

Direct Burial, Sun Res, Hazardous Locations

Fixed application, unshielded, reduced size ground conductor



Use

Unshielded UL Listed cables with reduced size ground conductor built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 "National Electrical Code" (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. They can be used for fixed and occasional and non-cyclical mobile use also in drag-chains up to 5 meters and for sizes from 0.5 mm2 to 2.5 mm2 with a maximum of 6 conductors without tensile stress. The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables Type MC (Metal Clad Cable); this type of connection is called Open Wiring. The TC-ER / MTW type cables must comply with the impact resistance requirements required for MC type cables, they are oil resistant, sun resistant and can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277). These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications where they are able to withstand the torsional stresses due to the loop between the nacelle and the tower.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-R
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or, on request, black color. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Bending radius	4 x cable outer diameter (15 x cable outer diameter for non-cyclical mobile uses)
Torsion movements	±150° / 1 m
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL* (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, Oil Res II, cURus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 81100 – CE 3X10+1G6 mm² (UL) E361258 TC-ER-HL 4X8+1X10 AWG DIR BUR SUN RES OIL RES I OIL RES II 600V THHW 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC FT4 or AWM I/II A/B 90°C 1000V FT1 8 AWG – (prod.reference) = (metric) =

Codifiche e dimensioni - Coding and dimensions

Code	Num. of power conductors	Size		Num. of ground conductors	Ground conductor size		Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
		[AWG/kcmil]	[mm²]		[AWG/kcmil]	[mm²]		
CVFM0001_81100_□□	3	8 AWG	10	1	10 AWG	6	17,8 (0.701)	589 (396)
CVFM0002_81100_□□	4	8	10	1	10	6	19,7 (0.776)	727 (489)
CVFM0003_81100_□□	3	6	16	1	8	10	23,2 (0.913)	974 (654)
CVFM0004_81100_□□	4	6	16	1	8	10	25,6 (1.008)	1208 (812)
CVFM0005_81100_□□	3	4	25	1	8	10	26,0 (1.024)	1303 (876)
CVFM0006_81100_□□	4	4	25	1	8	10	28,9 (1.138)	1622 (1090)
CVFM0007_81100_□□	2	2	35	1	6	16	26,2 (1.031)	1307 (878)
CVFM0008_81100_□□	3	2	35	1	6	16	29,1 (1.146)	1715 (1152)
CVFM0009_81100_□□	4	2	35	1	6	16	32,4 (1.276)	2164 (1454)

Code	Num. of power conductors	Size		Num. of ground conductors	Ground conductor size		Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
		[AWG/kcmil]	[mm²]		[AWG/kcmil]	[mm²]		
CVFM0010_81100_□□	3	1	50	1	6	16	34,3 (1.350)	2352 (1580)
CVFM0011_81100_□□	3	1/0	53,5	1	6	16	35,6 (1.402)	2598 (1746)
CVFM0012_81100_□□	4	1/0	53,5	1	6	16	39,8 (1.567)	3308 (2223)
CVFM0013_81100_□□	3	2/0	70	1	6	16	37,1 (1.461)	2948 (1981)
CVFM0014_81100_□□	4	2/0	70	1	6	16	41,6 (1.638)	3757 (2525)
CVFM0015_81100_□□	3	3/0	95	1	4	25	40,9 (1.610)	3869 (2600)
CVFM0016_81100_□□	4	3/0	95	1	4	25	47,4 (1.866)	5120 (3440)
CVFM0017_81100_□□	3	4/0	120	1	4	25	45,2 (1.780)	4699 (3158)
CVFM0018_81100_□□	4	4/0	120	1	4	25	51,0 (2.008)	6148 (4131)
CVFM0019_81100_□□	3	250 kcmil	150	1	4	25	50,3 (1.980)	5811 (3905)
CVFM0020_81100_□□	4	250	150	1	4	25	56,3 (2.217)	7556 (5077)
CVFM0021_81100_□□	3	350	185	1	3	26,7	53,9 (2.122)	6886 (4627)
CVFM0022_81100_□□	4	350	185	1	3	26,7	60,6 (2.386)	8751 (5880)
CVFM0023_81100_□□	3	500	254	1	2	35	64,5 (2.539)	9952 (6687)
CVFM0024_81100_□□	4	500	254	1	2	35	73,0 (2.874)	13210 (8877)

Code composition

CVFM□□□□_81100_□□

Construction
Identifier code of the special cable construction.

Color	To be inserted
Gray	GR
Black	NE

SERIES 8110S

Power and Control Tray Cable, TC-ER-HL/CIC/MTW/WTTC/AWM

Direct Burial, Sun Res, Hazardous Locations

Fixed application, shielded, reduced size ground conductor



Use

Shielded UL Listed cables with reduced size ground conductor built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 "National Electrical Code" (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1.The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables MC type (Metal Clad Cable); this type of connection is called Open Wiring. The TC-ER / MTW type cables must comply with the impact resistance requirements required for MC type cables, they are oil resistant, sun resistant and can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277). These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications where they are able to withstand the torsional stresses due to the loop between the nacelle and the tower.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-R
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Shield	Gray version: Tinned copper braid, nom. coverage 85% Black version: Aluminum/polyester + Tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or, on request, black color. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Bending radius	6 x cable outer diameter (20 x cable outer diameter for non-cyclical mobile uses)
Torsion movements	±150° / 1 m
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL* (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, Oil Res II, cURus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 8110S – CE 3X10+1G6 mm² (UL) E361258 TC-ER-HL 3X8+1X10 AWG DIR BUR SUN RES OIL RES I OIL RES II 600V THHW 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC SHIELDED FT4 or AWM I/II A/B 90°C 1000V FT1 8 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. of power conductors	Size		Num. of ground conductors	Ground conductor size		Diameter	Weight
		[mm²]	[AWG/kcmil]		[mm²]	[AWG/kcmil]	[mm (inch)]	[kg/km (lb/mft)]
CVFM0025_8110S_□□	3	10	8 AWG	1	6	10 AWG	18,6 (0.732)	666 (448)
CVFM0026_8110S_□□	4	10	8	1	6	10	20,5 (0.807)	823 (553)
CVFM0027_8110S_□□	3	16	6	1	10	8	24,0 (0.945)	1069 (718)
CVFM0028_8110S_□□	4	16	6	1	10	8	26,4 (1.039)	1325 (890)
CVFM0029_8110S_□□	3	25	4	1	10	8	26,8 (1.055)	1424 (957)
CVFM0030_8110S_□□	4	25	4	1	10	8	29,7 (1.169)	1763 (1185)

Code	Num. of power conductors	Size		Num. of ground conductors	Ground conductor size		Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
		[mm²]	[AWG/kcmil]		[mm²]	[AWG/kcmil]		
CVFM0031_8110S_□□	2	35	2	1	16	6	27,0 (1.063)	1429 (960)
CVFM0032_8110S_□□	3	35	2	1	16	6	29,9 (1.177)	1815 (1220)
CVFM0033_8110S_□□	4	35	2	1	16	6	33,4 (1.315)	2315 (1556)
CVFM0034_8110S_□□	3	50	1	1	16	6	35,3 (1.390)	2525 (1697)
CVFM0035_8110S_□□	3	53,5	1/0	1	16	6	36,5 (1.437)	2768 (1860)
CVFM0036_8110S_□□	4	53,5	1/0	1	16	6	40,8 (1.606)	3507 (2357)
CVFM0037_8110S_□□	3	70	2/0	1	16	6	38,1 (1.500)	3128 (2102)
CVFM0038_8110S_□□	4	70	2/0	1	16	6	44,0 (1.732)	4150 (2789)
CVFM0039_8110S_□□	3	95	3/0	1	25	4	41,9 (1.650)	4104 (2758)
CVFM0040_8110S_□□	4	95	3/0	1	25	4	48,4 (1.906)	5374 (3611)
CVFM0041_8110S_□□	3	120	4/0	1	25	4	45,2 (1.780)	4874 (3275)
CVFM0042_8110S_□□	4	120	4/0	1	25	4	52,0 (2.047)	6422 (4315)
CVFM0043_8110S_□□	3	150	250 kcmil	1	25	4	51,3 (2.020)	6085 (4089)
CVFM0044_8110S_□□	4	150	250	1	25	4	57,3 (2.256)	7860 (5282)
CVFM0045_8110S_□□	3	185	350	1	26,7	3	54,9 (2.161)	7114 (4780)
CVFM0046_8110S_□□	4	185	350	1	26,7	3	61,6 (2.425)	9087 (6106)
CVFM0047_8110S_□□	3	254	500	1	35	2	65,5 (2.579)	10226 (6872)
CVFM0048_8110S_□□	4	254	500	1	35	2	74,0 (2.913)	13583 (9127)

Code composition

CVFM□□□□_81100S_□□

Construction
Identifier code of the special cable construction.

Color	To be inserted
Gray	GR
Black	NE

SERIES 811x

Power and Control Tray Cable, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res, Hazardous Locations

Fixed application, unshielded for 24V circuits



Use

Unshielded UL Listed cables with blue conductors used for 24 V DC circuits and which, having a voltage rating of 1000 V, can be installed in parallel with other power cables. They are built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 "National Electrical Code" (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. They can be used for fixed and occasional and non-cyclical mobile use also in drag-chains up to 5 meters and for sizes from 0.5 mm² to 2.5 mm² with a maximum of 6 conductors without tensile stress. The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables Type MC (Metal Clad Cable); this type of connection is called Open Wiring. The TC-ER / MTW type cables must comply with the impact resistance requirements required for MC type cables, they are oil resistant, sun resistant and can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277). These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications where they are able to withstand the torsional stresses due to the loop between the nacelle and the tower.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-R
Conductor distinction*	Blue with white numbers + yellow/green (beginning from 3 conductors). When 3 conductors or more the second conductor is blue/white neutral.
Fillers	Central or side fillers, if any
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or black color. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Bending radius	4 x cable outer diameter (15 x cable outer diameter for non-cyclical mobile uses)
Torsion movements	±150° / 1 m
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, Oil Res II, cURus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

* Upon request: Red, yellow or orange conductors with numbers + yellow/green (beginning from 3 conductors). When 3 conductors or more the second conductor is white.

Marking

TEKIMA 811B0 – CE 4G2,5 mm² (UL) E361258 TC-ER-HL 4x14 AWG DIR BUR SUN RES OIL RES I OIL RES II 600V THHW 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC FT4 or AWM I/II A/B 90°C 1000V FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_811□ 0_□□**	2	18	1	7,9 (0.311)	87 (58)
CV02X150_811□ 0_□□**	2	16	1,5	8,5 (0.335)	106 (71)
CV02X250_811□ 0_□□**	2	14	2,5	9,3 (0.366)	137 (92)
CV03G100_811□ 0_□□	3	18	1	8,3 (0.327)	102 (69)
CV03G150_811□ 0_□□	3	16	1,5	9,0 (0.354)	127 (85)
CV03G250_811□ 0_□□	3	14	2,5	9,8 (0.386)	166 (112)
CV03G400_811□ 0_□□	3	12	4	11,2 (0.441)	231 (155)
CV03G600_811□ 0_□□	3	10	6	12,5 (0.492)	310 (208)
CV03GB10_811□ 0_□□	3	8	10	17,0 (0.669)	547 (368)
CV03GB16_811□ 0_□□	3	6	16	20,7 (0.815)	838 (563)
CV03GB35_811□ 0_□□	3	2	35	27,3 (1.075)	1594 (1071)
CV04G100_811□ 0_□□	4	18	1	9,1 (0.358)	125 (84)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G150_811□ 0_□□	4	16	1,5	9,8 (0.386)	155 (104)
CV04G250_811□ 0_□□	4	14	2,5	10,7 (0.421)	205 (138)
CV04G400_811□ 0_□□	4	12	4	12,3 (0.484)	290 (195)
CV04G600_811□ 0_□□	4	10	6	14,4 (0.567)	410 (276)
CV04GB10_811□ 0_□□	4	8	10	18,5 (0.728)	679 (456)
CV04GB16_811□ 0_□□	4	6	16	23,7 (0.933)	1109 (745)
CV04GB25_811□ 0_□□	4	4	25	27,2 (1.071)	1569 (1054)
CV04GB35_811□ 0_□□	4	2	35	30,1 (1.185)	2041 (1371)
CV04GB50_811□ 0_□□	4	1	50	36,6 (1.441)	2967 (1994)
CV04GB70_811□ 0_□□	4	2/0	70	41,7 (1.642)	3971 (2668)
CV04GB95_811□ 0_□□	4	3/0	95	46,7 (1.839)	5198 (3493)
CV04GL12_811□ 0_□□	4	4/0	120	49,3 (1.941)	6169 (4145)
CV04GL15_811□ 0_□□	4	250	150	54,9 (2.161)	7700 (5174)
CV04GL18_811□ 0_□□	4	350	185	59,2 (2.331)	9190 (6175)
CV04GL24_811□ 0_□□	4	450	240	65,9 (2.594)	11735 (7886)
CV04GX50_811□ 0_□□	4	254	500	71,9 (2.831)	13609 (9145)
CV05G100_811□ 0_□□	5	18	1	9,9 (0.390)	150 (101)
CV05G150_811□ 0_□□	5	16	1,5	10,7 (0.421)	187 (126)
CV05G250_811□ 0_□□	5	14	2,5	11,8 (0.465)	251 (169)
CV05G400_811□ 0_□□	5	12	4	14,3 (0.563)	379 (255)
CV05G600_811□ 0_□□	5	10	6	15,8 (0.622)	501 (337)
CV05GB10_811□ 0_□□	5	8	10	20,5 (0.807)	840 (564)
CV05GB16_811□ 0_□□	5	6	16	26,1 (1.028)	1362 (915)
CV05GB25_811□ 0_□□	5	4	25	30,3 (1.193)	1953 (1312)
CV05GB35_811□ 0_□□	5	2	35	33,5 (1.319)	2539 (1706)
CV05GB50_811□ 0_□□	5	1	50	40,8 (1.606)	3697 (2484)
CV05GB70_811□ 0_□□	5	2/0	70	47,9 (1.886)	5106 (3431)
CV05GB95_811□ 0_□□	5	3/0	95	51,9 (2.043)	6460 (4341)
CV05GL12_811□ 0_□□	5	4/0	120	54,9 (2.161)	7683 (5163)
CV07G100_811□ 0_□□	7	18	1	10,8 (0.425)	185 (124)
CV07G150_811□ 0_□□	7	16	1,5	11,7 (0.461)	234 (157)
CV07G250_811□ 0_□□	7	14	2,5	12,8 (0.504)	315 (212)
CV07G400_811□ 0_□□	7	12	4	15,6 (0.614)	480 (323)
CV09G100_811□ 0_□□	9	18	1	13,9 (0.547)	290 (195)
CV09G150_811□ 0_□□	9	16	1,5	n.a.	n.a.
CV12G100_811□ 0_□□	12	18	1	14,7 (0.579)	335 (225)
CV12G150_811□ 0_□□	12	16	1,5	15,9 (0.626)	421 (283)
CV12G250_811□ 0_□□	12	14	2,5	17,5 (0.689)	568 (382)
CV12G400_811□ 0_□□	12	12	4	20,1 (0.791)	806 (541)
CV18G100_811□ 0_□□	18	18	1	17,1 (0.673)	466 (313)
CV18G150_811□ 0_□□	18	16	1,5	18,6 (0.732)	594 (399)
CV18G250_811□ 0_□□	18	14	2,5	20,5 (0.807)	807 (542)
CV25G100_811□ 0_□□	25	18	1	19,5 (0.768)	617 (415)
CV25G150_811□ 0_□□	25	16	1,5	22,3 (0.878)	847 (569)
CV33G150_811□ 0_□□	33	16	1,5	25,2 (0.992)	1084 (728)
CV34G100_811□ 0_□□	34	18	1	23,8 (0,937)	897 (603)

** According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).

Code composition

CV □□□ □□□ _811 □ 0_ □□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
1,00 mm², ..., 6,00 mm²	100, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95
120 mm², ..., 185 mm²	L12, ..., L18
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 550 kcmil	X25, X30, ..., X55

Conductors' color	To be inserted
Blue	B
Red	R
Yellow	Y
Orange	N

Color	To be inserted
Gray	GR
Black	NE

SERIES 811xS

Power and Control Tray Cable, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res, Hazardous Locations

Fixed application, shielded for 24V circuits



Use

Shielded UL Listed cables with blue conductors used for 24 V DC circuits and which, having a voltage rating of 1000 V, can be installed in parallel with other power cables. They are built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 “National Electrical Code” (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables MC type (Metal Clad Cable); this type of connection is called Open Wiring. The TC-ER / MTW type cables must comply with the impact resistance requirements required for MC type cables, they are oil resistant, sun resistant and can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277). These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications where they are able to withstand the torsional stresses due to the loop between the nacelle and the tower.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-R
Conductor distinction*	Blue with white numbers + yellow/green (beginning from 3 conductors). When 3 conductors or more the second conductor is blue/white neutral.
Fillers	Central or side fillers, if any
Shield	Gray version: Tinned copper braid, nom. coverage 85% Black version: Aluminum/polyester + Tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or black color. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Bending radius	6 x cable outer diameter (20 x cable outer diameter for non-cyclical mobile uses)
Torsion movements	±150° / 1 m
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, Oil Res II, cURus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

* Upon request: Red, yellow or orange conductors with numbers + yellow/green (beginning from 3 conductors). When 3 conductors or more the second conductor is white.

Marking

TEKIMA 811BS – CE 4G2,5 mm² (UL) E361258 TC-ER-HL 4x14 AWG DIR BUR SUN RES OIL RES I OIL RES II 600V THHW 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC SHIELDED FT4 or AWM I/II A/B 90°C 1000V FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_811□S_□□**	2	18	1	8,5 (0.335)	98 (66)
CV02X150_811□S_□□**	2	16	1,5	9,1 (0.358)	118 (79)
CV02X250_811□S_□□**	2	14	2,5	9,9 (0.390)	143 (96)
CV03G100_811□S_□□	3	18	1	8,9 (0.350)	120 (81)
CV03G150_811□S_□□	3	16	1,5	9,6 (0.378)	141 (95)
CV03G250_811□S_□□	3	14	2,5	10,4 (0.409)	181 (122)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03G400_811□S_□□	3	12	4	11,8 (0.465)	242 (163)
CV03G600_811□S_□□	3	10	6	13,9 (0.547)	354 (238)
CV04G100_811□S_□□	4	18	1	9,7 (0.382)	142 (95)
CV04G150_811□S_□□	4	16	1,5	10,4 (0.409)	177 (119)
CV04G250_811□S_□□	4	14	2,5	11,3 (0.445)	228 (153)
CV04G400_811□S_□□	4	12	4	13,9 (0.547)	350 (235)
CV04G600_811□S_□□	4	10	6	15,2 (0.598)	450 (302)
CV04GB10_811□S_□□	4	8	10	19,3 (0.760)	718 (482)
CV04GB16_811□S_□□	4	6	16	24,7 (0.972)	1162 (781)
CV04GB25_811□S_□□	4	4	25	28,2 (1.110)	1616 (1086)
CV04GB35_811□S_□□	4	2	35	31,1 (1.224)	2059 (1384)
CV04GB50_811□S_□□	4	1	50	37,6 (1.480)	2938 (1974)
CV04GB70_811□S_□□	4	2/0	70	44,2 (1.740)	4397 (2955)
CV04GB95_811□S_□□	4	3/0	95	47,7 (1.878)	5566 (3740)
CV04GL12_811□S_□□	4	4/0	120	50,3 (1.980)	6652 (4470)
CV04GL15_811□S_□□	4	250	150	55,9 (2.201)	7564 (5083)
CV04GL18_811□S_□□	4	350	185	60,0 (2.362)	8953 (6016)
CV04GX50_811□S_□□	4	254	500	73,1 (2.878)	12413 (8341))
CV05G100_811□S_□□	5	18	1	10,5 (0.413)	171 (115)
CV05G150_811□S_□□	5	16	1,5	11,3 (0.445)	210 (141)
CV05G250_811□S_□□	5	14	2,5	12,4 (0.488)	273 (183)
CV05G400_811□S_□□	5	12	4	15,1 (0.594)	418 (281)
CV05G600_811□S_□□	5	10	6	16,6 (0.654)	539 (362)
CV05GB10_811□S_□□	5	8	10	22,3 (0.878)	917 (616)
CV05GB16_811□S_□□	5	6	16	27,1 (1.067)	1398 (939)
CV05GB25_811□S_□□	5	4	25	31,1 (1.224)	2059 (1384)
CV07G100_811□S_□□	7	18	1	11,4 (0.449)	225 (151)
CV07G150_811□S_□□	7	16	1,5	12,3 (0.484)	278 (187)
CV07G250_811□S_□□	7	14	2,5	14,4 (0.567)	402 (270)
CV07G400_811□S_□□	7	12	4	16,4 (0.646)	557 (374)
CV09G150_811□S_□□	9	16	1,5	n.a.	n.a.
CV12G100_811□S_□□	12	18	1	15,5 (0.610)	365 (245)
CV12G150_811□S_□□	12	16	1,5	16,7 (0.657)	451 (303)
CV12G250_811□S_□□	12	14	2,5	18,3 (0.720)	593 (398)
CV18G100_811□S_□□	18	18	1	17,9 (0.705)	507 (341)
CV18G150_811□S_□□	18	16	1,5	19,4 (0.764)	632 (425)
CV18G250_811□S_□□	18	14	2,5	22,3 (0.878)	893 (600)
CV25G100_811□S_□□	25	18	1	20,3 (0.799)	638 (429)
CV25G150_811□S_□□	25	16	1,5	23,1 (0.909)	865 (581)
CV25G250_811□S_□□	25	14	2,5	25,4 (1.000)	1132 (761)
CV33G150_811□S_□□	33	16	1,5	26,0 (1.024)	1185 (796)

** According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).

Code composition

CV	□□□	□□□	_811	□	S_	□□

Color	To be inserted
Gray	GR
Black	NE

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Conductors' color	To be inserted
Blue	B
Red	R
Yellow	Y
Orange	N

Size	To be inserted
1,00 mm², ..., 6,00 mm²	100, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95
120 mm², ..., 185 mm²	L12, ..., L18
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 550 kcmil	X25, X30, ..., X55

SERIES 8110S

Tray Cable Instrumentation, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res, Hazardous Locations

Fixed application, multiple pairs, shielded



Use

Shielded UL Listed multiple pairs cables built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 "National Electrical Code" (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables MC type (Metal Clad Cable); this type of connection is called Open Wiring. The TC-ER / MTW type cables must comply with the impact resistance requirements required for MC type cables, they are oil resistant, sun resistant and can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277). These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-R
Conductor distinction	Numbered black and white pairs
Fillers	Central or side fillers, if any
Shield on pairs	Aluminum/polyester, coverage 100% + Drain wire
Shield	Aluminum/polyester, coverage 100% + Drain wire
Jacket	PVC compound, oil-resistant, black color. Rip cord. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Bending radius	6 x cable outer diameter (20 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, Oil Res II, cURus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 8110S – CE (4X(2X1)) mm² (UL) E361258 TC-ER-HL (4X(2X16)) AWG DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW "FLEXING" 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC SHIELDED FT4 or AWM I/II A/B 90°C 1000V FT1 16 AWG – (prod.reference) = (metric) =

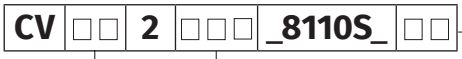
Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV012100_8110S_NE**	1 X 2	18	1	7,8 (0.307)	80 (54)
CV022100_8110S_NE	2 X 2	18	1	10,5 (0.413)	150 (101)
CV032100_8110S_NE	3 X 2	18	1	n.a.	n.a.
CV042100_8110S_NE	4 X 2	18	1	12,3 (0.484)	231 (155)
CV062100_8110S_NE	6 X 2	18	1	16,7 (0.657)	370 (249)
CV082100_8110S_NE	8 X 2	18	1	18,0 (0.709)	496 (333)
CV102100_8110S_NE	10 X 2	18	1	20,0 (0.787)	517 (347)
CV122100_8110S_NE	12 X 2	18	1	22,7 (0.894)	656 (441)
CV162100_8110S_NE	16 X 2	18	1	25,6 (1.008)	850 (571)
CV202100_8110S_NE	20 X 2	18	1	28,1 (1.106)	1053 (708)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV242100_8110S_NE	24 X 2	18	1	30,4 (1.197)	1180 (793)
CV362100_8110S_NE	36 X 2	18	1	36,3 (1.429)	1713 (1151)
CV502100_8110S_NE	50 X 2	18	1	42,1 (1.657)	2265 (1522)
CV012150_8110S_NE	1 X 2	16	1,5	8,4 (0.331)	94 (63)
CV022150_8110S_NE	2 X 2	16	1,5	11,4 (0.449)	182 (122)
CV032150_8110S_NE	3 X 2	16	1,5	n.a.	n.a.
CV042150_8110S_NE	4 X 2	16	1,5	14,1 (0.555)	310 (208)
CV062150_8110S_NE	6 X 2	16	1,5	18,2 (0.717)	453 (304)
CV082150_8110S_NE	8 X 2	16	1,5	19,6 (0.772)	610 (410)
CV102150_8110S_NE	10 X 2	16	1,5	22,9 (0.902)	693 (466)
CV122150_8110S_NE	12 X 2	16	1,5	24,7 (0.972)	808 (543)
CV162150_8110S_NE	16 X 2	16	1,5	27,8 (1.094)	1051 (706)
CV202150_8110S_NE	20 X 2	16	1,5	30,7 (1.209)	1309 (880)
CV242150_8110S_NE	24 X 2	16	1,5	33,2 (1.307)	1471 (988)
CV362150_8110S_NE	36 X 2	16	1,5	39,7 (1.563)	2148 (1443)
CV502150_8110S_NE	50 X 2	16	1,5	47,6 (1.874)	3022 (2031)

** According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).

Code composition



Number of pairs	To be inserted
1, 2, ...	01, 02, ...

Size	To be inserted
1,0 mm², 1,5 mm²	100, 150

Color	To be inserted
Black	NE

SERIES 8110S

Tray Cable Instrumentation, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res, Hazardous Locations

Fixed application, multiple triads, shielded



Use

Shielded UL Listed multiple triads cables built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 "National Electrical Code" (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables MC type (Metal Clad Cable); this type of connection is called Open Wiring. The TC-ER / MTW type cables must comply with the impact resistance requirements required for MC type cables, they are oil resistant, sun resistant and can be used in the presence of humidity also buried (they are certified Direct Burial according UL 1277). These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-R
Conductor distinction	Numbered black,white and red triads
Fillers	Central or side fillers, if any
Shield on triads	Aluminum/polyester, coverage 100% + Drain wire
Shield	Aluminum/polyester, coverage 100% + Drain wire
Jacket	PVC compound, oil-resistant, black color. Rip cord. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Bending radius	6 x cable outer diameter (20 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, Oil Res II, cURus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 8110S – CE (4X(3X1)) mm² (UL) E361258 TC-ER-HL (4X(3X16)) AWG DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW "FLEXING" 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC SHIELDED FT4 or AWM I/II A/B 90°C 1000V FT1 16 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV013100_8110S_NE**	1 X 3	18	1	8,3 (0.327)	99 (67)
CV023100_8110S_NE	2 X 3	18	1	14,8 (0.583)	233 (157)
CV043100_8110S_NE	4 X 3	18	1	17,2 (0.677)	355 (239)
CV063100_8110S_NE	6 X 3	18	1	20,8 (0.819)	480 (323)
CV083100_8110S_NE	8 X 3	18	1	25,6 (1.008)	687 (462)
CV103100_8110S_NE	10 X 3	18	1	27,6 (1.087)	791 (532)
CV123100_8110S_NE	12 X 3	18	1	28,5 (1.122)	907 (609)
CV163100_8110S_NE	16 X 3	18	1	31,5 (1.240)	1155 (776)
CV203100_8110S_NE	20 X 3	18	1	35,5 (1.398)	1421 (955)
CV243100_8110S_NE	24 X 3	18	1	38,6 (1.520)	1648 (1107)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV363100_8110S_NE	36 X 3	18	1	47,0 (1.850)	2533 (1702)
CV503100_8110S_NE	50 X 3	18	1	55,0 (2.165)	3383 (2273)
CV013150_8110S_NE	1 X 3	16	1,5	8,9 (0.350)	119 (80)
CV023150_8110S_NE	2 X 3	16	1,5	15,9 (0.626)	279 (187)
CV043150_8110S_NE	4 X 3	16	1,5	18,6 (0.732)	435 (292)
CV063150_8110S_NE	6 X 3	16	1,5	23,7 (0.933)	650 (437)
CV083150_8110S_NE	8 X 3	16	1,5	27,7 (1.091)	845 (568)
CV103150_8110S_NE	10 X 3	16	1,5	29,9 (1.177)	979 (658)
CV123150_8110S_NE	12 X 3	16	1,5	30,9 (1.217)	1129 (759)
CV163150_8110S_NE	16 X 3	16	1,5	34,3 (1.350)	1448 (973)
CV203150_8110S_NE	20 X 3	16	1,5	38,7 (1.524)	1788 (1201)
CV243150_8110S_NE	24 X 3	16	1,5	42,1 (1.657)	2080 (1398)
CV363150_8110S_NE	36 X 3	16	1,5	51,1 (2.012)	3187 (2142)
CV503150_8110S_NE	50 X 3	16	1,5	59,9 (2.358)	4278 (2875)

Code composition

CV □□ 3 □□□ _8110S_ □□

Number of triads	To be inserted
1, 2, ...	01, 02, ...

Size	To be inserted
1,0 mm², 1,5 mm²	100, 150

Color	To be inserted
Black	NE

SERIES 8130

Power and Control Tray Cable, TC-ER/CIC/MTW/WTTC

Direct Burial, Sun Res, XLPE

Fixed application, unshielded



Use

UL Listed unshielded cables built for the uses specified by ANSI/NFPA 79, articles 336, 392, 501 of the ANSI/NFPA 70 “National Electrical Code” (NEC) and by CSA C22.1 (CE Code). They are cables suitable for use in Hazardous Locations in Class I, Division 2 and being certified Type TC-ER (Exposed Run) they can be installed in industrial plants for connections between cable trays and equipment without the use of conduits/tubings. These cables are oil resistant, sun resistant and can be used in the presence of humidity even buried (they are certified Direct Burial according to UL 1277); they are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind applications where they are able to withstand the torsional stresses due to the loop between the nacelle and the tower.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	Special XLPE (type XHHW-2)
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Jacket	PVC compound, oil-resistant, black color. Metric marking.
Temperature range	+90°C (dry and wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (WTTC), 600/1000 V (IEC)
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I; Class 1, Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT4/IEEE UL 1685 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286

Marking

TEKIMA 8130 – CE 3G1 mm² 600/1000 V - (UL) E361258 TC-ER 3x18 AWG DIR BUR SUN RES OIL RES I 600V XHHW-2 90°C Dry / 90°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I 600V 90°C Dry / 90°C Wet FT4 or RW90 – (prod. reference) = (metric) =

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_81300_□□*	2	18 AWG	1	7,9 (0.311)	83 (56)
CV03G100_81300_□□	3	18	1	8,3 (0.327)	95 (64)
CV04G100_81300_□□	4	18	1	9,1 (0.358)	116 (78)
CV05G100_81300_□□	5	18	1	9,9 (0.390)	137 (92)
CV07G100_81300_□□	7	18	1	10,8 (0.425)	170 (114)
CV12G100_81300_□□	12	18	1	14,6 (0.575)	309 (208)
CV18G100_81300_□□	18	18	1	17,0 (0.669)	424 (285)
CV25G100_81300_□□	25	18	1	19,4 (0.764)	563 (378)
CV02X150_81300_□□*	2	16	1,5	8,5 (0.335)	101 (68)
CV03G150_81300_□□	3	16	1,5	9,0 (0.354)	119 (80)
CV04G150_81300_□□	4	16	1,5	9,8 (0.386)	144 (97)
CV05G150_81300_□□	5	16	1,5	10,7 (0.421)	172 (116)
CV07G150_81300_□□	7	16	1,5	11,7 (0.461)	216 (145)
CV12G150_81300_□□	12	16	1,5	15,8 (0.622)	391 (262)
CV18G150_81300_□□	18	16	1,5	18,5 (0.728)	544 (366)
CV25G150_81300_□□	25	16	1,5	22,3 (0.878)	781 (525)
CV02X250_81300_□□*	2	14	2,5	9,3 (0.366)	130 (88)
CV03G250_81300_□□	3	14	2,5	9,8 (0.386)	156 (105)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G250_81300_□□	4	14	2,5	10,7 (0.421)	192 (129)
CV05G250_81300_□□	5	14	2,5	11,8 (0.465)	234 (157)
CV07G250_81300_□□	7	14	2,5	12,8 (0.504)	294 (197)
CV12G250_81300_□□	12	14	2,5	17,4 (0.685)	532 (357)
CV18G250_81300_□□	18	14	2,5	20,4 (0.803)	748 (503)
CV19G250_81300_□□	19	14	2,5	20,4 (0.803)	767 (515)
CV02X400_81300_□□*	2	12	4	10,5 (0.413)	177 (119)
CV03G400_81300_□□	3	12	4	11,2 (0.441)	219 (147)
CV04G400_81300_□□	4	12	4	12,3 (0.484)	272 (183)
CV05G400_81300_□□	5	12	4	14,2 (0.559)	355 (239)
CV07G400_81300_□□	7	12	4	15,5 (0.610)	452 (303)
CV02X600_81300_□□*	2	10	6	11,6 (0.457)	232 (156)
CV03G600_81300_□□	3	10	6	12,4 (0.488)	292 (196)
CV04G600_81300_□□	4	10	6	14,3 (0.563)	389 (261)
CV05G600_81300_□□	5	10	6	15,7 (0.618)	473 (318)
CV02XB10_81300_□□*	2	8	10	15,7 (0.618)	412 (277)
CV03GB10_81300_□□	3	8	10	16,8 (0.661)	514 (346)
CV04GB10_81300_□□	4	8	10	18,4 (0.724)	639 (429)
CV05GB10_81300_□□	5	8	10	20,4 (0.803)	786 (528)
CV02XB16_81300_□□*	2	6	16	17,7 (0.697)	571 (384)
CV03GB16_81300_□□	3	6	16	18,9 (0.744)	723 (486)
CV04GB16_81300_□□	4	6	16	20,8 (0.819)	909 (611)
CV05GB16_81300_□□	5	6	16	24,1 (0.949)	1174 (789)
CV03GB25_81300_□□	3	4	25	23,2 (0.913)	1107 (744)
CV04GB25_81300_□□	4	4	25	25,4 (1.000)	1386 (931)
CV05GB25_81300_□□	5	4	25	28,1 (1.106)	1706 (1146)
CV03GB35_81300_□□	3	2	35	25,7 (1.012)	1447 (972)
CV04GB35_81300_□□	4	2	35	28,3 (1.114)	1831 (1230)
CV05GB35_81300_□□	5	2	35	31,3 (1.232)	2254 (1515)
CV03GB50_81300_□□	3	1	50	30,4 (1.197)	2039 (1370)
CV04GB50_81300_□□	4	1	50	33,5 (1.319)	2582 (1735)
CV05GB50_81300_□□	5	1	50	37,2 (1.465)	3192 (2145)
CV03GW/1_81300_□□	3	1/0	53,5	31,9 (1.256)	2197 (1477)
CV04GW/1_81300_□□	4	1/0	53,5	35,1 (1.382)	2774 (1864)
CV05GW/1_81300_□□	5	1/0	53,5	39,1 (1.539)	3440 (2312)
CV03GB70_81300_□□	3	2/0	70	33,4 (1.315)	2657 (1786)
CV04GB70_81300_□□	4	2/0	70	36,8 (1.449)	3377 (2269)
CV05GB70_81300_□□	5	2/0	70	40,9 (1.610)	4181 (2809)
CV03GB95_81300_□□	3	3/0	95	37,0 (1.457)	3464 (2328)
CV04GB95_81300_□□	4	3/0	95	40,8 (1.606)	4418 (2968)
CV05GB95_81300_□□	5	3/0	95	47,0 (1.850)	5655 (3800)
CV03GL12_81300_□□	3	4/0	120	40,4 (1.591)	4264 (2865)
CV04GL12_81300_□□	4	4/0	120	46,1 (1.815)	5613 (3771)
CV03GL15_81300_□□	3	250 kcmil	150	46,3 (1.823)	5396 (3626)
CV04GL15_81300_□□	4	250	150	51,1 (2.012)	6884 (4626)
CV03GL18_81300_□□	3	350	185	50,1 (1.972)	6448 (4333)
CV04GL18_81300_□□	4	350	185	55,4 (2.181)	8247 (5542)
CV03GL24_81300_□□	3	450	240	56,3 (2.217)	8143 (5472)
CV04GL24_81300_□□	4	450	240	62,2 (2.449)	10406 (6993)

* According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).

Code composition

CV □□□ □□□ **_81300_** □□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
1,00 mm^2, ..., 6,00 mm^2	100, ..., 600
10,0 mm^2, ..., 95,0 mm^2	B10, ..., B95
120 mm^2, ..., 185 mm^2	L12, ..., L18
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 550 kcmil	X25, X30, ..., X55

Color	To be inserted
Black	NE

SERIES 8130S

Power and Control Tray Cable, TC-ER/CIC/MTW/WTTC

Direct Burial, Sun Res, XLPE

Fixed application, shielded



Use

UL Listed shielded cables built for the uses specified by ANSI/NFPA 79, articles 336, 392, 501 of the ANSI/NFPA 70 “National Electrical Code” (NEC) and by CSA C22.1 (CE Code). They are cables suitable for use in Hazardous Locations in Class I, Division 2 and being certified Type TC-ER (Exposed Run) they can be installed in industrial plants for connections between cable trays and equipment without the use of conduits/tubings. These cables are oil resistant, sun resistant and can be used in the presence of humidity even buried (they are certified Direct Burial according to UL 1277); they are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind applications where they are able to withstand the torsional stresses due to the loop between the nacelle and the tower.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	Special XLPE (type XHHW-2)
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Shield	Aluminum/polyester, coverage 100% + Tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, black color. Metric marking.
Temperature range	+90°C (dry and wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (WTTC), 600/1000 V (IEC)
Test voltage	6000 V
Bending radius	6 x cable outer diameter (fixed) 20 x cable outer diameter (not fixed)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I; Class 1, Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT4/IEEE UL 1685 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286

Marking

TEKIMA 8130S – CE (3G1) mm² 600/1000 V - (UL) E361258 TC-ER (3x18) AWG DIR BUR SUN RES OIL RES I 600V XHHW-2 90°C Dry / 90°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I 600V 90°C Dry / 90°C Wet SHIELDED FT4 or RW90 – (prod. reference) = (metric) =

Code	Number of conductors	Sezione Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_8130S_□□**	2	18 AWG	1	8,5 (0.335)	94 (63)
CV03G100_8130S_□□	3	18	1	8,9 (0.350)	109 (73)
CV04G100_0365S_□□ (1)	4	18	1	9,7 (0.382)	129 (87)
CV05G100_8130S_□□	5	18	1	10,5 (0.413)	155 (104)
CV07G100_8130S_□□	7	18	1	11,4 (0.449)	187 (126)
CV12G100_8130S_□□	12	18	1	15,4 (0.606)	328 (220)
CV18G100_8130S_□□	18	18	1	17,8 (0.701)	454 (305)
CV25G100_8130S_□□	25	18	1	20,2 (0.795)	574 (385)
CV02X150_8130S_□□**	2	16	1,5	9,1 (0.358)	113 (76)
CV03G150_8130S_□□	3	16	1,5	9,6 (0.378)	129 (86)
CV04G150_0365S_□□ (1)	4	16	1,5	10,4 (0.409)	157 (105)
CV05G150_8130S_□□	5	16	1,5	11,3 (0.445)	191 (128)
CV07G150_8130S_□□	7	16	1,5	12,3 (0.484)	233 (156)
CV12G150_8130S_□□	12	16	1,5	16,6 (0.654)	407 (273)

Code	Number of conductors	Sezione Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV18G150_8130S_□□	18	16	1,5	19,3 (0.760)	566 (381)
CV25G150_8130S_□□	25	16	1,5	23,1 (0.909)	782 (525)
CV02X250_8130S_□□**	2	14	2,5	9,9 (0.390)	142 (95)
CV03G250_8130S_□□	3	14	2,5	10,4 (0.409)	166 (112)
CV04G250_0365S_□□ (1)	4	14	2,5	11,3 (0.445)	207 (139)
CV05G250_8130S_□□	5	14	2,5	12,4 (0.488)	250 (168)
CV07G250_8130S_□□	7	14	2,5	14,3 (0.563)	354 (238)
CV12G250_8130S_□□	12	14	2,5	18,2 (0.717)	541 (364)
CV18G250_8130S_□□	18	14	2,5	22,3 (0.878)	818 (550)
CV25G250_8130S_□□	25	14	2,5	25,4 (1.000)	1055 (709)
CV03G400_8130S_□□	3	12	4	11,8 (0.465)	228 (153)
CV04G400_0365S_□□ (1)	4	12	4	13,1 (0.516)	293 (197)
CV05G400_8130S_□□	5	12	4	15,0 (0.591)	388 (261)
CV07G400_8130S_□□	7	12	4	16,3 (0.642)	482 (324)
CV03G600_8130S_□□	3	10	6	13,9 (0.547)	330 (222)
CV04G600_0365S_□□ (1)	4	10	6	15,1 (0.594)	414 (278)
CV05G600_8130S_□□	5	10	6	16,5 (0.650)	503 (338)
CV03GB10_8130S_□□	3	8	10	17,6 (0.693)	548 (368)
CV04GB10_0365S_□□ (1)	4	8	10	19,2 (0.756)	656 (441)
CV05GB10_8130S_□□	5	8	10	22,3 (0.878)	851 (572)
CV04GB16_0365S_□□ (1)	4	6	16	22,7 (0.894)	976 (656)
CV05GB16_8130S_□□	5	6	16	24,9 (0.980)	1185 (796)
CV04GB25_0365S_□□ (1)	4	4	25	26,2 (1.031)	1388 (933)
CV04GB35_0365S_□□ (1)	4	2	35	29,1 (1.146)	1811 (1217)
CV04GB50_0365S_□□ (1)	4	1	50	34,5 (1.358)	2544 (1709)
CV04GB70_0365S_□□ (1)	4	2/0	70	37,8 (1.488)	3425 (2301)
CV04GB95_0365S_□□ (1)	4	3/0	95	44,5 (1.752)	4563 (3066)
CV04GL12_0365S_□□ (1)	4	4/0	120	48,3 (1.902)	5569 (3742)
CV04GL15_0365S_□□ (1)	4	250 kcmil	150	52,1 (2.051)	6761 (4543)
CV04GL18_0365S_□□ (1)	4	350	185	56,4 (2.220)	8112 (5451)
CV04GL24_0365S_□□ (1)	4	450	240	63,2 (2.488)	10400 (6988)

** According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).
(1) This item is produced with black jacket and drain wire between the shields. For more details, please refer to Series 365S 1xG.

Code composition

CV □□□ □□□ _8130S_ □□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
1,00 mm², ..., 6,00 mm²	100, ..., 600
10,0 mm², ..., 95,0 mm²	B10, ..., B95
120 mm², ..., 185 mm²	L12, ..., L18
1, 2, ..., 26 AWG	W01, W02, ..., W26
1/0, ..., 4/0 AWG	W/1, W/2, ..., W/4
250, 300, ..., 550 kcmil	X25, X30, ..., X55

Color	To be inserted
Black	NE

SERIES 8100

Power and Control Tray Cable, TC-ER

Unshielded



Use

UL Listed unshielded cables (THHN/THWN or TFN) intended for the uses specified by art. 336 of ANSI/NFPA 70 “National Electrical Code” (NEC) and suitable for use in Class I, Division 2, Hazardous Locations. The cables identified with Type TC-ER (Exposed Run) can be installed in the industrial establishments for the connections between cable trays and equipment without the employment of metal conduits or armored Type MC cables (Metal Clad Cable); this type of connections is called Open Wiring. Type TC-ER cables must meet impact resistance requirements required for Type MC cables.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

According to NEC, the TC cables (tray cable) can be employed as follows[1] :

(1) For power, lighting, control and signal circuits.
(2) In cable trays.
(3) In raceways.
(4) In outdoor locations supported by a messenger wire.
(5) For Class 1 circuits as permitted in Parts II and III of Article 725 (NEC).
(6) For non-power-limited fire alarm circuits if conductors comply with the requirements of Article 760.27 (NEC).
(7) In industrial establishments where the conditions of maintenance and supervision ensure that only qualified persons service the installation, and where the cable is continuously supported and protected against physical damage using mechanical protection, such as struts, angles, or channels... (see Article 336.10).
(8) Where installed in wet locations, type TC cable shall also be resistant to moisture and corrosive agents.

Characteristics	Value/property
Conductor	Copper strand
Insulation	PVC/Nylon
Conductor distinction	ICEA Method 1, table E-2 (see appendix) for sizes 18 AWG ÷ 10 AWG ICEA Method 4 for sizes 8 AWG ÷ 4/0 AWG (black numbered)
Ground wire	Bare copper for sizes 8 AWG ÷ 4/0 AWG
Jacket	PVC oil-resistant, black color
Temperature range	+90°C (dry conditions), +75°C (wet conditions)
Voltage rating	600 V
Bending radius	See Article 336.24 (NEC)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER (Exposed Run), Class 1, Div. 2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 1277, CSA C22.2 No.230, CSA C22.2 No. 239
Standards of use	NFPA 70 (NEC), CSA C22.1 (CE Code)

Coding and dimensions

Code	Number of conductors	Size [AWG/kcmil]	Ground wire size [AWG]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02XW18_81000_NE*	2	18 AWG	-	6,9 (0.272)	57 (38)
CV02XW16_81000_NE*	2	16	-	7,6 (0.299)	74 (50)
CV02XW14_81000_NE*	2	14	-	8,1 (0.319)	95 (64)
CV02XW12_81000_NE*	2	12	-	9,0 (0.354)	127 (85)
CV02XW10_81000_NE*	2	10	-	10,7 (0.421)	171 (115)
CV03XW18_81000_ NE	3	18	-	7,2 (0.283)	68 (46)
CV03XW16_81000_ NE	3	16	-	8,0 (0.315)	89 (60)
CV03XW14_81000_ NE	3	14	-	8,8 (0.346)	119 (80)
CV03XW12_81000_NE	3	12	-	9,8 (0.386)	164 (110)
CV03XW10_81000_NE	3	10	-	11,4 (0.449)	234 (157)
CV03XW08_81000_NE	3	8	10	15,2 (0.598)	458 (308)
CV03XW06_81000_NE	3	6	8	17,5 (0.689)	646 (434)
CV03XW04_81000_NE	3	4	8	22,3 (0.878)	967 (650)
CV03XW02_81000_NE	3	2	6	25,4 (1.000)	1435 (964)

Code	Number of conductors	Size [AWG/kcmil]	Ground wire size [AWG]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03XW/1_81000_NE	3	1/0	6	31,1 (1.224)	2153 (1447)
CV03XW/2_81000_NE	3	2/0	6	33,5 (1.319)	2610 (1754)
CV03XW/4_81000_NE	3	4/0	4	39,2 (1.543)	3914 (2630)
CV03XX25_81000_NE	3	250 kcmil	4	44,2 (1.740)	4728 (3177)
CV03XX35_81000_NE	3	350	3	50,6 (1.990)	6344 (4263)
CV03XX50_81000_NE	3	500	2	57,7 (2.270)	8765 (5890)
CV04XW18_81000_NE	4	18 AWG	-	7,9 (0.311)	83 (56)
CV04XW16_81000_NE	4	16	-	8,6 (0.339)	110 (74)
CV04XW14_81000_NE	4	14	-	9,3 (0.366)	149 (100)
CV04XW12_81000_NE	4	12	-	10,7 (0.421)	205 (138)
CV04XW10_81000_NE	4	10	-	12,8 (0.504)	311 (209)
CV04XW08_81000_NE	4	8	10	16,6 (0.654)	555 (373)
CV04XW06_81000_NE	4	6	8	19,3 (0.760)	793 (533)
CV04XW04_81000_NE	4	4	8	24,6 (0.969)	1226 (824)
CV04XW02_81000_NE	4	2	6	27,9 (1.098)	1826 (1227)
CV04XW/1_81000_NE	4	1/0	6	34,5 (1.358)	2723 (1830)
CV04XW/2_81000_NE	4	2/0	6	37,0 (1.457)	3351 (2252)
CV04XW/4_81000_NE	4	4/0	4	45,0 (1.772)	5212 (3502)
CV04XX25_81000_NE	4	250 kcmil	4	49,4 (1.945)	6112 (4107)
CV04XX35_81000_NE	4	350	3	55,6 (2.190)	8312 (5585)
CV04XX50_81000_NE	4	500	2	63,6 (2.505)	11450 (7694)
CV05XW18_81000_NE	5	18 AWG	-	8,5 (0.335)	97 (65)
CV05XW16_81000_NE	5	16	-	9,4 (0.370)	144 (97)
CV05XW14_81000_NE	5	14	-	10,4 (0.409)	176 (118)
CV05XW12_81000_NE	5	12	-	11,3 (0.445)	246 (165)
CV05XW10_81000_NE	5	10	-	14,5 (0.571)	399 (268)
CV07XW18_81000_NE	7	18	-	9,1 (0.358)	122 (82)
CV07XW16_81000_NE	7	16	-	10,2 (0.402)	165 (111)
CV07XW14_81000_NE	7	14	-	11,3 (0.445)	228 (153)
CV07XW12_81000_NE	7	12	-	12,5 (0.492)	323 (217)
CV07XW10_81000_NE	7	10	-	15,8 (0.622)	521 (350)
CV09XW18_81000_NE	9	18	-	10,7 (0.421)	156 (105)
CV09XW16_81000_NE	9	16	-	11,7 (0.461)	210 (141)
CV09XW14_81000_NE	9	14	-	12,8 (0.504)	317 (213)
CV09XW12_81000_NE	9	12	-	15,4 (0.606)	442 (297)
CV09XW10_81000_NE	9	10	-	18,4 (0.724)	655 (440)
CV10XW18_81000_NE	10	18	-	10,8 (0.425)	170 (114)
CV10XW16_81000_NE	10	16	-	12,6 (0.496)	229 (154)
CV12XW18_81000_NE	12	18	-	11,3 (0.445)	195 (131)
CV12XW16_81000_NE	12	16	-	12,8 (0.504)	265 (178)
CV12XW14_81000_NE	12	14	-	15,1 (0.594)	397 (267)
CV12XW12_81000_NE	12	12	-	17,2 (0.677)	561 (377)
CV12XW10_81000_NE	12	10	-	20,7 (0.815)	869 (584)
CV15XW18_81000_NE	15	18	-	12,3 (0.484)	241 (162)
CV15XW16_81000_NE	15	16	-	15,4 (0.606)	356 (239)
CV16XW18_81000_NE	16	18	-	12,7 (0.500)	249 (167)
CV16XW16_81000_NE	16	16	-	15,2 (0.598)	359 (241)
CV18XW18_81000_NE	18	18	-	14,5 (0.571)	292 (196)
CV18XW16_81000_NE	18	16	-	16,0 (0.630)	n.a.
CV18XW14_81000_NE	18	14	-	17,8 (0.701)	n.a.
CV18XW12_81000_NE	18	12	-	19,6 (0.772)	n.a.
CV19XW18_81000_NE	19	18	-	14,5 (0.571)	311 (209)
CV19XW16_81000_NE	19	16	-	16,1 (0.634)	423 (284)
CV19XW14_81000_NE	19	14	-	17,7 (0.697)	589 (396)
CV19XW12_81000_NE	19	12	-	19,9 (0.783)	845 (568)
CV25XW18_81000_NE	25	18	-	16,6 (0.654)	396 (266)
CV25XW16_81000_NE	25	16	-	17,9 (0.705)	542 (364)
CV25XW14_81000_NE	25	14	-	19,9 (0.783)	755 (507)
CV25XW12_81000_NE	25	12	-	23,9 (0.941)	1153 (775)
CV30XW18_81000_NE	30	18	-	17,7 (0.697)	461 (310)
CV30XW16_81000_NE	30	16	-	19,3 (0.760)	634 (426)

Code	Number of conductors	Size [AWG/kcmil]	Ground wire size [AWG]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV30XW14_81000_NE	30	14	-	22,7 (0.894)	948 (637)
CV30XW12_81000_NE	30	12	-	26,2 (1.031)	1368 (919)
CV37XW18_81000_NE	37	18	-	19,0 (0.748)	552 (371)
CV37XW16_81000_NE	37	16	-	22,4 (0.882)	821 (552)
CV37XW14_81000_NE	37	14	-	24,6 (0.969)	1140 (766)
CV37XW12_81000_NE	37	12	-	28,1 (1.106)	1637 (1100)

* According to NFPA 70 (NEC) this article is Tray Cable (TC) but not Exposed Run (ER).

Code composition



Number of conductors	To be inserted
2, ..., 25	02, ..., 25

Size	To be inserted
2, 4, ..., 18 AWG	W02, W04, ..., W18
250, 350, 500 kcmil	X25, X35, X50

SERIES 8100S

Power and Control Tray Cable, TC-ER

Shielded



Use

UL Listed shielded cables (THHN/THWN or TFN) built for the uses specified by art. 336 of ANSI/NFPA 70 “National Electrical Code” (NEC) and suitable for use in Class I, Division 2, Hazardous Locations. The cables identified as Type TC-ER (Exposed Run) can be installed in industrial establishments for the connections between the cable trays and the equipment without metal conduits or armored cables Type MC (Metal Clad Cable); this kind of connections is called Open Wiring. The Type TC-ER cables have to meet the impact resistance requirements necessary for Type MC cables.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

According to NEC, the TC cables (tray cable) can be employed as follows[1] :

(1) For power, lighting, control and signal circuits.
(2) In cable trays.
(3) In raceways.
(4) In outdoor locations supported by a messenger wire.
(5) For Class 1 circuits as permitted in Parts II and III of Article 725 (NEC).
(6) For non-power-limited fire alarm circuits if conductors comply with the requirements of Article 760.27 (NEC).
(7) In industrial establishments where the conditions of maintenance and supervision ensure that only qualified persons service the installation, and where the cable is continuously supported and protected against physical damage using mechanical protection, such as struts, angles, or channels... (see Article 336.10).
(8) Where installed in wet locations, type TC cable shall also be resistant to moisture and corrosive agents.

Characteristics	Value/property
Conductor	Copper strand
Insulation	PVC/Nylon
Conductor distinction	ICEA Method 1, table E-2 (see appendix)
Shield	Aluminium band with drain wire
Jacket	PVC oil-resistant, black color
Temperature range	+90°C (dry conditions), +75°C (wet conditions)
Voltage rating	600 V
Bending radius	See Article 336.24 (NEC)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER (Exposed Run), Class 1, Div. 2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 1277, CSA C22.2 No.230, CSA C22.2 No. 239
Standards of use	NFPA 70 (NEC), CSA C22.1 (CE Code)

Coding and dimensions

Code	Number of conductors	Size [AWG/kcmil]	Ground wire size [AWG]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02XW18_8100S_ NE*	2	18	-	7,1 (0.280)	60 (40)
CV02XW16_8100S_ NE*	2	16	-	7,6 (0.299)	77 (52)
CV02XW14_8100S_ NE*	2	14	-	8,4 (0.331)	100 (67)
CV02XW12_8100S_ NE*	2	12	-	9,4 (0.370)	124 (83)
CV02XW10_8100S_ NE*	2	10	-	10,9 (0.429)	177 (119)
CV03XW18_8100S_ NE	3	18	-	7,4 (0.291)	73 (49)
CV03XW16_8100S_ NE	3	16	-	8,1 (0.319)	94 (63)
CV03XW14_8100S_ NE	3	14	-	8,9 (0.350)	125 (84)
CV03XW12_8100S_ NE	3	12	-	9,9 (0.390)	165 (111)
CV03XW10_8100S_ NE	3	10	-	11,7 (0.461)	241 (162)
CV04XW18_8100S_ NE	4	18	-	7,9 (0.311)	86 (58)
CV04XW16_8100S_ NE	4	16	-	8,9 (0.350)	115 (77)
CV04XW14_8100S_ NE	4	14	-	9,7 (0.382)	155 (104)
CV04XW12_8100S_ NE	4	12	-	10,7 (0.421)	207 (139)
CV04XW10_8100S_ NE	4	10	-	12,7 (0.500)	305 (205)
CV05XW18_8100S_ NE	5	18	-	8,6 (0.339)	104 (70)
CV05XW16_8100S_ NE	5	16	-	9,4 (0.370)	135 (91)

Code	Number of conductors	Size [AWG/kcmil]	Ground wire size [AWG]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV05XW14_8100S_NE	5	14	-	10,2 (0.402)	183 (123)
CV07XW18_8100S_NE	7	18	-	9,4 (0.370)	132 (89)
CV07XW16_8100S_NE	7	16	-	10,4 (0.409)	177 (119)
CV07XW14_8100S_NE	7	14	-	11,2 (0.441)	240 (161)
CV09XW16_8100S_NE	9	16	-	12,0 (0.472)	223 (150)
CV12XW16_8100S_NE	12	16	-	13,0 (0.512)	275 (185)

* According to NFPA 70 (NEC) this article is Tray Cable (TC) but not Exposed Run (ER).

Code composition



Number of conductors	To be inserted
2, ..., 12	02, ..., 12

Size	To be inserted
10, 12, ..., 18 AWG	W10, W12, ..., W18

SERIES 8150S

Power-limited Tray Cable, PLTC/ITC

Multiple pair cables, twisted and shielded



Use

UL Listed multiple pair cables, twisted and shielded, built for use in Class 3 circuits, as specified by article 725 of ANSI/NFPA 70 “National Electrical Code” (NEC). Furthermore, these cables, upon request, can be PLTC-ER Type, CIC and ITC Type (Instrumentation Tray Cable) according to article 727 of NEC and suitable for use in Class I, Division 2, Hazardous Locations.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

According to NEC, PLTC/ITC cables can be used as follows[1]:

(1) In cable trays.
(2) In raceways.
(3) In hazardous locations as permitted in 501.10, 502.10, 503.10, 504.20, 504.30, 504.80, 505.15.
(4) Enclosed in smooth metallic sheath, continuous corrugated metallic sheath, or inter-locking tape
armor applied over the non-metallic sheath in accordance with 727.6.
The cable shall be supported and secured at intervals not exceeding 1.8 m (6 ft).
(5) Without a metallic sheath or armor between cable tray and equipment not to exceed 15 m (50 ft), where cable is supported and protected against physical damage using mechanical protection ... (see Article 727.4).
(6) Between cable tray and equipment in lengths not to exceed 15 m (50 ft), where the cable complies with the crash and impact requirements of Type MC cable and is identified for such use ... (see Article 727.4).
(7) As aerial cable on a messenger.
(8) Direct buried where identified for the use.
(9) Under raised floors in rooms containing industrial process control equipment and rackrooms where arranged to prevent damage to the cable.
(10) Under raised floors in information technology equipment rooms ... (see Article 727.4).

Characteristics	Value/property
Conductor	Copper strand
Insulation	PVC
Conductor distinction	Numbered, black/white pairs
Shield	Aluminium band on pairs and total, complete with drain wire
Jacket	PVC oil and sunlight-resistant, black color
Temperature range	+105°C
Voltage rating	300 V
Standards of construction	UL/CSA approvals: (UL) Type PLTC, Class 1, Div. 2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 13
Standards of use	NFPA 70 (NEC), CSA C22.1 (CE Code)

Coding and dimensions

Code	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04XW20_8150S_NE	2 X 2	20	8,6 (0.339)	96 (65)
CV08XW20_8150S_NE	4 X 2	20	10,4 (0.409)	156 (105)

Code composition

CV | □□ | **X** | □□□ | **_8150S_NE**

Number of conductors	To be inserted
2 x 2	04
4 x 2	08

Size	To be inserted
20 AWG	W20

SERIES 80010 80020

Flexible cord type S e SJ



Use

UL Listed flexible cables built for the uses specified by the Art. 400 of ANSI/NFPA 70 “National Electrical Code” (NEC). S and SJ type cables are used for industrial and processing equipment, cranes and hoists, motors and associated machinery, portable lamps, battery chargers, washmashine and refrigerator power supply. Type S cable can be used in Class I/II hazardous locations according to the specifications of the Art. 501.140 and 502.140 following the harness methods specificed by Art. 501.10 and 502.10.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Type S Hard service cord Type SJ Junior hard service cord
Type	S e SJ
Insulation	Thermoset
Number of conductor	2÷4 Type S 2÷4 Type SJ
Size	18÷10 AWG
Jacket	Thermoset, black color
Voltage	600V for Type S 300V for Type SJ
Temperature range	-40°C; + 60°C
Use	Type S Pendant or portable. Damp locations. Extra hard usage. Type SJ Pendant or portable. Damp locations. Hard usage.
Standards of construction	UL/CSA Approvals: Class 1, Div. 1 & Div. 2 NEC Art. 400, 501, 502; CSA C22.1 (CE Code); C22.2 No. 49; UL 62
Standards of use	NFPA 70 (NEC) Art. 400, 501, 502; CSA C22.1 (CE Code)

Coding and dimensions

Code	Type	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors
CV02XW18_80010_NE	S	2	18	8,9 (0.350)	600	10	Black, white
CV02XW16_80010_NE	S	2	16	9,4 (0.370)	600	13	Black, white
CV02XW14_80010_NE	S	2	14	13,0 (0.512)	600	18	Black, white
CV02XW12_80010_NE	S	2	12	15,0 (0.591)	600	25	Black, white
CV02XW10_80010_NE	S	2	10	16,3 (0.642)	600	30	Black, white
CV03XW18_80010_NE	S	3	18	9,4 (0.370)	600	10	Black, white, green
CV03XW16_80010_NE	S	3	16	9,9 (0.390)	600	13	Black, white, green
CV03XW14_80010_NE	S	3	14	13,7 (0.539)	600	18	Black, white, green
CV03XW12_80010_NE	S	3	12	15,7 (0.618)	600	25	Black, white, green
CV03XW10_80010_NE	S	3	10	17,0 (0.669)	600	30	Black, white, green
CV04XW18_80010_NE	S	4	18	10,2 (0.402)	600	7	Black, white, red, green
CV04XW16_80010_NE	S	4	16	10,9 (0.429)	600	10	Black, white, red, green
CV04XW14_80010_NE	S	4	14	14,7 (0.579)	600	15	Black, white, red, green
CV04XW12_80010_NE	S	4	12	17,0 (0.669)	600	20	Black, white, red, green
CV04XW10_80010_NE	S	4	10	18,5 (0.728)	600	25	Black, white, red, green
CV02XW18_80020_NE	SJ	2	18	7,4 (0.291)	300	10	Black, white

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

Code	Type	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors
CV02XW16_80020_NE	SJ	2	16	8,0 (0.315)	300	13	Black, white
CV02XW14_80020_NE	SJ	2	14	8,6 (0.339)	300	18	Black, white
CV02XW12_80020_NE	SJ	2	12	10,4 (0.409)	300	25	Black, white
CV02XW10_80020_NE	SJ	2	10	14,0 (0.551)	300	30	Black, white
CV03XW18_80020_NE	SJ	3	18	7,9 (0.311)	300	10	Black, white, green
CV03XW16_80020_NE	SJ	3	16	8,4 (0.331)	300	13	Black, white, green
CV03XW14_80020_NE	SJ	3	14	9,3 (0.366)	300	18	Black, white, green
CV03XW12_80020_NE	SJ	3	12	10,9 (0.429)	300	25	Black, white, green
CV03XW10_80020_NE	SJ	3	10	15,0 (0.591)	300	30	Black, white, green
CV04XW18_80020_NE	SJ	4	18	8,1 (0.319)	300	7	Black, white, red, green
CV04XW16_80020_NE	SJ	4	16	9,3 (0.366)	300	10	Black, white, red, green
CV04XW14_80020_NE	SJ	4	14	10,0 (0.394)	300	15	Black, white, red, green
CV04XW12_80020_NE	SJ	4	12	11,9 (0.469)	300	20	Black, white, red, green
CV04XW10_80020_NE	SJ	4	10	16,6 (0.654)	300	25	Black, white, red, green

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

SERIES 80140 80160

Flexible cord type SJOOW



Use

UL Listed flexibile cables built for the uses specified by Art. 400 of ANSI/NFPA 70 “National Electrical Code” (NEC). The SJOOW type cables are used for portable tools and equipment or for small engines. Standard version (Series 80140) with insulation temperature of 90°C, on request it is possible to produce with insulation temperature of 105°C (Series 80160).

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Junior hard service cord
Type	SJOOW
Insulation	Thermoset
Number of conductor	2÷4
Size	18÷10 AWG
Jacket	Thermoset oil-resistant, black color
Voltage	300V
Temperature range	-40°C; +90°C (Series 80140) -50°C; +105°C (Series 80160*)
Use	Pendant or portable. Damp and wet locations. Hard usage.
Standards of construction	UL/CSA Approvals: NEC Art. 400; CSA C22.1 (CE Code); C22.2 No. 49; UL 62
Standards of use	NFPA 70 (NEC) Art. 400; CSA C22.1 (CE Code)

* Available upon request and with minimum applicable quantities.

Marking

TEKIMA 80140 – c(UL)us Type SJOOW E514001 4/C 16 AWG (1.31 mm²) 90°C SUN & WATER RES 300 V FT2 -40°C = (metric) = (prod.reference)
TEKIMA 80160 – c(UL)us Type SJOOW E514001 4/C 16 AWG (1.31 mm²) 105°C SUN & WATER RES 300 V FT2 -50°C = (metric) = (prod.reference)

Coding and dimensions

Code	Type	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors
CV02XW18_80140_NE	SJOOW	2	18	7,4 (0.291)	300	10	Black, white
CV02XW16_80140_NE	SJOOW	2	16	7,9 (0.311)	300	13	Black, white
CV02XW14_80140_NE	SJOOW	2	14	8,7 (0.343)	300	18	Black, white
CV02XW12_80140_NE	SJOOW	2	12	10,4 (0.409)	300	25	Black, white
CV03XW18_80140_NE	SJOOW	3	18	7,9 (0.311)	300	10	Black, white, green
CV03XW16_80140_NE	SJOOW	3	16	8,4 (0.331)	300	13	Black, white, green
CV03XW14_80140_NE	SJOOW	3	14	9,3 (0.366)	300	18	Black, white, green
CV03XW12_80140_NE	SJOOW	3	12	10,9 (0.429)	300	25	Black, white, green
CV03XW10_80140_NE	SJOOW	3	10	15,5 (0.610)	300	30	Black, white, green
CV04XW18_80140_NE	SJOOW	4	18	8,6 (0.339)	300	7	Black, white, red, green
CV04XW16_80140_NE	SJOOW	4	16	9,4 (0.370)	300	10	Black, white, red, green
CV04XW14_80140_NE	SJOOW	4	14	10,5 (0.413)	300	15	Black, white, red, green
CV04XW12_80140_NE	SJOOW	4	12	12,1 (0.476)	300	20	Black, white, red, green
CV04XW10_80140_NE	SJOOW	4	10	16,9 (0.665)	300	25	Black, white, red, green

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

SERIES 80080

Flexible cord type STOW



Use

UL Listed flexible cables built for the uses specified by Art. 400 of ANSI/NFPA 70 “National Electrical Code” (NEC). STOW type cables are used for portable toolds, engines, equipment for floor maintenance, hospital equipment, washing machines,lamps or similar devices. They can be used in Class I/II hazardous locations according to the specifications of Art. 501.140 and 502.140

Technical data

Characteristics	Value/property
Identification	Hard service cord
Type	STOW
Insulation	PVC
Number of conductor	2÷4
Size	18÷12 AWG
Jacket	PVC Oil- and water-resistant, gray or yellow color
Voltage	600V
Temperature range	-40°C; +90°C
Use	Pendant or portable. Damp and wet locations. Extra hard usage.
Standards of construction	UL/CSA Approvals: Class 1, Div. 1 & Div. 2 NEC Art. 400, 501, 502; CSA C22.1 (CE Code); C22.2 No. 49; UL 62
Standards of use	NFPA 70 (NEC) Art. 400, 501, 502; CSA C22.1 (CE Code)

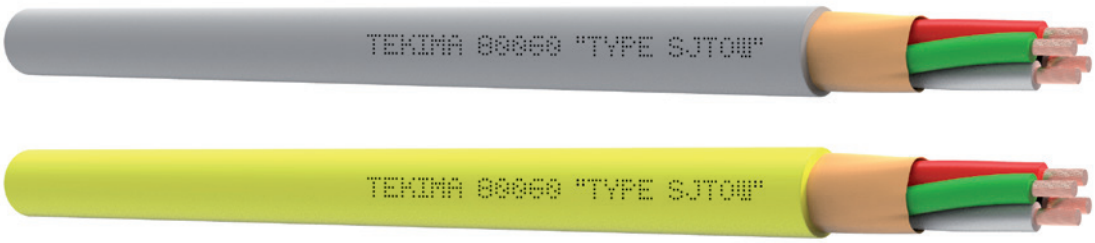
Coding and dimensions

Code	Type	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors	External jacket Color
CV02XW18_80080_GI	STOW	2	18	8,8 (0.346)	600	10	Black, white	Yellow
CV02XW18_80080_GR	STOW	2	18	8,8 (0.346)	600	10	Black, white	Gray
CV02XW16_80080_GI	STOW	2	16	9,4 (0.370)	600	13	Black, white	Yellow
CV02XW16_80080_GR	STOW	2	16	9,4 (0.370)	600	13	Black, white	Gray
CV02XW14_80080_GI	STOW	2	14	12 ,7 (0.500)	600	18	Black, white	Yellow
CV02XW14_80080_GR	STOW	2	14	12,7 (0.500)	600	18	Black, white	Gray
CV02XW12_80080_GI	STOW	2	12	14,6 (0.575)	600	25	Black, white	Yellow
CV02XW12_80080_GR	STOW	2	12	14,6 (0.575)	600	25	Black, white	Gray
CV03XW18_80080_GI	STOW	3	18	9,2 (0.362)	600	10	Black, white, green	Yellow
CV03XW18_80080_GR	STOW	3	18	9,2 (0.362)	600	10	Black, white, green	Gray
CV03XW16_80080_GI	STOW	3	16	9,8 (0.386)	600	13	Black, white, green	Yellow
CV03XW16_80080_GR	STOW	3	16	9,8 (0.386)	600	13	Black, white, green	Gray
CV03XW14_80080_GI	STOW	3	14	13,4 (0.528)	600	18	Black, white, green	Yellow
CV03XW14_80080_GR	STOW	3	14	13,4 (0.528)	600	18	Black, white, green	Gray
CV03XW12_80080_GI	STOW	3	12	15,3 (0.602)	600	25	Black, white, green	Yellow
CV03XW12_80080_GR	STOW	3	12	15,3 (0.602)	600	25	Black, white, green	Gray
CV04XW18_80080_GI	STOW	4	18	9,9 (0.390)	600	7	Black, white, red, green	Yellow
CV04XW18_80080_GR	STOW	4	18	9,9 (0.390)	600	7	Black, white, red, green	Gray
CV04XW16_80080_GI	STOW	4	16	10,6 (0.417)	600	10	Black, white, red, green	Yellow
CV04XW16_80080_GR	STOW	4	16	10,6 (0.417)	600	10	Black, white, red, green	Gray
CV04XW14_80080_GI	STOW	4	14	14,5 (0.571)	600	15	Black, white, red, green	Yellow
CV04XW14_80080_GR	STOW	4	14	14,5 (0.571)	600	15	Black, white, red, green	Gray
CV04XW12_80080_GI	STOW	4	12	16,5 (0.650)	600	20	Black, white, red, green	Yellow
CV04XW12_80080_GR	STOW	4	12	16,5 (0.650)	600	20	Black, white, red, green	Gray

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

SERIES 80060

Flexible cord type SJTOW



Use

UL Listed flexible cables built for the uses specified by Art. 400 of ANSI/NFPA 70 “National Electrical Code” (NEC). The SJTOW type cables are used for portable tools, engines, equipment for floor maintenance, hospital equipment, washing machines, lamps or similar devices.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Junior hard service cord
Type	SJTOW
Insulation	PVC
Number of conductor	2÷4
Size	18÷12
Jacket	PVC Oil- and water-resistant, gray or yellow color
Voltage	300 V
Temperature range	-40°C; +90°C
Use	Pendant or portable. Damp locations. Hard usage.
Standards of construction	UL/CSA Approvals: NEC Art. 400; CSA C22.1 (CE Code); C22.2 No. 49; UL 62
Standards of use	NFPA 70 (NEC) Art. 400; CSA C22.1 (CE Code)

Coding and dimensions

Code	Type	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors	Outer jacket color
CV02XW18_80060_GI	SJTOW	2	18	7,2 (0.283)	300	10	Black, white	Yellow
CV02XW18_80060_GR	SJTOW	2	18	7,2 (0.283)	300	10	Black, white	Gray
CV02XW16_80060_GI	SJTOW	2	16	7,8 (0.307)	300	13	Black, white	Yellow
CV02XW16_80060_GR	SJTOW	2	16	7,8 (0.307)	300	13	Black, white	Gray
CV02XW14_80060_GI	SJTOW	2	14	8,7 (0.343)	300	18	Black, white	Yellow
CV02XW14_80060_GR	SJTOW	2	14	8,7 (0.343)	300	18	Black, white	Gray
CV02XW12_80060_GI	SJTOW	2	12	10,4 (0.409)	300	25	Black, white	Yellow
CV02XW12_80060_GR	SJTOW	2	12	10,4 (0.409)	300	25	Black, white	Gray
CV03XW18_80060_GI	SJTOW	3	18	7,6 (0.299)	300	10	Black, white, green	Yellow
CV03XW18_80060_GR	SJTOW	3	18	7,6 (0.299)	300	10	Black, white, green	Gray
CV03XW16_80060_GI	SJTOW	3	16	8,3 (0.327)	300	13	Black, white, green	Yellow
CV03XW16_80060_GR	SJTOW	3	16	8,3 (0.327)	300	13	Black, white, green	Gray
CV03XW14_80060_GI	SJTOW	3	14	9,2 (0.362)	300	18	Black, white, green	Yellow
CV03XW14_80060_GR	SJTOW	3	14	9,2 (0.362)	300	18	Black, white, green	Gray
CV03XW12_80060_GI	SJTOW	3	12	11,0 (0.433)	300	25	Black, white, green	Yellow
CV03XW12_80060_GR	SJTOW	3	12	11,0 (0.433)	300	25	Black, white, green	Gray
CV04XW18_80060_GI	SJTOW	4	18	8,4 (0.331)	300	7	Black, white, red, green	Yellow
CV04XW18_80060_GR	SJTOW	4	18	8,4 (0.331)	300	7	Black, white, red, green	Gray
CV04XW16_80060_GI	SJTOW	4	16	9,1 (0.358)	300	10	Black, white, red, green	Yellow
CV04XW16_80060_GR	SJTOW	4	16	9,1 (0.358)	300	10	Black, white, red, green	Gray
CV04XW14_80060_GI	SJTOW	4	14	10,1 (0.398)	300	15	Black, white, red, green	Yellow
CV04XW14_80060_GR	SJTOW	4	14	10,1 (0.398)	300	15	Black, white, red, green	Gray
CV04XW12_80060_GI	SJTOW	4	12	12,1 (0.476)	300	20	Black, white, red, green	Yellow
CV04XW12_80060_GR	SJTOW	4	12	12,1 (0.476)	300	20	Black, white, red, green	Gray

(1) Values based on an ambient temperature of 30°C, refer to Art. 400 of NFPA 70 (NEC) for more details.

SERIES 80050

Flexible cord type SJT



Use

UL Listed flexible cables built for the uses specified by Art. 400 of ANSI/NFPA 70 “National Electrical Code” (NEC). SJT type cables are used for portable tools, engines, portable lighting devices, lamps.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Junior hard service cord
Type	SJT
Insulation	PVC
Number of conductor	2÷4
Size AWG	18÷16
Jacket	PVC, black color
Voltage	300 V
Temperature range	-20°C; +60°C
Use	Pendant or portable. Damp locations. Hard usage.
Standards of construction	UL/CSA Approvals: NEC Art. 400; CSA C22.1 (CE Code); C22.2 No. 49; UL 62
Standards of use	NFPA 70 (NEC) Art. 400; CSA C22.1 (CE Code)

Coding and dimensions

Code	Type	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors	Outer jacket color
CV02XW18_80050_NE	SJT	2	18	7,2 (0.283)	300	10	Black-white	Black
CV02XW16_80050_NE	SJT	2	16	7,8 (0.307)	300	13	Black-white	Black
CV03XW18_80050_NE	SJT	3	18	7,6 (0.299)	300	10	Black-white-green	Black
CV04XW18_80050_NE	SJT	4	18	8,4 (0.331)	300	7	Black-white-red-green	Black
CV04XW16_80050_NE	SJT	4	16	9,1 (0.358)	300	10	Black-white-red-green	Black

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

SERIES 80120 8012S

Flexible cord type SOOW



Use

UL Listed flexible cables built for the uses specified by Art. 400 of ANSI/NFPA 70 “National Electrical Code” (NEC). The SOOW type cables are used in industrial and utility control applications, signal circuits, and other general control uses in industrial plants, steel mills, process facilities and construction sites. They can be used in Class I/II hazardous locations according to the specifications of Art. 501.140 and 502.140 following the harness methods specified by Art. 501.10 and 502.10.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Hard service cord
Type	SOOW
Insulation	Thermoset
Number of conductor	2 o più 2 or more
Size AWG	18÷2
Jacket	Thermoset oil-resistant, black color
Voltage	600V
Temperature range	-40°C + 90°C
Use	Pendant or portable, damp and wet location, extra hard usage
Standards of construction	UL/CSA Approvals: Class 1, Div. 1 & Div. 2 NEC Art. 400, 501, 502; CSA C22.1 (CE Code); C22.2 No. 49; UL 62
Standards of use	NFPA 70 (NEC) Art. 400, 501, 502; CSA C22.1 (CE Code)

Marking

TEKIMA 80120 – c(UL)us Type SOOW E514001 4/C 16 AWG (1.31 mm^2) 90°C SUN & WATER RES 600 V FT2 -40°C = (metric) = (prod.reference)

Coding and dimensions

Code	Type	Shielded	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors
CV02XW18_80120_NE	SOOW	NO	2	18	8,8 (0.346)	600	10	Black-white
CV02XW16_80120_NE	SOOW	NO	2	16	9,5 (0.374)	600	13	Black-white
CV02XW14_80120_NE	SOOW	NO	2	14	12,7 (0.500)	600	18	Black-white
CV02XW12_80120_NE	SOOW	NO	2	12	14,6 (0.575)	600	25	Black-white
CV02XW10_80120_NE	SOOW	NO	2	10	15,9 (0.626)	600	30	Black-white
CV02XW08_80120_NE	SOOW	NO	2	8	19,8 (0.780)	600	40	Black-white
CV02XW06_80120_NE	SOOW	NO	2	6	23,4 (0.921)	600	55	Black-white
CV02XW04_80120_NE	SOOW	NO	2	4	26,9 (1.059)	600	70	Black-white
CV02XW02_80120_NE	SOOW	NO	2	2	30,7 (1.209)	600	95	Black-white
CV03XW18_80120_NE	SOOW	NO	3	18	9,3 (0.366)	600	10	Black-white-green
CV03XW16_80120_NE	SOOW	NO	3	16	10,1 (0.398)	600	13	Black-white-green
CV03XW14_80120_NE	SOOW	NO	3	14	13,5 (0.531)	600	18	Black-white-green
CV03XW12_80120_NE	SOOW	NO	3	12	15,2 (0.598)	600	25	Black-white-green
CV03XW10_80120_NE	SOOW	NO	3	10	16,8 (0.661)	600	30	Black-white-green
CV03XW08_80120_NE	SOOW	NO	3	8	21,1 (0.831)	600	40	Black-white-green
CV03XW06_80120_NE	SOOW	NO	3	6	24,6 (0.969)	600	55	Black-white-green
CV03XW04_80120_NE	SOOW	NO	3	4	28,7 (1.130)	600	70	Black-white-green
CV03XW02_80120_NE	SOOW	NO	3	2	33,1 (1.303)	600	95	Black-white-green

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

Code	Type	Shielded	Number of conductors	Size [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors
CV04XW18_80120_NE	SOOW	NO	4	18	9,9 (0.390)	600	7	Black-white-green-red
CV04XW16_80120_NE	SOOW	NO	4	16	10,8 (0.425)	600	10	Black-white-green-red
CV04XW14_80120_NE	SOOW	NO	4	14	14,5 (0.571)	600	15	Black-white-green-red
CV04XW12_80120_NE	SOOW	NO	4	12	16,5 (0.650)	600	20	Black-white-green-red
CV04XW10_80120_NE	SOOW	NO	4	10	18,0 (0.709)	600	25	Black-white-green-red
CV04XW08_80120_NE	SOOW	NO	4	8	23,5 (0.925)	600	35	Black-white-green-red
CV04XW06_80120_NE	SOOW	NO	4	6	26,9 (1.059)	600	45	Black-white-green-red
CV04XW04_80120_NE	SOOW	NO	4	4	31,8 (1.252)	600	60	Black-white-green-red
CV04XW02_80120_NE	SOOW	NO	4	2	36,8 (1.449)	600	80	Black-white-green-red
CV05XW18_80120_NE	SOOW	NO	5	18	11,8 (0.465)	600	5,6	Black-white-green-red-orange
CV05XW16_80120_NE	SOOW	NO	5	16	12,6 (0.496)	600	8	Black-white-green-red-orange
CV05XW08_80120_NE	SOOW	NO	5	8	25,4 (1.000)	600	28	Black-white-green-red-orange
CV05XW06_80120_NE	SOOW	NO	5	6	30,0 (1.181)	600	36	Black-white-green-red-orange
CV05XW04_80120_NE	SOOW	NO	5	4	33,2 (1.307)	600	48	Black-white-green-red-orange
CV05XW02_80120_NE	SOOW	NO	5	2	38,8 (1.528)	600	64	Black-white-green-red-orange
CV06XW18_80120_NE	SOOW	NO	6	18	12,6 (0.496)	600	5,6	To be verified upon order receipt
CV06XW16_80120_NE	SOOW	NO	6	16	13,4 (0.528)	600	8	To be verified upon order receipt
CV07XW18_80120_NE	SOOW	NO	7	18	12,7 (0.500)	600	5,6	To be verified upon order receipt
CV07XW16_80120_NE	SOOW	NO	7	16	14,0 (0.551)	600	8	To be verified upon order receipt
CV08XW18_80120_NE	SOOW	NO	8	18	13,5 (0.531)	600	4,9	To be verified upon order receipt
CV08XW16_80120_NE	SOOW	NO	8	16	14,6 (0.575)	600	7	To be verified upon order receipt
CV09XW16_80120_NE	SOOW	NO	9	16	16,1 (0.634)	600	7	To be verified upon order receipt
CV10XW18_80120_NE	SOOW	NO	10	18	15,6 (0.614)	600	4,9	To be verified upon order receipt
CV10XW16_80120_NE	SOOW	NO	10	16	17,2 (0.677)	600	7	To be verified upon order receipt
CV12XW18_80120_NE	SOOW	NO	12	18	16,9 (0.665)	600	3,5	To be verified upon order receipt
CV12XW16_80120_NE	SOOW	NO	12	16	17,7 (0.697)	600	5	To be verified upon order receipt
CV14XW18_80120_NE	SOOW	NO	14	18	17,7 (0.697)	600	3,5	To be verified upon order receipt
CV14XW16_80120_NE	SOOW	NO	14	16	19,1 (0.752)	600	5	To be verified upon order receipt
CV16XW18_80120_NE	SOOW	NO	16	18	17,9 (0.705)	600	3,5	To be verified upon order receipt
CV16XW16_80120_NE	SOOW	NO	16	16	20,1 (0.791)	600	5	To be verified upon order receipt
CV18XW18_80120_NE	SOOW	NO	18	18	19,3 (0.760)	600	3,5	To be verified upon order receipt
CV18XW16_80120_NE	SOOW	NO	18	16	20,3 (0.799)	600	5	To be verified upon order receipt
CV20XW18_80120_NE	SOOW	NO	20	18	20,2 (0.795)	600	3,5	To be verified upon order receipt
CV20XW16_80120_NE	SOOW	NO	20	16	21,2 (0.835)	600	5	To be verified upon order receipt
CV24XW18_80120_NE	SOOW	NO	24	18	22,9 (0.902)	600	3,2	To be verified upon order receipt
CV24XW16_80120_NE	SOOW	NO	24	16	23,5 (0.925)	600	4,5	To be verified upon order receipt
CV27XW16_80120_NE	SOOW	NO	27	16	23,9 (0.941)	600	4,5	To be verified upon order receipt
CV30XW18_80120_NE	SOOW	NO	30	18	24,1 (0.949)	600	3,2	To be verified upon order receipt
CV30XW16_80120_NE	SOOW	NO	30	16	26,7 (1.051)	600	4,5	To be verified upon order receipt
CV36XW18_80120_NE	SOOW	NO	36	18	26,7 (1.051)	600	2,8	To be verified upon order receipt
CV36XW16_80120_NE	SOOW	NO	36	16	28,6 (1.126)	600	4	To be verified upon order receipt
CV37XW16_80120_NE	SOOW	NO	37	16	30,1 (1.185)	600	4	To be verified upon order receipt
CV44XW18_80120_NE	SOOW	NO	44	18	29,7 (1.169)	600	2,5	To be verified upon order receipt
CV44XW16_80120_NE	SOOW	NO	44	16	32,9 (1.295)	600	3,5	To be verified upon order receipt
CV52XW18_80120_NE	SOOW	NO	52	18	30,9 (1.217)	600	2,5	To be verified upon order receipt
CV52XW16_80120_NE	SOOW	NO	52	16	34,2 (1.346)	600	3,5	To be verified upon order receipt
CV60XW18_80120_NE	SOOW	NO	60	18	33,4 (1.315)	600	2,5	To be verified upon order receipt
CV60XW16_80120_NE	SOOW	NO	60	16	36,2 (1.425)	600	3,5	To be verified upon order receipt
CV04XW18_8012S_NE	SOOW	YES	4	18	10,3 (0.406)	600	7	Black-white-green-red
CV05XW18_8012S_NE	SOOW	YES	5	18	12,2 (0.480)	600	5,6	Black-white-green-red-orange
CV05XW16_8012S_NE	SOOW	YES	5	16	13,5 (0.531)	600	8	Black-white-green-red-orange
CV07XW16_8012S_NE	SOOW	YES	7	16	14,2 (0.559)	600	7	To be verified upon order receipt
CV08XW16_8012S_NE	SOOW	YES	8	16	15,0 (0.591)	600	7	To be verified upon order receipt
CV12XW16_8012S_NE	SOOW	YES	12	16	18,0 (0.709)	600	5	To be verified upon order receipt

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

SERIES 80130

Flexible cord type W



Impiego - Use

UL Listed flexible cables built for uses specified by Art. 400 ofl ANSI/NFPA 70 “National Electrical Code” (NEC). The W type cables are used on systems such as cranes, conveyor belts and mobile equipment. They can be used in Class I/II hazardous locations according to the specifications of Art. 501.140 and 502.140 following the harness methods specified by Art. 501.10 and 502.10.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Portable power cable
Type	W
Insulation	Thermoset
Number of conductor	1÷5
Size	8 AWG÷500 kcmil
Jacket	Thermoset oil-resistant, black color
Voltage	2000V
Temperature range	-40°C + 90°C
Use	Portable, extra hard usage
Standards of construction	UL/CSA Approvals: Class 1, Div. 1 & Div. 2 NEC Art. 400, 501, 502; CSA C22.1 (CE Code); C22.2 No. 96; UL 1650
Standards of use	NFPA 70 (NEC) Art. 400, 501, 502; CSA C22.1 (CE Code)

Coding and dimensions

Code	Type	Number of conductors	Size [AWG/kcmil]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Color of conductors
CV01XW08_80130_NE	W	1	8 AWG	12,3 (0.484)	2000	80	Black
CV01XW06_80130_NE	W	1	6	14,4 (0.567)	2000	105	Black
CV01XW04_80130_NE	W	1	4	15,4 (0.606)	2000	140	Black
CV01XW02_80130_NE	W	1	2	17,3 (0.681)	2000	190	Black
CV01XW01_80130_NE	W	1	1	19,4 (0.764)	2000	220	Black
CV01XW/1_80130_NE	W	1	1/0	20,6 (0.811)	2000	260	Black
CV01XW/2_80130_NE	W	1	2/0	22,5 (0.886)	2000	300	Black
CV01XW/3_80130_NE	W	1	3/0	23,6 (0.929)	2000	350	Black
CV01XW08_80130_NE	W	1	8 AWG	12,3 (0.484)	2000	80	Black
CV01XW06_80130_NE	W	1	6	14,4 (0.567)	2000	105	Black
CV01XW04_80130_NE	W	1	4	15,4 (0.606)	2000	140	Black
CV01XW02_80130_NE	W	1	2	17,3 (0.681)	2000	190	Black
CV01XW01_80130_NE	W	1	1	19,4 (0.764)	2000	220	Black
CV01XW/1_80130_NE	W	1	1/0	20,6 (0.811)	2000	260	Black
CV01XW/2_80130_NE	W	1	2/0	22,5 (0.886)	2000	300	Black
CV01XW/3_80130_NE	W	1	3/0	23,6 (0.929)	2000	350	Black
CV01XW/4_80130_NE	W	1	4/0	24,9 (0.980)	2000	405	Black
CV01XX25_80130_NE	W	1	250 kcmil	26,5 (1.043)	2000	455	Black
CV01XX35_80130_NE	W	1	350	29,1 (1.146)	2000	570	Black
CVCWX50_80130_NE	W	1	500	33,3 (1.311)	2000	700	Black
CV03XW08_80130_NE	W	3	8 AWG	23,1 (0.909)	2000	74	Black, white, green
CV03XW06_80130_NE	W	3	6	25,7 (1.012)	2000	99	Black, white, green

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

Code	Type	Number of conductors	Size [AWG/kcmil]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Color of conductors
CV03XW04_80130_NE	W	3	4	29,7 (1.169)	2000	130	Black, white, green
CV03XW02_80130_NE	W	3	2	34,0 (1.339)	2000	174	Black, white, green
CV03XW01_80130_NE	W	3	1	38,4 (1.512)	2000	202	Black, white, green
CV03XW/1_80130_NE	W	3	1/0	41,9 (1.650)	2000	234	Black, white, green
CV03XW/2_80130_NE	W	3	2/0	44,5 (1.752)	2000	271	Black, white, green
CV03XW/3_80130_NE	W	3	3/0	48,0 (1.890)	2000	313	Black, white, green
CV03XW/4_80130_NE	W	3	4/0	51,8 (2.039)	2000	361	Black, white, green
CV03XX25_80130_NE	W	3	250 kcmil	60,7 (2.390)	2000	402	Black, white, green
CV03XX35_80130_NE	W	3	350	68,1 (2.681)	2000	495	Black, white, green
CV03XX50_80130_NE	W	3	500	77,0 (3.031)	2000	613	Black, white, green
CV04XW08_80130_NE	W	4	8 AWG	25,1 (0.988)	2000	65	Black, white, red, green
CV04XW06_80130_NE	W	4	6	27,9 (1.098)	2000	87	Black, white, red, green
CV04XW04_80130_NE	W	4	4	32,3 (1.272)	2000	114	Black, white, red, green
CV04XW02_80130_NE	W	4	2	37,6 (1.480)	2000	152	Black, white, red, green
CV04XW01_80130_NE	W	4	1	42,7 (1.681)	2000	177	Black, white, red, green
CV04XW/1_80130_NE	W	4	1/0	45,5 (1.791)	2000	205	Black, white, red, green
CV04XW/2_80130_NE	W	4	2/0	49,0 (1.929)	2000	237	Black, white, red, green
CV04XW/3_80130_NE	W	4	3/0	52,6 (2.071)	2000	274	Black, white, red, green
CV04XW/4_80130_NE	W	4	4/0	57,4 (2.260)	2000	316	Black, white, red, green
CV04XX25_80130_NE	W	4	250 kcmil	67,6 (2.661)	2000	352	Black, white, red, green
CV04XX35_80130_NE	W	4	350	75,7 (2.980)	2000	433	Black, white, red, green
CV04XX50_80130_NE	W	4	500	86,4 (3.402)	2000	536	Black, white, red, green
CV05XW08_80130_NE	W	5	8 AWG	24,3 (0.957)	2000	52	Black, white, red, green, orange
CV05XW06_80130_NE	W	5	6	27,2 (1.071)	2000	69	Black, white, red, green, orange
CV05XW04_80130_NE	W	5	4	31,4 (1.236)	2000	91	Black, white, red, green, orange
CV05XW02_80130_NE	W	5	2	35,7 (1.406)	2000	121	Black, white, red, green, orange
CV05XW/1_80130_NE	W	5	1/0	47,1 (1.854)	2000	164	Black, white, red, green, orange
CV05XW/2_80130_NE	W	5	2/0	50,2 (1.976)	2000	189	Black, white, red, green, orange
CV05XW/3_80130_NE	W	5	3/0	52,3 (2.059)	2000	219	Black, white, red, green, orange
CV05XW/4_80130_NE	W	5	4/0	57,6 (2.268)	2000	252	Black, white, red, green, orange

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

SERIES 80150 80155

Flexible cord type G e G-GC



Use

UL Listed flexible cables built for uses specified by Art.400 of ANSI/NFPA 70 “National Electrical Code” (NEC). The G and G, GC type cables are used on equipment such as cranes, on light or average-light industrial applications of the mining sector, mobile and portable electrical equipment. They can be used in Class I/II hazardous locations according to the specifications of Art. 501.140 and 502.140, following the harness methods specified by Art. 501.10 and 502.10.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Portable power cable
Type	G; G-GC
Insulation	Thermoset
Number of conductor	3÷4 ground conductor + ground check
Size	8 AWG÷500 kcmil
Jacket	Thermoset oil-resistant, black color
Voltage	2000V
Temperature range	-40°C + 90°C
Use	Portable, extra hard usage
Standards of construction	UL/CSA Approvals: Class 1, Div. 1 & Div. 2 NEC Art. 400, 501, 502; CSA C22.1 (CE Code); C22.2 No. 96; UL 1650
Standards of use	NFPA 70 (NEC) Art. 400, 501, 502; CSA C22.1 (CE Code)

Coding and dimensions

Code	Type	Number of conductors	Size [AWG/kcmil]	Ground wire	Ground check [AWG]	Diameter [mm (inch)]	Voltage [V]	Current (1) [A]	Conductors' colors
CV03XW08_80150_NE	G-GC	3	8 AWG	2x10 AWG	10	24,6 (0.969)	2000	65	Black, white, red
CV03XW06_80150_NE	G-GC	3	6	2x10 AWG	10	26,7 (1.051)	2000	87	Black, white, red
CV03XW04_80150_NE	G-GC	3	4	2x8 AWG	10	30,2 (1.189)	2000	114	Black, white, red
CV03XW02_80150_NE	G-GC	3	2	2x7 AWG	10	34,0 (1.339)	2000	152	Black, white, red
CV03XW01_80150_NE	G-GC	3	1	2x6 AWG	8	38,4 (1.512)	2000	177	Black, white, red
CV03XW/1_80150_NE	G-GC	3	1/0	2x5 AWG	8	41,9 (1.650)	2000	205	Black, white, red
CV03XW/2_80150_NE	G-GC	3	2/0	2x4 AWG	8	44,5 (1.752)	2000	237	Black, white, red
CV03XW/3_80150_NE	G-GC	3	3/0	2x3 AWG	8	48,0 (1.890)	2000	274	Black, white, red
CV03XW/4_80150_NE	G-GC	3	4/0	2x2 AWG	8	51,8 (2.039)	2000	316	Black, white, red
CV03XX25_80150_NE	G-GC	3	250 kcmil	2x2 AWG	8	60,7 (2.390)	2000	352	Black, white, red
CV03XX35_80150_NE	G-GC	3	350	2x1/0 AWG	8	68,1 (2.681)	2000	433	Black, white, red
CV03XX50_80150_NE	G-GC	3	500	2x2/0 AWG	8	77,0 (3.031)	2000	536	Black, white, red
CV04XW08_80155_NE	G	4	8 AWG	4x12 AWG	-	25,1 (0.988)	600/2000	52	Black, white, red, orange
CV04XW06_80155_NE	G	4	6	4x12 AWG	-	27,9 (1.098)	600/2000	69	Black, white, red, orange
CV04XW04_80155_NE	G	4	4	4x10 AWG	-	32,3 (1.272)	600/2000	91	Black, white, red, , orange
CV04XW02_80155_NE	G	4	2	4x9 AWG	-	37,6 (1.480)	600/2000	121	Black, white, red, orange
CV04XW01_80155_NE	G	4	1	4x8 AWG	-	42,7 (1.681)	600/2000	141	Black, white, red, orange
CV04XW/1_80155_NE	G	4	1/0	4x7 AWG	-	45,5 (1.791)	600/2000	164	Black, white, red, orange
CV04XW/2_80155_NE	G	4	2/0	4x6 AWG	-	49,0 (1.929)	600/2000	189	Black, white, red, orange
CV04XW/3_80155_NE	G	4	3/0	4x5 AWG	-	52,6 (2.071)	600/2000	219	Black, white, red, orange
CV04XW/4_80155_NE	G	4	4/0	4x4 AWG	-	57,4 (2.260)	600/2000	252	Black, white, red, orange
CV04XX25_80155_NE	G	4	250 kcmil	4x3 AWG	-	67,6 (2.661)	2000	281	Black, white, red, orange
CV04XX35_80155_NE	G	4	350	4x2 AWG	-	75,7 (2.980)	2000	346	Black, white, red, orange
CV04XX50_80155_NE	G	4	500	4x1/0 AWG	-	86,4 (3.402)	2000	428	Black, white, red, orange

(1) Values based on an ambient temperature of 30°C, considering that a conductor is grounded (over 3 conductors). Refer to Art. 400 of NFPA 70 (NEC) for more details.

SERIES 20070

Festoon Cable Neoprene



Use

Neoprene festoon cable planned for the power supply and the control of cranes, winches or other equipment working with side motion according to the specifications of Art. 610 of ANSI/NFPA 70 “National Electrical Code” (NEC), in compliance with the harness methods indicated by Art. 610.11(E) “Flexibility to Moving Parts”. They can be used also in a narrow space with a suggested radium of curvature three up to five times the cable diameter. They are suitable for both indoors and outdoors applications at very low temperatures.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Flat festoon cable
Insulation	Thermoset
Jacket	Neoprene oil and flame resistant, black color oil and flame resistant
Voltage	600V
Temperature range	-50°C; +90°C
Bending radius	5 x external cable diameter
Standards of construction	UL/CSA approvals: Festoon Cable NEC Art. 610; CSA C22.1 (CE Code); UL 62
Standards of use	NFPA 70 (NEC) Art. 610, CSA C22.1 (CE Code)

Coding and dimensions

Code	Number of conductors	Size [AWG]	Dimensions [mm (inch)]	Current [A]	Color of conductors
CV04XW14_20070_NE	4	14	7,5x22,0 (0.295x0.866)	18	Brown, blue, yellow/green, black
CV04XW12_20070_NE	4	12	8,0x24,0 (0.315x0.945)	23	Brown, blue, yellow/green, black
CV04XW10_20070_NE	4	10	8,6x26,5 (0.339x1.043)	29	Brown, blue, yellow/green, black
CV04XW08_20070_NE	4	8	11,4x35,7 (0.449x1.406)	41	Brown, blue, yellow/green, black
CV04XW06_20070_NE	4	6	12,3x39,1 (0.484x1.539)	55	Brown, blue, yellow/green, black
CV04XW04_20070_NE	4	4	13,6x44,2 (0.535x1.740)	71	Brown, blue, yellow/green, black
CV04XW02_20070_NE	4	2	15,2x50,8 (0.598x2.000)	95	Brown, blue, yellow/green, black
CV04XW/1_20070_NE	4	1/0	20,3x58,4 (0.799x2.299)	132	Brown, blue, yellow/green, black
CV04XW/2_20070_NE	4	2/0	20,8x70,9 (0.819x2.791)	149	Brown, blue, yellow/green, black
CV04XW/3_20070_NE	4	3/0	21,6x73,9 (0.850x2.909)	167	Brown, blue, yellow/green, black
CV04XW/4_20070_NE	4	4/0	24,9x87,2 (0.980x3.433)	188	Brown, blue, yellow/green, black
CV08XW16_20070_NE	8	16	6,2x30,4 (0.244x1.197)	14	To be verified upon order receipt
CV08XW14_20070_NE	8	14	7,5x40,9 (0.295x1.610)	16	To be verified upon order receipt
CV08XW12_20070_NE	8	12	8,0x45,0 (0.315x1.772)	20	To be verified upon order receipt
CV12XW16_20070_NE	12	16	6,2x30,4 (0.244x1.197)	14	To be verified upon order receipt
CV12XW14_20070_NE	12	14	7,5x59,8 (0.295x2.354)	16	To be verified upon order receipt

Code composition

CV	□□	X	□□□	_20070_	□□

Number of conductors	To be inserted
4, 8, 12	04, 08, 12

Size	To be inserted
2, 4, ..., 18 AWG	W02, W04, ..., W18
1/0, 2/0, ..., 4/0	W/1, W/2, ..., W/4

Color	To be inserted
Black	NE

SERIES 20020 2002S

Festoon Cable PVC

Shielded and unshielded



Use

PVC festoon cable planned planned for the power supply and the control of cranes, winches or other equipment working with side motion according to the specifications of Art. 610 of ANSI/NFPA 70 “National Electrical Code” (NEC) in compliance with the harness methods indicated by Art. 610.11(E) “Flexibility to Moving Parts They can be used also in a narrow space with a suggested radium of curvature three up to five times the cable diameter. They are suitable for both indoors and outdoors applications. This cable is suitable for temperatures from 40°C up to and beyond 100°C. Anyway, for applications at temperatures below 10°C where it is subject to severe mechanical stress (flexion and impact) we suggest the employment of the neoprene festoon cable.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Identification	Flat festoon cable
Insulation	PVC oil and flame resistant, black color
Shield	See “Coding and dimensions” table below
Jacket	PVC oil and flame resistant, black color
Voltage	600V
Temperature range	-10°C; +105°C
Bending radius	10 x cable outer diameter
Standards of construction	UL/CSA approvals: Festoon Cable NEC Art. 610; CSA C22.1 (CE Code); UL 62
Standards of use	NFPA 70 (NEC) Art. 610, CSA C22.1 (CE Code)

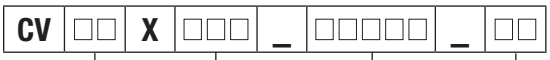
Coding and dimensions

Code	Shielded	Number of conductors	Size [AWG]	Dimensions [mm (inch)]	Current [A]	Conductors' colors
CV04XW16_20020_NE	No	4	16	5,7x16,0 (0.224x0.630)	17	Black, red, blu, orange
CV04XW14_20020_NE	No	4	14	6,1x17,5 (0.240x0.689)	20	Black, red, blu, orange
CV04XW12_20020_NE	No	4	12	6,6x20,3 (0.260x0.799)	25	Black, red, blu, orange
CV04XW10_20020_NE	No	4	10	7,4x22,6 (0.291x0.890)	32	Black, red, blu, orange
CV04XW08_20020_NE	No	4	8	9,5x31,1 (0.374x1.224)	45	Black, red, blu, orange
CV04XW06_20020_NE	No	4	6	11,0x37,8 (0.433x1.488)	60	Black, red, blu, orange
CV04XW04_20020_NE	No	4	4	13,1x44,5 (0.516x1.752)	78	Black, red, blu, orange
CV04XW02_20020_NE	No	4	2	14,6x50,2 (0.575x1.976)	104	Black, red, blu, orange
CV05XW12_20020_NE	No	5	12	6,6x25,1 (0.260x0.988)	22	Black, red, green, orange, blu
CV05XW10_20020_NE	No	5	10	7,4x29,2 (0.291x1.150)	32	Black, red, green, orange, blu
CV05XW06_20020_NE	No	5	6	11,4x48,8 (0.449x1.921)	60	Orange, yellow, black, Gray, brown
CV05XW04_20020_NE	No	5	4	13,1x55,2 (0.516x2.173)	78	Orange, yellow, black, Gray, brown
CV05XW02_20020_NE	No	5	2	14,6x64,8 (0.575x2.551)	104	Orange, yellow, black, Gray, brown
CV08XW16_20020_NE	No	8	16	5,7x29,7 (0.224x1.169)	15	See Note 1
CV08XW14_20020_NE	No	8	14	6,1x32,8 (0.240x1.291)	18	See Note 1
CV08XW12_20020_NE	No	8	12	6,6x36,6 (0.260x1.441)	22	See Note 1
CV12XW16_20020_NE	No	12	16	5,7x43,2 (0.224x1.701)	15	See Note 2
CV12XW14_20020_NE	No	12	14	6,1x46,4 (0.240x1.827)	18	See Note 2
CV04XW16_2002S_NE	Yes	4	16	6,4x20,3 (0.252x0.799)	17	Black, red, blu, orange
CV08XW16_2002S_NE	Yes	8	16	6,6x36,6 (0.260x1.441)	15	See Note 1
CV12XW16_2002S_NE	Yes	12	16	6,6x54,0 (0.260x2.126)	15	See Note 2
CV12XW14_2002S_NE	Yes	12	14	6,9x55,9 (0.272x2.201)	18	See Note 2

Note 1. Colors: Balck, red, blue, orange, yellow, brown, red/black, blue/black

Note 2. Colors: Balck, red, blue, orange, yellow, brown, red/black, blue/black, orange/black, yellow/black, brown/black, black/red

Code composition



Number of conductors	To be inserted
4, 8, 12	04, 08, 12

Size	To be inserted
2, 4, ..., 16 AWG	W02, W04, ..., W16

Color	To be inserted
Black	NE

Type	To be inserted
Unshielded	20020
Shielded	2002S



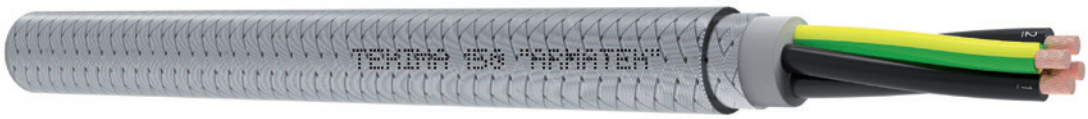
Armoured cables for fixed applications

tekima

SERIES 150

“Armatek” armoured oil-resistant cables

Fixed application, unshielded



RoHS

CE UK CA

Use

These cables are suitable as power supply and connection control cables, for machine tool, power stations, air conditioning systems as well as data processing systems. High mechanical protection and a defined degree of electrical shielding is provided by the oxidation protected steel wire braiding under the transparent outer sheath which protects the braid against dirt. They are suitable for fixed installation but also for flexible applications under conditions of not continuously movement. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Copper strand, class 5 - CEI EN 60228
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Inner jacket	Oil and flame-resistant PVC compound, RAL 7001 gray color.
Armour	Steel braid, coverage 65%
Outer jacket	Oil and flame-resistant PVC compound, transparent.
Temperature range	-40°C, +70°C (fixed); -5°C, +80°C (not fixed)
Voltage rating	600/1000 V
Test voltage	6000 V
Bending radius	12 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1-2 | Other: CEI 20-11, VDE 0207, CEI EN 60228, VDE 0295, 2006/95/EC (Low Voltage Directive)

Marking

TEKIMA 01500 “ARMATEK” – CE 4G1 mm² 600/1000 V – IEC 60332-1-2 – ARMOURED – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X050_01500_TR	2	0,5	10,1 (0.398)	133 (89)	600/1000
CV02X075_01500_TR	2	0,75	10,5 (0.413)	146 (98)	600/1000
CV02X100_01500_TR	2	1	10,9 (0.429)	157 (105)	600/1000
CV02X150_01500_TR	2	1,5	11,9 (0.469)	198 (133)	600/1000
CV02X250_01500_TR	2	2,5	13,1 (0.516)	245 (165)	600/1000
CV02X400_01500_TR	2	4	14,4 (0.567)	317 (213)	600/1000
CV02X600_01500_TR	2	6	15,8 (0.622)	390 (262)	600/1000
CV03G050_01500_TR	3	0,5	10,5 (0.413)	146 (98)	600/1000
CV03G075_01500_TR	3	0,75	10,9 (0.429)	170 (114)	600/1000
CV03G100_01500_TR	3	1	11,3 (0.445)	183 (123)	600/1000
CV03G150_01500_TR	3	1,5	12,4 (0.488)	222 (149)	600/1000
CV03G250_01500_TR	3	2,5	13,7 (0.539)	292 (196)	600/1000
CV03G400_01500_TR	3	4	15,4 (0.606)	376 (253)	600/1000
CV03G600_01500_TR	3	6	16,6 (0.654)	475 (319)	600/1000
CV03GB10_01500_TR	3	10	19,7 (0.776)	697 (468)	600/1000
CV03GB16_01500_TR	3	16	21,9 (0.862)	926 (622)	600/1000
CV03GB50_01500_TR	3	50	33,8 (1.331)	2151 (1445)	600/1000
CV04G050_01500_TR	4	0,5	11,1 (0.437)	171 (115)	600/1000
CV04G075_01500_TR	4	0,75	11,5 (0.453)	190 (128)	600/1000
CV04G100_01500_TR	4	1	11,9 (0.469)	205 (138)	600/1000
CV04G150_01500_TR	4	1,5	13,2 (0.520)	252 (169)	600/1000
CV04G250_01500_TR	4	2,5	14,9 (0.587)	346 (233)	600/1000
CV04G400_01500_TR	4	4	16,5 (0.650)	458 (308)	600/1000
CV04G600_01500_TR	4	6	17,8 (0.701)	563 (378)	600/1000

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04GB10_01500_TR	4	10	21,3 (0.839)	840 (564)	600/1000
CV04GB16_01500_TR	4	16	23,7 (0.933)	1145 (769)	600/1000
CV04GB25_01500_TR	4	25	28,6 (1.126)	1695 (1139)	600/1000
CV04GB35_01500_TR	4	35	31,7 (1.248)	2204 (1481)	600/1000
CV04GB50_01500_TR	4	50	37,3 (1.469)	3087 (2074)	600/1000
CV04GB70_01500_TR	4	70	42,8 (1.685)	4163 (2797)	600/1000
CV05G050_01500_TR	5	0,5	11,7 (0.461)	190 (128)	600/1000
CV05G075_01500_TR	5	0,75	12,3 (0.484)	213 (143)	600/1000
CV05G100_01500_TR	5	1	12,7 (0.500)	233 (157)	600/1000
CV05G150_01500_TR	5	1,5	14,1 (0.555)	304 (204)	600/1000
CV05G250_01500_TR	5	2,5	16,0 (0.630)	416 (280)	600/1000
CV05G400_01500_TR	5	4	17,8 (0.701)	532 (357)	600/1000
CV05G600_01500_TR	5	6	19,3 (0.760)	684 (460)	600/1000
CV05GB10_01500_TR	5	10	23,2 (0.913)	1019 (685)	600/1000
CV05GB16_01500_TR	5	16	26,0 (1.024)	1400 (941)	600/1000
CV05GB25_01500_TR	5	25	31,6 (1.244)	2095 (1408)	600/1000
CV05GB35_01500_TR	5	35	35,2 (1.386)	2732 (1836)	600/1000
CV07G050_01500_TR	7	0,5	12,4 (0.488)	215 (144)	600/1000
CV07G075_01500_TR	7	0,75	13,0 (0.512)	243 (163)	600/1000
CV07G100_01500_TR	7	1	13,5 (0.531)	277 (186)	600/1000
CV07G150_01500_TR	7	1,5	15,3 (0.602)	363 (244)	600/1000
CV07G250_01500_TR	7	2,5	17,1 (0.673)	491 (330)	600/1000
CV07G400_01500_TR	7	4	19,1 (0.752)	662 (445)	600/1000
CV07G600_01500_TR	7	6	20,8 (0.819)	835 (561)	600/1000
CV07GB10_01500_TR	7	10	25,2 (0.992)	1266 (851)	600/1000
CV07GB16_01500_TR	7	16	28,4 (1.118)	1766 (1187)	600/1000
CV07GB25_01500_TR	7	25	34,6 (1.362)	2679 (1800)	600/1000
CV10G050_01500_TR	10	0,5	14,5 (0.571)	298 (200)	600/1000
CV10G075_01500_TR	10	0,75	15,5 (0.610)	351 (236)	600/1000
CV10G100_01500_TR	10	1	16,2 (0.638)	404 (271)	600/1000
CV10G150_01500_TR	10	1,5	18,2 (0.717)	512 (344)	600/1000
CV10G250_01500_TR	10	2,5	20,6 (0.811)	708 (476)	600/1000
CV12G050_01500_TR	12	0,5	15,1 (0.594)	324 (218)	600/1000
CV12G075_01500_TR	12	0,75	15,9 (0.626)	387 (260)	600/1000
CV12G100_01500_TR	12	1	16,6 (0.654)	432 (290)	600/1000
CV12G150_01500_TR	12	1,5	18,7 (0.736)	553 (372)	600/1000
CV12G250_01500_TR	12	2,5	21,2 (0.835)	767 (515)	600/1000
CV14G050_01500_TR	14	0,5	15,6 (0.614)	348 (234)	600/1000
CV14G075_01500_TR	14	0,75	16,5 (0.650)	418 (281)	600/1000
CV14G100_01500_TR	14	1	17,2 (0.677)	468 (314)	600/1000
CV14G150_01500_TR	14	1,5	19,4 (0.764)	626 (421)	600/1000
CV14G250_01500_TR	14	2,5	22,1 (0.870)	845 (568)	600/1000
CV16G050_01500_TR	16	0,5	16,2 (0.638)	391 (263)	600/1000
CV16G075_01500_TR	16	0,75	17,2 (0.677)	451 (303)	600/1000
CV16G100_01500_TR	16	1	17,9 (0.705)	505 (339)	600/1000
CV16G150_01500_TR	16	1,5	20,3 (0.799)	682 (458)	600/1000
CV16G250_01500_TR	16	2,5	23,1 (0.909)	946 (636)	600/1000
CV18G050_01500_TR	18	0,5	17,0 (0.669)	426 (286)	600/1000
CV18G075_01500_TR	18	0,75	18,0 (0.709)	492 (331)	600/1000
CV18G100_01500_TR	18	1	18,8 (0.740)	555 (373)	600/1000
CV18G150_01500_TR	18	1,5	21,3 (0.839)	750 (504)	600/1000
CV18G250_01500_TR	18	2,5	24,4 (0.961)	1054 (708)	600/1000
CV21G050_01500_TR	21	0,5	18,2 (0.717)	480 (323)	600/1000
CV21G075_01500_TR	21	0,75	19,4 (0.764)	583 (392)	600/1000
CV21G100_01500_TR	21	1	20,2 (0.795)	658 (442)	600/1000
CV21G150_01500_TR	21	1,5	23,0 (0.906)	881 (592)	600/1000
CV25G050_01500_TR	25	0,5	18,9 (0.744)	522 (351)	600/1000
CV25G075_01500_TR	25	0,75	20,1 (0.791)	638 (429)	600/1000
CV25G100_01500_TR	25	1	21,0 (0.827)	719 (483)	600/1000

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV25G150_01500_TR	25	1,5	24,0 (0.945)	970 (652)	600/1000
CV25G250_01500_TR	25	2,5	27,7 (1.091)	1379 (927)	600/1000
CV34G050_01500_TR	34	0,5	21,4 (0.843)	683 (459)	600/1000
CV34G075_01500_TR	34	0,75	22,9 (0.902)	825 (554)	600/1000
CV34G100_01500_TR	34	1	24,0 (0.945)	941 (632)	600/1000
CV34G150_01500_TR	34	1,5	27,6 (1.087)	1292 (868)	600/1000
CV34G250_01500_TR	34	2,5	32,2 (1.268)	1872 (1258)	600/1000
CV37G075_01500_TR	37	0,75	22,9 (0.902)	841 (565)	600/1000
CV37G100_01500_TR	37	1	24,0 (0.945)	961 (646)	600/1000
CV37G150_01500_TR	37	1,5	27,6 (1.087)	1323 (889)	600/1000
CV42G075_01500_TR	42	0,75	24,3 (0.957)	950 (638)	600/1000
CV42G100_01500_TR	42	1	25,5 (1.004)	1104 (742)	600/1000
CV42G150_01500_TR	42	1,5	29,6 (1.165)	1527 (1026)	600/1000
CV50G075_01500_TR	50	0,75	26,1 (1.028)	1103 (741)	600/1000
CV50G100_01500_TR	50	1	27,5 (1.083)	1270 (853)	600/1000
CV50G150_01500_TR	50	1,5	32,0 (1.260)	1776 (1193)	600/1000
CV61G075_01500_TR	61	0,75	27,7 (1.091)	1255 (843)	600/1000
CV61G100_01500_TR	61	1	29,2 (1.150)	1465 (984)	600/1000
CV61G150_01500_TR	61	1,5	34,1 (1.343)	2061 (1385)	600/1000

Code composition

CV □□□ □□□ _01500_ □□

Color	To be inserted
Transparent	TR

Number of conductors	To be inserted
2	02X
3, ..., 61	03G, ..., 61G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 70,0 mm²	B10, ..., B70

SERIES 150S

"Armatek" armoured oil-resistant cables

Fixed application, shielded



RoHS

CE UK CA

Use

These cables are suitable as power supply and connection control cables, for machine tool, power stations, air conditioning systems as well as data processing systems. High mechanical protection is provided by the oxidation protected steel wire braiding under the transparent outer sheath which protects the braid against dirt. They are suitable for fixed installation but also for flexible applications under conditions of not continuously movement. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Copper strand, class 5
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Shield	Tinned copper braid, nom. coverage 85%
Inner jacket	Oil and flame-resistant PVC compound, RAL 7001 gray color.
Armour	Steel braid, coverage 65%
Outer jacket	Oil and flame-resistant PVC compound, transparent.
Temperature range	-40°C, +70°C (fixed); -5°C, +80°C (not fixed)
Voltage rating	600/1000 V
Test voltage	6000 V
Bending radius	12,5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1-2 | Other: CEI 20-11, VDE 0207, CEI EN 60228, VDE 0295, 2006/95/EC (Low Voltage Directive)

Marking

TEKIMA 0150S "ARMATEK" – CE 4G1 mm² 600/1000 V – IEC 60332-1-2 – ARMOURED – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage V]
CV04G250_0150S_TR	4	2,5	15,5 (0.610)	399 (268)	600/1000
CV04G400_0150S_TR	4	4	17,3 (0.681)	510 (343)	600/1000
CV04G600_0150S_TR	4	6	18,7 (0.736)	631 (424)	600/1000
CV04GB10_0150S_TR	4	10	22,1 (0.870)	911 (612)	600/1000
CV04GB16_0150S_TR	4	16	24,6 (0.969)	1164 (782)	600/1000
CV04GB25_0150S_TR	4	25	29,7 (1.169)	1738 (1168)	600/1000
CV04GB35_0150S_TR	4	35	32,9 (1.295)	2218 (1490)	600/1000
CV04GB50_0150S_TR	4	50	38,4 (1.512)	3102 (2084)	600/1000

Code composition

CV | □□□ | □□□ | **_0150S_** | □□

Number of conductors	To be inserted
4	04G

Size	To be inserted
2,50 mm², ..., 6,00 mm²	025, ..., 600
10,0 mm², ..., 50,0 mm²	B10, ..., B50

Color	To be inserted
Transparent	TR

SERIES 151

“Armatek” armoured oil-resistant cables

Fixed application, unshielded



RoHS

CE UK CA

Use

These cables are suitable as power supply and connection control cables, for machine tool, power stations, air conditioning systems as well as data processing systems. High mechanical protection is provided by the oxidation protected steel wire braiding under the transparent outer sheath which protects the braid against dirt. They are suitable for fixed installation but also for flexible applications under conditions of not continuously movement. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional cut-to-length service is carried out on request.

Technical data

Characteristics	Value/property
Conductor	Copper strand, class 5
Insulation	PVC compound
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Inner jacket	Oil and flame-resistant PVC compound, RAL 7001 gray color.
Armour	Steel braid, coverage 65%
Outer jacket	Oil and flame-resistant PVC compound, transparent.
Temperature range	-40°C, +70°C (fixed); -5°C, +80°C (not fixed)
Voltage rating	300/500 V
Test voltage	3000 V
Bending radius	12,5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1-2 | Other: CEI 20-11, VDE 0207, CEI EN 60228, VDE 0295, 2006/95/EC (Low Voltage Directive)

Marking

TEKIMA 01510 “ARMATEK” – CE 4G1 mm² 300/500 V – IEC 60332-1-2 – ARMOURED – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X050_01510_TR	2	0,5	7,2 (0.283)	83 (56)	300/500
CV02X075_01510_TR	2	0,75	7,6 (0.299)	93 (62)	300/500
CV02X100_01510_TR	2	1	7,9 (0.311)	101 (68)	300/500
CV02X150_01510_TR	2	1,5	8,7 (0.343)	123 (83)	300/500
CV02X250_01510_TR	2	2,5	10,1 (0.398)	175 (118)	300/500
CV02X400_01510_TR	2	4	11,6 (0.457)	241 (162)	300/500
CV02X600_01510_TR	2	6	13,4 (0.528)	328 (220)	300/500
CV03X050_01510_TR	3	0,5	7,5 (0.295)	91 (61)	300/500
CV03G075_01510_TR	3	0,75	7,9 (0.311)	103 (69)	300/500
CV03G100_01510_TR	3	1	8,5 (0.335)	119 (80)	300/500
CV03G150_01510_TR	3	1,5	9,1 (0.358)	151 (101)	300/500
CV03G250_01510_TR	3	2,5	10,6 (0.417)	204 (137)	300/500
CV03G400_01510_TR	3	4	12,3 (0.484)	287 (193)	300/500
CV03G600_01510_TR	3	6	14,1 (0.555)	391 (263)	300/500
CV03GB10_01510_TR	3	10	17,3 (0.681)	595 (400)	300/500
CV03GB16_01510_TR	3	16	20,0 (0.787)	866 (582)	300/500
CV04G050_01510_TR	4	0,5	7,9 (0.311)	101 (68)	300/500
CV04G075_01510_TR	4	0,75	8,6 (0.339)	121 (81)	300/500
CV04G100_01510_TR	4	1	9,0 (0.354)	135 (91)	300/500
CV04G150_01510_TR	4	1,5	9,9 (0.390)	178 (120)	300/500
CV04G250_01510_TR	4	2,5	11,5 (0.453)	253 (170)	300/500
CV04G400_01510_TR	4	4	13,5 (0.531)	358 (241)	300/500
CV04G600_01510_TR	4	6	15,4 (0.606)	485 (326)	300/500

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04GB10_01510_TR	4	10	19,3 (0.760)	778 (523)	300/500
CV04GB16_01510_TR	4	16	21,8 (0.858)	1077 (724)	300/500
CV04GB25_01510_TR	4	25	26,9 (1.059)	1623 (1091)	300/500
CV04GB35_01510_TR	4	35	30,3 (1.193)	2149 (1444)	300/500
CV05G050_01510_TR	5	0,5	8,7 (0.343)	119 (80)	300/500
CV05G075_01510_TR	5	0,75	9,2 (0.362)	147 (99)	300/500
CV05G100_01510_TR	5	1	9,6 (0.378)	164 (110)	300/500
CV05G150_01510_TR	5	1,5	10,6 (0.417)	204 (137)	300/500
CV05G250_01510_TR	5	2,5	12,6 (0.496)	299 (201)	300/500
CV05G400_01510_TR	5	4	14,7 (0.579)	424 (285)	300/500
CV05G600_01510_TR	5	6	16,9 (0.665)	580 (390)	300/500
CV05GB10_01510_TR	5	10	21,2 (0.835)	933 (627)	300/500
CV05GB16_01510_TR	5	16	24,4 (0.961)	1339 (900)	300/500
CV05GB25_01510_TR	5	25	29,8 (1.173)	2014 (1353)	300/500
CV05GB35_01510_TR	5	35	33,6 (1.323)	2648 (1779)	300/500
CV06G050_01510_TR	6	0,5	9,2 (0.362)	142 (95)	300/500
CV06G075_01510_TR	6	0,75	10,0 (0.394)	169 (114)	300/500
CV06G100_01510_TR	6	1	10,4 (0.409)	188 (126)	300/500
CV06G150_01510_TR	6	1,5	11,5 (0.453)	246 (165)	300/500
CV07G050_01510_TR	7	0,5	9,2 (0.362)	145 (97)	300/500
CV07G075_01510_TR	7	0,75	10,0 (0.394)	174 (117)	300/500
CV07G100_01510_TR	7	1	10,4 (0.409)	195 (131)	300/500
CV07G150_01510_TR	7	1,5	11,5 (0.453)	256 (172)	300/500
CV07G250_01510_TR	7	2,5	13,7 (0.539)	375 (252)	300/500
CV07G400_01510_TR	7	4	16,0 (0.630)	534 (359)	300/500
CV07G600_01510_TR	7	6	18,7 (0.736)	745 (501)	300/500
CV07GB10_01510_TR	7	10	23,0 (0.906)	1177 (791)	300/500
CV07GB16_01510_TR	7	16	26,8 (1.055)	1702 (1144)	300/500
CV07GB25_01510_TR	7	25	32,9 (1.295)	2599 (1746)	300/500
CV08G050_01510_TR	8	0,5	10,5 (0.413)	176 (118)	300/500
CV08G075_01510_TR	8	0,75	11,4 (0.449)	221 (149)	300/500
CV08G100_01510_TR	8	1	12,1 (0.476)	253 (170)	300/500
CV08G150_01510_TR	8	1,5	13,4 (0.528)	328 (220)	300/500
CV08G250_01510_TR	8	2,5	15,9 (0.626)	475 (319)	300/500
CV09G050_01510_TR	9	0,5	10,9 (0.429)	189 (127)	300/500
CV09G075_01510_TR	9	0,75	11,8 (0.465)	236 (159)	300/500
CV09G100_01510_TR	9	1	12,6 (0.496)	273 (183)	300/500
CV09G150_01510_TR	9	1,5	13,9 (0.547)	353 (237)	300/500
CV09G250_01510_TR	9	2,5	16,6 (0.654)	518 (348)	300/500
CV10G050_01510_TR	10	0,5	11,0 (0.433)	195 (131)	300/500
CV10G075_01510_TR	10	0,75	12,2 (0.480)	252 (169)	300/500
CV10G100_01510_TR	10	1	13,0 (0.512)	291 (196)	300/500
CV10G150_01510_TR	10	1,5	14,4 (0.567)	379 (255)	300/500
CV10G250_01510_TR	10	2,5	16,9 (0.665)	546 (367)	300/500
CV11G150_01510_TR	11	1,5	14,4 (0.567)	390 (262)	300/500
CV11G400_01510_TR	11	4	20,3 (0.799)	850 (571)	300/500
CV12G050_01510_TR	12	0,5	11,5 (0.453)	224 (151)	300/500
CV12G075_01510_TR	12	0,75	12,5 (0.492)	270 (181)	300/500
CV12G100_01510_TR	12	1	13,3 (0.524)	314 (211)	300/500
CV12G150_01510_TR	12	1,5	14,7 (0.579)	410 (276)	300/500
CV12G250_01510_TR	12	2,5	17,6 (0.693)	608 (409)	300/500
CV12G400_01510_TR	12	4	21,0 (0.827)	911 (612)	300/500
CV14G050_01510_TR	14	0,5	12,1 (0.476)	246 (165)	300/500
CV14G075_01510_TR	14	0,75	13,2 (0.520)	300 (202)	300/500
CV14G100_01510_TR	14	1	13,8 (0.543)	352 (237)	300/500
CV14G150_01510_TR	14	1,5	15,3 (0.602)	451 (303)	300/500
CV14G250_01510_TR	14	2,5	18,5 (0.728)	689 (463)	300/500
CV15G075_01510_TR	15	0,75	13,5 (0.531)	324 (218)	300/500
CV16G050_01510_TR	16	0,5	12,6 (0.496)	266 (179)	300/500
CV16G075_01510_TR	16	0,75	13,7 (0.539)	335 (225)	300/500

Code	Number of conductors	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV16G100_01510_TR	16	1	14,6 (0.575)	391 (263)	300/500
CV16G150_01510_TR	16	1,5	16,2 (0.638)	513 (345)	300/500
CV16G250_01510_TR	16	2,5	19,7 (0.776)	797 (536)	300/500
CV18G050_01510_TR	18	0,5	13,4 (0.528)	306 (206)	300/500
CV18G075_01510_TR	18	0,75	14,6 (0.575)	374 (251)	300/500
CV18G100_01510_TR	18	1	15,3 (0.602)	427 (287)	300/500
CV18G150_01510_TR	18	1,5	17,0 (0.669)	563 (378)	300/500
CV18G250_01510_TR	18	2,5	20,9 (0.823)	887 (596)	300/500
CV19G050_01510_TR	19	0,5	13,4 (0.528)	309 (208)	300/500
CV19G075_01510_TR	19	0,75	14,6 (0.575)	379 (255)	300/500
CV19G100_01510_TR	19	1	15,3 (0.602)	434 (292)	300/500
CV19G150_01510_TR	19	1,5	17,0 (0.669)	574 (386)	300/500
CV20G100_01510_TR	20	1	16,2 (0.638)	482 (324)	300/500
CV21G050_01510_TR	21	0,5	14,6 (0.575)	353 (237)	300/500
CV21G075_01510_TR	21	0,75	15,6 (0.614)	432 (290)	300/500
CV21G100_01510_TR	21	1	16,7 (0.657)	507 (341)	300/500
CV21G150_01510_TR	21	1,5	18,7 (0.736)	672 (452)	300/500
CV24G075_01510_TR	24	0,75	16,4 (0.646)	476 (320)	300/500
CV24G100_01510_TR	24	1	17,5 (0.689)	559 (376)	300/500
CV24G150_01510_TR	24	1,5	19,8 (0.780)	773 (519)	300/500
CV25G050_01510_TR	25	0,5	15,1 (0.594)	383 (257)	300/500
CV25G075_01510_TR	25	0,75	16,5 (0.650)	485 (326)	300/500
CV25G100_01510_TR	25	1	17,5 (0.689)	566 (380)	300/500
CV25G150_01510_TR	25	1,5	19,8 (0.780)	783 (526)	300/500
CV25G250_01510_TR	25	2,5	23,9 (0.941)	1175 (790)	300/500
CV26G075_01510_TR	26	0,75	16,8 (0.661)	501 (337)	300/500
CV26G100_01510_TR	26	1	18,1 (0.713)	606 (407)	300/500
CV26G150_01510_TR	26	1,5	20,3 (0.799)	816 (548)	300/500
CV27G050_01510_TR	27	0,5	16,0 (0.630)	431 (290)	300/500
CV27G075_01510_TR	27	0,75	17,4 (0.685)	529 (355)	300/500
CV27G100_01510_TR	27	1	18,5 (0.728)	629 (423)	300/500
CV27G150_01510_TR	27	1,5	21,0 (0.827)	859 (577)	300/500
CV30G050_01510_TR	30	0,5	16,2 (0.638)	448 (301)	300/500
CV30G075_01510_TR	30	0,75	17,7 (0.697)	566 (380)	300/500
CV30G150_01510_TR	30	1,5	21,3 (0.839)	904 (607)	300/500
CV32G050_01510_TR	32	0,5	16,5 (0.650)	466 (313)	300/500
CV32G075_01510_TR	32	0,75	18,2 (0.717)	596 (400)	300/500
CV32G100_01510_TR	32	1	19,6 (0.772)	732 (492)	300/500
CV32G150_01510_TR	32	1,5	21,7 (0.854)	960 (645)	300/500
CV34G050_01510_TR	34	0,5	17,5 (0.689)	511 (343)	300/500
CV34G075_01510_TR	34	0,75	19,5 (0.768)	683 (459)	300/500
CV34G100_01510_TR	34	1	20,7 (0.815)	795 (534)	300/500
CV34G150_01510_TR	34	1,5	23,0 (0.906)	1046 (703)	300/500
CV34G250_01510_TR	34	2,5	28,1 (1.106)	1610 (1082)	300/500
CV36G075_01510_TR	36	0,75	19,5 (0.768)	693 (466)	300/500
CV36G100_01510_TR	36	1	20,7 (0.815)	809 (544)	300/500
CV37G075_01510_TR	37	0,75	19,5 (0.768)	698 (469)	300/500
CV37G100_01510_TR	37	1	20,7 (0.815)	816 (548)	300/500
CV37G150_01510_TR	37	1,5	23,0 (0.906)	1077 (724)	300/500
CV41G100_01510_TR	41	1	22,2 (0.874)	930 (625)	300/500
CV41G150_01510_TR	41	1,5	24,8 (0.976)	1231 (827)	300/500
CV42G075_01510_TR	42	0,75	20,8 (0.819)	783 (526)	300/500
CV42G100_01510_TR	42	1	22,2 (0.874)	937 (630)	300/500
CV42G150_01510_TR	42	1,5	24,8 (0.976)	1241 (834)	300/500
CV50G075_01510_TR	50	0,75	22,4 (0.882)	916 (616)	300/500
CV50G100_01510_TR	50	1	23,9 (0.941)	1080 (726)	300/500
CV50G150_01510_TR	50	1,5	27,0 (1.063)	1454 (977)	300/500
CV61G075_01510_TR	61	0,75	23,9 (0.941)	1051 (706)	300/500
CV61G100_01510_TR	61	1	25,6 (1.008)	1265 (850)	300/500
CV61G150_01510_TR	61	1,5	28,6 (1.126)	1685 (1132)	300/500

Code composition

CV	□□□	□□□	_01510_	□□

Number of conductors	To be inserted
2	02X
3, ..., 61	03G, ..., 61G

Size	To be inserted
0,14 mm^2, ..., 6,00 mm^2	014, ..., 600
10,0 mm^2, ..., 35,0 mm^2	B10, ..., B35

Color	To be inserted
Transparent	TR

SERIES 8200

Metal-Clad Cable, MC-HL

Armored and unshielded



Use

UL Listed armored and unshielded cables intended for the uses specified by article 330 of ANSI/NFPA 70 “National Electrical Code” (NEC) and suitable for use in Class I, Division 1, Hazardous Locations. These armored cables are manufactured specifically to meet the particular industrial requirements, where durability, impact and corrosion resistance, but also flexibility and easy employment are needed.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

According to NEC, MC-HL cables can be used as follows[1]:

(1) For services, feeders and branch circuits.
(2) For power, lighting, control and signal circuits.
(3) Indoors or outdoors.
(4) Exposed or concealed.
(5) To be direct buried where identified for such use.
(6) In cable tray where identified for such use.
(7) In any raceways.
(8) As aerial cable on a messenger.
(9) In hazardous (classified) locations as permitted.
(10) In dry locations and embedded in plaster finish on brick or other masonry except in damp or wet locations.
(11) In wet locations where any of the following conditions are met:
a. The metallic covering is impervious to moisture.
b. A lead sheath or moisture-impervious jacket is provided under the metal covering.
c. The insulated conductors under the metallic covering are listed for use in wet locations.
(12) Where single-conductor cables are used, all phase conductors and, where used, the neutral conductor shall be grouped together to minimize induced voltage on the sheath.

Characteristics	Value/property
Conductor	Copper strand
Insulation	XLPE
Conductor distinction	ICEA Method 1, table E-2 (see appendix) for sizes 14 AWG ÷ 10 AWG ICEA Method 4 for sizes 8 AWG ÷ 4/0 AWG
Ground wire	Bare copper
Taping	Synthetic material
Armor	Aluminium corrugated armor
Jacket	PVC
Temperature range	+90°C
Voltage rating	600 V
Bending radius	12 x cable outer diameter
Construction reference standards	UL approvals: (UL) Type MC-HL (Hazardous Locations), Class 1, Div. 1 NEC Art. 330, 501; UL 1569, UL 2225
Standards of use	NFPA 70 (NEC)

Coding and dimensions

Code	Number of conductors*	Size [AWG]	Ground wire size [AWG]	Cord diameter [mm (inch)]	Armour diameter [mm (inch)]	Jacket diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03XW14_82000_NE	3	14	3x18	9,9 (0.390)	14,1 (0.555)	16,8 (0.661)	298 (200)
CV03XW12_82000_NE	3	12	3x16	8,6 (0.340)	14,1 (0.555)	16,8 (0.661)	336 (226)
CV03XW10_82000_NE	3	10	3x14	11,4 (0.450)	15,8 (0.620)	18,4 (0.724)	464 (312)
CV04XW14_82000_NE	4	14	14	8,8 (0.345)	13,3 (0.522)	15,9 (0.627)	302 (203)
CV05XW14_82000_NE	5	14	14	9,7 (0.380)	13,5 (0.532)	16,1 (0.634)	333 (224)
CV07XW14_82000_NE	7	14	14	10,9 (0.430)	15,3 (0.602)	18,0 (0.710)	427 (287)
CV12XW14_82000_NE	12	14	14	14,2 (0.560)	20,0 (0.788)	22,7 (0.893)	632 (425)

* Ground wire not included

Code composition

CV	□□	X	□□□	_82000_NE

Number of conductors	To be inserted
3, ..., 12	03, ..., 12

Size	To be inserted
10, 12, 14	W10, W12, W14

SERIES 8200S

Metal-Clad Cable, MC-HL

Multiple pair cables, armored and shielded



Use

UL Listed armored and shielded cables intended for the uses specified by article 330 of ANSI/NFPA 70 “National Electrical Code” (NEC) and suitable for use in Class I, Division 1, Hazardous Locations. These armored cables are specifically made to meet particular industrial needs, where durability, impact and corrosion resistant, but also flexibility and easy use are needed.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

According to NEC, MC-HL cables can used as follows[1]:

(1) For services, feeders and branch circuits.
(2) For power, lighting, control and signal circuits.
(3) Indoors or outdoors.
(4) Exposed or concealed.
(5) To be direct buried where identified for such use.
(6) In cable tray where identified for such use.
(7) In any raceways.
(8) As aerial cable on a messenger.
(9) In hazardous (classified) locations as permitted.
(10) In dry locations and embedded in plaster finish on brick or other masonry except in damp or wet locations.
(11) In wet locations where any of the following conditions are met:
a. The metallic covering is impervious to moisture.
b. A lead sheath or moisture-impervious jacket is provided under the metal covering.
c. The insulated conductors under the metallic covering are listed for use in wet locations.
(12) Where single-conductor cables are used, all phase conductors and, where used, the neutral conductor shall be grouped together to minimize induced voltage on the sheath.

Characteristics	Value/property
Conductor	Copper strand
Insulation	PVC/Nylon
Conductor distinction	Numbered, black/white pairs
Shield	Aluminium tape on pairs and total, complete with drain wire
Internal jacket	PVC
Armor	Corrugated aluminium armor
External jacket	PVC, black color
Temperature range	+90°C
Voltage rating	600 V
Bending radius	12 x cable outer diameter
Standards of construction	UL approvals: (UL) Type MC-HL (Hazardous Locations), Class 1, Div. 1 NEC Art. 330, 501; UL 1569, UL 2225
Standards of use	NFPA 70 (NEC)

Coding and dimensions

Code	Number of conductors	Size [AWG]	Cord diameter [mm (inch)]	Internal jacket diameter [mm (inch)]	Armour diameter [mm (inch)]	Jacket diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02XW16_8200S_NE	1x2	16	5,2 (0.204)	7,2 (0.285)	12,2 (0.482)	14,8 (0.584)	238 (160)
CV04XW16_8200S_NE	2x2	16	10,8 (0.424)	12,9 (0.506)	19,1 (0.752)	21,7 (0.856)	366 (246)
CV08XW16_8200S_NE	4x2	16	12,2 (0.482)	14,8 (0.584)	20,2 (0.797)	22,9 (0.901)	469 (315)
CV16XW16_8200S_NE	8x2	16	16,1 (0.635)	18,8 (0.740)	24,6 (0.968)	27,2 (1.072)	839 (564)
CV24XW16_8200S_NE	12x2	16	20,2 (0.797)	22,9 (0.900)	30,2 (1.190)	32,9 (1.294)	1133 (761)

Code composition

CV	□□	X	□□□	_8200S_NE

Number of conductors	To be inserted
1x2, ..., 12x2	02, ..., 24

Size	To be inserted
16	W16

SERIES 8250

Metal-Clad Cable, Teck 90-HL

Armored and unshielded



Use

CSA armored and unshielded cables built for uses specified by the Canadian Electrical Code (CEC) and suitable for use in Class I, Division 1, Hazardous Locations. These armored cables are specifically made to meet particular industrial needs, where durability, impact and corrosion resistant, but also flexibility and easy use are needed.

Information. Please ask the sales department for the possibility of an additional UL certified cut-to-size service ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Copper strand
Insulation	XLPE
Conductor distinction	See following table
Ground wire	Bare copper
Internal jacket	PVC
Armor	Corrugated aluminium armor
External jacket	PVC
Temperature range	+90°C
Voltage rating	600 V
Bending radius	12 x cable outer diameter
Standards of construction	CSA approvals: (CSA) Type Teck90-HL (Hazardous Locations), Class 1, Div. 2 CSA C22.1 (CE Code), CSA C22.2 No.131
Standards of use	CSA C22.1 (CE Code), CSA C22.2 No.131

Coding and dimensions

Code	Number of conductors*	Size [AWG]	Ground wire size [AWG]	Internal jacket diameter [mm (inch)]	Armour diameter [mm (inch)]	Jacket diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Colors of conductors
CV03XW14_82500_NE	3	14	14	9,9 (0.390)	14,7 (0.580)	16,8 (0.660)	331 (222)	Black, red, blu
CV03XW12_82500_NE	3	12	14	10,9 (0.430)	15,8 (0.620)	17,8 (0.700)	390 (262)	Black, red, blu
CV03XW10_82500_NE	3	10	12	12,7 (0.500)	17,8 (0.700)	19,1 (0.750)	488 (328)	Black, red, blu
CV03XW08_82500_NE	3	8	10	16,0 (0.630)	21,1 (0.830)	22,9 (0.900)	703 (472)	Black, red, blu
CV05XW14_82500_NE	5	14	14	11,9 (0.470)	16,8 (0.660)	18,8 (0.740)	424 (285)	White + black numbered
CV07XW14_82500_NE	7	14	14	13,0 (0.510)	17,8 (0.700)	19,8 (0.780)	494 (332)	White + black numbered
CV12XW14_82500_NE	12	14	14	17,5 (0.690)	24,1 (0.950)	24,6 (0.970)	822 (552)	White + black numbered

* Ground wire not included

Code composition

CV	□□	X	□□□	_82500_NE

Number of conductors	To be inserted
2, ..., 25	02, ..., 25

Size	To be inserted
8, 10, ..., 18 AWG	W08, W10, ..., W18





Cables for dynamic applications

tekima

SERIES 8410

Power and Control Tray Cable, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res, Hazardous Locations

Dynamic application, unshielded



Use

Unshielded UL Listed cables built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 "National Electrical Code" (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. These TC-ER (Exposed Run) cables are used in power chains or moving machine parts for travel distances up to 15 m. They can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables Type MC (Metal Clad Cable); this type of connection is called Open Wiring. These cables are oil resistant and are suitable to be used in dry, damp and wet interiors. These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 6
Insulation	TKblend®-R
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Taping	Nonwoven tape
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or, on request, black color. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
	6000 V
Speed	180 m/min (unsupported chain), 120 m/min (sliding chain)
Acceleration	10 m/s² (≤10 mm²), 5 m/s² (>10 mm²)
Bending radius	7,5 x cable outer diameter (≤10 mm²), 10 x cable outer diameter (>10 mm²)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, cU-Rus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 84100 – CE 4G2,5 mm² (UL) E361258 TC-ER-HL 4x14 AWG DIR BUR SUN RES OIL RES I OIL RES II 600V THHW 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC FT4 or AWM I/II A/B 90°C 1000V FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_84100_□□**	2	18	1	8,0 (0.315)	90 (60)
CV02X150_84100_□□**	2	16	1,5	8,6 (0.339)	109 (73)
CV02X250_84100_□□**	2	14	2,5	9,4 (0.370)	141 (95)
CV03G100_84100_□□	3	18	1	8,7 (0.343)	111 (75)
CV03G150_84100_□□	3	16	1,5	9,4 (0.370)	136 (91)
CV03G250_84100_□□	3	14	2,5	10,3 (0.406)	179 (120)
CV03G400_84100_□□	3	12	4	11,7 (0.461)	247 (166)
CV03G600_84100_□□	3	10	6	13,9 (0.547)	358 (241)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G100_84100_□□	4	18	1	9,4 (0.370)	133 (89)
CV04G150_84100_□□	4	16	1,5	10,1 (0.398)	163 (110)
CV04G250_84100_□□	4	14	2,5	11,1 (0.437)	217 (146)
CV04G400_84100_□□	4	12	4	12,7 (0.500)	304 (204)
CV04G600_84100_□□	4	10	6	15,0 (0.591)	438 (294)
CV04GB10_84100_□□	4	8	10	19,3 (0.760)	727 (489)
CV04GB16_84100_□□	4	6	16	24,9 (0.980)	1185 (796)
CV04GB25_84100_□□	4	4	25	27,8 (1.094)	1465 (984)
CV04GB35_84100_□□	4	2	35	32,3 (1.272)	1465 (984)
CV05G100_84100_□□	5	18	1	10,3 (0.406)	161 (108)
CV05G150_84100_□□	5	16	1,5	11,1 (0.437)	199 (134)
CV05G250_84100_□□	5	14	2,5	12,2 (0.480)	265 (178)
CV05G400_84100_□□	5	12	4	14,7 (0.579)	398 (267)
CV05G600_84100_□□	5	10	6	16,5 (0.650)	537 (361)
CV05GB10_84100_□□	5	8	10	22,5 (0.886)	951 (639)
CV05GB16_84100_□□	5	6	16	27,6 (1.087)	1465 (984)
CV07G100_84100_□□	7	18	1	12,1 (0.476)	223 (150)
CV07G150_84100_□□	7	16	1,5	13,1 (0.516)	277 (186)
CV07G250_84100_□□	7	14	2,5	15,2 (0.598)	400 (269)
CV07G400_84100_□□	7	12	4	17,8 (0.701)	574 (386)
CV08G100_84100_□□	8	18	1	13,0 (0.512)	256 (172)
CV08G150_84100_□□	8	16	1,5	14,8 (0.583)	346 (233)
CV08G250_84100_□□	8	14	2,5	16,3 (0.642)	459 (308)
CV12G100_84100_□□	12	18	1	15,1 (0.594)	355 (239)
CV12G150_84100_□□	12	16	1,5	16,4 (0.646)	446 (300)
CV12G250_84100_□□	12	14	2,5	18,1 (0.713)	603 (405)
CV18G100_84100_□□	18	18	1	17,6 (0.693)	494 (332)
CV18G150_84100_□□	18	16	1,5	19,2 (0.756)	627 (421)
CV25G100_84100_□□	25	18	1	20,8 (0.819)	696 (468)
CV25G150_84100_□□	25	16	1,5	23,8 (0.937)	938 (630)

** According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).

Code composition

CV □□□ □□□ _84100_ □□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
1,00 mm², ..., 6,00 mm²	100, ..., 600
10,0 mm², ..., 35,0 mm²	B10, ..., B35

Color	To be inserted
Gray	GR
Black	NE

SERIES 8410S

Power and Control Tray Cable, TC-ER-HL/CIC/MTW/WTTC/AWM Direct Burial, Sun Res, Hazardous Locations

Dynamic application, shielded



Use

Shielded UL Listed cables built for the uses specified by ANSI/NFPA 79, by Art. 336, 392, 501 of ANSI/NFPA 70 “National Electrical Code” (NEC) and by CSA C22.1 (CE Code). For applications in Hazardous Locations, the TC-ER version is suitable for use in Class I, Division 2 while the TC-ER-HL* version is suitable for use in Class I, Division 1. These TC-ER (Exposed Run) cables are used in power chains or moving machine parts for travel distances up to 15 m. They can be installed in the industrial plants for the connections between the cable trays and the equipment without the employment of metal conduits or reinforced cables MC type (Metal Clad Cable); this type of connection is called Open Wiring. These cables are oil resistant and are suitable to be used in dry, damp and wet interiors. These cables are also certified Flexible Motor Supply Cable for variable speed drives and Wind Turbine Tray Cable (WTTC) for wind turbine applications.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

* Important. The TC-ER-HL version for installations in Hazardous Locations Class I, Division 1 is upon specific request.

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 6
Insulation	TKblend®-R
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Inner taping	Nonwoven tape
Shield	Gray version: Tinned copper braid, nom. coverage 85% Black version: Aluminum/polyester + Tinned copper braid, nom. coverage 85%
Outer taping	Nonwoven tape
Jacket	PVC compound, oil-resistant, RAL 7001 gray color or, on request, black color. Metric marking.
Temperature range	+90°C (dry conditions), +75°C (wet conditions) -40°C (fixed); -5°C (not fixed)
Voltage rating	600 V (TC/CIC/MTW), 1000 V (AWM/WTTC), 600/1000 V (IEC)
Spark test	6000 V
Speed	180 m/min (unsupported chain), 120 m/min (sliding chain)
Accelerazione Acceleration	10 m/s^2 (≤10 mm^2), 5 m/s^2 (>10 mm^2)
Bending radius	7,5 x cable outer diameter (≤10 mm^2), 10 x cable outer diameter (>10 mm^2)
Standards of construction	UL/CSA approvals: (UL) Type TC-ER-HL (18 AWG-1000 kcmil), MTW, WTTC, Dir Bur, Sun Res, Oil Res I, Oil Res II, c(UL) TC-ER (18 AWG-1000 kcmil), CIC (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, cU-Rus AWM Style 21179, AWM I/II A/B; Class 1, Div.1* or Div.2 NEC Art. 336, 392, 501; CSA C22.1 Tab.19; UL 1581, UL 758, UL 1277, UL 1063, UL 2277, CSA C22.2 No.230-09 e No. 239-09 | Flame res.: FT1, FT4, IEC 60332-1-2, IEC 60332-3-24 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: Low Voltage Directive (LVD) 2014/35/EU
Standards of use	NFPA 79, NFPA 70 (NEC), CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21179

Marking

TEKIMA 8410S – CE 4G2,5 mm^2 (UL) E361258 TC-ER-HL 4x14 AWG DIR BUR SUN RES OIL RES I OIL RES II 600V THHW 90°C Dry / 75°C Wet FT4/IEEE 1202 or WTTC or FLEXIBLE MOTOR SUPPLY CABLE 1000V 90°C Dry or MTW 600V or AWM 21179 90°C 1000V c(UL) CONTROL CABLE CIC/TC-ER DIR BUR SUN RES OIL RES I OIL RES II 600V 90°C Dry / 75°C Wet PVC SHIELDED FT4 or AWM I/II A/B 90°C 1000V FT1 14 AWG – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X100_8410S_□□**	2	18	1	8,6 (0.339)	103 (69)
CV02X150_8410S_□□**	2	16	1,5	9,2 (0.362)	119 (80)
CV02X250_8410S_□□**	2	14	2,5	10,0 (0.394)	149 (100)
CV03G100_8410S_□□	3	18	1	9,3 (0.366)	121 (81)
CV03G150_8410S_□□	3	16	1,5	10,0 (0.394)	147 (99)
CV03G250_8410S_□□	3	14	2,5	10,9 (0.429)	189 (127)
CV03G400_8410S_□□	3	12	4	12,3 (0.484)	250 (168)
CV03G600_8410S_□□	3	10	6	14,7 (0.579)	372 (250)
CV04G100_8410S_□□	4	18	1	10,0 (0.394)	148 (99)
CV04G150_8410S_□□	4	16	1,5	10,7 (0.421)	182 (122)
CV04G250_8410S_□□	4	14	2,5	11,7 (0.461)	235 (158)
CV04G400_8410S_□□	4	12	4	13,5 (0.531)	335 (225)
CV04G600_8410S_□□	4	10	6	15,8 (0.622)	470 (316)
CV04GB10_8410S_□□	4	8	10	20,1 (0.791)	736 (495)
CV04GB16_8410S_□□	4	6	16	25,7 (1.012)	1169 (786)
CV04GB25_8410S_□□	4	4	25	28,6 (1.126)	1580 (1062)
CV04GB35_8410S_□□	4	2	35	33,3 (1.311)	2167 (1456)
CV05G100_8410S_□□	5	18	1	10,9 (0.429)	176 (118)
CV05G150_8410S_□□	5	16	1,5	11,7 (0.461)	214 (144)
CV05G250_8410S_□□	5	14	2,5	12,8 (0.504)	273 (183)
CV05G400_8410S_□□	5	12	4	15,5 (0.610)	417 (280)
CV05G600_8410S_□□	5	10	6	17,3 (0.681)	557 (374)
CV05GB10_8410S_□□	5	8	10	23,3 (0.917)	941 (632)
CV05GB16_8410S_□□	5	6	16	28,4 (1.118)	1402 (942)
CV07G100_8410S_□□	7	18	1	12,7 (0.500)	230 (155)
CV07G150_8410S_□□	7	16	1,5	13,9 (0.547)	300 (202)
CV07G250_8410S_□□	7	14	2,5	16,0 (0.630)	421 (283)
CV08G100_8410S_□□	8	18	1	13,8 (0.543)	279 (187)
CV08G150_8410S_□□	8	16	1,5	15,6 (0.614)	369 (248)
CV08G250_8410S_□□	8	14	2,5	17,1 (0.673)	477 (321)
CV12G100_8410S_□□	12	18	1	15,9 (0.626)	380 (255)
CV12G150_8410S_□□	12	16	1,5	17,2 (0.677)	467 (314)
CV12G250_8410S_□□	12	14	2,5	18,9 (0.744)	614 (413)
CV18G100_8410S_□□	18	18	1	18,4 (0.724)	513 (345)
CV18G150_8410S_□□	18	16	1,5	20,0 (0.787)	636 (427)
CV25G100_8410S_□□	25	18	1	21,6 (0.850)	676 (454)
CV25G150_8410S_□□	25	16	1,5	24,6 (0.969)	908 (610)

** According to NFPA 70 (NEC) and CSA C22.1 (CEC) cables with 2 conductors are not Exposed Run (ER).

Code composition

CV	□□□	□□□	_8410S_	□□

Number of conductors	To be inserted
2	02X
3, ..., 25	03G, ..., 25G

Size	To be inserted
1,00 mm², ..., 6,00 mm²	100, ..., 600
10,0 mm², ..., 35,0 mm²	B10, ..., B35

Color	To be inserted
Gray	GR
Black	NE

SERIES 400S

Multi-norm oil-resistant cables for servo motors

Dynamic application, shielded



Use

Shielded cables for mobile use without tensile stress. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The jacket, made of PVC compound, grants a good flexibility and a very good resistance to abrasion; these cables exhibit a resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	TKblend®-YP
Conductor distinction	Power: black numbered + yellow/green. Signal: black numbered
Fillers	Central or side fillers, if any
Pairs shield	Aluminum/polyester and tinned copper braid, nom. coverage 85%
Pairs taping	Polyester
Total taping	Polyester
Shield	Tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, Desina RAL 2003 orange color. Metric marking.
Temperature range	-5°C, +80°C (dynamic); -40°C, +80°C (fixed)
Voltage rating	1000 V (UL-CSA), 600/1000 V (IEC)
Test voltage	6000 V
Speed	180 m/min
Acceleration	3 m/s²
Bending radius	7 x cable outer diameter (fixed), 20 x cable outer diameter (dynamic)
Standards of construction	Flame res.: IEC 60332-1-2, IEC 60332-3-24, DIN VDE 0472 part 804 Meth.B, UL VW-1, CSA FT1 | Oil res.: DIN EN 50290-2-22 resp. VDE 0819-102 | Other: UL 758, CSA AWM I/II A/B, cURus AWM Style 2570, Low Voltage Directive (LVD) 2014/35/EC
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2570

Marking

TEKIMA 0400S – CE (4G1,5+(2x1)) mm² 80°C 600/1000 V IEC 60332-1-2 IEC 60332-3-24 – c(UR)us E314444 AWM Style 2570 (4x18+(2x16)) AWG 80°C 1000 V VW-1 Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG/kcmil]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0002_0400S_D2	(4x18+(2x21))	(4G1+(2x0,5))	10,0 (0.394)	125 (84)
CVFM0003_0400S_D2	(4x16+(2x21))	(4G1,5+(2x0,5))	10,7 (0.421)	149 (100)
CVFM0004_0400S_D2	(4x16+(2x18))	(4G1,5+(2x1))	11,3 (0.445)	157 (105)
CVFM0005_0400S_D2	(4x16+(2x16))	(4G1,5+(2x1,5))	11,5 (0.453)	154 (103)
CVFM0006_0400S_D2	(4x16)	(4G1,5)	8,8 (0.346)	120 (81)
CVFM0007_0400S_D2	(4x14+(2x21))	(4G2,5+(2x0,5))	11,6 (0.457)	198 (133)
CVFM0008_0400S_D2	(4x14+(2x19))	(4G2,5+(2x0,75))	11,9 (0.469)	204 (137)
CVFM0009_0400S_D2	(4x14+(2x18))	(4G2,5+(2x1))	12,3 (0.484)	206 (138)
CVFM0010_0400S_D2	(4x14+(2x16))	(4G2,5+(2x1,5))	12,7 (0.500)	209 (140)
CVFM0011_0400S_D2	(4x14)	(4G2,5)	10,1 (0.398)	179 (120)
CVFM0012_0400S_D2	(4x12+(2x18))	(4G4+(2x1))	14,0 (0.551)	302 (203)

Code	Num. conductors x Size [AWG/kcmil]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0013_0400S_D2	(4x12+(2x16))	(4G4+(2x1,5))	14,4 (0.567)	302 (203)
CVFM0014_0400S_D2	(4x12)	(4G4)	11,7 (0.461)	256 (172)
CVFM0015_0400S_D2	(4x10+(2x18))	(4G6+(2x1))	15,7 (0.618)	403 (271)
CVFM0016_0400S_D2	(4x10+(2x16))	(4G6+(2x1,5))	16,3 (0.642)	415 (279)
CVFM0017_0400S_D2	(4x10)	(4G6)	13,5 (0.531)	354 (238)
CVFM0018_0400S_D2	(4x8+(2x18))	(4G10+(2x1))	18,2 (0.717)	592 (398)
CVFM0019_0400S_D2	(4x8+(2x16))	(4G10+(2x1,5))	18,7 (0.736)	602 (405)
CVFM0020_0400S_D2	(4x8)	(4G10)	16,5 (0.650)	568 (382)
CVFM0021_0400S_D2	(4x6+(2x18))	(4G16+(2x1))	21,5 (0.846)	876 (589)
CVFM0022_0400S_D2	(4x6+(2x16))	(4G16+(2x1,5))	22,0 (0.866)	890 (598)
CVFM0023_0400S_D2	(4x6)	(4G16)	20,2 (0.795)	867 (583)
CVFM0024_0400S_D2	(4x4+(2x16))	(4G25+(2x1,5))	26,0 (1.024)	1307 (878)
CVFM0025_0400S_D2	(4x4)	(4G25)	24,7 (0.972)	1309 (880)
CVFM0026_0400S_D2	(4x2+(2x16))	(4G35+(2x1,5))	29,3 (1.154)	1749 (1175)
CVFM0027_0400S_D2	(4x2)	(4G35)	27,9 (1.098)	1738 (1168)
CVFM0028_0400S_D2	(4x1+(2x16))	(4G50+(2x1,5))	34,2 (1.346)	2489 (1673)
CVFM0029_0400S_D2	(4x1)	(4G50)	33,4 (1.315)	2499 (1679)
CVFM0030_0400S_D2	(4x2/0)	(4G70)	39,7 (1.563)	3453 (2320)
CVFM0031_0400S_D2	(4x3/0)	(4G95)	43,8 (1.724)	4486 (3014)
CVFM0032_0400S_D2	(4x4/0)	(4G120)	46,8 (1.843)	5430 (3649)
CVFM0033_0400S_D2	(4x250)	(4G150)	52,4 (2.063)	6925 (4653)

Code composition

CVFM | □□□□ | **_0400S_** | □□

Color	To be inserted
Orange Desina	D2

Construction

Identifier code of the cable construction.

SERIES 410

Multi-norm oil-resistant cables

Dynamic application, unshielded



Use

Unshielded cables for mobile use in power chains or moving machine parts for travel distances up to 10 m. They are normally used for equipment intended for the European (EC), North American and Canadian markets. The jacket, made of PVC compound, grants a good flexibility and a very good resistance to abrasion. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	PVC
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Taping	Non-woven tape
Jacket	PVC compound, oil-resistant, RAL 7001 gray color. Metric marking.
Temperature range	-0°C, +90°C (dynamic); -40°C, +90°C (fixed)
Voltage rating	300/500 V (IEC), 600 V (UL-CSA)
Test voltage	6000 V
Speed	180 m/min
Acceleration	3 m/s^2
Bending radius	4 x cable outer diameter (fixed) 12 x cable outer diameter (dynamic)
Standards of construction	Flame res.: IEC 60332-1-2, IEC 60332-3-24 Cat.C, DIN VDE 0472 part 804 B, UL VW-1, CSA FT1 | Oil res.: EN 50290-2-22 TM54 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: UL 758, CSA AWM I/II A/B, cURus AWM Style 2587, Low Voltage Directive (LVD) 2006/95/EC
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2587

Marking

TEKIMA 04100 – CE 4G1,5 mm^2 90°C 300/500 V IEC 60332-1-2 IEC 60332-3-24 Cat.C – c(UR)us E314444 AWM Style 2587 4x16 AWG 90°C 600 V VW-1 AWM Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm^2]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X050_04100_□□	2	21	0,5	5,2 (0.205)	40 (27)
CV02X075_04100_□□	2	19	0,75	5,6 (0.220)	48 (32)
CV02X100_04100_□□	2	18	1	6,0 (0.236)	57 (38)
CV02X150_04100_□□	2	16	1,5	6,5 (0.256)	72 (48)
CV03G050_04100_□□	3	21	0,5	5,7 (0.224)	50 (34)
CV03G075_04100_□□	3	19	0,75	6,1 (0.240)	61 (41)
CV03G100_04100_□□	3	18	1	6,6 (0.260)	73 (49)
CV03G150_04100_□□	3	16	1,5	7,1 (0.280)	92 (62)
CV03G250_04100_□□	3	14	2,5	8,8 (0.346)	146 (98)
CV03G400_04100_□□	3	12	4	10,3 (0.406)	211 (142)
CV03G600_04100_□□	3	10	6	12,1 (0.476)	301 (202)
CV04G050_04100_□□	4	21	0,5	6,3 (0.248)	62 (42)
CV04G075_04100_□□	4	19	0,75	6,8 (0.268)	77 (52)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G100_04100_□□	4	18	1	7,3 (0.287)	92 (62)
CV04G150_04100_□□	4	16	1,5	7,9 (0.311)	117 (79)
CV04G250_04100_□□	4	14	2,5	10,0 (0.394)	191 (128)
CV04G400_04100_□□	4	12	4	11,7 (0.461)	275 (185)
CV04G600_04100_□□	4	10	6	13,7 (0.539)	393 (264)
CV04GB10_04100_□□	4	8	10	17,6 (0.693)	680 (457)
CV04GB16_04100_□□	4	6	16	20,8 (0.819)	1001 (673)
CV05G050_04100_□□	5	21	0,5	6,8 (0.268)	73 (49)
CV05G075_04100_□□	5	19	0,75	7,4 (0.291)	92 (62)
CV05G100_04100_□□	5	18	1	8,2 (0.323)	116 (78)
CV05G150_04100_□□	5	16	1,5	8,9 (0.350)	147 (99)
CV05G250_04100_□□	5	14	2,5	11,2 (0.441)	239 (161)
CV05G400_04100_□□	5	12	4	13,1 (0.516)	344 (231)
CV05G600_04100_□□	5	10	6	15,5 (0.610)	497 (334)
CV05GB10_04100_□□	5	8	10	19,8 (0.780)	847 (569)
CV05GB16_04100_□□	5	6	16	23,3 (0.917)	1254 (843)
CV07G050_04100_□□	7	21	0,5	8,2 (0.323)	105 (71)
CV07G075_04100_□□	7	19	0,75	8,9 (0.350)	131 (88)
CV07G100_04100_□□	7	18	1	9,8 (0.386)	146 (98)
CV07G150_04100_□□	7	16	1,5	10,7 (0.421)	210 (141)
CV07G250_04100_□□	7	14	2,5	13,4 (0.528)	338 (227)
CV12G050_04100_□□	12	21	0,5	9,2 (0.362)	143 (96)
CV12G075_04100_□□	12	19	0,75	10,2 (0.402)	187 (126)
CV12G100_04100_□□	12	18	1	11,2 (0.441)	234 (157)
CV12G150_04100_□□	12	16	1,5	12,2 (0.480)	303 (204)
CV12G250_04100_□□	12	14	2,5	15,5 (0.610)	499 (335)
CV18G050_04100_□□	18	21	0,5	11,6 (0.457)	223 (150)
CV18G075_04100_□□	18	19	0,75	12,9 (0.508)	293 (197)
CV18G100_04100_□□	18	18	1	14,1 (0.555)	363 (244)
CV18G150_04100_□□	18	16	1,5	15,6 (0.614)	478 (321)
CV25G050_04100_□□	25	21	0,5	13,5 (0.531)	307 (206)
CV25G075_04100_□□	25	19	0,75	14,9 (0.587)	399 (268)
CV25G100_04100_□□	25	18	1	16,4 (0.646)	499 (335)
CV25G150_04100_□□	25	16	1,5	18,3 (0.720)	666 (448)

Code composition



Number of conductor	To be inserted
2, 3, ..., 25	02, 03, ..., 25

Color	To be inserted
Gray	GR

Ground wire	To be inserted
Without yellow/green wire	X
With yellow/green wire	G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 16,0 mm²	B10, ..., B16

SERIES 410S

Multi-norm oil-resistant cables

Dynamic application, shielded



Use

Shielded cables for mobile use in power chains or moving machine parts for travel distances up to 10 m. They are normally used for equipment intended for the European (EC), North American and Canadian markets. The jacket, made of PVC compound, grants a good flexibility and a very good resistance to abrasion. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5
Insulation	PVC
Conductor distinction	Black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Inner Taping	Non-woven tape and polyester tape
Shield	Tinned copper braid, nom. coverage 80%
Outer Taping	Non-woven tape
Jacket	PVC compound, oil-resistant, RAL 7001 gray color. Metric marking.
Temperature range	-0°C, +90°C (dynamic); -40°C, +90°C (fixed)
Voltage rating	300/500 V (IEC), 600 V (UL-CSA)
Test voltage	6000 V
Speed	180 m/min
Acceleration	3 m/s^2
Bending radius	4 x cable outer diameter (fixed) 12 x cable outer diameter (dynamic)
Standards of construction	Flame res.: IEC 60332-1-2, IEC 60332-3-24 Cat.C, DIN VDE 0472 part 804 B, UL VW-1, CSA FT1 | Oil res.: EN 50290-2-22 TM54 | UV res.: UNI EN ISO 4892-3 (gray), UNI EN ISO 4892-2 (black) | Other: UL 758, CSA AWM I/II A/B, cURus AWM Style 2587, Low Voltage Directive (LVD) 2006/95/EC
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2587

Marking

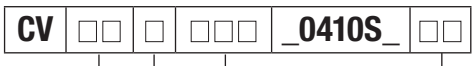
TEKIMA 0410S – CE 4G1,5 mm^2 90°C 300/500 V IEC 60332-1-2 IEC 60332-3-24 Cat.C – c(UR)us E314444 AWM Style 2587 4x16 AWG 90°C 600 V VW-1 AWM Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm^2]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X050_0410S_□□	2	21	0,5	6,8 (0.268)	76 (51)
CV02X075_0410S_□□	2	19	0,75	7,2 (0.283)	86 (58)
CV02X100_0410S_□□	2	18	1	7,6 (0.299)	101 (68)
CV02X150_0410S_□□	2	16	1,5	8,3 (0.327)	120 (81)
CV03G050_0410S_□□	3	21	0,5	7,3 (0.287)	87 (58)
CV03G075_0410S_□□	3	19	0,75	7,7 (0.303)	104 (70)
CV03G100_0410S_□□	3	18	1	8,4 (0.331)	122 (82)
CV03G150_0410S_□□	3	16	1,5	9,1 (0.358)	151 (101)
CV03G250_0410S_□□	3	14	2,5	11,0 (0.433)	221 (149)
CV04G050_0410S_□□	4	21	0,5	8,1 (0.319)	109 (73)
CV04G075_0410S_□□	4	19	0,75	8,8 (0.346)	130 (87)
CV04G100_0410S_□□	4	18	1	9,5 (0.374)	156 (105)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G150_0410S_□□	4	16	1,5	10,1 (0.398)	183 (123)
CV04G250_0410S_□□	4	14	2,5	12,0 (0.472)	270 (181)
CV04G400_0410S_□□	4	12	4	14,1 (0.555)	391 (263)
CV04G600_0410S_□□	4	10	6	16,3 (0.642)	533 (358)
CV04GB10_0410S_□□	4	8	10	21,1 (0.831)	878 (590)
CV04GB16_0410S_□□	4	6	16	24,5 (0.965)	1259 (846)
CV05G050_0410S_□□	5	21	0,5	8,8 (0.346)	126 (85)
CV05G075_0410S_□□	5	19	0,75	9,6 (0.378)	157 (105)
CV05G100_0410S_□□	5	18	1	10,2 (0.402)	179 (120)
CV05G150_0410S_□□	5	16	1,5	11,1 (0.437)	223 (150)
CV05G250_0410S_□□	5	14	2,5	13,4 (0.528)	347 (233)
CV05G400_0410S_□□	5	12	4	15,7 (0.618)	482 (324)
CV05G600_0410S_□□	5	10	6	17,9 (0.705)	647 (435)
CV07G050_0410S_□□	7	21	0,5	10,2 (0.402)	168 (113)
CV07G075_0410S_□□	7	19	0,75	11,1 (0.437)	207 (139)
CV07G100_0410S_□□	7	18	1	11,8 (0.465)	243 (163)
CV07G150_0410S_□□	7	16	1,5	12,9 (0.508)	298 (200)
CV07G250_0410S_□□	7	14	2,5	16,0 (0.630)	477 (321)
CV12G050_0410S_□□	12	21	0,5	11,4 (0.449)	220 (148)
CV12G075_0410S_□□	12	19	0,75	12,4 (0.488)	273 (183)
CV12G100_0410S_□□	12	18	1	13,4 (0.528)	342 (230)
CV12G150_0410S_□□	12	16	1,5	14,6 (0.575)	421 (283)
CV18G050_0410S_□□	18	21	0,5	14,0 (0.551)	339 (228)
CV18G075_0410S_□□	18	19	0,75	15,5 (0.610)	430 (289)
CV18G100_0410S_□□	18	18	1	16,5 (0.650)	497 (334)
CV18G150_0410S_□□	18	16	1,5	18,2 (0.717)	636 (427)
CV25G050_0410S_□□	25	21	0,5	16,1 (0.634)	447 (300)
CV25G075_0410S_□□	25	19	0,75	17,5 (0.689)	554 (372)
CV25G100_0410S_□□	25	18	1	19,0 (0.748)	670 (450)
CV25G150_0410S_□□	25	16	1,5	21,1 (0.831)	864 (581)

Code composition



Number of conductor	To be inserted
2, 3, ..., 25	02, 03, ..., 25

Color	To be inserted
Gray	GR

Ground wire	To be inserted
Without yellow/green wire	X
With yellow/green wire	G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 16,0 mm²	B10, ..., B16

SERIES 440

Multi-norm oil-resistant cables

Dynamic application, unshielded



Use

Unshielded cables for mobile use on Cartesian axes. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The jacket, made of PVC compound, grants a good flexibility and a very good resistance to abrasion; these cables exhibit a resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5/6
Insulation	TKblend®-L
Conductor distinction	Size <0,5 mm² (signaling cables): DIN 47100 colored Size ≥0,5 mm² (control/power cables): black numbe-red + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Taping	Synthetic non-hygroscopic tape
Jacket	PVC compound, oil-resistant, RAL 7001 gray color. Metric marking.
Temperature range	-5°C, +80°C (dynamic); -30°C, +80°C (fixed)
Voltage rating	Size ≤0,75 mm²: 300 V (UL-CSA), 300/500 V (IEC) Size >0,75 mm²: 1000 V (UL-CSA), 600/1000 V (IEC)
Test voltage	2000/4000 V
Speed	180 m/min
Acceleration	7 m/s²
Bending radius	7,5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, CEI 20-35, UL VW-1, CSA FT2 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Other: CEI EN 60228, EN 60228, UL 758, CSA AWM I/II A/B, cURus AWM Style 2464/2570
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2464/2570

Marking

TEKIMA 04400 – CE 4G1 mm² 80°C 600/1000 V CEI 20-35 IEC 60332-1 – c(UR)us E314444 AWM Style 2570 4x18 AWG 80°C 1000 V VW-1 Class I/II A/B FT2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X035_04400_□□	2	22	0,35	4,4 (0.173)	22 (15)	300/500 (IEC), 300 (UL-CSA)
CV02X050_04400_□□	2	21	0,5	4,9 (0.193)	33 (22)	300/500 (IEC), 300 (UL-CSA)
CV02X075_04400_□□	2	19	0,75	5,8 (0.228)	38 (26)	300/500 (IEC), 300 (UL-CSA)
CV02X100_04400_□□	2	18	1	5,9 (0.232)	51 (34)	600/1000 (IEC), 1000 (UL-CSA)
CV02X150_04400_□□	2	16	1,5	7,5 (0.295)	68 (46)	600/1000 (IEC), 1000 (UL-CSA)
CV02X250_04400_□□	2	14	2,5	8,7 (0.343)	97 (65)	600/1000 (IEC), 1000 (UL-CSA)
CV03X035_04400_□□	3	22	0,35	4,6 (0.181)	26 (17)	300/500 (IEC), 300 (UL-CSA)
CV03G050_04400_□□	3	21	0,5	5,2 (0.205)	38 (26)	300/500 (IEC), 300 (UL-CSA)
CV03G075_04400_□□	3	19	0,75	6,1 (0.240)	47 (32)	300/500 (IEC), 300 (UL-CSA)
CV03G100_04400_□□	3	18	1	6,3 (0.248)	63 (42)	600/1000 (IEC), 1000 (UL-CSA)
CV03G150_04400_□□	3	16	1,5	7,7 (0.303)	95 (64)	600/1000 (IEC), 1000 (UL-CSA)
CV03G250_04400_□□	3	14	2,5	9,0 (0.354)	132 (89)	600/1000 (IEC), 1000 (UL-CSA)
CV04X035_04400_□□	4	22	0,35	4,6 (0.181)	35 (24)	300/500 (IEC), 300 (UL-CSA)
CV04G050_04400_□□	4	21	0,5	5,6 (0.220)	47 (32)	300/500 (IEC), 300 (UL-CSA)
CV04G075_04400_□□	4	19	0,75	6,6 (0.260)	58 (39)	300/500 (IEC), 300 (UL-CSA)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04G100_04400_□□	4	18	1	7,6 (0.299)	90 (60)	600/1000 (IEC), 1000 (UL-CSA)
CV04G150_04400_□□	4	16	1,5	8,3 (0.327)	118 (79)	600/1000 (IEC), 1000 (UL-CSA)
CV04G250_04400_□□	4	14	2,5	10,2 (0.402)	177 (119)	600/1000 (IEC), 1000 (UL-CSA)
CV04G400_04400_□□	4	12	4	12,2 (0.480)	274 (184)	600/1000 (IEC), 1000 (UL-CSA)
CV04G600_04400_□□	4	10	6	14,0 (0.551)	385 (259)	600/1000 (IEC), 1000 (UL-CSA)
CV04GB10_04400_□□	4	8	10	17,5 (0.689)	578 (388)	600/1000 (IEC), 1000 (UL-CSA)
CV04GB16_04400_□□	4	6	16	21,3 (0.839)	756 (508)	600/1000 (IEC), 1000 (UL-CSA)
CV04GB25_04400_□□	4	4	25	25,5 (1.004)	1158 (778)	600/1000 (IEC), 1000 (UL-CSA)
CV04GB35_04400_□□	4	2	35	28,4 (1.118)	1566 (1052)	600/1000 (IEC), 1000 (UL-CSA)
CV05X035_04400_□□	5	22	0,35	5,3 (0.209)	37 (25)	300/500 (IEC), 300 (UL-CSA)
CV05G050_04400_□□	5	21	0,5	6,3 (0.248)	53 (36)	300/500 (IEC), 300 (UL-CSA)
CV05G075_04400_□□	5	19	0,75	7,3 (0.287)	71 (48)	300/500 (IEC), 300 (UL-CSA)
CV05G100_04400_□□	5	18	1	8,2 (0.323)	105 (71)	600/1000 (IEC), 1000 (UL-CSA)
CV05G150_04400_□□	5	16	1,5	9,6 (0.378)	148 (99)	600/1000 (IEC), 1000 (UL-CSA)
CV05G250_04400_□□	5	14	2,5	11,0 (0.433)	207 (139)	600/1000 (IEC), 1000 (UL-CSA)
CV05G400_04400_□□	5	12	4	12,7 (0.500)	273 (183)	600/1000 (IEC), 1000 (UL-CSA)
CV05G600_04400_□□	5	10	6	14,2 (0.559)	373 (251)	600/1000 (IEC), 1000 (UL-CSA)
CV06X025_04400_□□	6	24	0,25	5,0 (0.197)	37 (25)	300/500 (IEC), 300 (UL-CSA)
CV06X035_04400_□□	6	22	0,35	5,3 (0.209)	45 (30)	300/500 (IEC), 300 (UL-CSA)
CV06G050_04400_□□	6	21	0,5	7,0 (0.276)	64 (43)	300/500 (IEC), 300 (UL-CSA)
CV06G075_04400_□□	6	19	0,75	7,9 (0.311)	83 (56)	300/500 (IEC), 300 (UL-CSA)
CV06G100_04400_□□	6	18	1	8,5 (0.335)	101 (68)	600/1000 (IEC), 1000 (UL-CSA)
CV06G150_04400_□□	6	16	1,5	10,4 (0.409)	152 (102)	600/1000 (IEC), 1000 (UL-CSA)
CV06G250_04400_□□	6	14	2,5	12,1 (0.476)	227 (153)	600/1000 (IEC), 1000 (UL-CSA)
CV07X035_04400_□□	7	22	0,35	n.a.	n.a.	300/500 (IEC), 300 (UL-CSA)
CV07G050_04400_□□	7	21	0,5	6,5 (0.256)	66 (44)	300/500 (IEC), 300 (UL-CSA)
CV07G075_04400_□□	7	19	0,75	n.a.	n.a.	300/500 (IEC), 300 (UL-CSA)
CV07G100_04400_□□	7	18	1	8,8 (0.346)	130 (87)	600/1000 (IEC), 1000 (UL-CSA)
CV07G150_04400_□□	7	16	1,5	10,1 (0.398)	175 (118)	600/1000 (IEC), 1000 (UL-CSA)
CV07G250_04400_□□	7	14	2,5	12,3 (0.484)	272 (183)	600/1000 (IEC), 1000 (UL-CSA)
CV07G400_04400_□□	7	12	4	15,3 (0.602)	386 (259)	600/1000 (IEC), 1000 (UL-CSA)
CV07G600_04400_□□	7	10	6	17,3 (0.681)	534 (359)	600/1000 (IEC), 1000 (UL-CSA)
CV08X035_04400_□□	8	22	0,35	6,5 (0.256)	57 (38)	300/500 (IEC), 300 (UL-CSA)
CV08G050_04400_□□	8	21	0,5	8,0 (0.315)	84 (56)	300/500 (IEC), 300 (UL-CSA)
CV08G075_04400_□□	8	19	0,75	9,3 (0.366)	112 (75)	300/500 (IEC), 300 (UL-CSA)
CV08G100_04400_□□	8	18	1	10,0 (0.394)	136 (91)	600/1000 (IEC), 1000 (UL-CSA)
CV08G150_04400_□□	8	16	1,5	12,0 (0.472)	201 (135)	600/1000 (IEC), 1000 (UL-CSA)
CV08G250_04400_□□	8	14	2,5	14,6 (0.575)	312 (210)	600/1000 (IEC), 1000 (UL-CSA)
CV10X035_04400_□□	10	22	0,35	7,5 (0.295)	74 (50)	300/500 (IEC), 300 (UL-CSA)
CV10G050_04400_□□	10	21	0,5	9,2 (0.362)	109 (73)	300/500 (IEC), 300 (UL-CSA)
CV10G075_04400_□□	10	19	0,75	10,6 (0.417)	141 (95)	300/500 (IEC), 300 (UL-CSA)
CV10G100_04400_□□	10	18	1	11,3 (0.445)	173 (116)	600/1000 (IEC), 1000 (UL-CSA)
CV10G150_04400_□□	10	16	1,5	14,0 (0.551)	262 (176)	600/1000 (IEC), 1000 (UL-CSA)
CV10G250_04400_□□	10	14	2,5	16,9 (0.665)	407 (273)	600/1000 (IEC), 1000 (UL-CSA)
CV12X025_04400_□□	12	24	0,25	6,5 (0.256)	62 (42)	300/500 (IEC), 300 (UL-CSA)
CV12X035_04400_□□	12	22	0,35	8,3 (0.327)	89 (60)	300/500 (IEC), 300 (UL-CSA)
CV12G050_04400_□□	12	21	0,5	9,1 (0.358)	121 (81)	300/500 (IEC), 300 (UL-CSA)
CV12G075_04400_□□	12	19	0,75	11,8 (0.465)	173 (116)	300/500 (IEC), 300 (UL-CSA)
CV12G100_04400_□□	12	18	1	12,0 (0.472)	226 (152)	600/1000 (IEC), 1000 (UL-CSA)
CV12G150_04400_□□	12	16	1,5	13,3 (0.524)	290 (195)	600/1000 (IEC), 1000 (UL-CSA)
CV12G250_04400_□□	12	14	2,5	17,4 (0.685)	449 (302)	600/1000 (IEC), 1000 (UL-CSA)
CV14X035_04400_□□	14	22	0,35	7,7 (0.303)	84 (56)	300/500 (IEC), 300 (UL-CSA)
CV14G050_04400_□□	14	21	0,5	9,5 (0.374)	124 (83)	300/500 (IEC), 300 (UL-CSA)
CV14G075_04400_□□	14	19	0,75	10,9 (0.429)	163 (110)	300/500 (IEC), 300 (UL-CSA)
CV14G100_04400_□□	14	18	1	11,7 (0.461)	202 (136)	600/1000 (IEC), 1000 (UL-CSA)
CV14G150_04400_□□	14	16	1,5	14,6 (0.575)	310 (208)	600/1000 (IEC), 1000 (UL-CSA)
CV14G250_04400_□□	14	14	2,5	17,4 (0.685)	479 (322)	600/1000 (IEC), 1000 (UL-CSA)
CV16X035_04400_□□	16	22	0,35	8,1 (0.319)	94 (63)	300/500 (IEC), 300 (UL-CSA)
CV16G050_04400_□□	16	21	0,5	9,9 (0.390)	139 (93)	300/500 (IEC), 300 (UL-CSA)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV16G075_04400_□□	16	19	0,75	11,4 (0.449)	183 (123)	300/500 (IEC), 300 (UL-CSA)
CV16G100_04400_□□	16	18	1	12,5 (0.492)	231 (155)	600/1000 (IEC), 1000 (UL-CSA)
CV16G150_04400_□□	16	16	1,5	15,3 (0.602)	351 (236)	600/1000 (IEC), 1000 (UL-CSA)
CV16G250_04400_□□	16	14	2,5	18,3 (0.720)	542 (364)	600/1000 (IEC), 1000 (UL-CSA)
CV18X035_04400_□□	18	22	0,35	8,4 (0.331)	104 (70)	300/500 (IEC), 300 (UL-CSA)
CV18G050_04400_□□	18	21	0,5	10,9 (0.429)	177 (119)	300/500 (IEC), 300 (UL-CSA)
CV18G075_04400_□□	18	19	0,75	12,0 (0.472)	203 (136)	300/500 (IEC), 300 (UL-CSA)
CV18G100_04400_□□	18	18	1	13,8 (0.543)	311 (209)	600/1000 (IEC), 1000 (UL-CSA)
CV18G150_04400_□□	18	16	1,5	16,2 (0.638)	391 (263)	600/1000 (IEC), 1000 (UL-CSA)
CV18G250_04400_□□	18	14	2,5	19,5 (0.768)	614 (413)	600/1000 (IEC), 1000 (UL-CSA)
CV19G150_04400_□□	19	16	1,5	15,7 (0.618)	436 (293)	600/1000 (IEC), 1000 (UL-CSA)
CV25X035_04400_□□	25	22	0,35	9,5 (0.374)	142 (95)	300/500 (IEC), 300 (UL-CSA)
CV25G050_04400_□□	25	21	0,5	13,2 (0.520)	247 (166)	300/500 (IEC), 300 (UL-CSA)
CV25G075_04400_□□	25	19	0,75	14,8 (0.583)	328 (220)	300/500 (IEC), 300 (UL-CSA)
CV25G100_04400_□□	25	18	1	16,6 (0.654)	430 (289)	600/1000 (IEC), 1000 (UL-CSA)
CV25G150_04400_□□	25	16	1,5	18,9 (0.744)	587 (394)	600/1000 (IEC), 1000 (UL-CSA)
CV25G250_04400_□□	25	14	2,5	24,1 (0.949)	898 (603)	600/1000 (IEC), 1000 (UL-CSA)
CV34X100_04400_□□	34	18	1	18,8 (0.740)	570 (383)	600/1000 (IEC), 1000 (UL-CSA)

Code composition

CV	□□	□	□□□	_04400_	□□

Number of conductor	To be inserted
2, 3, ..., 34	02, 03, ..., 34

Color	To be inserted
Gray	GR

Ground wire	To be inserted
Without yellow/green wire	X
With yellow/green wire	G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 35,0 mm²	B10, ..., B35

SERIES 440S

Multi-norm oil-resistant cables

Dynamic application, shielded



Use

Shielded cables for mobile use on Cartesian axes. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The jacket, made of PVC compound, grants a good flexibility and a very good resistance to abrasion; these cables exhibit a resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5/6
Insulation	TKblend®-L
Conductor distinction	Size <0,5 mm² (signaling cables): DIN 47100 colored Size ≥0,5 mm² (control/power cables): black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Taping	Synthetic non-hygroscopic tape
Shield	Tinned copper braid, nom. coverage 80%
Jacket	PVC compound, oil-resistant, RAL 7001 gray color. Metric marking.
Temperature range	-5°C, +80°C (dynamic); -30°C, +80°C (fixed)
Voltage rating	Size ≤0,75 mm²: 300 V (UL-CSA), 300/500 V (IEC) Size >0,75 mm²: 1000 V (UL-CSA), 600/1000 V (IEC)
Test voltage	2000/4000 V
Speed	180 m/min
Acceleration	7 m/s²
Bending radius	7,5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, CEI 20-35, UL VW-1, CSA FT2 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Other: CEI EN 60228, EN 60228, UL 758, CSA AWM I/II A/B, cURus AWM Style 2464/2570
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2464/2570

Marking

TEKIMA 0440S – CE 4G1 mm² 80°C 600/1000 V CEI 20-35 IEC 60332-1 – c(UR)us E314444 AWM Style 2570 4x18 AWG 80°C 1000 V VW-1 Class I/II A/B FT2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV02X035_0440S_□□	2	22	0,35	4,5 (0.177)	31 (21)	300/500 (IEC), 300 (UL-CSA)
CV02X050_0440S_□□	2	21	0,5	5,3 (0.209)	42 (28)	300/500 (IEC), 300 (UL-CSA)
CV02X075_0440S_□□	2	19	0,75	6,3 (0.248)	49 (33)	300/500 (IEC), 300 (UL-CSA)
CV02X100_0440S_□□	2	18	1	6,3 (0.248)	60 (40)	600/1000 (IEC), 1000 (UL-CSA)
CV02X150_0440S_□□	2	16	1,5	8,0 (0.315)	81 (54)	600/1000 (IEC), 1000 (UL-CSA)
CV02X250_0440S_□□	2	14	2,5	9,5 (0.374)	122 (82)	600/1000 (IEC), 1000 (UL-CSA)
CV03X035_0440S_□□	3	22	0,35	5,1 (0.201)	35 (24)	300/500 (IEC), 300 (UL-CSA)
CV03G050_0440S_□□	3	21	0,5	5,9 (0.232)	46 (31)	300/500 (IEC), 300 (UL-CSA)
CV03G075_0440S_□□	3	19	0,75	6,6 (0.260)	58 (39)	300/500 (IEC), 300 (UL-CSA)
CV03G100_0440S_□□	3	18	1	7,2 (0.283)	70 (47)	600/1000 (IEC), 1000 (UL-CSA)
CV03G150_0440S_□□	3	16	1,5	8,2 (0.323)	111 (75)	600/1000 (IEC), 1000 (UL-CSA)
CV03G250_0440S_□□	3	14	2,5	10,0 (0.394)	150 (101)	600/1000 (IEC), 1000 (UL-CSA)
CV04X035_0440S_□□	4	22	0,35	5,0 (0.197)	43 (29)	300/500 (IEC), 300 (UL-CSA)
CV04G050_0440S_□□	4	21	0,5	6,3 (0.248)	55 (37)	300/500 (IEC), 300 (UL-CSA)
CV04G075_0440S_□□	4	19	0,75	7,3 (0.287)	74 (50)	300/500 (IEC), 300 (UL-CSA)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV04G100_0440S_□□	4	18	1	8,1 (0.319)	110 (74)	600/1000 (IEC), 1000 (UL-CSA)
CV04G150_0440S_□□	4	16	1,5	8,8 (0.346)	135 (91)	600/1000 (IEC), 1000 (UL-CSA)
CV04G250_0440S_□□	4	14	2,5	10,6 (0.417)	197 (132)	600/1000 (IEC), 1000 (UL-CSA)
CV04G400_0440S_□□	4	12	4	12,7 (0.500)	294 (198)	600/1000 (IEC), 1000 (UL-CSA)
CV04G600_0440S_□□	4	10	6	14,7 (0.579)	410 (276)	600/1000 (IEC), 1000 (UL-CSA)
CV04GB10_0440S_□□	4	8	10	18,4 (0.724)	654 (439)	600/1000 (IEC), 1000 (UL-CSA)
CV04GB16_0440S_□□	4	6	16	22,4 (0.882)	984 (661)	600/1000 (IEC), 1000 (UL-CSA)
CV04GB25_0440S_□□	4	4	25	26,8 (1.055)	1288 (865)	600/1000 (IEC), 1000 (UL-CSA)
CV04GB35_0440S_□□	4	2	35	30,1 (1.185)	1729 (1162)	600/1000 (IEC), 1000 (UL-CSA)
CV05X035_0440S_□□	5	22	0,35	5,8 (0.228)	48 (32)	300/500 (IEC), 300 (UL-CSA)
CV05G050_0440S_□□	5	21	0,5	7,0 (0.276)	75 (50)	300/500 (IEC), 300 (UL-CSA)
CV05G075_0440S_□□	5	19	0,75	7,8 (0.307)	85 (57)	300/500 (IEC), 300 (UL-CSA)
CV05G100_0440S_□□	5	18	1	8,4 (0.331)	100 (67)	600/1000 (IEC), 1000 (UL-CSA)
CV05G150_0440S_□□	5	16	1,5	9,9 (0.390)	165 (111)	600/1000 (IEC), 1000 (UL-CSA)
CV05G250_0440S_□□	5	14	2,5	11,5 (0.453)	228 (153)	600/1000 (IEC), 1000 (UL-CSA)
CV05G400_0440S_□□	5	12	4	13,5 (0.531)	310 (208)	600/1000 (IEC), 1000 (UL-CSA)
CV05G600_0440S_□□	5	10	6	15,1 (0.594)	417 (280)	600/1000 (IEC), 1000 (UL-CSA)
CV06X035_0440S_□□	6	22	0,35	5,7 (0.224)	54 (36)	300/500 (IEC), 300 (UL-CSA)
CV06G050_0440S_□□	6	21	0,5	7,5 (0.295)	78 (52)	300/500 (IEC), 300 (UL-CSA)
CV06G075_0440S_□□	6	19	0,75	8,5 (0.335)	98 (66)	300/500 (IEC), 300 (UL-CSA)
CV06G100_0440S_□□	6	18	1	9,3 (0.366)	128 (86)	600/1000 (IEC), 1000 (UL-CSA)
CV06G150_0440S_□□	6	16	1,5	11,0 (0.433)	178 (120)	600/1000 (IEC), 1000 (UL-CSA)
CV06G250_0440S_□□	6	14	2,5	13,1 (0.516)	268 (180)	600/1000 (IEC), 1000 (UL-CSA)
CV07X035_0440S_□□	7	22	0,35	n.a.	n.a.	300/500 (IEC), 300 (UL-CSA)
CV07G050_0440S_□□	7	21	0,5	n.a.	n.a.	300/500 (IEC), 300 (UL-CSA)
CV07G075_0440S_□□	7	19	0,75	n.a.	n.a.	300/500 (IEC), 300 (UL-CSA)
CV07G100_0440S_□□	7	18	1	9,3 (0.366)	151 (101)	600/1000 (IEC), 1000 (UL-CSA)
CV07G150_0440S_□□	7	16	1,5	10,6 (0.417)	204 (137)	600/1000 (IEC), 1000 (UL-CSA)
CV07G250_0440S_□□	7	14	2,5	n.a.	n.a.	600/1000 (IEC), 1000 (UL-CSA)
CV07G400_0440S_□□	7	12	4	16,0 (0.630)	432 (290)	600/1000 (IEC), 1000 (UL-CSA)
CV07G600_0440S_□□	7	10	6	18,2 (0.717)	601 (404)	600/1000 (IEC), 1000 (UL-CSA)
CV08X035_0440S_□□	8	22	0,35	6,5 (0.256)	69 (46)	300/500 (IEC), 300 (UL-CSA)
CV08G050_0440S_□□	8	21	0,5	8,6 (0.339)	107 (72)	300/500 (IEC), 300 (UL-CSA)
CV08G075_0440S_□□	8	19	0,75	10,0 (0.394)	137 (92)	300/500 (IEC), 300 (UL-CSA)
CV08G100_0440S_□□	8	18	1	10,6 (0.417)	163 (110)	600/1000 (IEC), 1000 (UL-CSA)
CV08G150_0440S_□□	8	16	1,5	13,0 (0.512)	245 (165)	600/1000 (IEC), 1000 (UL-CSA)
CV08G250_0440S_□□	8	14	2,5	15,3 (0.602)	358 (241)	600/1000 (IEC), 1000 (UL-CSA)
CV10X035_0440S_□□	10	22	0,35	8,0 (0.315)	89 (60)	300/500 (IEC), 300 (UL-CSA)
CV10G050_0440S_□□	10	21	0,5	9,8 (0.386)	134 (90)	300/500 (IEC), 300 (UL-CSA)
CV10G075_0440S_□□	10	19	0,75	11,2 (0.441)	167 (112)	300/500 (IEC), 300 (UL-CSA)
CV10G100_0440S_□□	10	18	1	12,0 (0.472)	203 (136)	600/1000 (IEC), 1000 (UL-CSA)
CV10G150_0440S_□□	10	16	1,5	14,9 (0.587)	314 (211)	600/1000 (IEC), 1000 (UL-CSA)
CV10G250_0440S_□□	10	14	2,5	17,6 (0.693)	460 (309)	600/1000 (IEC), 1000 (UL-CSA)
CV12X035_0440S_□□	12	22	0,35	7,2 (0.283)	90 (60)	300/500 (IEC), 300 (UL-CSA)
CV12G050_0440S_□□	12	21	0,5	10,1 (0.398)	156 (105)	300/500 (IEC), 300 (UL-CSA)
CV12G075_0440S_□□	12	19	0,75	12,8 (0.504)	220 (148)	300/500 (IEC), 300 (UL-CSA)
CV12G100_0440S_□□	12	18	1	12,5 (0.492)	258 (173)	600/1000 (IEC), 1000 (UL-CSA)
CV12G150_0440S_□□	12	16	1,5	16,8 (0.661)	384 (258)	600/1000 (IEC), 1000 (UL-CSA)
CV12G250_0440S_□□	12	14	2,5	18,3 (0.720)	512 (344)	600/1000 (IEC), 1000 (UL-CSA)
CV14X035_0440S_□□	14	22	0,35	8,2 (0.323)	100 (67)	300/500 (IEC), 300 (UL-CSA)
CV14G050_0440S_□□	14	21	0,5	10,1 (0.398)	150 (101)	300/500 (IEC), 300 (UL-CSA)
CV14G075_0440S_□□	14	19	0,75	11,5 (0.453)	192 (129)	300/500 (IEC), 300 (UL-CSA)
CV14G100_0440S_□□	14	18	1	12,6 (0.496)	248 (167)	600/1000 (IEC), 1000 (UL-CSA)
CV14G150_0440S_□□	14	16	1,5	15,3 (0.602)	357 (240)	600/1000 (IEC), 1000 (UL-CSA)
CV14G250_0440S_□□	14	14	2,5	18,3 (0.720)	553 (372)	600/1000 (IEC), 1000 (UL-CSA)
CV16X035_0440S_□□	16	22	0,35	8,7 (0.343)	117 (79)	300/500 (IEC), 300 (UL-CSA)
CV16G050_0440S_□□	16	21	0,5	10,5 (0.413)	167 (112)	300/500 (IEC), 300 (UL-CSA)
CV16G075_0440S_□□	16	19	0,75	12,4 (0.488)	229 (154)	300/500 (IEC), 300 (UL-CSA)
CV16G100_0440S_□□	16	18	1	13,2 (0.520)	276 (185)	600/1000 (IEC), 1000 (UL-CSA)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Voltage [V]
CV16G150_0440S_□□	16	16	1,5	16,1 (0.634)	401 (269)	600/1000 (IEC), 1000 (UL-CSA)
CV16G250_0440S_□□	16	14	2,5	19,4 (0.764)	624 (419)	600/1000 (IEC), 1000 (UL-CSA)
CV18X035_0440S_□□	18	22	0,35	9,0 (0.354)	138 (93)	300/500 (IEC), 300 (UL-CSA)
CV18G050_0440S_□□	18	21	0,5	11,0 (0.433)	184 (124)	300/500 (IEC), 300 (UL-CSA)
CV18G075_0440S_□□	18	19	0,75	12,9 (0.508)	253 (170)	300/500 (IEC), 300 (UL-CSA)
CV18G100_0440S_□□	18	18	1	14,4 (0.567)	355 (239)	600/1000 (IEC), 1000 (UL-CSA)
CV18G150_0440S_□□	18	16	1,5	17,1 (0.673)	452 (304)	600/1000 (IEC), 1000 (UL-CSA)
CV18G250_0440S_□□	18	14	2,5	20,6 (0.811)	702 (472)	600/1000 (IEC), 1000 (UL-CSA)
CV25X035_0440S_□□	25	22	0,35	10,8 (0.425)	190 (128)	300/500 (IEC), 300 (UL-CSA)
CV25G050_0440S_□□	25	21	0,5	13,4 (0.528)	265 (178)	300/500 (IEC), 300 (UL-CSA)
CV25G075_0440S_□□	25	19	0,75	15,5 (0.610)	350 (235)	300/500 (IEC), 300 (UL-CSA)
CV25G100_0440S_□□	25	18	1	17,2 (0.677)	487 (327)	600/1000 (IEC), 1000 (UL-CSA)
CV25G150_0440S_□□	25	16	1,5	21,0 (0.827)	660 (444)	600/1000 (IEC), 1000 (UL-CSA)
CV25G250_0440S_□□	25	14	2,5	25,1 (0.988)	999 (671)	600/1000 (IEC), 1000 (UL-CSA)
CV36X035_0440S_□□	36	22	0,35	12,2 (0.480)	254 (171)	300/500 (IEC), 300 (UL-CSA)

Code composition

CV	□□	□	□□□	_0440S_	□□

Number of conductors	To be inserted
2, 3, ..., 36	02, 03, ..., 36

Color	To be inserted
Gray	GR

Ground wire	To be inserted
Without yellow/green wire	X
With yellow/green wire	G

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 35,0 mm²	B10, ..., B35

SERIES 440S

Multi-norm oil-resistant cables for servo motors

Dynamic application, shielded



Use

Shielded cables for mobile use on Cartesian axes. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The jacket, made of PVC compound, grants a good flexibility and a very good resistance to abrasion; these cables exhibit a resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

ìInformation. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5/6
Insulation	TKblend®-L
Conductor distinction	Power: black numbered + yellow/green. Signal: black numbered
Fillers	Central or side fillers, if any
Pairs shield	Tinned copper braid, nom. coverage 80%
Pairs taping	Non-woven tape
Total taping	Synthetic non-hygroscopic tape
Shield	Tinned copper braid, nom. coverage 80%
Jacket	PVC compound, oil-resistant, Desina RAL 2003 orange color. Metric marking.
Temperature range	-5°C, +80°C (dynamic); -30°C, +80°C (fixed)
Voltage rating	1000 V (UL-CSA), 600/1000 V (IEC)
Test voltage	2000/4000 V
Speed	180 m/min
Acceleration	7 m/s²
Bending radius	7,5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, CEI 20-35, UL VW-1, CSA FT2 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Other: CEI EN 60228, EN 60228, UL 758, CSA AWM I/II A/B, cURus AWM Style 2570
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2570

Marking

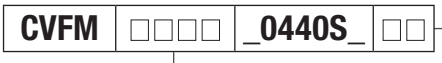
TEKIMA 0440S – CE (4G1,5+(2x1)) mm² 80°C 600/1000 V CEI 20-35 IEC 60332-1 – c(UR)us E314444 AWM Style 2570 (4x18+(2x16)) AWG 80°C 1000 V VW-1 Class I/II A/B FT2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0001_0440S_D2	(4x16+(2x18))	(4G1,5+(2x1))	12,3 (0.484)	198 (133)
CVFM0002_0440S_D2	(4x16+(2x16))	(4G1,5+(2x1,5))	12,9 (0.508)	228 (153)
CVFM0003_0440S_D2	(4x16+2x(2x19))	(4G1,5+2x(2x0,75))	13,4 (0.528)	242 (163)
CVFM0004_0440S_D2	(4x16+2x(2x18))	(4G1,5+2x(2x1))	14,0 (0.551)	262 (176)
CVFM0025_0440S_D2	(4x16)	(4G1,5)	9,1 (0.358)	142 (95)
CVFM0005_0440S_D2	(4x14+(2x18))	(4G2,5+(2x1))	13,4 (0.528)	260 (175)
CVFM0006_0440S_D2	(4x14+(2x16))	(4G2,5+(2x1,5))	13,9 (0.547)	280 (188)
CVFM0007_0440S_D2	(4x14+2x(2x18))	(4G2,5+2x(2x1))	14,6 (0.575)	309 (208)
CVFM0008_0440S_D2	(4x14+2x(2x16))	(4G2,5+2x(2x1,5))	15,9 (0.626)	353 (237)
CVFM0026_0440S_D2	(4x14)	(4G2,5)	10,4 (0.409)	196 (132)
CVFM0009_0440S_D2	(4x12+(2x18))	(4G4+(2x1))	14,4 (0.567)	322 (216)
CVFM0010_0440S_D2	(4x12+(2x16))	(4G4+(2x1,5))	14,9 (0.587)	345 (232)
CVFM0011_0440S_D2	(4x12+2x(2x18))	(4G4+2x(2x1))	16,2 (0.638)	379 (255)
CVFM0027_0440S_D2	(4x12)	(4G4)	11,9 (0.469)	269 (181)

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0012_0440S_D2	(4x12+2x(2x16))	(4G4+2x(2x1,5))	17,6 (0.693)	430 (289)
CVFM0013_0440S_D2	(4x10+(2x18))	(4G6+(2x1))	15,8 (0.622)	409 (275)
CVFM0014_0440S_D2	(4x10+(2x16))	(4G6+(2x1,5))	16,3 (0.642)	429 (288)
CVFM0028_0440S_D2	(4x10)	(4G6)	14,3 (0.563)	398 (267)
CVFM0015_0440S_D2	(4x10+2x(2x16))	(4G6+2x(2x1,5))	19,0 (0.748)	541 (364)
CVFM0016_0440S_D2	(4x8+(2x18))	(4G10+(2x1))	20,3 (0.799)	701 (471)
CVFM0017_0440S_D2	(4x8+(2x16))	(4G10+(2x1,5))	20,7 (0.815)	725 (487)
CVFM0018_0440S_D2	(4x8+2x(2x16))	(4G10+2x(2x1,5))	23,4 (0.921)	840 (564)
CVFM0019_0440S_D2	(4x6+(2x18))	(4G16+(2x1))	23,1 (0.909)	862 (579)
CVFM0020_0440S_D2	(4x6+(2x16))	(4G16+(2x1,5))	23,6 (0.929)	918 (617)
CVFM0021_0440S_D2	(4x6+2x(2x16))	(4G16+2x(2x1,5))	25,4 (1.000)	1018 (684)
CVFM0022_0440S_D2	(4x4+(2x16))	(4G25+(2x1,5))	27,1 (1.067)	1333 (896)
CVFM0023_0440S_D2	(4x4+2x(2x16))	(4G25+2x(2x1,5))	29,0 (1.142)	1443 (970)
CVFM0024_0440S_D2	(4x2+(2x16))	(4G35+(2x1,5))	29,0 (1.142)	1861 (1251)

Code composition



Color	To be inserted
Orange Desina	D2

Construction

Identifier code of the cable construction.

SERIES 600

Multi-norm oil-resistant high flexible cables

Dynamic application, unshielded



Use

Cables planned for mobile use on a cable holder chain, even with great length (continuous motion on Cartesian axis); they are used also on anthropomorphous robot ffor flexotorsion motions and servo-motors applications. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The special polyuretane compound of the external jacket grants very good mechanical performance, abrasion and acceleration resistance, and a very good resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5/6
Insulation	TKblend®-L
Conductor distinction	Size <0,5 mm² (signaling cables): DIN 47100 colored Size ≥0,5 mm² (control/power cables): black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Taping	Double synthetic non-hygroscopic tape
Jacket	Halogen-free polyuretane compound, oil-resistant and flame-resistant, RAL 7001 gray, black or RAL 2003 orange Desina color for Servo applications. Metric marking.
Temperature range	-40°C, +80°C (dynamic); -50°C, +80°C (fixed)
Voltage rating	Size ≤0,75 mm²: 300 V (UL-CSA), 300/500 V (IEC) Size >0,75 mm²: 1000 V (UL-CSA), 600/1000 V (IEC)
Test voltage	2000/4000 V
Speed	220 m/min
Acceleration	10 m/s²
Bending radius	5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, CEI 20-35, UL VW-1, CSA FT1 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Halogen-free: IEC 60754-1 | Other: CEI EN 60228, EN 60228, UL 758, CSA AWM I/II A/B, cURus AWM Style 20940 or 21209
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20940 or 21209

Marking

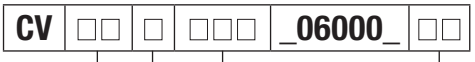
TEKIMA 06000 – CE 4G6 mm² 80°C 1000 V CEI 20-35 IEC 60332-1 – c(UR)us E314444 AWM 20940 4x10 AWG 80°C 1000 V VW-1 Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X050_06000_□□	2	21	0,5	5,0 (0.197)	27 (18)
CV02X075_06000_□□	2	19	0,75	5,4 (0.214)	34 (23)
CV02X100_06000_□□	2	18	1	5,9 (0.232)	40 (27)
CV02X150_06000_□□	2	16	1,5	6,5 (0.256)	52 (35)
CV03G050_06000_□□	3	21	0,5	5,4 (0.213)	34 (23)
CV03G075_06000_□□	3	19	0,75	5,8 (0.229)	44 (30)
CV03G100_06000_□□	3	18	1	6,4 (0.252)	53 (35)
CV03G150_06000_□□	3	16	1,5	7,0 (0.276)	69 (47)
CV03G250_06000_□□	3	14	2,5	8,5 (0.335)	107 (72)
CV03G400_06000_□□	3	12	4	10,1 (0.398)	160 (107)
CV04G050_06000_□□	4	21	0,5	5,8 (0.228)	42 (28)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G075_06000_□□	4	19	0,75	6,3 (0.248)	56 (38)
CV04G100_06000_□□	4	18	1	6,9 (0.272)	66 (44)
CV04G150_06000_□□	4	16	1,5	7,8 (0.307)	91 (61)
CV04G250_06000_□□	4	14	2,5	9,4 (0.370)	140 (94)
CV04G400_06000_□□	4	12	4	11,1 (0.437)	209 (140)
CV04G600_06000_□□	4	10	6	13,5 (0.531)	311 (208)
CV04GB10_06000_□□	4	8	10	16,4 (0.646)	489 (328)
CV04GB16_06000_□□	4	6	16	20,2 (0.795)	760 (510)
CV04GB25_06000_□□	4	4	25	24,1 (0.949)	1145 (769)
CV04GB35_06000_□□	4	2	35	29,3 (1.154)	1637 (1099)
CV05G050_06000_□□	5	21	0,5	6,4 (0.252)	52 (35)
CV05G075_06000_□□	5	19	0,75	7,0 (0.276)	68 (46)
CV05G100_06000_□□	5	18	1	7,9 (0.311)	84 (56)
CV05G150_06000_□□	5	16	1,5	8,9 (0.350)	116 (78)
CV05G250_06000_□□	5	14	2,5	10,7 (0.421)	177 (119)
CV05G400_06000_□□	5	12	4	12,7 (0.500)	264 (177)
CV05G600_06000_□□	5	10	6	15,3 (0.602)	390 (262)
CV07X050_06000_□□	7	21	0,5	7,8 (0.307)	74 (50)
CV07G100_06000_□□	7	18	1	9,5 (0.374)	119 (80)
CV07G150_06000_□□	7	16	1,5	10,8 (0.425)	163 (110)
CV07G250_06000_□□	7	14	2,5	12,9 (0.508)	250 (168)
CV07G400_06000_□□	7	12	4	15,6 (0.614)	380 (255)
CV07G600_06000_□□	7	10	6	18,8 (0.740)	559 (375)
CV08G100_06000_□□	8	18	1	10,5 (0.413)	141 (94)
CV08G150_06000_□□	8	16	1,5	11,9 (0.469)	192 (129)
CV12G050_06000_□□	12	21	0,5	9,2 (0.362)	111 (74)
CV12G075_06000_□□	12	19	0,75	10,0 (0.394)	152 (102)
CV12G100_06000_□□	12	18	1	11,4 (0.448)	183 (123)
CV12G150_06000_□□	12	16	1,5	12,7 (0.500)	249 (167)
CV12G250_06000_□□	12	14	2,5	15,5 (0.610)	393 (264)
CV18G050_06000_□□	18	21	0,5	11,0 (0.433)	162 (108)
CV18G075_06000_□□	18	19	0,75	12,2 (0.480)	222 (149)
CV18G100_06000_□□	18	18	1	13,7 (0.539)	271 (182)
CV18G150_06000_□□	18	16	1,5	15,5 (0.610)	373 (250)
CV18G250_06000_□□	18	14	2,5	18,7 (0.736)	584 (392)
CV25G050_06000_□□	25	21	0,5	13,0 (0.512)	220 (148)
CV25G075_06000_□□	25	19	0,75	14,4 (0.567)	309 (207)
CV25G100_06000_□□	25	18	1	16,4 (0.646)	376 (252)
CV25G150_06000_□□	25	16	1,5	18,5 (0.728)	516 (346)
CV25G250_06000_□□	25	14	2,5	22,5 (0.886)	817 (548)
CV41G100_06000_□□	41	18	1	20,5 (0.807)	606 (407)

Code composition



Number of conductor	To be inserted
2, 3, ..., 41	02, 03, ..., 41

Ground wire	To be inserted
Without yellow/green wire	X
With yellow/green wire	G

Color	To be inserted
Gray	GR
Orange Desina	D2
Black	NE

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 35,0 mm²	B10, ..., B35

SERIES 600S

Multi-norm oil-resistant high flexible cables

Dynamic application, shielded



Use

Shielded cables planned for mobile use on a cable holder chain, even with great length (continuous motion on Cartesian axis); they are used also on anthropomorphous robot ffor flexotorsion motions and servo-motors applications. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The special polyuretane compound of the external jacket grants very good mechanical performance, abrasion and acceleration resistance, and a very good resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5/6
Insulation	TKblend®-L
Conductor distinction	Size <0,5 mm²: DIN 47100 colored Size ≥0,5 mm²: black numbered + yellow/green (beginning from 3 conductors)
Fillers	Central or side fillers, if any
Taping	Synthetic non-hygroscopic tape
Shield	Tinned copper braid, nom. coverage 85%
External taping	Syntheric non-hygroscopic tape
Jacket	Halogen-free polyuretane compound, oil-resistant and flame-resistant, RAL 7001 gray, black or RAL 2003 orange Desina color for Servo applications. Metric marking.
Temperature range	-40°C, +80°C (dynamic); -50°C, +80°C (fixed)
Voltage rating	Size ≤0,75 mm²: 300 V (UL-CSA), 300/500 V (IEC) Size >0,75 mm²: 1000 V (UL-CSA), 600/1000 V (IEC)
Test voltage	2000/4000 V
Speed	220 m/min
Acceleration	10 m/s²
Bending radius	5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, CEI 20-35, UL VW-1, CSA FT1 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Halogen-free: IEC 60754-1 | Other: CEI EN 60228, EN 60228, UL 758, CSA AWM I/II A/B, cURus AWM Style 20940 or 21209
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20940 or 21209

Marking

TEKIMA 0600S – CE 4G6 mm² 80°C 1000 V CEI 20-35 IEC 60332-1 – c(UR)us E314444 AWM 20940 4x10 AWG 80°C 1000 V VW-1 Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV02X050_0600S_□□	2	21	0,5	5,6 (0.220)	49 (33)
CV02X075_0600S_□□	2	19	0,75	6,0 (0.236)	58 (39)
CV02X100_0600S_□□	2	18	1	6,5 (0.256)	64 (43)
CV02X150_0600S_□□	2	16	1,5	7,1 (0.280)	80 (53)
CV03G050_0600S_□□	3	21	0,5	6,0 (0.236)	56 (38)
CV03G075_0600S_□□	3	19	0,75	6,4 (0.252)	66 (45)
CV03G100_0600S_□□	3	18	1	7,0 (0.276)	78 (52)
CV03G150_0600S_□□	3	16	1,5	7,8 (0.307)	102 (68)
CV03G250_0600S_□□	3	14	2,5	9,3 (0.366)	145 (98)
CV04G050_0600S_□□	4	21	0,5	6,4 (0.252)	64 (43)

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV04G075_0600S_□□	4	19	0,75	6,9 (0.272)	81 (54)
CV04G100_0600S_□□	4	18	1	7,7 (0.303)	101 (67)
CV04G150_0600S_□□	4	16	1,5	8,4 (0.331)	126 (85)
CV04G250_0600S_□□	4	14	2,5	10,0 (0.394)	182 (122)
CV04G400_0600S_□□	4	12	4	11,9 (0.469)	267 (179)
CV04G600_0600S_□□	4	10	6	14,3 (0.563)	395 (265)
CV04GB10_0600S_□□	4	8	10	17,2 (0.677)	593 (398)
CV04GB16_0600S_□□	4	6	16	21,2 (0.835)	914 (613)
CV04GB25_0600S_□□	4	4	25	25,1 (0.988)	1334 (895)
CV04GB35_0600S_□□	4	2	35	30,1 (1.185)	1545 (1037)
CV05G050_0600S_□□	5	21	0,5	7,0 (0.276)	77 (51)
CV05G075_0600S_□□	5	19	0,75	7,8 (0.307)	100 (67)
CV05G100_0600S_□□	5	18	1	8,5 (0.335)	117 (78)
CV05G150_0600S_□□	5	16	1,5	9,5 (0.374)	153 (103)
CV05G250_0600S_□□	5	14	2,5	11,4 (0.448)	224 (151)
CV05G400_0600S_□□	5	12	4	13,5 (0.531)	328 (220)
CV05G600_0600S_□□	5	10	6	16,3 (0.642)	485 (326)
CV07X050_0600S_□□	7	21	0,5	8,4 (0.331)	107 (72)
CV07X150_0600S_□□	7	16	1,5	11,5 (0.452)	211 (141)
CV07G400_0600S_□□	7	12	4	16,6 (0.654)	476 (319)
CV07G600_0600S_□□	7	10	6	19,8 (0.780)	680 (456)
CV12G050_0600S_□□	12	21	0,5	9,8 (0.386)	148 (100)
CV12G075_0600S_□□	12	19	0,75	10,8 (0.425)	196 (132)
CV12G100_0600S_□□	12	18	1	12,1 (0.476)	237 (159)
CV12G150_0600S_□□	12	16	1,5	13,5 (0.531)	313 (210)
CV12G250_0600S_□□	12	14	2,5	16,5 (0.650)	489 (328)
CV18G050_0600S_□□	18	21	0,5	11,8 (0.465)	213 (143)
CV18G075_0600S_□□	18	19	0,75	12,8 (0.504)	281 (189)
CV18G100_0600S_□□	18	18	1	14,7 (0.579)	354 (238)
CV18G150_0600S_□□	18	16	1,5	16,5 (0.650)	469 (315)
CV18G250_0600S_□□	18	14	2,5	19,7 (0.776)	706 (473)
CV25G050_0600S_□□	25	21	0,5	14,0 (0.551)	301 (202)
CV25G075_0600S_□□	25	19	0,75	15,4 (0.606)	395 (265)
CV25G100_0600S_□□	25	18	1	17,2 (0.677)	466 (313)
CV25G150_0600S_□□	25	16	1,5	19,5 (0.768)	637 (428)
CV25G250_0600S_□□	25	14	2,5	23,5 (0.925)	968 (650)

Code composition

CV □□ □ □□□ _0600S_ □□

Number of conductors	To be inserted
2, 3, ..., 25	02, 03, ..., 25

Ground wire	To be inserted
Without yellow/green wire	X
With yellow/green wire	G

Color	To be inserted
Gray	GR
Orange Desina	D2
Black	NE

Size	To be inserted
0,14 mm², ..., 6,00 mm²	014, ..., 600
10,0 mm², ..., 35,0 mm²	B10, ..., B35

SERIES 600S

Multi-norm oil-resistant high flexible cables for servo motors

Dynamic application, shielded



Use

Shielded cables planned for mobile use on a cable holder chain, even with great length (continuous motion on Cartesian axis); they are used also on anthropomorphous robot for flexotorsion motion. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The special polyuretane compound of the external jacket grants very good mechanical performance, abrasion resistance and a very good resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5/6
Insulation	TKblend®-L
Conductor distinction	Power: black numbered + yellow/green. Signal: 1 pair: white and black. >1 pair: black numbered
Fillers	Central or side fillers, if any
Pairs shield	Ttinned copper braid, nom. coverage 80%
Pairs taping	Non-woven tape
Total taping	Synthetic non-hygroscopic tape
Shield	Tinned copper braid, nom. coverage 85%
Jacket	Halogen-free polyuretane compound, oil-resistant and flame-resistant, RAL 2003 orange Desina color. Metric marking.
Temperature range	-40°C, +80°C (dynamic); -50°C, +80°C (fixed)
Voltage rating	1000 V (UL-CSA), 600/1000 V (IEC)
Test voltage	2000/4000 V
Speed	220 m/min
Acceleration	10 m/s^2
Bending radius	5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, CEI 20-35, UL VW-1, CSA FT1 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Halogen-free: IEC 60754-1 | Other: CEI EN 60228, EN 60228, UL 758, CSA AWM I/II A/B, cURus AWM Style 20234
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20234

Marking

TEKIMA 0600S – CE (4G1,5+(2x1)) mm^2 80°C 1000 V CEI 20-35 IEC 60332-1 – c(UR)us E314444 AWM Style 20234 (4x16+(2x18)) AWG 80°C 1000 V VW-1 Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm^2]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0001_0600S_D2	(4x16+(2x18))	(4G1,5+(2x1))	11,3 (0.445)	194 (130)
CVFM0002_0600S_D2	(4x16+(2x16))	(4G1,5+(2x1,5))	11,7 (0.461)	211 (142)
CVFM0003_0600S_D2	(4x16+2x(2x19))	(4G1,5+2x(2x0,75))	12,3 (0.484)	226 (151)
CVFM0004_0600S_D2	(4x16+2x(2x18))	(4G1,5+2x(2x1))	12,8 (0.504)	239 (161)
CVFM0005_0600S_D2	(4x14+(2x18))	(4G2,5+(2x1))	12,3 (0.484)	243 (163)
CVFM0006_0600S_D2	(4x14+(2x16))	(4G2,5+(2x1,5))	12,7 (0.500)	261 (175)
CVFM0007_0600S_D2	(4x14+2x(2x18))	(4G2,5+2x(2x1))	14,2 (0.559)	315 (211)
CVFM0008_0600S_D2	(4x14+2x(2x16))	(4G2,5+2x(2x1,5))	14,2 (0.559)	356 (239)
CVFM0026_0600S_D2	(4x12+(2x18))	(4G4+(2x1))	14,0 (0.551)	331 (222)
CVFM0010_0600S_D2	(4x12+(2x16))	(4G4+(2x1,5))	14,4 (0.567)	354 (238)
CVFM0011_0600S_D2	(4x12+2x(2x18))	(4G4+2x(2x1))	15,7 (0.618)	394 (264)

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFM0012_0600S_D2	(4x12+2x(2x16))	(4G4+2x(2x1,5))	16,5 (0.650)	441 (296)
CVFM0025_0600S_D2	(4x10+(2x18))	(4G6+(2x1))	15,7 (0.618)	436 (293)
CVFM0013_0600S_D2	(4x10+(2x16))	(4G6+(2x1,5))	16,3 (0.642)	468 (314)
CVFM0015_0600S_D2	(4x10+2x(2x16))	(4G6+2x(2x1,5))	18,3 (0.720)	551 (370)
CVFM0016_0600S_D2	(4x8+(2x18))	(4G10+(2x1))	18,4 (0.724)	631 (423)
CVFM0017_0600S_D2	(4x8+(2x16))	(4G10+(2x1,5))	18,7 (0.736)	661 (443)
CVFM0018_0600S_D2	(4x8+2x(2x16))	(4G10+2x(2x1,5))	20,7 (0.815)	747 (502)
CVFM0019_0600S_D2	(4x6+(2x18))	(4G16+(2x1))	22,2 (0.874)	918 (616)
CVFM0020_0600S_D2	(4x6+(2x16))	(4G16+(2x1,5))	22,5 (0.886)	953 (639)
CVFM0021_0600S_D2	(4x6+2x(2x16))	(4G16+2x(2x1,5))	23,5 (0.925)	1027 (689)
CVFM0022_0600S_D2	(4x4+(2x16))	(4G25+(2x1,5))	25,9 (1.020)	1352 (907)
CVFM0023_0600S_D2	(4x4+2x(2x16))	(4G25+2x(2x1,5))	27,0 (1.063)	1420 (953)
CVFM0024_0600S_D2	(4x2+(2x16))	(4G35+(2x1,5))	30,5 (1.201)	1860 (1248)
CVFM0027_0600S_D2	(4x2+2x(2x16))	(4G35+2x(2x1,5))	30,4 (1.197)	1901 (1275)
CVFM0028_0600S_D2	(4x1+2x(2x14))	(4G50+2x(2x2,5))	36,3 (1.429)	2582 (1733)

Code composition

CVFM □□□□ **_0600S_** □□

Color	To be inserted
Orange Desina	D2

Construction

Identifier code of the special cable construction.

SERIES 600S

Multi-norm oil-resistant high flexible cables for encoders and resolver

Dynamic application, shielded



Use

Shielded cables planned for mobile use on a cable holder chain, even with great length (continuous motion on Cartesian axis); they are used also on anthropomorphous robot for flexotorsion motion. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The special polyuretane compound of the external jacket grants very good mechanical performance, abrasion resistance and a very good resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 5/6
Insulation	TKblend®-L
Conductor distinction	See "Coding and dimensions" table below
Fillers	Central or side fillers, if any
Taping	Synthetic non-hygroscopic tape
Shield	Tinned copper braid, nom. coverage 85%
Jacket	Halogen-free polyuretane compound, oil-resistant and flame-resistant, RAL 6018 green Desina color. Metric marking.
Temperature range	-40°C, +80°C (dynamic); -50°C, +80°C (fixed)
Voltage rating	300 V (UL-CSA), 300/500 V (IEC)
Test voltage	2000/4000 V
Speed	220 m/min
Acceleration	10 m/s^2
Bending radius	5 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, CEI 20-35, UL VW-1, CSA FT1 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Haloge-free: IEC 60754-1 | Other: CEI EN 60228, EN 60228, UL 758, CSA AWM I/II A/B, cURus AWM Style 20233
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20233 or Style 21209

Marking

TEKIMA 0600S – CE (3x2x0,25+2x0,5) mm^2 80°C 300/500 V CEI 20-35 IEC 60332-1 – c(UR)us E314444 AWM Style 20233 (3x2x22+2x21) AWG 80°C 300V VW-1 Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm^2]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Available colors [2] (See appendix)
CVFS0001_0600S_D1	(2x2x26)	(2x2x0,14)	6,1 (0.240)	37 (25)	Control Techniques
CVFS0002_0600S_D1	(2x2x26)	(2x2x0,14)	6,1 (0.240)	37 (25)	DIN 47100
CVFS0003_0600S_D1	(2x2x22)	(2x2x0,35)	7,1 (0.280)	58 (39)	Tipo 10-P
CVFS0004_0600S_D1	(3x2x22)	(3x2x0,35)	7,2 (0.283)	68 (46)	Tipo 1-P
CVFS0018_0600S_D1	(3x2x22)	(3x2x0,35)	7,2 (0.283)	68 (46)	Tipo 1-C
CVFS0019_0600S_D1	(3x2x22)	(3x2x0,35)	7,2 (0.283)	68 (46)	Tipo 1-T
CVFS0005_0600S_D1	(6x2x22)	(6x2x0,35)	9,6 (0.378)	105 (71)	Tipo 1-P
CVFS0021_0600S_D1	(6x2x22)	(6x2x0,35)	9,6 (0.378)	105 (71)	Tipo 1-C
CVFS0022_0600S_D1	(6x2x22)	(6x2x0,35)	9,6 (0.378)	105 (71)	Tipo 1-T
CVFS0006_0600S_D1	(3x2x22+2x21)	(3x2x0,35+2x0,5)	8,6 (0.339)	88 (59)	DIN 47100
CVFS0023_0600S_D1	(3x2x22+2x21)	(3x2x0,35+2x0,5)	8,6 (0.339)	88 (59)	Tipo 2-C
CVFS0007_0600S_D1	(3x2x22+3x22)	(3x2x0,35+3x0,35)	7,9 (0.311)	76 (51)	Tipo 3-P
CVFS0008_0600S_D1	(4x2x24+2x18)	(4x2x0,25+2x1)	9,0 (0.354)	109 (73)	DIN 47100

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Available colors (2) (See appendix)
CVFS0024_0600S_D1	(4x2x24+2x18)	(4x2x0,25+2x1)	9,0 (0.354)	109 (73)	Tipo 4-C
CVFS0009_0600S_D1	(4x2x22+4x21)	(4x2x0,35+4x0,5)	9,2 (0.362)	119 (80)	Tipo 5-P
CVFS0010_0600S_D1	(5x21+1x2x24)	(5x0,5+1x2x0,25)	7,6 (0.299)	81 (54)	DIN 47100
CVFS0020_0600S_D1 (1)	(4x(2x22))	(4x(2x0,35))	11,0 (0.433)	159 (107)	Tipo 1-P
CVFS0025_0600S_D1 (1)	(4x(2x22))	(4x(2x0,35))	11,0 (0.433)	159 (107)	Tipo 1-C
CVFS0026_0600S_D1 (1)	(4x(2x22))	(4x(2x0,35))	11,0 (0.433)	159 (107)	Tipo 1-T
CVFS0011_0600S_D1 (1)	(6x(2x22))	(6x(2x0,35))	13,0 (0.512)	214 (144)	Tipo 1-P
CVFS0027_0600S_D1 (1)	(6x(2x22))	(6x(2x0,35))	13,0 (0.512)	214 (144)	Tipo 1-C
CVFS0012_0600S_D1	(2x22+8x22)	(2x0,35+8x0,35)	9,3 (0.366)	110 (74)	Tipo 7-P
CVFS0013_0600S_D1	(3x(2x26)+2x21)	(3x(2x0,14)+2x0,5)	8,3 (0.327)	90 (60)	DIN 47100
CVFS0028_0600S_D1	(3x(2x26)+2x21)	(3x(2x0,14)+2x0,5)	8,3 (0.327)	90 (60)	Tipo 8-C
CVFS0014_0600S_D1	(3x(2x26)+2x18)	(3x(2x0,14)+2x1)	8,6 (0.339)	100 (67)	DIN 47100
CVFS0029_0600S_D1	(3x(2x26)+2x18)	(3x(2x0,14)+2x1)	8,6 (0.339)	100 (67)	Tipo 8-C
CVFS0015_0600S_D1	(3x(2x26)+2x21+4x26)	(3x(2x0,14)+2x0,5+4x0,14)	9,3 (0.366)	111 (75)	Tipo 9-P
CVFS0016_0600S_D1	(3x(2x26)+2x21+4x26+4x24)	(3x(2x0,14)+2x0,5+4x0,14+4x0,25)	10,3 (0.406)	129 (87)	Tipo 9-P

(1) Resolver

(2) The colors can vary depending on the warehouse availability. Check with the sales dept. the colors available and the possible supply according to the required specifications.

Code composition

CVFS | □□□□ | **_0600S_** | □□

Construction
Identifier code of the special cable construction.

Color	To be inserted
Green Desina	D1

SERIES 605

Multi-norm oil-resistant high flexible cables

Dynamic application, unshielded



Use

Cables planned for mobile use on a cable holder chain, even with great length (continuous motion on Cartesian axis); they are used also on anthropomorphous robot ffor flexotorsion motions and servo-motors applications. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The special polyuretane compound of the external jacket grants very good mechanical performance, abrasion and acceleration resistance, and a very good resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 6
Insulation	TKblend®-L
Conductor distinction	DIN 47100
Fillers	Central or side fillers, if any
Taping	Nonwoven tape
Jacket	Halogen-free polyuretane compound, oil-resistant and flame-resistant, black color. Metric marking.
Temperature range	-30°C, +80°C (dynamic); -40°C, +80°C (fixed)
Voltage rating	600 V (UL-CSA), 450/750 V (IEC)
Test voltage	2000/4000 V
Speed	220 m/min
Acceleration	10 m/s^2
Bending radius	4 x cable outer diameter (fixed), 6 x cable outer diameter (dynamic)
Standards of construction	Flame res.: IEC 60332-1-2, CSA FT1 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Haloge-free: IEC 60754-1 | UV res.: UNI EN ISO 4892-2 | Other: EN 60228, UL 758, UL 1581, CSA AWM I/II A/B, cURus AWM Style 20940
Riferimenti normativi d'impiego Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20940

Marking

TEKIMA 0605 "CONTEK" – CE 4X0,34 mm^2 – c(UR)us E314444 AWM 20940 4X22 AWG 80°C 600 V AWM I/II A/B FT1 – (prod.reference) = (metric) =

Code	Number of conductors	Size [AWG]	Size [mm^2]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV12X014_06050_NE	12	26	0,14	5,9 (0.232)	39 (26)
CV03X025_06050_NE	3	24	0,25	3,9 (0.154)	18 (12)
CV04X025_06050_NE	4	24	0,25	4,4 (0.173)	23 (15)
CV08X025_06050_NE	8	24	0,25	6,0 (0.236)	42 (28)
CV04X034_06050_NE	4	22	0,34	4,6 (0.181)	27 (18)
CV05X034_06050_NE	5	22	0,34	5,1 (0.201)	33 (22)
CV02X050_06050_NE	2	21	0,5	4,8 (0.189)	24 (16)

Code composition



Number of conductors	To be inserted
2, 3, ..., 25	02, 03, ..., 25

Ground wire	To be inserted
Without yellow/green wire	X

Color	To be inserted
Black	NE

Size	To be inserted
0,14 mm^2, ..., 0,50 mm^2	014, ..., 050

Cable assembly with connectors

The 605/605S Series cables can be supplied complete with M8 or M12 connector on one or both sides depending on your requirements.



M8 or M12, male or female, straight or angled



CK	□□□	_	□□□	_	□□□	_	□□□	□

Cable code

Code depending on the cable type

Connector code on side 1

Code depending on the connector type on the first side of the assembly

Connector code on side 2

Code depending on the connector type on the second side of the assembly

Cable length (integer part)

Number from 0 to 999 identifying the length in meters without decimals

Cable length (decimal part)

Alphabetic code representing the decimal part of the length

Decimal	To be inserted
0	<empty>
0,1	A
0,2	B
0,3	C
0,4	D
0,5	E
0,6	F
0,7	G
0,8	H
0,9	I

Example: 206,2 m has a length code like 206B

SERIES 605S

Multi-norm oil-resistant high flexible cables

Dynamic application, shielded



Use

Shielded cables planned for mobile use on a cable holder chain, even with great length (continuous motion on Cartesian axis); they are used also on anthropomorphous robot ffor flexotorsion motions and servo-motors applications. They are normally used for equipments meant for the European (EC), North American and Canadian markets. The special polyuretane compound of the external jacket grants very good mechanical performance, abrasion and acceleration resistance, and a very good resistance to the most common industrial oils and fluids. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").

Technical data

Characteristics	Value/property
Conductor	Flexible copper strand, class 6
Insulation	TKblend®-L
Conductor distinction	DIN 47100
Fillers	Central or side fillers, if any
Taping	Nonwoven tape
Shield	Tinned copper braid, nom. coverage 85%
External taping	Nonwoven tape
Jacket	Halogen-free polyuretane compound, oil-resistant and flame-resistant, black color. Metric marking.
Temperature range	-30°C, +80°C (dynamic); -40°C, +80°C (fixed)
Voltage rating	600 V (UL-CSA), 450/750 V (IEC)
Test voltage	6000 V
Speed	220 m/min
Acceleration	10 m/s²
Bending radius	4 x cable outer diameter (fixed) 6 x cable outer diameter (dynamic)
Standards of construction	Flame res.: IEC 60332-1-2, CSA FT1 | Oil res.: VDE 0472 (part 803/B), UL 1581 | Haloge-free: IEC 60754-1 | UV res.: UNI EN ISO 4892-2 | Other: EN 60228, UL 758, UL 1581, CSA AWM I/II A/B, cURus AWM Style 20940
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20940

Marking

TEKIMA 0605S "CONTEK" – CE 4X0,34 mm² – c(UR)us E314444 AWM 20940 4X22 AWG 80°C 600 V AWM I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Number of conductors	Size [AWG]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV12X014_0605S_NE	12	26	0,14	8,7 (0.343)	92 (62)
CV03X025_0605S_NE	3	24	0,25	5,0 (0.197)	37 (25)
CV04X025_0605S_NE	4	24	0,25	5,3 (0.209)	41 (28)
CV08X025_0605S_NE	8	24	0,25	7,0 (0.276)	65 (44)
CV04X034_0605S_NE	4	22	0,34	5,4 (0.213)	44 (30)
CV05X034_0605S_NE	5	22	0,34	6,1 (0.240)	54 (36)

Code composition

CV □□ □ □□□ **_0605S_** □□

Number of conductors	To be inserted
2, 3, ..., 25	02, 03, ..., 25

Ground wire	To be inserted
Without yellow/green wire	X

Color	To be inserted
Black	NE

Size	To be inserted
0,14 mm², ..., 0,50 mm²	014, ..., 050

Cable assembly with connectors

The 605/605S Series cables can be supplied complete with M8 or M12 connector on one or both sides depending on your requirements.



M8 or M12, male or female, straight or angled



CK □□□ _ □□□ _ □□□ _ □□□ □

Cable code

Code depending on the cable type

Connector code on side 1

Code depending on the connector type on the first side of the assembly

Connector code on side 2

Code depending on the connector type on the second side of the assembly

Cable length (integer part)

Number from 0 to 999 identifying the length in meters without decimals

Cable length (decimal part)

Alphabetic code representing the decimal part of the length

Decimal	To be inserted
0	<empty>
0,1	A
0,2	B
0,3	C
0,4	D
0,5	E
0,6	F
0,7	G
0,8	H
0,9	I

Example: 206,2 m has a length code like 206B





Data transmission cables

tekima

SERIES 71000

Profibus data communication cables

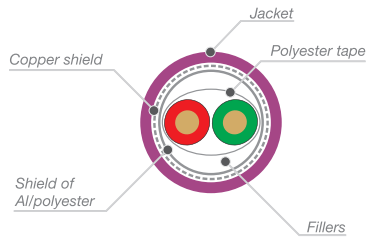
Fixed application



Use

Machine toold wire field BUS cable. The double shielding (electrostatic and electromagnetic) makes it suitable for environments with electromagnetic compatibility (EMC). The special PVC jacket grants very good mechanical performance, a good abrasion resistance and a very good resistance to the most common industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Rigid bare copper 1x0,64 mm
Insulation	TKblend®-L
Conductors	Twisted, green/red colors
Taping	Polyester tape
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	PVC compund, oil-resistant and flame-resistant, Desina RAL 4001 violet color
Temperature range	-10°C, +80°C
Voltage rating	300 V
Max DC resistance	57,5 Ω/km
Max DC loop resistance	115,0 Ω/km
Characteristic impedance	150 Ω
Capacitance	29 nF/km @ 800 Hz
Dielectric strength	1500 V x 1 min (cond./cond. - cond./shield)
Bending radius	15 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, UL 1581 par. 1060-1061, CSA FT2 | Oil res.: IEC 60811-2-1, EN 50363-4-1 | Other: UL 1581, UL 758, CSA AWM I/II A/B, cURus AWM Style 20601
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20601

Marking

TEKIMA 71010 “PROFIBUS” – CE (1x2x0,35) mm² 80°C 300 V IEC 60332-1 – c(UR)us E314444 AWM Style 20601 (1x2x22) AWG 80°C 300 V AWM Class I/II A/B FT2 – 150 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductorsx Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_71010_D3	([1x2x22])	([1x2x0,35])	7,8 (0.307)	78 (52)

SERIES 71100

Profibus data communication cables

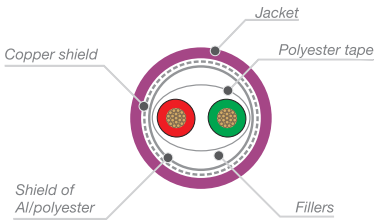
Dynamic application



Use

Filed BUS cable planned for mobile installation on a cable holder chain. The double shielding (electrostatic and electromagnetic) makes it suitable for environments with electromagnetic compatibility (EMC). The special PVC jacket grants very good mechanical performance, a good abrasion resistance and a very good resistance to the most common industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand 19X0,13 mm (0,25 mm²)
Insulation	TKblend®-L
Conductors	Twisted, green/red colors
Taping	Polyester tape
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%, rip cord
Jacket	PVC, oil-resistant and flame-resistant, Desina RAL 4001 violet color
Temperature range	-10°C, +80°C
Voltage rating	30 V
Characteristic impedance	150 Ω
Capacitance	30 pF/m (cond./cond.), 50 pF/m (cond./shield)
Dielectric strength	500 V x 1 min (cond./cond. - cond./shield)
Bending radius	10 x cable outer diameter
Speed	80 m/min
Acceleration	7 m/s²
Standards of construction	Flame res.: IEC 60332-1, CEI 20-35, UL VW-1, CSA FT1 | Oil res.: UL 1581 | Other: CSA C22.2 No. 210, CSA AWM I/II A/B, cUR AWM Style 2919
Standards of use	CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2919

Marking

TEKIMA 71100 "PROFIBUS" – CE (1x2x0,25) mm² 80°C 30 V CEI 20-35 IEC 60332-1 – c(UR)us E314444 AWM Style 2919 (1x2x24) AWG 80°C 30 V VW-1 Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_71100_D3	(1x2x24)	(1x2x0,25)	8,0 (0.315)	71 (48)

SERIES 71140

High performances Profibus data communication cables

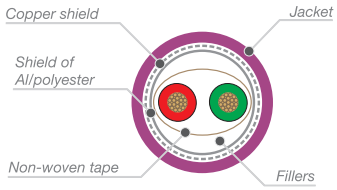
Dynamic application



Use

Field BUS cable planned for mobile installation on a cable holder chain, even with great length (continuous motion on Cartesian axis). The double shielding (electrostatic and electromagnetic) makes it suitable for environments with electromagnetic compatibility (EMC) problems. The special polyuretane jacket grants very good mechanical performance, a very good abrasion resistance and a very good resistance to the most common industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand 19X0,13 mm (0,25 mm²)
Insulation	TKblend®-L
Conductors	Twisted, green/red colors
Taping	Non-woven tape
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	Polyurethane, oil-resistant and flame-resistant, halogen-free, Desina RAL 4001 violet color
Temperature range	-10°C, +80°C
Voltage rating	300 V
Max DC resistance	72,5 Ω/km
Max DC loop resistance	145,0 Ω/km
Characteristic impedance	150 Ω
Capacitance	29 nF/km @ 800 Hz
Dielectric strength	1500 V x 1 min (cond./cond. - cond./shield)
Bending radius	10 x cable outer diameter
Speed	180 m/min
Acceleration	3 m/s²
Standards of construction	Flame res.: IEC 60332-1, CSA FT1 | Oil res.: IEC 60811-2-1, ASTM-oil-1 | Other: VDE 0472 par. 1, VDE 0282/10, NEK 606, EN 50267-2-1, IEC 60754-1-2, UL 758, CSA AWM I/II A/B, cURus AWM Style 20233
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20233

Marking

TEKIMA 71140 "PROFIBUS" – CE (1x2x0,25) mm² 80°C 300 V IEC 60332-1 – c(UR)us E314444 AWM Style 20233 (1x2x24) AWG 80°C 300 V AWM Class I/II A/B FT1 – 150 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_71140_D3	(1x2x24)	(1x2x0,25)	7,9 (0.311)	65 (44)

SERIES 71600

High performances Profibus CMX data communication cables

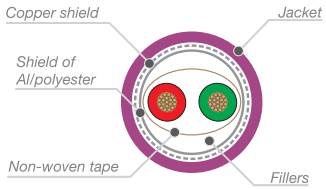
Dynamic application



Use

UL Listed field BUS cable produced according to UL 444 Standard and designed for mobile installation on a cable holder chain, even with great length (continuous motion on Cartesian axis) and for the uses specified by Art. 800 of ANSI/NFPA 70 "National Electrical Code" (NEC). The double shielding (electrostatic and electromagnetic) makes it suitable for environments with electromagnetic compatibility (EMC) problems. The special polyurethane jacket grants very good mechanical performance, a very good abrasion resistance and a very good resistance to the most common industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Flexible copper strand 19X0,13 mm (0,25 mm²)
Insulation	TKblend®-L
Conductors	Twisted, green/red colors
Taping	Non-woven tape
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	Polyurethane, halogen-free, oil-, flame- and UV-resistant. Desina RAL 4001 violet color
Temperature range	-30°C, +70°C (dynamic); -40°C, +75°C (fixed)
Voltage rating	300 V
Max DC conductor resistance	74 Ω/km
Characteristic impedance	150 Ω
Capacitance	30 nF/km @ 800 Hz
Dielectric strength	1500 V x 1 min (cond. - shield)
Bending radius	6 x cable outer diameter (fixed) 12 x cable outer diameter (dynamic)
Speed	180 m/min
Acceleration	3 m/s²
Standards of construction	Flame res.: IEC 60332-1-2, UL 1581 par. 1080 | Oil res.: IEC 60811-2-1, ASTM-oil-1, ICEA S-82-552 | UV res.: UL 1581 par. 1200 | Other: VDE 0472 par. 1, VDE 0282/10, NEK 606, EN 50267-2-1, EN 50267-2-2, IEC 60754-1, IEC 60754-2, UL 444
Standards of use	UL 444 (type CMX), NFPA 70 (Art. 800)

Marking

TEKIMA 71640 "PROFIBUS" – CE (1x2x0,25) mm² IEC 60332-1 – c(UL)us E501447 CMX 75°C (1x2x24) AWG VW-1 150 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_71640_D3	(1x2x24)	(1x2x0,25)	8,2 (0.323)	72 (48)

SERIES 73000

DeviceNet data communication cables

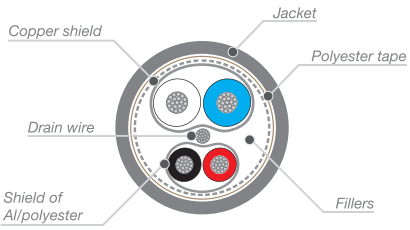
Fixed application



Use

The DeviceNet field BUS cable has been planned for the fixed application connection of industrial equipment, and is made of two couples of connerctors, the first for the power supply made with red and black conductors, the second for the signal made with blue and white conductors. The range of cables includes a Trunk type used for the main lines of DeviceNet network and Drop type, connecting the devices to the main line through derivation. The jacket, made of a special PVC compound, grants very good mechanical performance.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Tinned copper strand. Drop type: signal conductor 19x0,13 mm (0,25 mm²), power conductor 19x0,16 mm (0,35 mm²) Trunk type: signal conductor 19x0,25 mm (0,93 mm²), power conductor 19x0,36 mm (1,93 mm²)
Insulation	TKblend®-L
Conductors	Twisted, black/red colors (power), blue/white (signal)
Shield	Aluminum/polyester tape on pairs (coverage 100%), overall tinned copper braid, nom. covera-ge 65%. Drain wire 22/19 AWG.
Jacket	PVC compound, oil-resistant and flame-resistant RAL 7001 gray color.
Temperature range	-40°C, +80°C
Voltage rating	300 V
Characteristic impedance	120 Ω
Capacitance	40 nF/km @ 800 Hz
Dielectric strength	2000 V x 1 min (cond. - shield)
Bending radius	10 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, UL 1581, CSA FT2 | Oil res.: IEC 60811-2-1, ICEA S-82-552 | Other: UL 1581, UL 758, CSA AWM I/II A/B, cURus AWM Style 2571 or Style 20601
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2571 or Style 20601

Marking

TEKIMA 73010 “DEVICENET” – CE ((2x0,25)+(2x0,35)) mm² 80°C IEC 60332-1 – c(UR)us E314444 AWM Style 2571 ((2x24)+(2x22)) AWG 80°C 300 V AWM I/II A/B FT2 – 120 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Type	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]	Max DC resistance [Ω/km]
CVFD0001_73010_GR	[(2x24)+(2x22)]	[(2x0,25)+(2x0,35)]	Drop	6,9 (0.272)	71 (48)	78,0 (data), 54,0 (power)
CVFD0002_73010_GR	[(2x18)+(2x15)]	[(2x1)+(2x1,5)]	Trunk	12,0 (0.472)	220 (148)	23,2 (data), 11,3 (power)

SERIES 73100

DeviceNet data communication cables

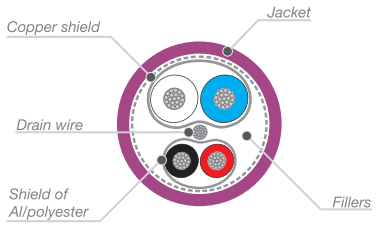
Dynamic application



Use

The DeviceNet field BUS cable for mobile installation has been planned for the mobile application connection of industrial equipment and is normally installed on cable holder chains, even with great length (continuous motion on Cartesian axis). The cable is made of two couples of conductors, the first one for power supply with red and black conductors, the second one for the signal with blue and white conductors. The range of cables includes the Trunk cable used for the main lines of the DeviceNet network, and the Drop cablke connecting the devices to the main line through a derivation. The polyuretan jacket grants very good mechanical performances and a very good resistance to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Tinned copper strand. Drop type: signal conductor 19x0,13 mm (0,25 mm²), power conductor 19x0,16 mm (0,35 mm²)
Insulation	TKblend®-L
Conductors	Twisted, black/red colors (power), blue/white (signal)
Shield	Aluminum/polyester tape on pairs (coverage 100%), overall tinned copper braid, nom. coverage 65%. Drain wire 22/19 AWG.
Jacket	Polyurethane, oil-resistant, flame-resistant and halogen-free. Desina RAL 4001 violet color
Temperature range	-40°C, +80°C
Voltage rating	300 V
Max DC resistance	78,0 Ω/km (data), 54,0 Ω/km (power)
Characteristic impedance	120 Ω
Capacitance	40 nF/km @ 800 Hz
Dielectric strength	2000 V x 1 min (cond. - shield)
Bending radius	10 x cable outer diameter
Speed	180 m/min
Acceleration	5 m/s²
Standards of construction	Flame res.: IEC 60332-1, UL 1581, CSA FT2 | Oil res.: IEC 60811-2-1, ICEA S-82-552, ASTM-oil-1 | Other: EN 50267-2-1, IEC 60754-1-2, NEK 606, VDE 0472 par. 1, VDE 0282/10, UL 758, CSA AWM I/II A/B, cURus AWM Style 20978
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20978

Marking

TEKIMA 73130 "DEVICENET" – CE ((2x0,25)+(2x0,35)) mm² 80°C 300 V IEC 60332-1 – c(UR)us E314444 AWM Style 20978 ((2x24)+(2x22)) AWG 80°C 300 V AWM Class I/II A/B FT2 – 120 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Type	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_73130_D3	[(2x24)+(2x22)]	[(2x0,25)+(2x0,35)]	Drop	6,9 (0.272)	68 (46)

SERIES 74100

CanOpen data communication cables

Fixed application



Use

The CanOpen (Control Area Network) field BUS cable, at first planned for the automotive sector, is now employed also in the industrial one. This cable has been planned for fixed installation use,and is suitable for environments with electromagnetic compatibility (EMC) problems. The special PVC jacket grants good mechanical performances, a good abrasion resistance and a very good resistance to the most used industrial oils and lubricants.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Size 0,34 mm² strand 7x0,25 mm Size 0,22 mm² strand 7x0,20 mm
Insulation	TKblend®-L
Conductors	Twisted, DIN 47100 colors (white, brown, green, yellow)
Taping	Polyester tape
Shield	Tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant and flame-retardant. Desina RAL 4001 violet color
Temperature range	-20°C, +80°C
Voltage rating	300 V
Characteristic impedance	120 Ω
Dielectric strength	1500 V x 1 min (cond./cond.) 1000 V x 1 min (cond./shield)
Bending radius	10 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, UL 1581, CSA FT2 | Other: UL 758, CSA AWM I/II A/B, cURus AWM Style 20601
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20601

Marking

TEKIMA 74100 "CanTek" – CE (1x2x0,34) mm² 80°C 300 V IEC 60332-1 – c(UR)us E314444 AWM Style 20601 (1x2x22) AWG 80°C 300 V AWM Class I/II A/B FT2 – 120 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_74100_D3	[2x(2x24)]	[2x(2x0,22)]	7,5 (0.295)	69 (46)
CVFD0002_74100_D3	[2x(2x22)]	[2x(2x0,34)]	8,5 (0.335)	78 (52)
CVFD0003_74100_D3	[1x(2x22)]	[1x(2x0,34)]	6,5 (0.256)	48 (32)
CVFD0004_74100_D3	[3x(2x22)]	[3x(2x0,34)]	9,0 (0.354)	105 (71)

SERIES 74000

CanOpen data transmission cables

Dynamic application



Use

The CanOpen (Control Area Network) field BUS cable, at first planned for the automotive sector, is now employed also in the industrial one. This cable has been planned for the use in mobile installations on Cartesian axis, and is suitable for environments with electromagnetic compatibility (EMC) problems. The special polyuretan jacket grants very good mechanical performances, a very good abrasion resistance and a good resistance to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	0,25 mm² (32x0,10 mm)
Insulation	TKblend®-L
Conductors	Twisted, DIN 47100 colors (white, brawn, green, yellow)
Taping	Non-woven tape
Shield	Tinned copper braid, nom. coverage 85%
Jacket	PUR halogen free. Desina RAL 4001 violet color.
Temperature range	-40°C, +80°C
Voltage rating	300 V
Max DC resistance	79,0 Ω/km
Characteristic impedance	120 Ω
Dielectric strength	1500 V x 1 min (cond./cond.) 1000 V x 1 min (cond./shield)
Bending radius	10 x cable outer diameter
Speed	180 m/min
Acceleration	5 m/s²
Standards of construction	Flame res.: IEC 60332-1, UL 1581, CSA FT2 | Oil res.: IEC 60811-2-1, ICEA S-82-552, ASTM-oil-1 | Other: VDE 0472 par. 1, VDE 0282/10, NEK 606, UL 758, CSA AWM I/II A/B, cURus AWM Style 20978
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20978

Marking

TEKIMA 74000 “CanTek” – CE (1x2x0,25) mm² 80°C 300 V IEC 60332-1 – c(UR)us E314444 AWM Style 20978 (1x2x24) AWG 80°C 300 V AWM Class I/II A/B FT2 – 120 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_74000_D3	[1x(2x24)]	[1x(2x0,25)]	6,2 (0.244)	49 (33)
CVFD0002_74000_D3	[2x(2x24)]	[2x(2x0,25)]	8,4 (0.331)	76 (51)

SERIES 75000

Industrial Ethernet data transmission cables

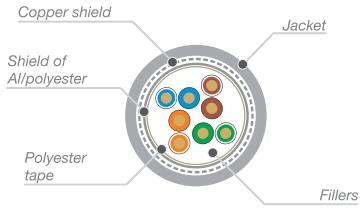
Fixed application



Use

The Ethernet networks and the TCP/IP protocol are among the most widespread data communication systems of the industrial automation. These are powerful communication technologies which permit integration with the Office environment, IT functionality, Internet/Intranet, remote configuration. The cable is planned for fixed application and is suitable for environments with electromagnetic compatibility (EMC) problems. The special PVC jacket grants good mechanical performances, a good abrasion resistance and a very good resistance to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Category	Ethernet SF/UTP Cat.5e
Conductor	Rigid bare copper 0,22 mm²
Insulation	TKblend®-L
Conductors	Twisted, colored in rings or stripes. 4 pairs cable (White/Blue+Blue); (White/Orange+Orange);(White/Green+Green), (White/Brawn+Brawn) 2 pairs cable (White/Orange+Orange), (White/Green+Green)
Taping	Polyester tape
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, flame retardant and UV resistant. Gray color.
Temperature range	-20°C, +80°C
Voltage rating	300 V
Max DC resistance	93,8 Ω/km
Characteristic impedance	100 Ω
Capacitance	48 pF/m
Dielectric strength	1000 V x 1 min (cond) 700 V x 1 min (shield)
Bending radius	10 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1-2, UL 1581, CSA FT2 | Oil res.: EN 50363-4-1, IEC 60811-404 oil IRM 902 | UV res.: UL 1581 par.1200 | Other: UL 1581, UL 758, EN 61156-5, CSA AWM I/II A/B, cURus AWM Style 20601
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20601

Marking

TEKIMA 75020 “Industrial Ethernet” SF/UTP CAT.5e – CE (2x2x0,21) mm² 80°C 300 V IEC 60332-1 – c(UR)us E314444 AWM Style 20601 (2x2x24) AWG 80°C AWM Class I/II A/B 80°C 300 V FT2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_75020_GR	[2x(2x24)]	[2x(2x0,21)]	6,0 (0.236)	44 (30)
CVFD0002_75020_GR	[4x(2x24)]	[4x(2x0,21)]	6,4 (0.252)	58 (39)

SERIES 75500

Industrial Ethernet CMR data transmission cables

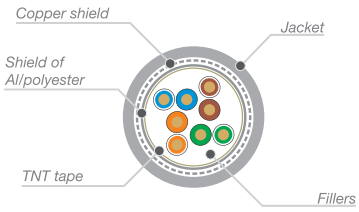
Fixed application



Use

UL Listed Ethernet cable produced according to UL 444. The Ethernet networks and the TCP/IP protocol are among the most widespread data communication systems of the industrial automation. These are powerful communication technologies which permit integration with the Office environment, IT functionality, Internet/Intranet, remote configuration. The cable is planned for fixed application and is suitable for environments with electromagnetic compatibility (EMC) problems. The special PVC jacket grants good mechanical performances, a good abrasion resistance and a very good resistance to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Category	Ethernet SF/UTP Cat.5e
Conductor	Rigid bare copper 0,22 mm²
Insulation	TKblend®-L
Conductors	Twisted, colored in rings or stripes. 4 pairs cable (White/Blue+Blue); (White/Orange+Orange);(White/Green+Green), (White/Brawn+Brawn) 2 pairs cable (White/Orange+Orange), (White/Green+Green)
Nastratura Taping	Non-woven tape
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, flame retardant and UV resistant. Gray color.
Temperature range	-30°C, +75°C
Voltage rating	125 V
Max DC resistance	86,0 Ω/km
Characteristic impedance	100 Ω
Capacitance	48 pF/m
Dielectric strength	1000 V x 1 min (cond./cond.) 700 V x 1 min (cond./shield)
Bending radius	8 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1, UL 1666 | Oil res.: IEC 60811-404 oil IRM 902 | UV res.: UL 1581 par. 1200 | Other: UL 1581, EN 61156-5, UL 444
Standards of use	UL 444 (type CMR), NFPA 70 (Art. 800)

Marking

TEKIMA 75530 “Industrial Ethernet” SF/UTP CAT.5e – CE (2x2x0,22) mm² 60°C 125 V IEC 60332-1 – c(UL)us CMR E501447 (2x2x24) AWG 60°C 125 V – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_75530_GR	(2x2x24)	(2x2x0,22)	6,6 (0.260)	57 (38)
CVFD0002_75530_GR	(4x2x24)	(4x2x0,22)	6,8 (0.268)	67 (45)

SERIES 75100

Industrial Ethernet data transmission cables

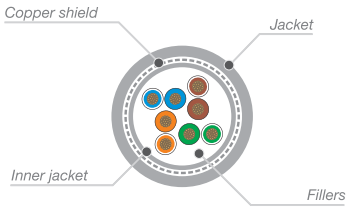
Dynamic application



Use

The Ethernet networks and the TCP/IP protocol are among the most widespread data communication systems of the industrial automation. These are powerful communication technologies which permit integration with the Office environment, IT functionality, Internet/Intranet, remote configuration. The cable has been planned for dynamic application and is is suitable for environments with electromagnetic compatibility (EMC) problems. The special PUR jacket grants good mechanical performances, a good abrasion resistance and a very good resistance to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Category	Ethernet S/UTP Cat.5e
Conductor	0,15 mm² (19x0,10 mm)
Insulation	TKblend®-L
Conductors	Twisted, colored in rings or stripes. 4 pairs cable (White/Blue+ Blue), (White/Orange+Orange), (White/Green+Green), (White/Brown+Brown)
Internal jacket	TPE halogen free
Shield	Tinned copper braid, nom. coverage 85%
Jacket	Polyurethane halogen free. Gray color.
Temperature range	-40°C, +80°C
Voltage rating	125 V
Max DC loop resistance	284,0 Ω/km
Characteristic impedance	100 Ω
Capacitance	48 pF/m
Dielectric strength	700 V x 1 min (cond./cond. - cond./shield)
Bending radius	10 x cable outer diameter
Speed	180 m/min
Acceleration	3 m/s²
Standards of construction	Oil res.: IEC 60811-2-1, ICEA S-82-552, ASTM-oil-1 | Other: VDE 0472 par. 1, VDE 0282/10, NEK 606

Marking

TEKIMA 75120 “Industrial Ethernet” S/UTP CAT.5e – CE (4x2x0,15) mm² – (4x2x26) AWG 80°C 125 V – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_75120_GR	(4x2x26)	(4x2x0,15)	6,3 (0.248)	56 (38)

SERIES 75200

Industrial Ethernet data transmission cables Cat.6

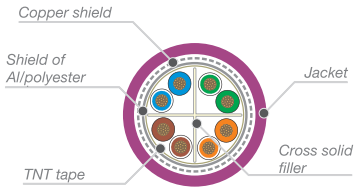
Dynamic application



Use

The Ethernet networks and the TCP/IP protocol are among the most widespread data communication systems of the industrial automation. These are powerful communication technologies which permit integration with the Office environment, IT functionality, Internet/Intranet, remote configuration. The cable has been planned for dynamic application and is is suitable for environments with electromagnetic compatibility (EMC) problems. The special thermoplastic polyurethane (TPU) jacket grants good mechanical performances, a good abrasion resistance and a very good resistance to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Category	Ethernet SF/UTP Cat.6
Conductor	0,15 mm²
Insulation	TKblend®-L
Conductors	Twisted, colored in rings or stripes. 4 pairs cable (White/Blue+ Blue), (White/Orange+Orange), (White/Green+Green), (White/Brown+Brown)
Taping	Non-woven tape
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	Polyurethane halogen free and UV-resistant. Violet color.
Temperature range	-30°C, +80°C (dynamic); -40°C, +80°C (fixed)
Voltage rating	1000 V (work 50 V)
Max DC loop resistance	290,0 Ω/km
Characteristic impedance	100 Ω
Capacitance	47 pF/m
Dielectric strength	1000 Vac x 1 min
Bending radius	6 x cable outer diameter (fixed) 8 x cable outer diameter (dynamic)
Speed	300 m/min
Acceleration	5 m/s²
Standards of construction	Flame res.: IEC 60332-1-2, UL 1581 par. 1100 (FT2), 1090 | Oil res.: IEC 60811-2-1, ICEA S-82-552, ASTMoil 1 | UV res.: UL 1581 par. 1200 | Other: VDE 0472 par.1, NEK 606, VDE 0282/10, EN 50267-2-1, IEC 60754-1, EN 50267-2-2, IEC 60754-2, IEC 61156-6, EN 50288-5-2, EN 50173-1, ISO/IEC 11801, UL 758, cURus AWM Style 21576
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 21576

Marking

TEKIMA 75220 “Industrial Ethernet” SF/UTP CAT.6 – CE (4x2x0,15) mm² 80°C IEC 60332-1-2 – c(UR)us E314444 AWM Style 21576 (4x2x26) AWG 80°C 1000 V AWM Class I/II A/B FT2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_75220_D3	[4x(2x26)]	[4x(2x0,15)]	7,2 (0.283)	64 (43)

SERIES 75600

Industrial Ethernet CMX data transmission cables

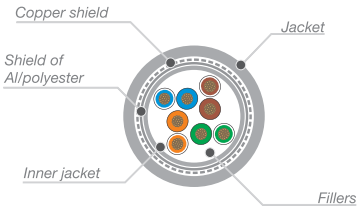
Dynamic application



Use

UL Listed Ethernet cable produced according to UL 444. The Ethernet networks and the TCP/IP protocol are among the most widespread data communication systems of the industrial automation. These are powerful communication technologies which permit integration with the Office environment, IT functionality, Internet/Intranet, remote configuration. The cable has been planned for dynamic application and is is suitable for environments with electromagnetic compatibility (EMC) problems. The special PUR jacket grants good mechanical performances, a good abrasion resistance and a very good resistance to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Category	Ethernet SF/UTP Cat.5e
Conductor	0,15 mm² (19x0,10 mm)
Insulation	TKblend®-L
Conductors	Twisted, colored in rings or stripes. 4 pairs cable (White/Blue+ Blue), (White/Orange+Orange), (White/Green+Green), (White/Brawn+Brawn)
Internal jacket	TPE halogen free
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	Flame retardant, halogen free polturethane and UV-resistant. Gray color.
Temperature range	-30°C, +70°C (dynamic); -40°C, +75°C (fixed)
Voltage rating	125 V
Max DC conductor resistance	142,0 Ω/km
Characteristic impedance	100 Ω
Capacitance	48 pF/m
Dielectric strength	1000 V x 1 min (cond./cond.), 700 V x 1 min (cond./shield)
Bending radius	10 x cable outer diameter (fixed) 15 x cable outer diameter (dynamic)
Speed	180 m/min
Acceleration	3 m/s²
Standards of construction	Flame res.: IEC 60332-1-2, UL 1581 par. 1080 | Oil res.: IEC 60811-2-1, ASTM-oil-1, ICEA S-82-552 | UV res.: UL 1581 par. 1200 | Other: VDE 0472 par. 1, VDE 0282/10, NEK 606, EN 50267-2-1, EN 50267-2-2, IEC 60754-1, IEC 60754-2, UL 444
Standards of use	UL 444 (type CMX), NFPA 70 (Art. 800)

Marking

TEKIMA 75620 “Industrial Ethernet” SF/UTP CAT.5e – CE (4x2x0,15) mm² 75°C 125 V IEC 60332-1 – c(UL)us CMX E501447 (4x2x26) AWG 75°C 125 V – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_75620_GR	(4x2x26)	(4x2x0,15)	7,4 (0.291)	76 (51)

SERIES 75700

Industrial Ethernet CMX data transmission cables Cat.6

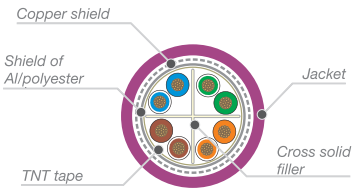
Dynamic application



Use

UL Listed Ethernet cable produced according to UL 444. The Ethernet networks and the TCP/IP protocol are among the most widespread data communication systems of the industrial automation. These are powerful communication technologies which permit integration with the Office environment, IT functionality, Internet/Intranet, remote configuration. The cable has been planned for dynamic application and is is suitable for environments with electromagnetic compatibility (EMC) problems. The special PUR jacket grants good mechanical performances, a good abrasion resistance and a very good resistance to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Category	Ethernet SF/UTP Cat.6
Conductor	0,15 mm²
Insulation	TKblend®-L
Conductors	Twisted, colored in rings or stripes. 4 pairs cable (White/Blue+ Blue), (White/Orange+Orange), (White/Green+Green), (White/Brown+Brown)
Taping	Non-woven tape
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	Polyurethane halogen free and UV-resistant. Violet color.
Temperature range	+80°C (AWM/IEC), +75°C (CMX), +60°C (dynamic) -5°C (dynamic); -20°C (fixed)
Voltage rating	300 V (work 50 V)
Max DC loop resistance	290,0 Ω/km
Characteristic impedance	100 Ω
Capacitance	47 pF/m
Dielectric strength	2000 V x 1 min (cond./cond.), 2000 V x 1 min (cond./shield)
Bending radius	6 x cable outer diameter (fixed) 10 x cable outer diameter (dynamic)
Speed	180 m/min
Acceleration	3 m/s²
Standards of construction	Flame res.: IEC 60332-1-2, UL 1581 par. 1090, 1100 (FT2) | Oil res.: IEC 60811-404, Oil IRM 902 | UV res.: UL 1581 par. 1200 | Other: VDE 0472 par.1, NEK 606, VDE 0282/10, IEC 60754-1, UL 444, UL 758, cURus AWM Style 20549
Standards of use	UL 444 (type CMX), NFPA 70 (Art. 800), ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20549

Marking

TEKIMA 75720 "Industrial Ethernet" SF/UTP CAT.6 – CE (4x2x0,15) mm² 80°C IEC 60332-1-2 – c(UL)us CMX E501447 (4x2x26) AWG 75°C VW-1 or AWM Style 20549 80°C 300V AWM Class I/II A/B FT2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_75720_D3	(4x2x26)	(4x2x0,15)	7,2 (0.283)	64 (43)

SERIES 77000

Profinet data transmission cables

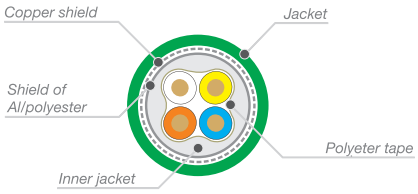
Fixed application



Use

Profinet is the Ethernet industrial standard of Profibus and Profinet association. This system employs the TCP/IP protocol permitting a real-time communication with advanced industrial devices. The cable has been planned for fixed application, it exhibits a good resistance to the mechanical stress, to the low temperatures and to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Category	Profinet SF/UTP Cat.5e
Conductor	Rigid bare copper 1x0,64 mm
Insulation	TKblend®-L
Conductors	Twisted (White, Blue, Yellow, Orange)
Taping	Polyester tape
Internal jacket	PVC compound
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	PVC compound, oil-resistant, flame-retardant and UV-resistant. RAL 6018 green color
Temperature range	-30°C, +80°C
Voltage rating	300 V
Max DC resistance	56,40 Ω/km
Characteristic impedance	100 Ω
Capacitance	52 pF/m
Dielectric strength	1500 Vac x 1 min (cond. - shield)
Bending radius	8 x cable outer diameter
Standards of construction	Flame res.: IEC 60332-1-2, UL 1581 par. 1090, 1100 (FT2) | Oil res.: IEC 60811-2-1, EN 50363-4-1 type TM5, ASTM IRM902 | UV res.: UL 1581 par. 1200 | Other: IEC 61156-5, EN 50288-2-1, UL 758, CSA AWM I/II, A/B, cURus AWM Style 20601 or 2464
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20601 or 2464

Marking

TEKIMA 77010 "PROFINET" – CE (1x4x0,34) mm² 80°C 300 V IEC 60332-1-2 – c(UR)us E314444 AWM Style 20601 (1x4x22) AWG 80°C 300 V AWM Class I/II A/B FT2 – 100 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_77010_VE	(1x4x22)	(1x4x0,35)	6,5 (0.256)	74 (50)

SERIES 77100

Profinet data transmission cables

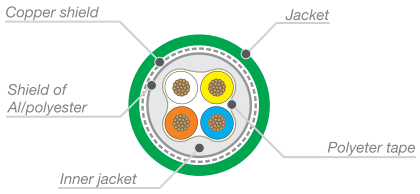
Dynamic application



Use

Profinet is the Ethernet industrial standard of Profibus and Profinet association. This system employs the TCP/IP protocol permitting a real-time communication with advanced industrial devices The cable has been planned for dynamic application, it exhibits a good resistance to the mechanical stress, to the low temperatures and to the most used industrial oils and fluids.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Category	Profinet SF/UTP Cat.5e
Conductor	Bare copper 0,38 mm² (19x0,16 mm)
Insulation	TKblend®-L
Conductors	Twisted (White, Blue, Yellow, Orange)
Internal jacket	TPE
Shield	Aluminum/polyester tape and tinned copper braid, nom. coverage 85%
Jacket	PUR oil-resistant, flame-retardant, halogen-free and UV-resistant. RAL 6018 green color
Temperature range	-40°C, +80°C (fixed application); -20°C, +60°C (dynamic application)
Voltage rating	300 V
Max DC resistance	59,4 Ω/km
Characteristic impedance	100 Ω
Capacitance	52 pF/m
Bending radius	8 x cable outer diameter (fixed), 12 x cable outer diameter (not fixed)
Speed	180 m/min
Acceleration	3 m/s²
Standards of construction	Flame res.: IEC 60332-1, UL 1581 par. 1090 and par. 1100 (FT2) | Oil res.: IEC 60811-2-1, ICEA S-82-552, IRM 901, 902 | Other: UL 1581, IEC 61156-6, EN 50288-1, EN 50288-2, ISO/IEC 11801, UL 758, CSA AWM I/II A/B, cURus AWM Style 20978 or Style 20549
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 20978 or Style 20549

Marking

TEKIMA 77100 “PROFINET” – CE (1x4x0,38) mm² 80°C 300 V IEC 60332-1 – c(UR)us E314444 AWM Style 20978 (1x4x22) AWG 80°C 300 V AWM Class I/II A/B FT2 – 100 Ohm – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_77100_VE	(1x4x22)	(1x4x0,38)	6,7 (0.264)	63 (42)

SERIES 78100

DRIVE-CLiQ data transmission cables

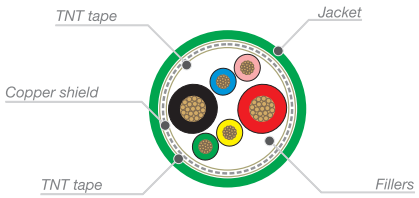
Dynamic application



Use

The DRIVE-CLiQ data communication cable for mobile application is used in connection of industrial equipment. DRIVE-CLiQ is an open encoder interface that allows users to select the right measuring system for their application. With this interface it is possible to connect encoders to magnetic/inductive, magnetostrictive sensors, lasers measuring systems. This cable, made of a polyurethane jacket, grants very good mechanical performance, oil and flame resistance.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Bare copper. Conductors 0,15 mm² (19x0,10 mm). Conductors 0,34 mm² (19x0,15 mm).
Insulation	TKblend®-YP
Conductors	Twisted, red/black colors (0,34 mm²), yellow/green and pink/blue (0,15 mm²)
Inner taping	TNT tape under shield
Shield	Tinned copper braid, nom. coverage 85%
Outer taping	TNT tape over shield
Jacket	PUR, oil-resistant, flame-resistant, halogen-free. Similar to RAL 6018 green color.
Temperature range	-40°C, +80°C (fixed); -30°C, +70°C (flexing); -20°C, +65°C (dynamic)
Voltage rating	300V (125V operating)
Test voltage	1500 V x 1 min
Speed	220 m/s
Acceleration	3 m/s²
Bending radius	6 x cable outer diameter (fixed), 8 x cable outer diameter (flexing), 10 x cable outer diameter (dynamic)
Standards of construction	Flame res.: UL FT2, IEC 60332-1-2 | Oil res.: IEC 60811-404 oil IRM 902 | UV res.: UL 1581 par. 1200 | Halogen-free: IEC 60754-1 | Other: IEC 60754-2, IEC 61156-6, UL 758, UL 1581, CSA AWM I/II A/B, cURus AWM Style 20978
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286

Marking

TEKIMA 78100 – CE (2x2x0,15+2x0,34) mm² 300 V – c(UR)us E314444 AWM Style 20978 (2x2x26+2x22) AWG 80°C 300 V AWM I/II A/B FT2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFD0001_78100_VE	(2x2x26+2x22)	(2x2x0,15+2x0,34)	7,0 (0.276)	69 (46)

tekima

DATA

Encoder, resolver and data transmission cables

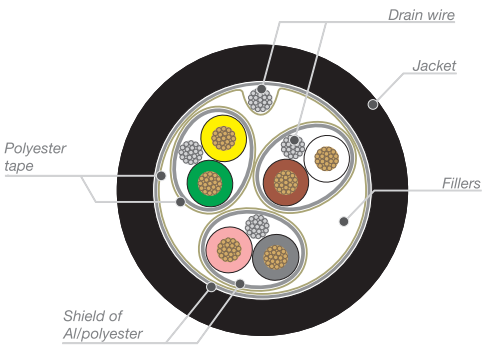
Fixed application



Use

Machine tool wire cables produced for fixed applications or not-cyclical and not-repetitive mobile uses. They are used for equipment meant for the European (EC) and North American (UL) markets. Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. The good flame resistance makes them suitable for the installation in any industrial environment. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Bare copper
Insulation	TKblend®-R
Conductor distinction	Twisted: (White, Brown); (Green, Yellow); (Gray, Pink)
Pairs shield	Aluminum/polyester (coverage 100%), drain wire 14x0,15 mm and protective PET tape.
Total shield	Protective PET tape, drain wire 14x0,15 mm and aluminum/polyester (coverage 100%).
Jacket	PVC compound. Black color.
Temperature range	+80°C -25°C (fixed); -5°C (not fixed(1))
Voltage rating	300 V
Test voltage	2000 V x 1 min
Electrical resistance	<75,37 Ω/km
Bending radius	5 x cable outer diameter
Standards of construction	Flame res.: UL VW-1, CSA FT1, IEC 60332-1, CEI 20-35 | Oil res.: ISO 6722 | Other: CEI 20-52, IEC 60344, IEC 60885-1, UL 758, AWM I/II A/B, UL AWM Style 2464
Standards of use	ANSI/NFPA 79, UL 508a, Style 2464

(1) For mobile use with scarcely repetitive and non-cyclical movements.

Marking

TEKIMA CVFS0001_0301S_NE – CE (3x2x0,25) mm² 80°C 300 V CEI 20-35 IEC 60332-1– c(UR)us E314444 AWM Style 2464 (3x2x24) AWG 80°C 300 V VW-1 - Class I/II A/B FT1 – (prod.reference) = (metric) =

Coding and dimensions

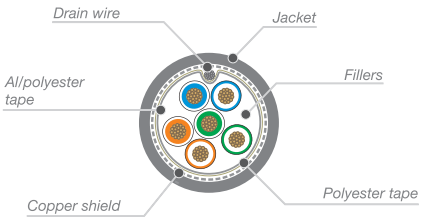
Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFS0001_0301S_NE	(3x(2x24))	(3x(2x0,25))	7,0 (0.276)	58 (39)



Use

Machine tool wire cables produced for fixed applications or not-cyclical and not-repetitive mobile uses. They are used for equipment meant for the European (EC) market. Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. The good flame resistance makes them suitable for the installation in any industrial environment. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Tin copper
Insulation	TKblend®-L
Conductor distinction	Twisted: (White with blue rings, Blue with white rings); (White with orange rings, Orange with white rings); (White with green rings, Green with white rings)
Total shield	Protective aluminum/polyester (coverage 100%), drain wire 7x0,13 mm and tin copper shield (nom. coverage 65%).
Jacket	PVC compound. Gray color RAL 7001.
Temperature range	+80°C (fixed); +70°C (not fixed(1)) -25°C (fixed); -5°C (not fixed(1))
Voltage rating	30 V
Electrical resistance	<206,5 Ω/km
Nominal impedance	120 Ω
Capacitance	36 pF/m
Bending radius	10 x cable outer diameter (15 x cable outer diameter for non-cyclical mobile uses)
Standards of construction	Flame res.: IEC 60332-1 | Oil res.: ISO 6722

(1) For mobile use with scarcely repetitive and non-cyclical movements.

Marking

TEKIMA CVFS0040_0301S – CE (3x2x0,09) mm² 30 V IEC 60332-1 – (prod.reference) = (metric) =

Coding and dimensions

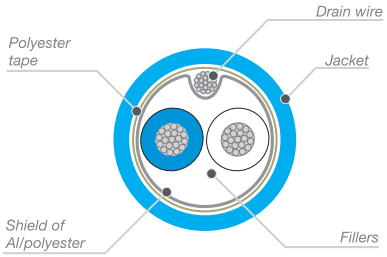
Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFS0040_0301S_GR	(3x(2x28))	(3x(2x0,09))	6,5 (0.256)	47 (32)



Use

Machine tool wire cables produced for fixed applications or not-cyclical and not-repetitive mobile uses. They are used for equipment meant for the European (EC), North American (UL) and Canadian (CSA) markets. Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. The good flame resistance makes them suitable for the installation in any industrial environment. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Tin copper
Insulation	TKblend®-L
Conductor distinction	Twisted: (Blue, Natural)
Total shield	Aluminum/polyester (coverage 100%), drain wire 7x0,25 mm and protective PET tape.
Jacket	PVC compound. Blue color RAL 5015.
Temperature range	+80°C -20°C (fixed); -5°C (not fixed(1))
Voltage rating	300 V
Electrical resistance	<87,2 Ω/km
Nominal impedance	120 Ω
Capacitance	40 pF/m
Bending radius	10 x cable outer diameter
Standards of construction	Flame res.: UL HFT, CSA FT1, IEC 60332-1 | Oil res.: ISO 6722 | Other: IEC 60344, UL 758, CSA AWM I/II A/B, cURus AWM Style 2095
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2095

(1) For mobile use with scarcely repetitive and non-cyclical movements.

Marking

TEKIMA CVFS0050_0301S – CE (2x0,22) mm² 80°C 300 V IEC 60332-1 – c(UR)us AWM Style 2095 (2x24) AWG 80°C 300 V E314444 – AWM Class I/II A/B 80°C 300V FT1 – (prod.reference) = (metric) =

Coding and dimensions

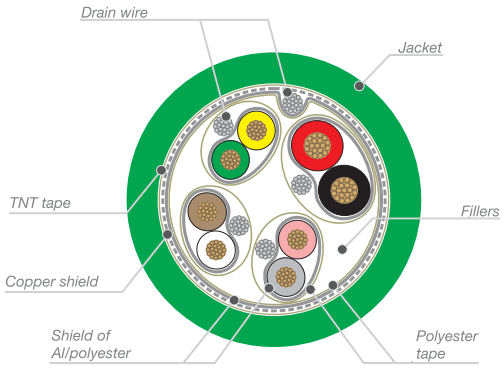
Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFS0050_0301S_BL	(2x24)	(2x0,22)	6,1 (0.240)	34 (23)



Use

Machine tool wire cables produced for fixed applications or not-cyclical and not-repetitive mobile uses. They are used for equipment meant for the European (EC), North American (UL) and Canadian (CSA) markets. Their good oil and abrasion resistance permit their use in static connections without particular protections and without compromising the original electrical and mechanical properties. The good flame resistance makes them suitable for the installation in any industrial environment. The metric marked on the jacket allows an easier processing and installation of the cable.

Information. An additional UL certified cut-to-length service is carried out on request ("Processed Wire").



Technical data

Characteristics	Value/property
Conductor	Bare copper
Insulation	TKblend®-L
Conductor distinction	Twisted pair 0,5 mm²: (Red, Black) Twisted pair 0,22 mm²: (White, Brown); (Green, Yellow); (Gray, Pink)
Pairs shield	Aluminum/polyester (coverage 100%), drain wire 7x0,20 mm and protective PET tape.
Total shield	Protective aluminum/polyester (coverage 100%), drain wire 7x0,20 mm and tin copper shield (nom. coverage 85%). TNT tape over total assembly.
Jacket	PVC compound. Green color RAL 6018.
Temperature range	-25°C(2) (fixed); -5°C (not fixed(1))
Voltage rating	300 V
Test voltage	2000 V x 1 min
Electrical resistance	Pair 0,5 mm²: <37,10Ω/km; Pair 0,22 mm²: <84,79 Ω/km
Bending radius	5 x cable outer diameter
Standards of construction	Flame res.: UL Vertical flame, CSA FT2 or FT1, IEC 60332-1, CEI 20-35 | Oil res.: ISO 6722 | Other: CEI 20-52, UL 758, CSA AWM I/II A/B, cURus AWM Style 2464 or 20601
Standards of use	ANSI/NFPA 79, UL 508a, CSA C22.1 (CE Code), CSA C22.2 No.286, Style 2464 or 20601

(1) For mobile use with scarcely repetitive and non-cyclical movements.
(2) On request special product up to -40°C.

Marking

TEKIMA 0321S – CE (2x0,5 + 3x(2x0,22)) mm² 80°C 300 V CEI 20-35/IEC 60332-1 – c(UR)us E314444 AWM Style 20601 (2x21 + 3x(2x24)) AWG 80°C 300 V – AWM Class I/II A/B 80°C 300V FT2 – (prod.reference) = (metric) =

Coding and dimensions

Code	Num. conductors x Size [AWG]	Num. conductors x Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CVFS0003_0321S_D1	((2x21)+3x(2x24))	((2x0,50)+3x(2x0,22))	9,5 (0.374)	116 (78)

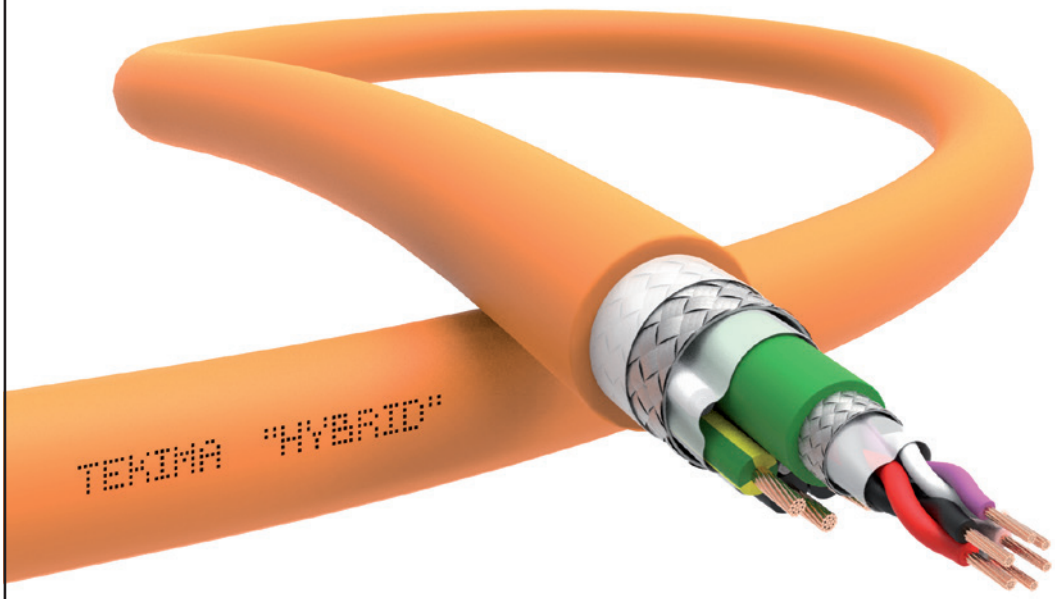


Multi-conductor “Hybrid” cables

tekima

SERIES HYBRID

Multi-conductor “Hybrid” cables



Use

The use of digital technologies in motors' control for industrial automation is undergoing a decisive acceleration.

The integration of the two essential components (power and control) necessary for the operation of a latest generation electric motor, involves the aggregation in a single cable of the power supply conductors and those necessary for digital communications.

Combining very different electrical quantities and extremely reliable electrical parameters in a single product represents today the new goal in the construction of hybrid cables.

We create your own cables. Customizable in:

> Type of communication
> Certifications
> Installation, fixed / mobile installation
> Operating conditions
> Dimensions
> Colors

For more information please contact sales-USA@tekima.com

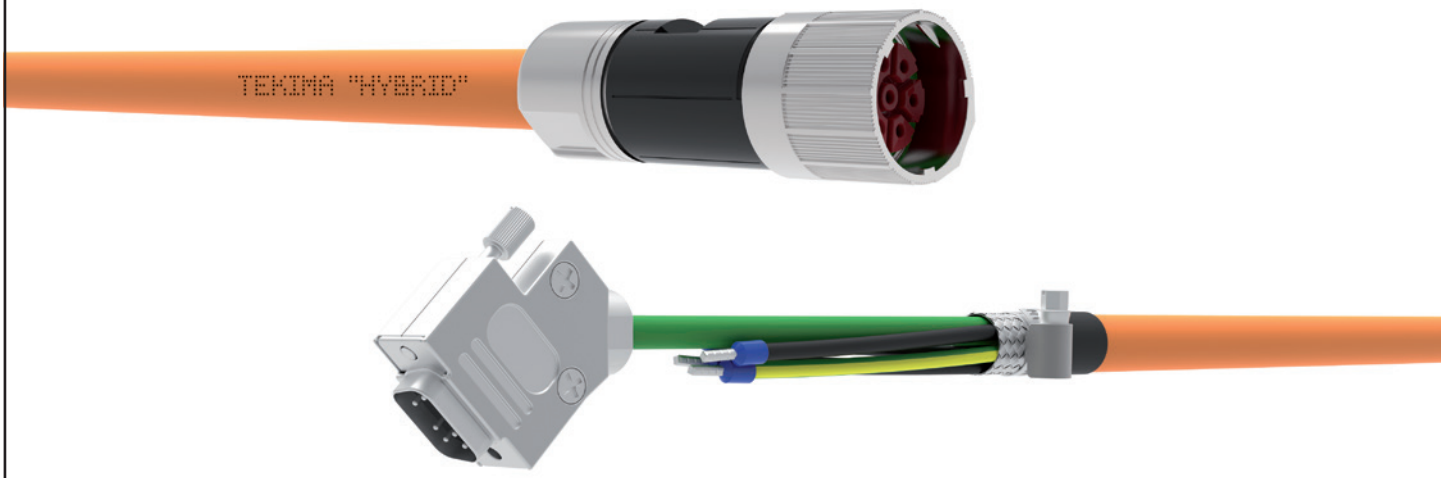


“Contek” connectorized cables

tekima

SERIES CONTEK

“Contek” connectorized cables



contek

Use

Communication and integrated power now in a single pre-connectorized cable, “Contek”.

Receive the certified, pre-connectorised product, already tested and ready to be installed as per your specifications
> Connectors compatible with the most used motors and drives.
> Custom configurations based on your application.
> Certified quality of all components.
> 100% tested.
> Fast delivery.
> Guaranteed compatibility: Siemens, B&R, Control Techniques, Sew Eurodrive, Schneider Electric, Beckoff, Bosch Rexroth, Rockwell Automation

For more information please contact sales-USA@tekima.com



Fittings and cable entry systems

tekima

Cable glands for unarmoured cables for Hazardous Locations

For use in Class/Division, Class/Zone and Atex Hazardous Locations – “UL/CSA Listed”



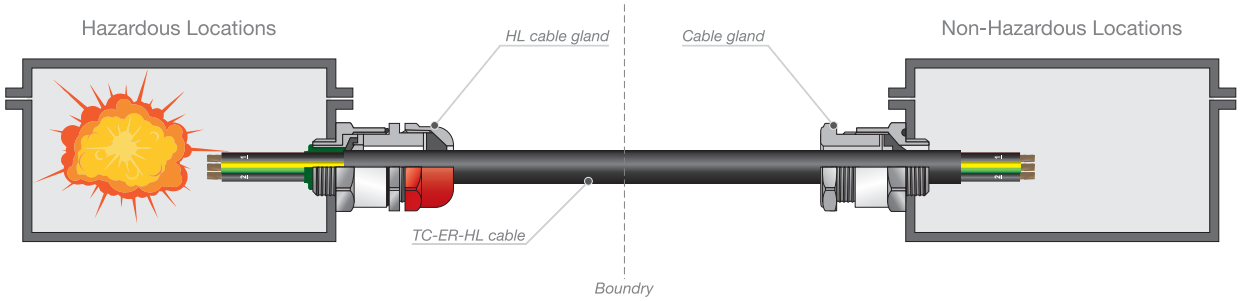
Use

These barrier cable glands are designed for use with unarmored cables used in environments where there is a risk of explosion due to the presence of flammable gases, vapors, or combustible dusts. These cable glands play a crucial role in maintaining the integrity of the enclosure by preventing the ingress of hazardous substances and preventing potential explosions from propagating outside the hazardous area. They are made of nickel-plated brass or AISI 316 stainless steel and are available on request in brass or aluminum. The barrier is created through a special two-component liquid resin that completely seals the conductors inside the cable gland body. They are certified by c(UL)us, c(CSA)us, IECEx, and ATEX.

Technical data

Characteristics	Value/property
Material	Nickel-plated brass or AISI 316 stainless steel, brass or aluminum available upon request.
Sealing type	Explosion proof, RapidEx liquid resin barrier seal on conductors and watertight seal on outer sheath of cable.
Compatible cables	Unarmored cables including TC-ER-HL, Extra Hard Usage Cords, TC-ER, TC and unarmored Type P/Marine Shipboard Cable where permitted by the NFPA70 (NEC) and/or CSA C22.1 (CE Code).
Temperature range	-60°C, +85°C
Storage temperature of resin	+5 °C, +25 °C
Protection class(1)	NEMA Type 4X IP66, IP67, IP68(2)
Standards of construction	BS 6121-1, EN/IEC 62444, ISO 965-1, ISO 965-3, ASME B1.20.1; EN/IEC 60079-0, -1, -7, -15, -31; CSA C22.2 No 0, 18, 25, 30, 94, 174; CSA C22.2 No 60079-0, -1, -7, -15, -31; UL 50, UL 514B, UL 2225, UL 60079-0, -1, -7, -15, ANSI/ISA 60079-31
Standards of use	ATEX: Ⓔx II 2G, Ex db IIC Gb, Ex eb IIC Gb; Ⓔx II 1D Ex ta IIIC Da; Ⓔx II 3G, Ex nR IIC Gc ; Ⓔx I M2 Ex db I Mb(3), Ex eb I Mb(3) IECEx: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da, Ex db I Mb(3), Ex eb I Mb(3) (CSA)us(4): Class I, Div 1 and 2, Groups A, B, C, and D; Class II, Div 1 and 2, Groups E, F, and G; Class III, Div 1 and 2; Type 4X; Oil Resistance II; Class I, Zone 1, AEx d IIC Gb, AEx e IIC Gb; Class I, Zone 2, AEx nR IIC Gc; Class I, Zone 20, AEx ta IIIC Da c(CSA)(4): Class I, Div 1 and 2, Groups A, B, C, and D; Class II, Div 1and 2, Groups E, F and G; Class III, Div 1 and 2; Type 4X; Oil Resistance II; Ex d IIC Gb, Ex e IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da c(UL)us(4): Class I, Div 1 and 2, Groups A, B, C, and D; Class II, Div 1 and 2, Groups F and G Others: 2014/34/UE ATEX

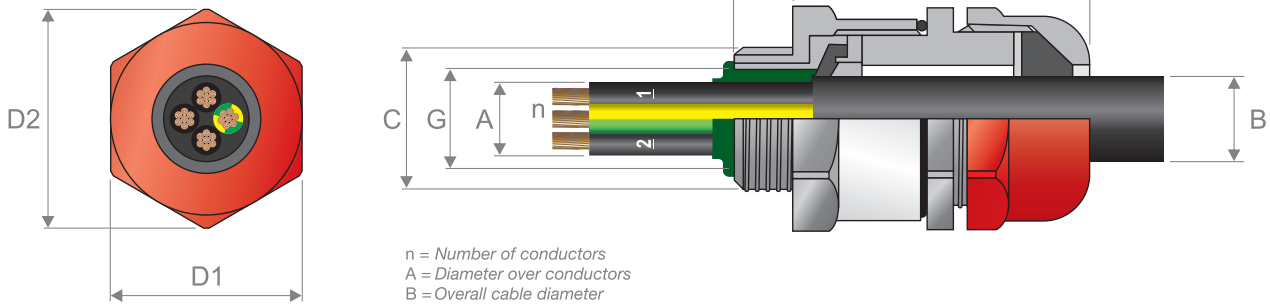
(1) Only if installed with original accessories.
(2) IP68 tested at 30 meters for 12 hours.
(3) Aluminum version is not permitted in Group I mining applications.
(4) Where the cable type is permitted by the National Electrical Code (NEC) and/or Canadian Electrical Code (CE Code).



Coding and dimensions

Cable gland





n = *Number of conductors*
A = *Diameter over conductors*
B = *Overall cable diameter*

Code	Material	Thread	Cable's size [mm (inch)]				Sizes [mm (inch)]					Weight [g (oz)]
			n	A	B		D1	D2	E	F	G	
			Max	Max	Min	Max						
PC810_M020X010ON	ON	M20 X 1.5	21	8,6 (0,339)	3,1 (0,122)	8,6 (0,339)	30,0 (1,181)	33,0 (1,299)	15,0 (0,591)	53,1 (2,091)	8,6 (0,339)	200 (7,05)
PC810_M020X020ON	ON	M20 X 1.5	21	11,7 (0,461)	6,1 (0,240)	11,7 (0,461)	30,0 (1,181)	33,0 (1,299)	15,0 (0,591)	53,1 (2,091)	11,7 (0,461)	200 (7,05)
PC810_M020X030ON	ON	M20 X 1.5	21	12,6 (0,496)	6,5 (0,256)	14,0 (0,551)	30,0 (1,181)	33,0 (1,299)	15,0 (0,591)	54,2 (2,134)	12,9 (0,508)	200 (7,05)
PC810_M020X040ON	ON	M20 X 1.5	21	12,6 (0,496)	10,0 (0,394)	15,9 (0,626)	30,0 (1,181)	33,0 (1,299)	15,0 (0,591)	54,2 (2,134)	12,9 (0,508)	200 (7,05)
PC810_M025X010ON	ON	M25 X 1.5	30	17,5 (0,689)	11,1 (0,437)	20,0 (0,787)	36,0 (1,417)	39,6 (1,559)	15,0 (0,591)	60,0 (2,362)	17,9 (0,705)	330 (11,64)
PC810_M032X010ON	ON	M32 X 1.5	50	23,6 (0,929)	17,0 (0,669)	26,3 (1,035)	41,0 (1,614)	45,1 (1,776)	15,0 (0,591)	61,1 (2,406)	23,9 (0,941)	590 (20,81)
PC810_M032X020ON	ON	M32 X 1.5	50	23,6 (0,929)	20,0 (0,787)	27,4 (1,079)	41,0 (1,614)	45,1 (1,776)	15,0 (0,591)	61,1 (2,406)	23,9 (0,941)	590 (20,81)
PC810_M040X010ON	ON	M40 X 1.5	59	30,0 (1,181)	22,0 (0,866)	32,1 (1,264)	50,0 (1,969)	55,0 (2,165)	15,0 (0,591)	62,4 (2,457)	30,3 (1,193)	560 (19,75)
PC810_M050X010ON	ON	M50 X 1.5	89	36,6 (1,441)	29,5 (1,161)	38,2 (1,504)	55,0 (2,165)	60,5 (2,382)	15,0 (0,591)	65,2 (2,567)	36,9 (1,453)	660 (23,28)
PC810_M050X020ON	ON	M50 X 1.5	89	41,0 (1,614)	35,6 (1,402)	44,0 (1,732)	60,0 (2,362)	66,0 (2,598)	15,0 (0,591)	67,6 (2,661)	41,3 (1,626)	730 (25,75)
PC810_M063X010ON	ON	M63 X 1.5	115	47,9 (1,886)	40,1 (1,579)	49,9 (1,965)	70,0 (2,756)	77,0 (3,031)	15,0 (0,591)	71,1 (2,799)	48,4 (1,906)	1.070 (37,74)
PC810_M063X020ON	ON	M63 X 1.5	115	53,7 (2,114)	47,2 (1,858)	55,9 (2,201)	75,0 (2,953)	82,5 (3,248)	15,0 (0,591)	70,4 (2,772)	54,0 (2,126)	1.060 (37,39)
PC810_M075X010ON	ON	M75 X 1.5	140	59,9 (2,358)	52,8 (2,079)	61,9 (2,437)	80,0 (3,150)	88,0 (3,465)	15,0 (0,591)	75,3 (2,965)	60,2 (2,370)	1.300 (45,86)
PC810_M075X020ON	ON	M75 X 1.5	140	64,3 (2,531)	59,1 (2,327)	67,9 (2,673)	85,0 (3,346)	93,5 (3,681)	15,0 (0,591)	74,9 (2,949)	64,2 (2,528)	1.300 (45,86)
PC810_M090X010ON	ON	M90 X 2.0	140	75,3 (2,965)	66,6 (2,622)	79,4 (3,126)	108,0 (4,252)	118,8 (4,677)	20,0 (0,787)	94,8 (3,732)	75,6 (2,976)	3.020 (106,53)

Code	Material	Thread	Cable's size [mm (inch)]				Sizes [mm (inch)]					Weight [g (oz)]
			n	A	B		D1	D2	E	F	G	
			Max	Max	Min	Max						
PC810_M100X010ON	ON	M100 X 2.0	200	83,6 (3,291)	76,0 (2,992)	90,9 (3,579)	123,0 (4,843)	135,3 (5,327)	20,0 (0,787)	86,3 (3,398)	85,9 (3,382)	4.000 (141,10)
PC810_N050X010ON	ON	NPT 1/2"	21	8,6 (0,339)	3,1 (0,122)	8,6 (0,339)	30,0 (1,181)	33,0 (1,299)	19,9 (0,783)	53,1 (2,091)	8,6 (0,339)	200 (7,05)
PC810_N050X020ON	ON	NPT 1/2"	21	11,7 (0,461)	6,1 (0,240)	11,7 (0,461)	30,0 (1,181)	33,0 (1,299)	19,9 (0,783)	53,1 (2,091)	11,7 (0,461)	200 (7,05)
PC810_N050X030ON	ON	NPT 1/2"	21	12,6 (0,496)	6,5 (0,256)	14,0 (0,551)	30,0 (1,181)	33,0 (1,299)	19,9 (0,783)	54,2 (2,134)	12,9 (0,508)	200 (7,05)
PC810_N050X040ON	ON	NPT 1/2"	21	12,6 (0,496)	10,0 (0,394)	15,9 (0,626)	30,0 (1,181)	33,0 (1,299)	19,9 (0,783)	54,2 (2,134)	12,9 (0,508)	200 (7,05)
PC810_N075X010ON	ON	NPT 3/4"	30	17,5 (0,689)	11,1 (0,437)	20,0 (0,787)	36,0 (1,417)	39,6 (1,559)	20,2 (0,795)	60,0 (2,362)	17,9 (0,705)	330 (11,64)
PC810_N100X010ON	ON	NPT 1"	50	23,6 (0,929)	17,0 (0,669)	26,3 (1,035)	41,0 (1,614)	45,1 (1,776)	25,0 (0,984)	61,1 (2,406)	23,9 (0,941)	590 (20,81)
PC810_N100X020ON	ON	NPT 1"	50	23,6 (0,929)	20,0 (0,787)	27,4 (1,079)	41,0 (1,614)	45,1 (1,776)	25,0 (0,984)	61,1 (2,406)	23,9 (0,941)	590 (20,81)
PC810_N125X010ON	ON	NPT 1"1/4	59	30,0 (1,181)	22,0 (0,866)	32,1 (1,264)	50,0 (1,969)	55,0 (2,165)	25,6 (1,008)	62,4 (2,457)	30,3 (1,193)	560 (19,75)
PC810_N150X010ON	ON	NPT 1"1/2	89	36,6 (1,441)	29,5 (1,161)	38,2 (1,504)	55,0 (2,165)	60,5 (2,382)	26,1 (1,028)	65,2 (2,567)	36,9 (1,453)	660 (23,28)
PC810_N200X010ON	ON	NPT 2"	89	41,0 (1,614)	35,6 (1,402)	44,0 (1,732)	60,0 (2,362)	66,0 (2,598)	26,9 (1,059)	67,6 (2,661)	41,3 (1,626)	730 (25,75)
PC810_N200X020ON	ON	NPT 2"	115	47,9 (1,886)	40,1 (1,579)	49,9 (1,965)	70,0 (2,756)	77,0 (3,031)	26,9 (1,059)	71,1 (2,799)	48,4 (1,906)	1.070 (37,74)
PC810_N250X010ON	ON	NPT 2"1/2	115	53,7 (2,114)	47,2 (1,858)	55,9 (2,201)	75,0 (2,953)	82,5 (3,248)	39,9 (1,571)	70,4 (2,772)	54,0 (2,126)	1.060 (37,39)
PC810_N250X020ON	ON	NPT 2"1/2	140	59,9 (2,358)	52,8 (2,079)	61,9 (2,437)	80,0 (3,150)	88,0 (3,465)	39,9 (1,571)	75,3 (2,965)	60,2 (2,370)	1.300 (45,86)
PC810_N300X010ON	ON	NPT 3"	140	64,3 (2,531)	59,1 (2,327)	67,9 (2,673)	85,0 (3,346)	93,5 (3,681)	41,5 (1,634)	74,9 (2,949)	64,2 (2,528)	1.300 (45,86)
PC810_N350X010ON	ON	NPT 3"1/2	140	75,3 (2,965)	66,6 (2,622)	79,4 (3,126)	108,0 (4,252)	118,8 (4,677)	42,8 (1,685)	94,8 (3,732)	75,6 (2,976)	3.020 (106,53)
PC810_N350X020ON	ON	NPT 3"1/2	200	83,6 (3,291)	76,0 (2,992)	90,9 (3,579)	123,0 (4,843)	135,3 (5,327)	42,8 (1,685)	86,3 (3,398)	85,9 (3,382)	4.000 (141,10)
PC810_M020X010AI	AI	M20 X 1.5	21	8,6 (0,339)	3,1 (0,122)	8,6 (0,339)	30,0 (1,181)	33,0 (1,299)	15,0 (0,591)	53,1 (2,091)	8,6 (0,339)	188 (6,63)
PC810_M020X020AI	AI	M20 X 1.5	21	11,7 (0,461)	6,1 (0,240)	11,7 (0,461)	30,0 (1,181)	33,0 (1,299)	15,0 (0,591)	53,1 (2,091)	11,7 (0,461)	188 (6,63)
PC810_M020X030AI	AI	M20 X 1.5	21	12,6 (0,496)	6,5 (0,256)	14,0 (0,551)	30,0 (1,181)	33,0 (1,299)	15,0 (0,591)	54,2 (2,134)	12,9 (0,508)	188 (6,63)
PC810_M020X040AI	AI	M20 X 1.5	21	12,6 (0,496)	10,0 (0,394)	15,9 (0,626)	30,0 (1,181)	33,0 (1,299)	15,0 (0,591)	54,2 (2,134)	12,9 (0,508)	188 (6,63)
PC810_M025X010AI	AI	M25 X 1.5	30	17,5 (0,689)	11,1 (0,437)	20,0 (0,787)	36,0 (1,417)	39,6 (1,559)	15,0 (0,591)	60,0 (2,362)	17,9 (0,705)	310 (10,94)
PC810_M032X010AI	AI	M32 X 1.5	50	23,6 (0,929)	17,0 (0,669)	26,3 (1,035)	41,0 (1,614)	45,1 (1,776)	15,0 (0,591)	61,1 (2,406)	23,9 (0,941)	555 (19,56)
PC810_M032X020AI	AI	M32 X 1.5	50	23,6 (0,929)	20,0 (0,787)	27,4 (1,079)	41,0 (1,614)	45,1 (1,776)	15,0 (0,591)	61,1 (2,406)	23,9 (0,941)	555 (19,56)
PC810_M040X010AI	AI	M40 X 1.5	59	30,0 (1,181)	22,0 (0,866)	32,1 (1,264)	50,0 (1,969)	55,0 (2,165)	15,0 (0,591)	62,4 (2,457)	30,3 (1,193)	526 (18,57)
PC810_M050X010AI	AI	M50 X 1.5	89	36,6 (1,441)	29,5 (1,161)	38,2 (1,504)	55,0 (2,165)	60,5 (2,382)	15,0 (0,591)	65,2 (2,567)	36,9 (1,453)	620 (21,88)
PC810_M050X020AI	AI	M50 X 1.5	89	41,0 (1,614)	35,6 (1,402)	44,0 (1,732)	60,0 (2,362)	66,0 (2,598)	15,0 (0,591)	67,6 (2,661)	41,3 (1,626)	686 (24,21)
PC810_M063X010AI	AI	M63 X 1.5	115	47,9 (1,886)	40,1 (1,579)	49,9 (1,965)	70,0 (2,756)	77,0 (3,031)	15,0 (0,591)	71,1 (2,799)	48,4 (1,906)	1.006 (35,48)
PC810_M063X020AI	AI	M63 X 1.5	115	53,7 (2,114)	47,2 (1,858)	55,9 (2,201)	75,0 (2,953)	82,5 (3,248)	15,0 (0,591)	70,4 (2,772)	54,0 (2,126)	996 (35,15)
PC810_M075X010AI	AI	M75 X 1.5	140	59,9 (2,358)	52,8 (2,079)	61,9 (2,437)	80,0 (3,150)	88,0 (3,465)	15,0 (0,591)	75,3 (2,965)	60,2 (2,370)	1.222 (43,10)

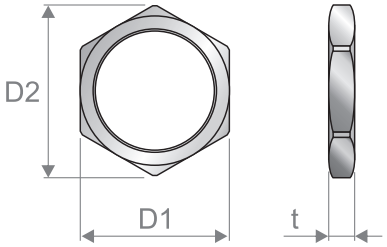
Code	Material	Thread	Cable's size [mm (inch)]				Sizes [mm (inch)]					Weight [g (oz)]
			n	A	B		D1	D2	E	F	G	
			Max	Max	Min	Max						
PC810_M075X020AI	AI	M75 X 1.5	140	64,3 (2,531)	59,1 (2,327)	67,9 (2,673)	85,0 (3,346)	93,5 (3,681)	15,0 (0,591)	74,9 (2,949)	64,2 (2,528)	1.222 (43,10)
PC810_M090X010AI	AI	M90 X 2.0	140	75,3 (2,965)	66,6 (2,622)	79,4 (3,126)	108,0 (4,252)	118,8 (4,677)	20,0 (0,787)	94,8 (3,732)	75,6 (2,976)	2.839 (100,14)
PC810_M100X010AI	AI	M100 X 2.0	200	83,6 (3,291)	76,0 (2,992)	90,9 (3,579)	123,0 (4,843)	135,3 (5,327)	20,0 (0,787)	86,3 (3,398)	85,9 (3,382)	3.760 (132,63)
PC810_N050X010AI	AI	NPT 1/2"	21	8,6 (0,339)	3,1 (0,122)	8,6 (0,339)	30,0 (1,181)	33,0 (1,299)	19,9 (0,783)	53,1 (2,091)	8,6 (0,339)	188 (6,63)
PC810_N050X020AI	AI	NPT 1/2"	21	11,7 (0,461)	6,1 (0,240)	11,7 (0,461)	30,0 (1,181)	33,0 (1,299)	19,9 (0,783)	53,1 (2,091)	11,7 (0,461)	188 (6,63)
PC810_N050X030AI	AI	NPT 1/2"	21	12,6 (0,496)	6,5 (0,256)	14,0 (0,551)	30,0 (1,181)	33,0 (1,299)	19,9 (0,783)	54,2 (2,134)	12,9 (0,508)	188 (6,63)
PC810_N050X040AI	AI	NPT 1/2"	21	12,6 (0,496)	10,0 (0,394)	15,9 (0,626)	30,0 (1,181)	33,0 (1,299)	19,9 (0,783)	54,2 (2,134)	12,9 (0,508)	188 (6,63)
PC810_N075X010AI	AI	NPT 3/4"	30	17,5 (0,689)	11,1 (0,437)	20,0 (0,787)	36,0 (1,417)	39,6 (1,559)	20,2 (0,795)	60,0 (2,362)	17,9 (0,705)	310 (10,94)
PC810_N100X010AI	AI	NPT 1"	50	23,6 (0,929)	17,0 (0,669)	26,3 (1,035)	41,0 (1,614)	45,1 (1,776)	25,0 (0,984)	61,1 (2,406)	23,9 (0,941)	555 (19,56)
PC810_N100X020AI	AI	NPT 1"	50	23,6 (0,929)	20,0 (0,787)	27,4 (1,079)	41,0 (1,614)	45,1 (1,776)	25,0 (0,984)	61,1 (2,406)	23,9 (0,941)	555 (19,56)
PC810_N125X010AI	AI	NPT 1"1/4	59	30,0 (1,181)	22,0 (0,866)	32,1 (1,264)	50,0 (1,969)	55,0 (2,165)	25,6 (1,008)	62,4 (2,457)	30,3 (1,193)	526 (18,57)
PC810_N150X010AI	AI	NPT 1"1/2	89	36,6 (1,441)	29,5 (1,161)	38,2 (1,504)	55,0 (2,165)	60,5 (2,382)	26,1 (1,028)	65,2 (2,567)	36,9 (1,453)	620 (21,88)
PC810_N200X010AI	AI	NPT 2"	89	41,0 (1,614)	35,6 (1,402)	44,0 (1,732)	60,0 (2,362)	66,0 (2,598)	26,9 (1,059)	67,6 (2,661)	41,3 (1,626)	686 (24,21)
PC810_N200X020AI	AI	NPT 2"	115	47,9 (1,886)	40,1 (1,579)	49,9 (1,965)	70,0 (2,756)	77,0 (3,031)	26,9 (1,059)	71,1 (2,799)	48,4 (1,906)	1.006 (35,48)
PC810_N250X010AI	AI	NPT 2"1/2	115	53,7 (2,114)	47,2 (1,858)	55,9 (2,201)	75,0 (2,953)	82,5 (3,248)	39,9 (1,571)	70,4 (2,772)	54,0 (2,126)	996 (35,15)
PC810_N250X020AI	AI	NPT 2"1/2	140	59,9 (2,358)	52,8 (2,079)	61,9 (2,437)	80,0 (3,150)	88,0 (3,465)	39,9 (1,571)	75,3 (2,965)	60,2 (2,370)	1.222 (43,10)
PC810_N300X010AI	AI	NPT 3"	140	64,3 (2,531)	59,1 (2,327)	67,9 (2,673)	85,0 (3,346)	93,5 (3,681)	41,5 (1,634)	74,9 (2,949)	64,2 (2,528)	1.222 (43,10)
PC810_N350X010AI	AI	NPT 3"1/2	140	75,3 (2,965)	66,6 (2,622)	79,4 (3,126)	108,0 (4,252)	118,8 (4,677)	42,8 (1,685)	94,8 (3,732)	75,6 (2,976)	2.839 (100,14)
PC810_N350X020AI	AI	NPT 3"1/2	200	83,6 (3,291)	76,0 (2,992)	90,9 (3,579)	123,0 (4,843)	135,3 (5,327)	42,8 (1,685)	86,3 (3,398)	85,9 (3,382)	3.760 (132,63)

Materials' description: ON = Nickel-plated brass, AI = AISI 316 stainless steel

- The cable glands are supplied complete with a resin pack.
- Locknuts and sealing gaskets are not included, provided separately.
- Yellow brass and aluminum versions are available upon specific request and for a minimum quantity.
- Reduced NPT threads are available upon specific request and for a minimum quantity.
- Due to the production tolerances to which electrical cables are subject, it is recommended to choose the correct cable gland by measuring the minimum and maximum diameter of the cable to be installed.

Lock nut





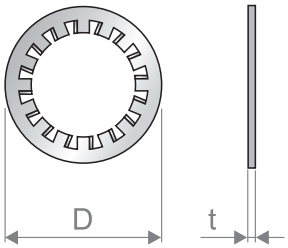
Code	Material	Thread	Sizes [mm (inch)]			Weight [g (oz)]
			t	D1	D2	
PC81G_M020X010ON	ON	M20 X 1.5	3,2 (0,126)	24,0 (0,945)	27,7 (1,091)	7 (0,25)
PC81G_M025X010ON	ON	M25 X 1.5	3,2 (0,126)	30,0 (1,181)	34,6 (1,362)	12 (0,42)
PC81G_M032X010ON	ON	M32 X 1.5	3,2 (0,126)	36,0 (1,417)	41,6 (1,638)	13 (0,46)
PC81G_M040X010ON	ON	M40 X 1.5	4,8 (0,189)	46,0 (1,811)	53,1 (2,091)	26 (0,92)
PC81G_M050X010ON	ON	M50 X 1.5	6,3 (0,248)	55,0 (2,165)	63,5 (2,500)	54 (1,90)
PC81G_M063X010ON	ON	M63 X 1.5	6,3 (0,248)	70,0 (2,756)	80,8 (3,181)	64 (2,26)
PC81G_M075X010ON	ON	M75 X 1.5	6,3 (0,248)	84,0 (3,307)	97,0 (3,819)	100 (3,53)
PC81G_M090X010ON	ON	M90 X 2.0	9,5 (0,374)	106,0 (4,173)	122,4 (4,819)	264 (9,31)
PC81G_M100X010ON	ON	M100 X 2.0	9,5 (0,374)	123,0 (4,843)	142,0 (5,591)	445 (15,70)
PC81G_N050X010ON	ON	NPT 1/2"	4,8 (0,189)	27,0 (1,063)	31,2 (1,228)	7 (0,25)
PC81G_N075X010ON	ON	NPT 3/4"	4,8 (0,189)	33,0 (1,299)	38,1 (1,500)	12 (0,42)
PC81G_N100X010ON	ON	NPT 1"	4,8 (0,189)	41,0 (1,614)	47,3 (1,862)	13 (0,46)
PC81G_N125X010ON	ON	NPT 1"1/4	4,8 (0,189)	50,0 (1,969)	57,7 (2,272)	26 (0,92)
PC81G_N150X010ON	ON	NPT 1"1/2	5,0 (0,197)	60,0 (2,362)	69,3 (2,728)	54 (1,90)
PC81G_N200X010ON	ON	NPT 2"	5,0 (0,197)	75,0 (2,953)	88,6 (3,488)	64 (2,26)
PC81G_N250X010ON	ON	NPT 2"1/2	10,0 (0,394)	84,0 (3,307)	97,0 (3,819)	100 (3,53)
PC81G_N300X010ON	ON	NPT 3"	10,0 (0,394)	100,0 (3,937)	115,5 (4,547)	264 (9,31)
PC81G_N350X010ON	ON	NPT 3"1/2	11,2 (0,441)	114,3 (4,500)	132,0 (5,197)	350 (12,35)
PC81G_M020X010AI	AI	M20 X 1.5	3,2 (0,126)	24,0 (0,945)	27,7 (1,091)	5 (0,17)
PC81G_M025X010AI	AI	M25 X 1.5	3,2 (0,126)	30,0 (1,181)	34,6 (1,362)	7 (0,25)
PC81G_M032X010AI	AI	M32 X 1.5	3,2 (0,126)	36,0 (1,417)	41,6 (1,638)	34 (1,21)
PC81G_M040X010AI	AI	M40 X 1.5	4,8 (0,189)	46,0 (1,811)	53,1 (2,091)	20 (0,71)
PC81G_M050X010AI	AI	M50 X 1.5	6,3 (0,248)	55,0 (2,165)	63,5 (2,500)	29 (1,03)
PC81G_M063X010AI	AI	M63 X 1.5	6,3 (0,248)	70,0 (2,756)	80,8 (3,181)	64 (2,26)
PC81G_M075X010AI	AI	M75 X 1.5	6,3 (0,248)	84,0 (3,307)	97,0 (3,819)	100 (3,53)
PC81G_M090X010AI	AI	M90 X 2.0	9,5 (0,374)	106,0 (4,173)	122,4 (4,819)	267 (9,41)
PC81G_M100X010AI	AI	M100 X 2.0	9,5 (0,374)	123,0 (4,843)	142,0 (5,591)	379 (13,37)
PC81G_N050X010AI	AI	NPT 1/2"	4,8 (0,189)	27,0 (1,063)	31,2 (1,228)	10 (0,35)
PC81G_N075X010AI	AI	NPT 3/4"	4,8 (0,189)	33,0 (1,299)	38,1 (1,500)	12 (0,42)
PC81G_N100X010AI	AI	NPT 1"	4,8 (0,189)	41,0 (1,614)	47,3 (1,862)	26 (0,90)
PC81G_N125X010AI	AI	NPT 1"1/4	4,8 (0,189)	50,0 (1,969)	57,7 (2,272)	37 (1,31)
PC81G_N150X010AI	AI	NPT 1"1/2	5,0 (0,197)	60,0 (2,362)	69,3 (2,728)	47 (1,66)
PC81G_N200X010AI	AI	NPT 2"	5,0 (0,197)	75,0 (2,953)	88,6 (3,488)	43 (1,50)
PC81G_N250X010AI	AI	NPT 2"1/2	10,0 (0,394)	84,0 (3,307)	97,0 (3,819)	177 (6,24)
PC81G_N300X010AI	AI	NPT 3"	10,0 (0,394)	100,0 (3,937)	115,5 (4,547)	685 (24,18)
PC81G_N350X010AI	AI	NPT 3"1/2	11,2 (0,441)	114,3 (4,500)	132,0 (5,197)	339 (11,94)

Materials' description: ON = Nickel-plated brass, AI = AISI 316 stainless steel

Note. Yellow brass and aluminum versions are available upon specific request and for a minimum quantity.

Serrated washer



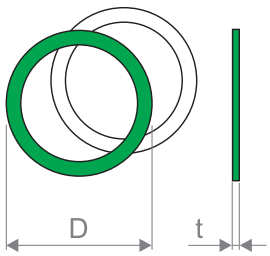


Code	Material	Cable gland size	Sizes [mm (inch)]		Weight [g (oz)]
			t	D	
PC81D_M020X010AI	AI	M20	3,9 (0,154)	32,5 (1,280)	4 (0,14)
PC81D_M025X010AI	AI	M25	3,9 (0,154)	40,0 (1,575)	8 (0,28)
PC81D_M032X010AI	AI	M32	3,9 (0,154)	43,5 (1,713)	9 (0,32)
PC81D_M040X010AI	AI	M40	3,9 (0,154)	64,5 (2,539)	22 (0,78)
PC81D_M050X010AI	AI	M50	3,9 (0,154)	80,0 (3,150)	30 (1,06)
PC81D_M063X010AI	AI	M63	3,9 (0,154)	100,0 (3,937)	50 (1,76)
PC81D_M075X010AI	AI	M75	4,1 (0,161)	112,0 (4,409)	65 (2,29)
PC81D_M090X010AI	AI	M90	4,1 (0,161)	135,0 (5,315)	90 (3,17)
PC81D_M100X010AI	AI	M100	4,1 (0,161)	145,0 (5,709)	150 (5,29)
PC81D_N050X010AI	AI	NPT 1/2"	3,9 (0,154)	32,5 (1,280)	5 (0,18)
PC81D_N075X010AI	AI	NPT 3/4"	3,9 (0,154)	40,0 (1,575)	12 (0,42)
PC81D_N100X010AI	AI	NPT 1"	3,9 (0,154)	43,5 (1,713)	5 (0,18)
PC81D_N125X010AI	AI	NPT 1"1/4	3,9 (0,154)	64,5 (2,539)	20 (0,71)
PC81D_N150X010AI	AI	NPT 1"1/2	3,9 (0,154)	80,0 (3,150)	45 (1,59)
PC81D_N200X010AI	AI	NPT 2"	3,9 (0,154)	100,0 (3,937)	60 (2,12)
PC81D_N250X010AI	AI	NPT 2"1/2	3,9 (0,154)	112,0 (4,409)	100 (3,53)
PC81D_N300X010AI	AI	NPT 3"	4,1 (0,161)	135,0 (5,315)	60 (2,12)
PC81D_N350X010AI	AI	NPT 3"1/2	4,1 (0,161)	145,0 (5,709)	60 (2,12)

Materials' description: AI = AISI 316 stainless steel

Sealing gasket



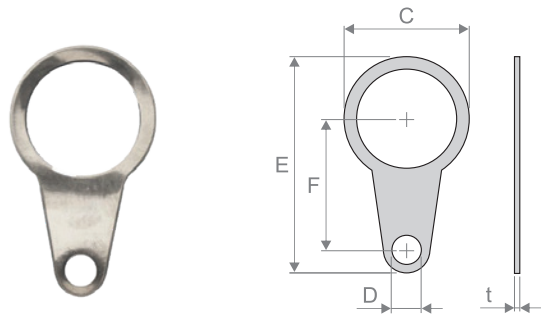


Code	Material	Cable gland size	Sizes [mm (inch)]		Weight [g (oz)]
			t	D	
PC81S_M020X010BI	BI	M20	2,0 (0,079)	28,3 (1,114)	1 (0,04)
PC81S_M025X010BI	BI	M25	2,0 (0,079)	34,5 (1,356)	3 (0,11)
PC81S_M032X010BI	BI	M32	2,0 (0,079)	44,2 (1,740)	4 (0,13)
PC81S_M040X010BI	BI	M40	2,0 (0,079)	52,8 (2,079)	3 (0,09)
PC81S_M050X010BI	BI	M50	2,0 (0,079)	64,8 (2,551)	3 (0,09)
PC81S_M063X010BI	BI	M63	2,0 (0,079)	77,9 (3,067)	5 (0,19)
PC81S_M075X010BI	BI	M75	2,0 (0,079)	95,9 (3,776)	8 (0,29)
PC81S_M090X010BI	BI	M90	2,0 (0,079)	110,6 (4,354)	9 (0,30)
PC81S_M100X010BI	BI	M100	2,0 (0,079)	120,7 (4,752)	14 (0,49)
PC81S_N050X010VE	VE	NPT 1/2"	2,0 (0,079)	29,7 (1,167)	1 (0,05)
PC81S_N075X010VE	VE	NPT 3/4"	2,0 (0,079)	34,4 (1,354)	3 (0,11)
PC81S_N100X010VE	VE	NPT 1"	2,0 (0,079)	44,4 (1,748)	4 (0,13)

Code	Material	Cable gland size	Sizes [mm (inch)]		Weight [g (oz)]
			t	D	
PC81S_N125X010VE	VE	NPT 1"1/4	2,0 (0,079)	55,9 (2,201)	4 (0,13)
PC81S_N150X010VE	VE	NPT 1"1/2	2,0 (0,079)	64,8 (2,551)	5 (0,18)
PC81S_N200X010VE	VE	NPT 2"	2,0 (0,079)	77,6 (3,055)	5 (0,18)
PC81S_N250X010VE	VE	NPT 2"1/2	2,0 (0,079)	95,9 (3,776)	8 (0,28)
PC81S_N300X010VE	VE	NPT 3"	2,0 (0,079)	110,6 (4,354)	12 (0,42)
PC81S_N350X010VE	VE	NPT 3"1/2	2,0 (0,079)	120,7 (4,752)	14 (0,49)

Materials' description: BI = White color Nylon, VE = Green color Nylon

Earth tag



Code	Material	Cable gland size	Short circuit symm fault current for 1 sec [kA]	Sizes [mm (inch)]					Weight [g (oz)]
				t	C	D	E	F	
PC81T_M020X010ON	ON	M20	3,06	1,3 (0,050)	27,2 (1,070)	M6	52,3 (2,060)	33,0 (1,300)	8 (0,28)
PC81T_M025X010ON	ON	M25	4,06	1,5 (0,060)	35,1 (1,380)	M6	59,2 (2,330)	35,6 (1,400)	10 (0,35)
PC81T_M032X010ON	ON	M32	5,4	1,5 (0,060)	45,2 (1,780)	M12	77,0 (3,030)	43,2 (1,700)	16 (0,56)
PC81T_M040X010ON	ON	M40	7,2	1,5 (0,060)	53,6 (2,110)	M13	88,6 (3,490)	45,5 (1,790)	21 (0,74)
PC81T_M050X010ON	ON	M50	10,4	1,5 (0,060)	65,3 (2,570)	M13	111,3 (4,380)	58,2 (2,290)	37 (1,31)
PC81T_M063X010ON	ON	M63	10,4	1,5 (0,060)	82,6 (3,250)	M13	128,8 (5,070)	66,8 (2,630)	48 (1,69)
PC81T_M075X010ON	ON	M75	10,4	1,5 (0,060)	95,5 (3,760)	M13	141,5 (5,570)	72,9 (2,870)	54 (1,90)
PC81T_M090X010ON	ON	M90	10,4	2,0 (0,080)	114,3 (4,500)	M13	161,0 (6,340)	85,1 (3,350)	55 (1,94)
PC81T_M100X010ON	ON	M100	10,4	2,0 (0,080)	125,0 (4,920)	M13	194,8 (7,670)	118,1 (4,650)	200 (7,05)
PC81T_N050X010ON	ON	NPT 1/2"	3,06	1,3 (0,050)	27,2 (1,070)	M6	52,8 (2,080)	33,0 (1,300)	8 (0,28)
PC81T_N075X010ON	ON	NPT 3/4"	4,06	1,5 (0,060)	35,1 (1,380)	M6	59,2 (2,330)	35,6 (1,400)	10 (0,35)
PC81T_N100X010ON	ON	NPT 1"	5,4	1,5 (0,060)	45,2 (1,780)	M12	77,0 (3,030)	43,2 (1,700)	16 (0,56)
PC81T_N125X010ON	ON	NPT 1"1/4	7,2	1,5 (0,060)	53,6 (2,110)	M13	88,6 (3,490)	45,5 (1,790)	21 (0,74)
PC81T_N150X010ON	ON	NPT 1"1/2	10,4	1,5 (0,060)	65,3 (2,570)	M13	111,3 (4,380)	58,2 (2,290)	37 (1,31)
PC81T_N200X010ON	ON	NPT 2"	10,4	1,5 (0,060)	82,6 (3,250)	M13	128,8 (5,070)	66,8 (2,630)	48 (1,69)
PC81T_N250X010ON	ON	NPT 2"1/2	10,4	1,5 (0,060)	95,5 (3,760)	M13	141,5 (5,570)	72,9 (2,870)	54 (1,90)
PC81T_N300X010ON	ON	NPT 3"	10,4	2,0 (0,080)	114,0 (4,490)	M13	161,0 (6,340)	85,1 (3,350)	90 (3,17)
PC81T_N350X010ON	ON	NPT 3"1/2	10,4	2,0 (0,080)	125,0 (4,920)	M13	194,8 (7,670)	103,1 (4,060)	65 (2,29)
PC81T_M020X010AI	AI	M20	3,06	1,3 (0,050)	27,2 (1,070)	M6	52,3 (2,060)	33,0 (1,300)	8 (0,28)

Code	Material	Cable gland size	Short circuit symm fault current for 1 sec [kA]	Sizes [mm (inch)]					Weight [g (oz)]
				t	C	D	E	F	
PC81T_M025X010AI	AI	M25	4,06	1,5 (0,060)	35,1 (1,380)	M6	59,2 (2,330)	35,6 (1,400)	10 (0,35)
PC81T_M032X010AI	AI	M32	5,4	1,5 (0,060)	45,2 (1,780)	M12	77,0 (3,030)	43,2 (1,700)	16 (0,56)
PC81T_M040X010AI	AI	M40	7,2	1,5 (0,060)	53,6 (2,110)	M13	88,6 (3,490)	45,5 (1,790)	21 (0,74)
PC81T_M050X010AI	AI	M50	10,4	1,5 (0,060)	65,3 (2,570)	M13	111,3 (4,380)	58,2 (2,290)	37 (1,31)
PC81T_M063X010AI	AI	M63	10,4	1,5 (0,060)	82,6 (3,250)	M13	128,8 (5,070)	66,8 (2,630)	48 (1,69)
PC81T_M075X010AI	AI	M75	10,4	1,5 (0,060)	95,5 (3,760)	M13	141,5 (5,570)	72,9 (2,870)	51 (1,80)
PC81T_M090X010AI	AI	M90	10,4	2,0 (0,080)	114,3 (4,500)	M13	161,0 (6,340)	85,1 (3,350)	55 (1,94)
PC81T_M100X010AI	AI	M100	10,4	2,0 (0,080)	125,0 (4,920)	M13	194,8 (7,670)	118,1 (4,650)	200 (7,05)
PC81T_N050X010AI	AI	NPT 1/2"	3,06	1,3 (0,050)	27,2 (1,070)	M6	52,8 (2,080)	33,0 (1,300)	8 (0,28)
PC81T_N075X010AI	AI	NPT 3/4"	4,06	1,5 (0,060)	35,1 (1,380)	M6	59,2 (2,330)	35,6 (1,400)	10 (0,35)
PC81T_N100X010AI	AI	NPT 1"	5,4	1,5 (0,060)	45,2 (1,780)	M12	77,0 (3,030)	43,2 (1,700)	200 (7,05)
PC81T_N125X010AI	AI	NPT 1"1/4	7,2	1,5 (0,060)	53,6 (2,110)	M13	88,6 (3,490)	45,5 (1,790)	26 (0,92)
PC81T_N150X010AI	AI	NPT 1"1/2	10,4	1,5 (0,060)	65,3 (2,570)	M13	111,3 (4,380)	58,2 (2,290)	38 (1,34)
PC81T_N200X010AI	AI	NPT 2"	10,4	1,5 (0,060)	82,6 (3,250)	M13	128,8 (5,070)	66,8 (2,630)	48 (1,69)
PC81T_N250X010AI	AI	NPT 2"1/2	10,4	1,5 (0,060)	95,5 (3,760)	M13	141,5 (5,570)	72,9 (2,870)	51 (1,80)
PC81T_N300X010AI	AI	NPT 3"	10,4	2,0 (0,080)	114,0 (4,490)	M13	161,0 (6,340)	85,1 (3,350)	60 (2,12)
PC81T_N350X010AI	AI	NPT 3"1/2	10,4	2,0 (0,080)	125,0 (4,920)	M13	194,8 (7,670)	103,1 (4,060)	65 (2,29)

Materials' description: ON = Nickel-plated brass, AI = AISI 316 stainless steel

Note. Yellow brass and aluminum versions are available upon specific request and for a minimum quantity.

Shroud



Selection table for the shroud according to the chosen cable gland.

Cable gland	Shroud code
PC810_M020X010□□	PC81C_06
PC810_M020X020□□	PC81C_06
PC810_M020X030□□	PC81C_06
PC810_M020X040□□	PC81C_06
PC810_M025X010□□	PC81C_09
PC810_M032X010□□	PC81C_10
PC810_M032X020□□	PC81C_10
PC810_M040X010□□	PC81C_13
PC810_M050X010□□	PC81C_15
PC810_M050X020□□	PC81C_18
PC810_M063X010□□	PC81C_21
PC810_M063X020□□	PC81C_23
PC810_M075X010□□	PC81C_25
PC810_M075X020□□	PC81C_27
PC810_M090X010□□	PC81C_31
PC810_M100X010□□	PC81C_33LSF
PC810_N050X010□□	PC81C_06
PC810_N050X020□□	PC81C_06
PC810_N050X030□□	PC81C_06
PC810_N050X040□□	PC81C_06
PC810_N075X010□□	PC81C_09
PC810_N100X010□□	PC81C_10
PC810_N100X020□□	PC81C_10
PC810_N125X010□□	PC81C_13
PC810_N150X010□□	PC81C_15
PC810_N200X010□□	PC81C_18
PC810_N200X020□□	PC81C_21
PC810_N250X010□□	PC81C_23
PC810_N250X020□□	PC81C_25
PC810_N300X010□□	PC81C_27
PC810_N350X010□□	PC81C_31
PC810_N350X020□□	PC81C_33LSF

Code composition

PC	□□□	_	□	□□□	X	□□□	□□

Family	To be inserted
Cable gland	810
Lock nut	81G
Serrated washer	81D
Sealing gasket	81S
Earth tag	81T
Shroud	81C

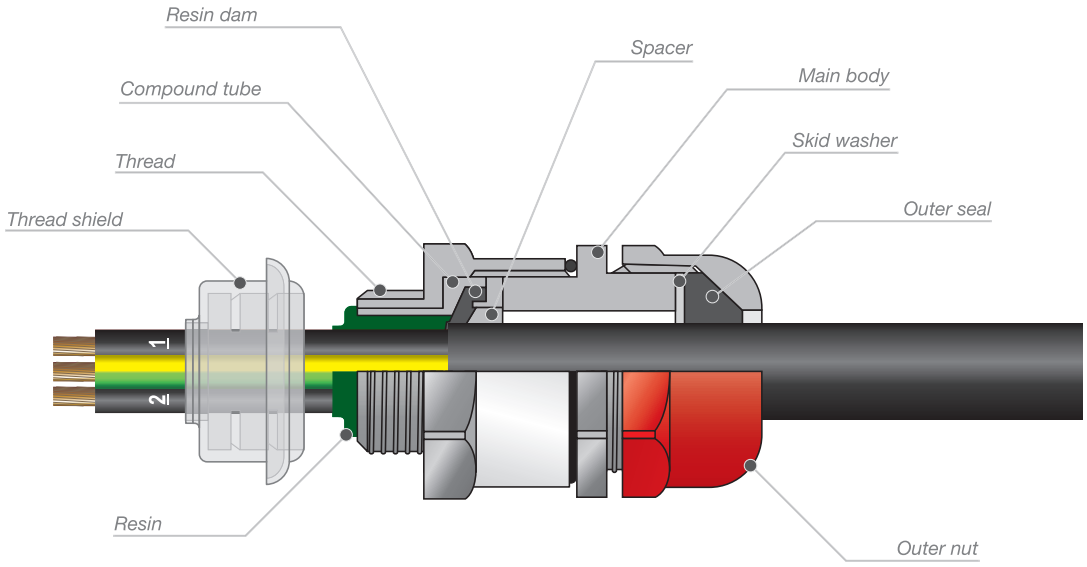
Version	To be inserted
Metric	M
NPT	N

Thread	To be inserted
M20, M25, …, M100	020, 025, …, 100
NPT 1/2", 3/4", …, 4"	050, 075, …, 400

Material	To be inserted
Brass	OT
Nickel-plated brass	ON
AISI 316 stainless steel	AI
Aluminum	AL
White nylon	BI
Green nylon	VE

Diameter range
Code depending on the cable range.

Mounting



- Installation should only be performed by a competent person using the correct tools. Read all instructions before beginning installation.
- The interface between a cable gland and the enclosure will require additional sealing to achieve ingress protection ratings higher than IP54. Original accessories are required to maintain IP66, 67 and 68.
- A earth tag should be used when it is necessary to provide an earth bond connection. Earth tags slip over the cable gland from inside/outside the enclosure and must be secured with a locknut, if fitted internally.
- Enclosures must be strong enough to support the cable and cable gland assembly. The enclosure surface finish must be smooth and flat to facilitate sealing with the sealing gasket.
- It is recommended that when using the cable gland with a through-hole, the hole must be circular, free of burrs and the diameter no larger than 0.7 mm above the thread major diameter. A suitable locknut shall be used to secure the product.
- Cable glands do not have any serviceable parts and are therefore not intended to be repaired.
- The cable glands are only suitable for fixed installations according to ATEX and IECEx requirements.
- Cables must be effectively clamped to prevent pulling or twisting according to ATEX and IECEx requirements.
- Connectors with metric entry threads are only suitable for Areas Classified in Zones unless fitted with an approved metric to NPT thread conversion adaptor.
- Installation must be according to CSA C22.1 (CE Code) wiring methods for the types of cables that can be used in Class I, Div. 1 and 2 and Class I, Zone 1 and 2 Classified Areas.
- Installation must be according to NFPA 70 (NEC) wiring methods for the types of cables that can be used in Class I, Div. 1 and 2 and Class I, Zone 1 and 2 Classified Areas.
- Prior to commissioning or operation of electrical equipment in the presence of flammable materials, the sealing compound must be cured for 24 hours at a temperature of no less than 5°C (41°F).
- For Metric and NPT threads, the installer shall follow guidance from the NFPA 70 (NEC) or CSA C22.1 (CE Code) to ensure that the enclosure entry meets the requirements for thread engagement.
- Carefully follow the instruction related to the resin compound.

Cable glands for MC-HL and Teck90-HL cables

For use in Class/Division Hazardous Locations – “UL/CSA Listed”



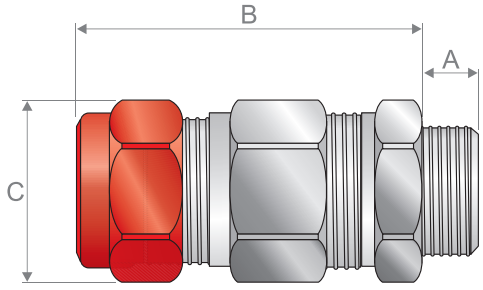
Use

These fittings are used to connect type MC-HL and Teck 90-HL armored cables and are suitable for use in locations Class I, Division 1, Hazardous Locations. Their construction permits the earthing of the cable armor and either vertical and horizontal installation. They are supplied complete with sealing compound.

Technical data

Characteristics	Value/property
Material	Aluminum (as standard product) or brass
Grounding continuity	Stainless steel copper-plated spring provides grounding continuity of cable armour (MC cables)
Sealing type	Explosion proof, compound sealing on conductors and watertight seal on outer sheath of cable.
Temperature range	-25°C, +60°C
Protection class	NEMA 4, IP 56

Coding and dimensions



Code	Version	Thread	Dimensions [mm]			Min/max external armor diameter		Min/max jacket diameter		Quantity of resin [g]
			A	B	C	[inch]	[mm]	[inch]	[mm]	
ANTMCX050□□	NPT	1/2"	19,1	66,7	34,9	0,440÷0,650	11,2÷16,5	0,490÷0,781	12,4÷19,8	7
ANTMCX075□□	NPT	3/4"	19,8	73,0	41,3	0,600÷0,850	15,2÷21,6	0,650÷1,000	16,5÷25,4	14
ANTMCX100□□	NPT	1"	23,8	79,4	50,8	0,800÷1,120	20,3÷28,4	0,850÷1,313	21,6÷33,4	20
ANTMCX125□□	NPT	1"1/4	24,6	79,4	61,9	1,100÷1,400	27,9÷35,6	1,150÷1,625	29,2÷41,3	43
ANTMCX150□□	NPT	1"1/2	24,6	85,7	69,9	1,330÷1,610	33,8÷40,9	1,380÷1,781	35,1÷45,2	52
ANTMCX200□□	NPT	2"	25,4	135,0	88,9	1,570÷2,060	39,9÷52,3	1,630÷2,313	41,4÷58,8	128
ANTMCX250□□	NPT	2"1/2	36,5	154,0	101,6	1,930÷2,470	49,0÷62,7	1,990÷2,719	50,5÷69,1	245
ANTMCX300□□	NPT	3"	36,5	154,0	123,8	2,450÷3,020	62,2÷76,7	2,525÷3,281	64,1÷83,3	447
ANTMCX350□□	NPT	3"1/2	41,3	196,9	136,5	2,950÷3,520	74,9÷89,4	3,025÷3,781	76,8÷96,0	724
ANTMCX400□□	NPT	4"	41,3	211,2	149,2	3,500÷4,020	88,9÷102,1	3,585÷4,281	91,1÷108,7	1.104

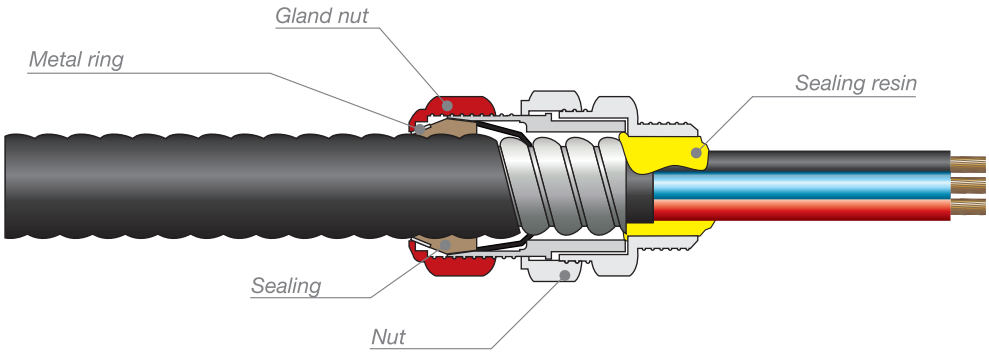
Code composition

ANTMCX... □□

Fitting material	To be inserted
Aluminium	A
Brass	NB

Mounting

Fittings for MC-HL and Teck90-HL cables guarantee an optimal sealing thanks to a sealing resin which is wound round the cord and round the single conductors during the installation. The anchoring of the fitting to the armor is carried out by means of a metal ring which blocks it mechanically, while the sealing on the external jacket of the cable is obtained through a seal inside the gland nut. The following table is a cross-reference permitting to find out the code of the fitting according to the type of cable to be used.

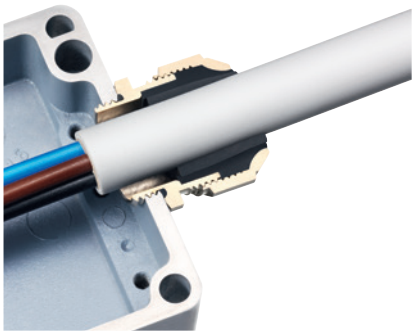


NEMA metallic cable glands



Use

Nickel plated brass cable glands made by a double layer seals to allow a wide rage of diameters. They are IP 68 protection class and suitable for use in hazardous location according to NFPA 70 (NEC). These cable glands are certified for rail applications according to EN 45545-2.



Technical data

Characteristics	Value/property
Material	Nicke/-plated brass or AIS/ 316 Stainless Steel
Sealing ring material	EPDM Class V0, two-piece
Temperature range	-45°C, +105°C
Protection class	IP 68, NEMA 4X
Standards of use	EN 45545-2 HL1, HL2, HL3, R22, R23 UL/CSA approvals: NEMA 250, UL 514B, CSA C22.2; NFPA 70 (NEC) Art. 501.10 (B) (2) Class I Div. 2, Art. 502.10 (A) (2) and (B) (2) Class II, Div. 1 and 2, Art. 503.10 (A) (3) Class III Div. 1 and 2

Coding and dimensions

Straight cable gland

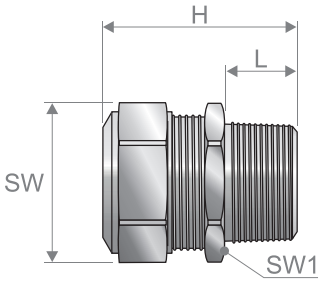


Fig. 1
Metric version

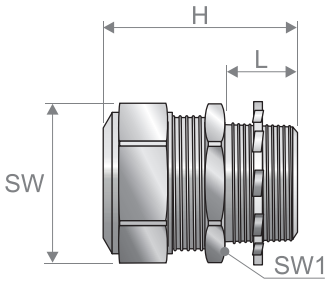


Fig. 2
NPT version

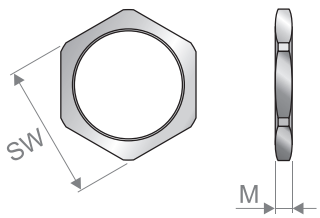
Code	Version	Thread	Number of pieces of sealing ring	Tightening key		Cable diameter [mm] Min/Med(3)/Max	Sizes [mm]		Packaging [pcs]	Note
				SW	SW1		H	L		
AN736.716.1	NPB	M16x1,5	2	17	18	4,0÷6,5÷8,5	32	10	10	(1)
AN736.717.1	NPB	M20x1,5	2	17	22	4,0÷6,5÷8,5	32	10	10	(2)
AN736.720.1	NPB	M20x1,5	2	22	22	6,0÷9,0÷12,0	35	10	10	(2)
AN736.722.1	NPB	M25x1,5	2	22	27	6,0÷9,0÷12,0	36	10	5	(2)
AN736.725.1	NPB	M25x1,5	2	27	27	10,5÷14,0÷17,0	38	10	5	(2)
AN736.728.1	NPB	M32x1,5	2	27	35	10,5÷14,0÷17,0	40	12	5	(2)
AN736.732.1	NPB	M32x1,5	2	35	35	15,5÷20,0÷24,0	42	12	5	(2)

Code	Version	Thread	Number of pieces of sealing ring	Tightening key		cable diameter [mm] Min/Med(3)/Max	Sizes [mm]		Packaging [pcs]	Note
				SW	SW1		H	L		
AN736.735.1	NPB	M40x1,5	2	35	43	15,5÷20,0÷24,0	43	13	2	(2)
AN736.740.1	NPB	M40x1,5	2	43	43	22,0÷27,0÷31,0	45	13	2	(2)
AN736.745.1	NPB	M50x1,5	2	43	55	22,0÷27,0÷31,0	46	14	2	(2)
AN736.750.1	NPB	M50x1,5	2	53	55	29,5÷35,0÷40,0	50	14	2	(2)
AN738.712.2	NPB	NPT 1/2"	2	17	24	4,0÷6,5÷8,5	36	14	10	(2)
AN738.716.2	NPB	NPT 1/2"	2	22	24	6,0÷9,0÷12,0	39	14	10	(2)
AN738.718.2	NPB	NPT 3/4"	2	22	30	6,0÷9,0÷12,0	40	14	5	(2)
AN738.720.2	NPB	NPT 3/4"	2	27	30	10,5÷14,0÷17,0	42	14	5	(2)
AN738.723.2	NPB	NPT 1"	2	27	38	10,5÷14,0÷17,0	44	16	5	(2)
AN738.726.2	NPB	NPT 1"	2	35	38	15,5÷20,0÷24,0	46	16	5	(2)
AN738.730.2	NPB	NPT 1 1/4"	2	35	48	15,5÷20,0÷24,0	46	16	2	(2)
AN738.735.2	NPB	NPT 1 1/4"	2	43	48	22,0÷27,0÷31,0	48	16	2	(2)
AN738.738.2	NPB	NPT 1 1/2"	2	43	55	22,0÷27,0÷31,0	50	18	2	(2)
AN738.740.2	NPB	NPT 1 1/2"	2	53	55	29,5÷35,0÷40,0	64	18	2	(2)
AN736.716.9	SS	M16x1,5	2	17	18	4,0÷6,5÷8,5	32	10	10	(1)
AN736.717.9	SS	M20x1,5	2	17	22	4,0÷6,5÷8,5	32	10	10	(2)
AN736.720.9	SS	M20x1,5	2	22	22	6,0÷9,0÷12,0	35	10	10	(2)
AN736.722.9	SS	M25x1,5	2	22	27	6,0÷9,0÷12,0	36	10	5	(2)
AN736.725.9	SS	M25x1,5	2	27	27	10,5÷14,0÷17,0	38	10	5	(2)
AN736.728.9	SS	M32x1,5	2	27	35	10,5÷14,0÷17,0	40	12	5	(2)
AN736.732.9	SS	M32x1,5	2	35	35	15,5÷20,0÷24,0	42	12	5	(2)
AN736.735.9	SS	M40x1,5	2	35	43	15,5÷20,0÷24,0	43	13	2	(2)
AN736.740.9	SS	M40x1,5	2	43	43	22,0÷27,0÷31,0	45	13	2	(2)
AN736.745.9	SS	M50x1,5	2	43	55	22,0÷27,0÷31,0	46	14	2	(2)
AN736.750.9	SS	M50x1,5	2	53	55	29,5÷35,0÷40,0	50	14	2	(2)
AN738.712.92	SS	NPT 1/2"	2	17	24	4,0÷6,5÷8,5	36	14	10	(2)
AN738.716.92	SS	NPT 1/2"	2	22	24	6,0÷9,0÷12,0	39	14	10	(2)
AN738.718.92	SS	NPT 3/4"	2	22	30	6,0÷9,0÷12,0	40	14	5	(2)
AN738.720.92	SS	NPT 3/4"	2	27	30	10,5÷14,0÷17,0	42	14	5	(2)
AN738.723.92	SS	NPT 1"	2	27	38	10,5÷14,0÷17,0	44	16	5	(2)
AN738.726.92	SS	NPT 1"	2	35	38	15,5÷20,0÷24,0	46	16	5	(2)
AN738.730.92	SS	NPT 1 1/4"	2	35	48	15,5÷20,0÷24,0	46	16	2	(2)
AN738.735.92	SS	NPT 1 1/4"	2	43	48	22,0÷27,0÷31,0	48	16	2	(2)
AN738.738.92	SS	NPT 1 1/2"	2	43	55	22,0÷27,0÷31,0	50	18	2	(2)
AN738.740.92	SS	NPT 1 1/2"	2	53	55	29,5÷35,0÷40,0	64	18	2	(2)

(1) (UL) Recognized and CSA certified.
(2) (UL) Listed and CSA certified.
(3) Intermediate value of passage to a single sealing ring.

Materials' description: SS = Stainless steel, NPB = Nickel-plated brass

Thin lock nut



Code	Thread	Tightening key [mm] SW	Sizes M [mm]	Packaging [pcs]
PCFM10_M016	M16x1,5	19	3,0	100
PCFM10_M020	M20x1,5	24	3,5	100
PCFM10_M025	M25x1,5	30	4,0	50
PCFM10_M032	M32x1,5	36	4,0	25
PCFM10_M040	M40x1,5	46	5,0	25
PCFM10_M050	M50x1,5	55	5,5	10

Metallic cable glands

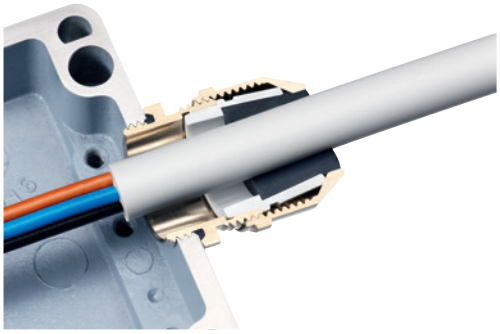


Use

Our metallic cable glands are produced with a particular geometry that assures an equal cable compression having a large clamping and sealing areas designed for a secure and flexible everyday use. These cable glands, supplied with the o-ring on th-read side, are produced with a short or long thread for secure fastening with thread or counter nut. The elastic sealing rings have a good chemical resistance and they provide a reliable seal with a guaranteed IP 68 protection class. The large hexagonal element of the screw-down nuts ensures consistently reliable and secure hold when turning by hand and tightening with the tool.

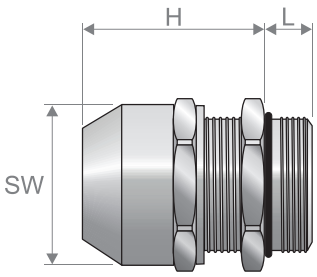
Technical data

Characteristics	Value/property
Material	Nickel-plated brass
Sealing ring material	TPE, one-piece.
O-ring material	NBR
Temperature range	-40°C, +100°C
Protection class	IP 68



Coding and dimensions

Straight cable gland

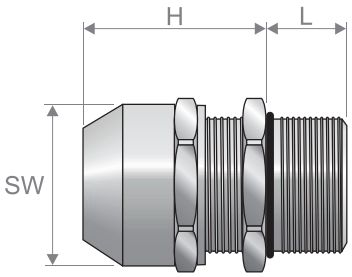


Code	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
				H	L		
PCM100_M012X010	M12x1,5	15	1,0÷5,0	17,0	5,0	50	(1)
PCM100_M012X020	M12x1,5	15	3,0÷7,0	17,0	5,0	50	(1)
PCM100_M016X010	M16x1,5	18	2,0÷6,0	20,0	5,0	50	(1)
PCM100_M016X020	M16x1,5	18	4,5÷10,0	20,0	5,0	50	(1)
PCM100_M020X010	M20x1,5	22	3,5÷8,0	25,0	6,0	50	(1)
PCM100_M020X020	M20x1,5	22	7,0÷13,0	25,0	6,0	50	(1)
PCM100_M025X010	M25x1,5	28	5,0÷11,0	31,0	7,0	25	(1)

Code	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
				H	L		
PCM100_M025X020	M25x1,5	28	10,0÷17,0	31,0	7,0	25	(1)
PCM100_M032X010	M32x1,5	36	7,0÷15,0	33,0	8,0	25	(1)
PCM100_M032X020	M32x1,5	36	13,0÷21,0	33,0	8,0	25	(1)
PCM100_M040X010	M40x1,5	46	15,0÷23,0	40,0	8,0	10	(1)
PCM100_M040X020	M40x1,5	46	19,0÷28,0	40,0	8,0	10	(1)
PCM100_M050X010	M50x1,5	55	20,0÷29,0	40,0	9,0	5	(1)
PCM100_M050X020	M50x1,5	55	25,0÷35,0	40,0	9,0	5	(1)
PCM100_M063X010	M63x1,5	70	28,0÷39,0	43,0	10,0	5	(1)
PCM100_M063X020	M63x1,5	70	35,0÷48,0	43,0	10,0	5	(1)

(1) c(UR)us certified

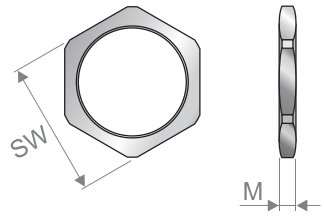
Long straight cable gland



Code	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
				H	L		
PCM101_M012X010	M12x1,5	15	1,0÷5,0	17,0	12,0	50	(1)
PCM101_M012X020	M12x1,5	15	3,0÷7,0	17,0	12,0	50	(1)
PCM101_M016X010	M16x1,5	18	2,0÷6,0	20,0	12,0	50	(1)
PCM101_M016X020	M16x1,5	18	4,5÷10,0	20,0	12,0	50	(1)
PCM101_M020X010	M20x1,5	22	3,5÷8,0	25,0	12,0	50	(1)
PCM101_M020X020	M20x1,5	22	7,0÷13,0	25,0	12,0	50	(1)
PCM101_M025X010	M25x1,5	28	5,0÷11,0	31,0	12,0	25	(1)
PCM101_M025X020	M25x1,5	28	10,0÷17,0	31,0	12,0	25	(1)
PCM101_M032X010	M32x1,5	36	7,0÷15,0	33,0	15,0	25	(1)
PCM101_M032X020	M32x1,5	36	13,0÷21,0	33,0	15,0	25	(1)
PCM101_M040X010	M40x1,5	46	15,0÷23,0	40,0	15,0	10	(1)
PCM101_M040X020	M40x1,5	46	19,0÷28,0	40,0	15,0	10	(1)
PCM101_M050X010	M50x1,5	55	20,0÷29,0	40,0	15,0	5	(1)
PCM101_M050X020	M50x1,5	55	25,0÷35,0	40,0	15,0	5	(1)
PCM101_M063X010	M63x1,5	70	28,0÷39,0	43,0	15,0	5	(1)
PCM101_M063X020	M63x1,5	70	35,0÷48,0	43,0	15,0	5	(1)
PCM101_M063X030	M63x1,5	80	44,0÷55,0	43,0	15,0	5	(1)

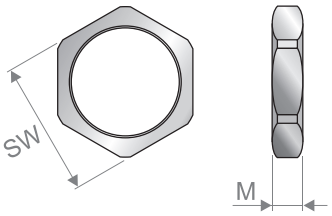
(1) c(UR)us certified

Thin lock nut



Code	Thread	Tightening key SW [mm]	Sizes M [mm]	Packaging [pcs]
PCFM10_M012	M12x1,5	15	3,0	100
PCFM10_M016	M16x1,5	19	3,0	100
PCFM10_M020	M20x1,5	24	3,5	100
PCFM10_M025	M25x1,5	30	4,0	50
PCFM10_M032	M32x1,5	36	4,0	25
PCFM10_M040	M40x1,5	46	5,0	25
PCFM10_M050	M50x1,5	55	5,5	10
PCFM10_M063	M63x1,5	70	6,0	10
PCFM10_M075	M75x1,5	80	6,0	10
PCFM10_M080	M80x2,0	95	8,0	5
PCFM10_M085	M85x2,0	95	8,0	5
PCFM10_M095	M95x2,0	110	9,0	5
PCFM10_M100	M100x3,0	115	9,0	1
PCFM10_M105	M105x3,0	120	9,0	1
PCFM10_M115	M115x3,0	125	10,0	1

Thick lock nut



Code	Thread	Tightening key SW [mm]	Sizes M [mm]	Packaging [pcs]
PCFM12_M012	M12x1,5	15	5,0	50
PCFM12_M016	M16x1,5	19	5,0	50
PCFM12_M020	M20x1,5	24	5,5	50
PCFM12_M025	M25x1,5	30	5,5	50
PCFM12_M032	M32x1,5	36	6,0	50
PCFM12_M040	M40x1,5	46	7,0	50

Code composition

PC	□□□□	_	□	□□□	X	□□□

Diameter range
Code depending on the cable range.

Family
Code depending on the glands' family.

Version	To be interted
Metric	M

Thread	To be interted
M12, M16, …, M63	012, 016, …, 063

Lock nut

PC	□□□□	_	□	□□□

Family
Code depending on the lock nuts' family.

Version	To be interted
Metric	M

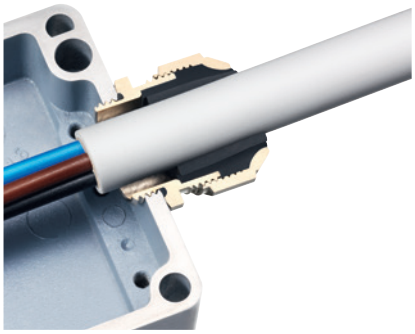
Thread	To be interted
M12, M16, …, M63	012, 016, …, 063

High-performing metallic cable glands



Use

Our high performing metallic cable glands provide a reliable seal with a guaranteed IP 68 (10 bar) and IP 69K protection classes. They are produced with a particular geometry that assures an equal cable compression having a large clamping and sealing areas designed for a secure and flexible everyday use. The elastic sealing rings have a good chemical resistance and their large hexagonal element of the screw-down nuts ensures consistently reliable and secure hold when turning by hand and tightening with the tool.

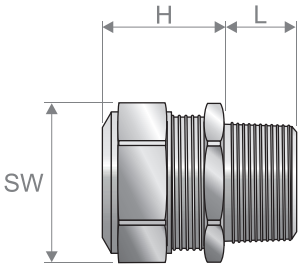


Technical data

Characteristics	Value/property
Material	Nickel-plated brass
Sealing ring material	TPE, one-piece or two-piece.
Temperature range	-40°C, +100°C
Protection class	IP 68 (10 bar) IP 69K

Coding and dimensions

Straight cable gland



Code	Thread	Number of pieces of sealing ring	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
					H	L		
PCM200_N012X010	NPT 1/8"	1	13	3,0÷4,0	15	8	50	(2)
PCM200_N012X020	NPT 1/8"	1	13	4,0÷6,0	15	8	50	(2)
PCM200_N025X010	NPT 1/4"	1	15	3,5÷5,0	17	12	50	(2)
PCM200_N025X020	NPT 1/4"	1	15	5,0÷6,5	17	12	50	(2)
PCM200_N025X030	NPT 1/4"	1	15	6,5÷8,0	17	12	50	(2)
PCM200_N037X010	NPT 3/8"	1	18	3,5÷4,5	20	12	50	(2)
PCM200_N037X020	NPT 3/8"	1	18	4,5÷6,0	20	12	50	(2)
PCM200_N037X030	NPT 3/8"	1	18	6,0÷8,0	20	12	50	(2)

Code	Thread	Number of pieces of sealing ring	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
					H	L		
PCM202_N037X010	NPT 3/8"	2	18	6,0÷10,5	22	12	50	(1)
PCM200_N037X040	NPT 3/8"	1	18	8,0÷10,5	22	12	50	(2)
PCM200_N050X010	NPT 1/2"	1	24	6,0÷8,0	21	15	50	(2)
PCM200_N050X020	NPT 1/2"	1	24	8,0÷11,0	21	15	50	(2)
PCM202_N050X010	NPT 1/2"	2	24	8,0÷15,0	23	15	50	(3)
PCM200_N050X030	NPT 1/2"	1	24	11,0÷15,0	23	15	50	(2)
PCM200_N075X010	NPT 3/4"	1	30	9,5÷12,5	28	15	25	(2)
PCM200_N075X020	NPT 3/4"	1	30	12,5÷16,0	28	15	25	(2)
PCM202_N075X010	NPT 3/4"	2	30	12,5÷20,5	28	15	25	(2)
PCM200_N075X030	NPT 3/4"	1	30	16,0÷20,5	28	15	25	(2)
PCM200_N100X010	NPT 1"	1	36	14,0÷17,0	28	20	25	(2)
PCM200_N100X020	NPT 1"	1	36	17,0÷21,0	28	20	25	(2)
PCM202_N100X010	NPT 1"	2	36	17,0÷25,5	28	20	25	(2)
PCM200_N100X030	NPT 1"	1	36	21,0÷25,5	28	20	25	(2)
PCM200_N125X010	NPT 1 1/4"	1	46	20,0÷24,0	31	20	10	(2)
PCM200_N125X020	NPT 1 1/4"	1	46	24,0÷28,5	31	20	10	(2)
PCM202_N125X010	NPT 1 1/4"	2	46	24,0÷33,0	31	20	10	(2)
PCM200_N125X030	NPT 1 1/4"	1	46	28,5÷33,0	31	20	10	(2)
PCM200_N150X010	NPT 1 1/2"	1	55	29,0÷33,0	34	22	10	(2)
PCM200_N150X020	NPT 1 1/2"	1	55	33,0÷37,0	34	22	10	(2)
PCM202_N150X010	NPT 1 1/2"	2	55	33,0÷41,0	34	22	10	(2)
PCM200_N150X030	NPT 1 1/2"	1	55	37,0÷41,0	34	22	10	(2)
PCM200_N200X010	NPT 2"	1	70	35,0÷40,0	37	22	5	(2)
PCM200_N200X020	NPT 2"	1	70	40,0÷46,0	37	22	5	(2)
PCM202_N200X010	NPT 2"	2	70	40,0÷52,0	37	22	5	(2)
PCM200_N200X030	NPT 2"	1	70	46,0÷52,0	37	22	5	(2)

(1) c(UR)us certified
(2) c(UL)us certified
(3) c(UR)us and c(UL)us certified

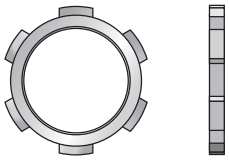
Sealing gasket with back plate



Code	Material	Version	Thread	Packaging [pcs]
TB5262	AZC	NPT	1/2"	50
TB5263	AZC	NPT	3/4"	25
TB5264	AZC	NPT	1"	25
TB5265	AZC	NPT	1"1/4	5
TB5266	AZC	NPT	1"1/2	5
TB5267	AZC	NPT	2"	5
TB5268	AZC	NPT	2"1/2	1

Materials' description: AZC=Zinc plated steel

Lock nut



Code	Material	Version	Thread	Packaging [pcs]
TB140	AGC	NPT	3/8”	100
TB141	AGC	NPT	1/2”	100
TB142	AGC	NPT	3/4”	100
TB143	AGC	NPT	1”	50
TB144	AGC	NPT	1”1/4	50
TB145	AGC	NPT	1”1/2	50
TB146	AGC	NPT	2”	25
TB147	AGC	NPT	2”1/2	15

Materials’ description: AGC = Chrome plated galvanized steel

Code composition

PC	□□□□	_	□	□□□	X	□□□

Diameter range
Code depending on the cable range.

Family
Code depending on the glands’ family.

Version	To be interted
NPT	N

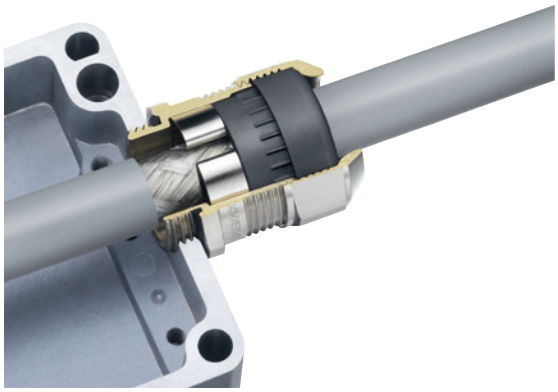
Thread	To be interted
NPT 3/8”, 1/2", …, 1”	037, 050, …, 100

High-performing EMC-compatible metallic cable glands



Use

The electromagnetic compatibility (EMC) in the industrial sector plays a key role because complex machines and systems are extremely susceptible to electromagnetic interference. Such undesired effects, however, can be counteracted with the effective shielding of all components and not only cables. As passive components, cable glands must ensure that the quality of the shielding at sensitive interconnection points remains intact and that there are no losses due to the shielding.
The EMC cable glands guarantee a powerful, protective clamping of the cable shield and excellent shield contact providing for the smallest possible transfer impedance. The shape of the contact spring not only allows for a large clamping range to the shield but also for easy disassembly without damaging the EMC braid.
Our EMC metallic cable glands are produced with a particular geometry that assures an equal cable compression having a large clamping and sealing areas designed for a secure and flexible everyday use. These cable glands, supplied with the o-ring on thread side, are produced with a short or long thread for secure fastening with thread or the special EMC counter nut with cutter teeth. The elastic sealing rings have a good chemical resistance and they provide a reliable seal with a guaranteed IP 68 (10 bar) and IP 69K protection classes. On request we can provide a "multiple" cable gland producing a customized sealing ring, it is sufficient to provide number and diameter of the cables to be wired.



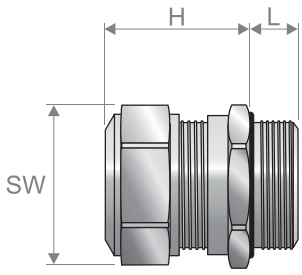


Technical data

Characteristics	Value/property
Material	Nickel-plated brass
Material of the contact spring	Steeel
Sealing ring material	TPE, two-pieces.
O-ring material	NBR
Temperature range	-60°C, +100°C
Protection class	IP 68 (10 bar) IP 69K

Coding and dimensions

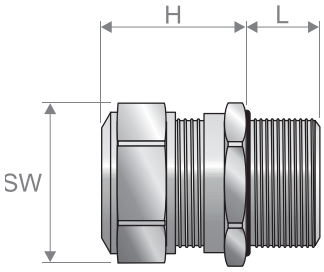
Straight cable gland



Code	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
				H	L		
PCM500_M012X010	M12x1,5	15	3,5÷5,0	22,0	5,0	50	(1)
PCM500_M012X020	M12x1,5	15	5,0÷6,5	22,0	5,0	50	(1)
PCM500_M016X010	M16x1,5	18	6,0÷10,5	25,0	5,0	50	(1)
PCM500_M020X010	M20x1,5	24	8,0÷15,0	27,0	6,0	50	(1)
PCM500_M025X010	M25x1,5	30	12,5÷20,5	33,0	7,0	25	(1)
PCM500_M032X010	M32x1,5	36	17,0÷25,5	33,0	8,0	25	(1)
PCM500_M040X010	M40x1,5	46	24,0÷33,0	38,0	8,0	10	(1)
PCM500_M050X010	M50x1,5	55	33,0÷42,0	42,0	9,0	10	(1)
PCM500_M063X010	M63x1,5	70	40,0÷52,0	42,0	10,0	5	(1)

(1) c(UR)us certified

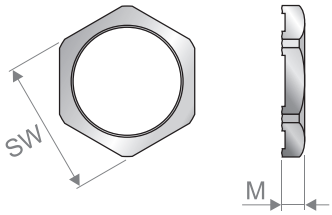
Long straight cable gland



Code	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
				H	L		
PCM501_M012X010	M12x1,5	15	3,5÷5,0	22,0	10,0	50	(1)
PCM501_M012X020	M12x1,5	15	5,0÷6,5	22,0	10,0	50	(1)
PCM501_M016X010	M16x1,5	18	6,0÷10,5	25,0	10,0	50	(1)
PCM501_M020X010	M20x1,5	24	8,0÷15,0	27,0	10,0	50	(1)
PCM501_M025X010	M25x1,5	30	12,5÷20,5	33,0	11,0	25	(1)
PCM501_M032X010	M32x1,5	36	17,0÷25,5	33,0	13,0	25	(1)
PCM501_M040X010	M40x1,5	46	24,0÷33,0	38,0	13,0	10	(1)
PCM501_M050X010	M50x1,5	55	33,0÷42,0	42,0	14,0	10	(1)
PCM501_M063X010	M63x1,5	70	40,0÷52,0	42,0	14,0	5	(1)

(1) c(UR)us certified

Serrated lock nut



Code	Thread	Tightening key SW [mm]	Sizes M [mm]	Packaging [pcs]
PCFM50_M012	M12x1,5	15	3,5	25
PCFM50_M016	M16x1,5	19	3,5	25
PCFM50_M020	M20x1,5	24	4,0	25
PCFM50_M025	M25x1,5	30	4,0	10
PCFM50_M032	M32x1,5	36	5,0	10
PCFM50_M040	M40x1,5	46	5,3	10
PCFM50_M050	M50x1,5	55	6,3	10
PCFM50_M063	M63x1,5	70	7,0	10
PCFM50_P007	Pg 7	15	3,3	25
PCFM50_P009	Pg 9	18	3,3	25
PCFM50_P011	Pg 11	21	3,5	25
PCFM50_P013	Pg 13	24	3,5	25
PCFM50_P016	Pg 16	26	3,5	25
PCFM50_P021	Pg 21	32	4,0	10
PCFM50_P029	Pg 29	41	4,6	10
PCFM50_P036	Pg 36	50	5,8	10
PCFM50_P042	Pg 42	60	5,8	10
PCFM50_P048	Pg 48	64	6,5	10

Code composition

PC □□□□ _ □ □□□ **X** □□□

Diameter range
Code depending on the cable range.

Family
Code depending on the glands' family.

Version	To be interted
Metric	M

Thread	To be interted
M12, M16, …, M32	012, 016, …, 032

Lock nut

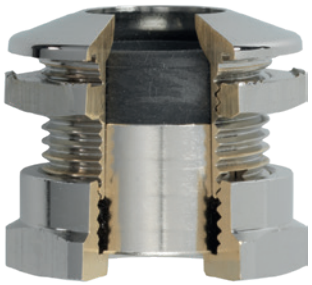
PC □□□□ _ □ □□□

Family
Code depending on the lock nuts' family.

Version	To be interted
Metric	M
PG	P

Thread	To be interted
M12, M16, …, M63	012, 016, …, 063
Pg 7, Pg 9, …, Pg 48	007, 009, …, 048

High-performing ultra-flat metallic cable glands



Use

The ultra-flat cable glands inhibit any manipulation from the outside; no contact surface for interference neither by hand or with a tool will be found. The ultra-flat cable glands are used for design applications and, thanks to their very little surface for contamination and their good cleanability, they are used for cleanroom and food and beverage applications. The ultra-flat cable glands are certified EHEDG (European Hygienic Engineering & Design Group), a consortium of equipment manufacturers, food industries, research institutes and public health authorities promoting "safe food" by improving hygienic engineering and design in all aspects of food manufacture. The elastic sealing rings have a good chemical resistance and they provide a reliable seal with a guaranteed IP 68 (10 bar) and IP 69K protection classes.



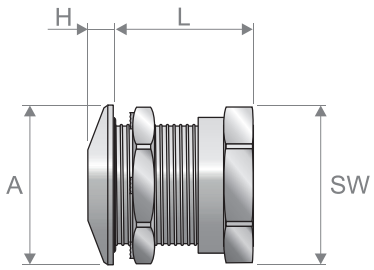
Technical data

Characteristics	Value/property
Material	Nickel-plated brass or Stainless steel A2 (front part)
Sealing ring material	TPE or FKM (for stainless steel version), one-piece.
Material of the sealing washer	FPM or FKM (for stainless steel version), one-piece.
Temperature range	-40°C, +100°C up to +200°C for stainless steel version
Protection class	IP 68 (10 bar) IP 69K
Thickness of the installation wall	Max. 5 mm

Note. EHEDG certification for stainless steel version

Coding and dimensions

Straight cable gland



Code	Version	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]			Packaging [pcs]	Note
					ØA	H	L		
PCM301_M016X010	SS	M16x1,5	18	5,0÷6,5	22,0	4,0	21,0	25	(1)
PCM301_M016X020	SS	M16x1,5	18	6,5÷8,0	22,0	4,0	21,0	25	(1)
PCM301_M020X010	SS	M20x1,5	24	6,0÷8,0	27,0	4,5	23,0	25	(1)
PCM301_M020X020	SS	M20x1,5	24	8,0÷10,5	27,0	4,5	23,0	25	(1)
PCM301_M025X010	SS	M25x1,5	30	8,0÷11,0	32,0	5,5	25,0	20	(1)
PCM301_M025X020	SS	M25x1,5	30	11,0÷15,0	32,0	5,5	25,0	20	(1)
PCM301_M032X010	SS	M32x1,5	36	12,5÷16,0	39,0	6,0	28,0	10	(1)
PCM301_M032X020	SS	M32x1,5	36	16,0÷20,5	39,0	6,0	28,0	10	(1)
PCM300_M016X010	NPB	M16x1,5	18	5,0÷6,5	22,0	4,0	21,0	25	(2)
PCM300_M016X020	NPB	M16x1,5	18	6,5÷8,0	22,0	4,0	21,0	25	(2)
PCM300_M020X010	NPB	M20x1,5	24	6,0÷8,0	27,0	4,5	23,0	25	(2)
PCM300_M020X020	NPB	M20x1,5	24	8,0÷10,5	27,0	4,5	23,0	25	(2)
PCM300_M025X010	NPB	M25x1,5	30	8,0÷11,0	32,0	5,5	25,0	20	(2)
PCM300_M025X020	NPB	M25x1,5	30	11,0÷15,0	32,0	5,5	25,0	20	(2)
PCM300_M032X010	NPB	M32x1,5	36	12,5÷16,0	39,0	6,0	28,0	10	(2)
PCM300_M032X020	NPB	M32x1,5	36	16,0÷20,5	39,0	6,0	28,0	10	(2)

(1) EHEDG certified
(2) Not EHEDG certified
Materials' description: SS = Stainless steel, NPB = Nickel-plated brass

Code composition

PC	□□□□	_	□	□□□	X	□□□

Diameter range
Code depending on the cable range.

Family
Code depending on the glands' family.

Version	To be interted
Metric	M

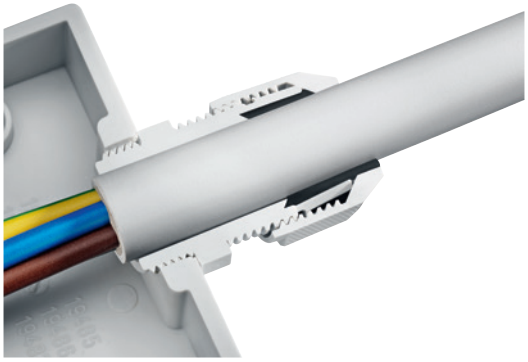
Thread	To be interted
M16, M20, …, M32	016, 020, …, 032

Synthetic cable glands



Use

Our synthetic cable glands are produced with a particular geometry that assures an equal cable compression having a large clamping and sealing areas designed for a secure and flexible everyday use. These cable glands are produced with a short or long thread for secure fastening with thread or counter nut. The elastic sealing rings have a good chemical resistance and they provide a reliable seal with a guaranteed IP 68 protection class. The large hexagonal element of the screw-down nuts ensures consistently reliable and secure hold when turning by hand and tightening with the tool.



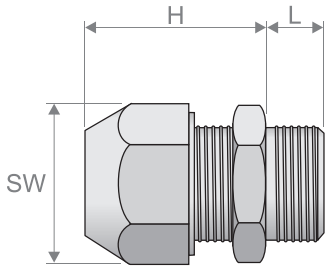
Technical data

Characteristics	Value/property
Body material	Polyamide PA 6, halogen-free
Color	Light gray RAL 7035, Dark gray RAL 7001*, Black RAL 9005*
Sealing ring material	TPE/CR (Neoprene), one-piece.
Temperature range	-30°C, +100°C
Protection class	IP68, NEMA 4X

* Color available upon request and with minimum applicable quantities. Black color is UV resistant (ISO 4892-2).

Coding and dimensions

Straight cable gland



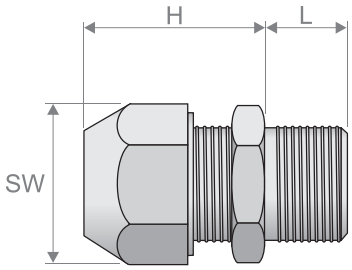
Code	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm] H	Sizes [mm] L	Packaging [pcs]	Note
PCP100_M012X010□□	M12x1,5	15	2,5÷6,5	21,0	6,0	100	(1)
PCP100_M016X010□□	M16x1,5	19	2,0÷6,0	25,0	8,0	50	(1)
PCP100_M016X020□□	M16x1,5	19	5,0÷10,0	25,0	8,0	50	(1)
PCP100_M020X010□□	M20x1,5	24	3,5÷8,0	29,0	9,0	50	(1)
PCP100_M020X020□□	M20x1,5	24	7,0÷13,0	29,0	9,0	50	(1)
PCP100_M025X010□□	M25x1,5	29	5,0÷11,0	38,0	10,0	25	(1)

Code	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
				H	L		
PCP100_M025X020□□	M25x1,5	29	10,0÷17,0	38,0	10,0	25	(1)
PCP100_M032X010□□	M32x1,5	42	17,0÷25,0	36,0	10,0	20	(2)
PCP100_P007X010□□*	Pg 7	15	2,5÷6,5	21,0	8,0	100	(1)
PCP100_P009X010□□*	Pg 9	19	3,0÷8,0	23,0	8,0	50	(1)
PCP100_P011X010□□*	Pg 11	22	2,0÷7,0	25,0	8,0	50	(1)
PCP100_P011X020□□*	Pg 11	22	4,0÷10,0	25,0	8,0	50	(4)
PCP100_P013X010□□*	Pg 13	24	3,0÷7,0	26,0	9,0	50	(1)
PCP100_P013X020□□*	Pg 13	24	5,5÷12,0	26,0	9,0	50	(5)
PCP100_P016X010□□*	Pg 16	27	5,0÷11,0	30,0	10,0	50	(1)
PCP100_P016X020□□*	Pg 16	27	8,5÷14,0	30,0	10,0	50	(2)
PCP100_P021X010□□*	Pg 21	33	6,5÷14,0	35,0	11,0	25	(1)
PCP100_P021X020□□*	Pg 21	33	11,0÷18,0	35,0	11,0	25	(2)
PCP100_P029X010□□*	Pg 29	42	17,0÷25,0	36,0	11,0	20	(2)
PCP100_P036X010□□*	Pg 36	53	22,0÷33,0	48,0	15,0	10	(2)
PCP100_P042X010□□*	Pg 42	60	28,0÷38,0	48,0	15,0	5	(2)
PCP100_P048X010□□*	Pg 48	65	32,0÷44,0	48,0	15,0	5	(6)
PCP100_N037X010□□*	NPT 3/8"	19/22	3,0÷8,0	23,0	15,0	50	(1)
PCP100_N050X010□□*	NPT 1/2"	24	3,0÷7,0	26,0	15,0	50	(1)
PCP100_N050X020□□*	NPT 1/2"	24	5,5÷12,0	26,0	15,0	50	(2)
PCP100_N075X010□□*	NPT 3/4"	33	6,5÷14,0	35,0	15,0	25	(1)
PCP100_N075X020□□*	NPT 3/4"	33	11,0÷18,0	35,0	15,0	25	(2)
PCP100_N100X010□□*	NPT 1"	42	17,0÷22,0	36,0	15,0	20	(2)

(1) c(UR)us certified
(2) c(UL)us certified
(4) Certified c(UR)us in all colors and c(UL)us only in black color
(5) Certified c(UL)us in dark gray and black version
(6) Certified c(UL)us in light gray and black version

* Product non available in dark gray.

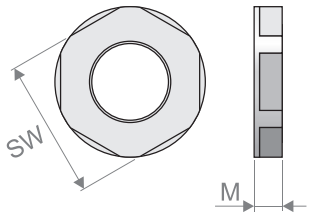
Long straight cable gland



Code	Thread	Tightening key SW [mm]	cable diameter Min/Max [mm]	Sizes [mm]		Packaging [pcs]	Note
				H	L		
PCP101_M012X010□□	M12x1,5	15	2,5÷6,5	21,0	12,0	100	(1)
PCP101_M016X010□□	M16x1,5	19	2,0÷6,0	25,0	15,0	50	(1)
PCP101_M016X020□□	M16x1,5	19	5,0÷10,0	25,0	15,0	50	(1)
PCP101_M020X010□□	M20x1,5	24	3,5÷8,0	29,0	15,0	50	(1)
PCP101_M020X020□□	M20x1,5	24	7,0÷13,0	29,0	15,0	50	(1)
PCP101_M025X010□□	M25x1,5	29	5,0÷11,0	38,0	15,0	25	(1)
PCP101_M025X020□□	M25x1,5	29	10,0÷17,0	38,0	15,0	25	(1)
PCP101_M032X010□□	M32x1,5	42	17,0÷25,0	36,0	15,0	20	(2)
PCP101_M040X010□□	M40x1,5	53	22,0÷33,0	48,0	15,0	10	(2)
PCP101_M050X010□□	M50x1,5	60	28,0÷38,0	48,0	15,0	5	(2)
PCP101_M063X010□□	M63x1,5	65	32,0÷44,0	49,0	16,0	5	(3)

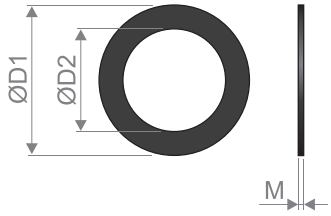
(1) c(UR)us certified
(2) c(UL)us certified
(3) Not c(UR)us and c(UL)us certified

Lock nut with flange

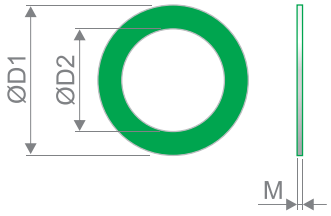


Code	Thread	Tightening key SW [mm]	Sizes M [mm]	Packaging [pcs]
PCFP10_M012□□	M12x1,5	17	5,0	100
PCFP10_M016□□	M16x1,5	22	5,0	100
PCFP10_M020□□	M20x1,5	27	6,0	100
PCFP10_M025□□	M25x1,5	33	6,7	100
PCFP10_M032□□	M32x1,5	42	7,9	50
PCFP10_M040□□	M40x1,5	48	8,4	50
PCFP10_M050□□	M50x1,5	59	9,9	10
PCFP10_M063□□	M63x1,5	73	11,0	10
PCFP10_P007□□	Pg 7	19	5,0	100
PCFP10_P009□□	Pg 9	21	5,0	100
PCFP10_P011□□	Pg 11	24	5,0	100
PCFP10_P013□□	Pg 13	27	6,0	100
PCFP10_P016□□	Pg 16	30	6,0	100
PCFP10_P021□□	Pg 21	36	7,0	50
PCFP10_P029□□	Pg 29	46	8,0	50
PCFP10_P036□□	Pg 36	59	8,0	25
PCFP10_P042□□	Pg 42	65	8,0	10
PCFP10_P048□□	Pg 48	69	8,0	10

Sealing washer



Perbunan



KlingerSIL C-4300

Code	Thread	Material	Temperature range	Sizes [mm] ØD1	ØD1	M	Packaging [pcs]
PCG040_M012	M12	Perbunan	-20°C/+100°C	20,0	12,0	1,6	50
PCG040_M016	M16	Perbunan	-20°C/+100°C	23,0	16,0	1,8	50
PCG040_M020	M20	Perbunan	-20°C/+100°C	29,0	20,0	1,8	50
PCG040_M025	M25	Perbunan	-20°C/+100°C	37,0	25,0	1,8	50
PCG040_M032	M32	Perbunan	-20°C/+100°C	44,0	32,0	2,2	25
PCG040_M040	M40	Perbunan	-20°C/+100°C	52,0	40,0	2,2	25
PCG040_M050	M50	Perbunan	-20°C/+100°C	64,0	50,0	2,7	25
PCG040_M063	M63	Perbunan	-20°C/+100°C	68,0	63,0	3,2	10
PCG040_P007	Pg 7	Perbunan	-20°C/+100°C	16,0	11,5	2,0	50
PCG040_P009	Pg 9	Perbunan	-20°C/+100°C	19,0	14,0	2,0	50
PCG040_P011	Pg 11	Perbunan	-20°C/+100°C	22,5	18,5	2,0	50
PCG040_P013	Pg 13	Perbunan	-20°C/+100°C	25,0	19,0	2,0	50
PCG040_P016	Pg 16	Perbunan	-20°C/+100°C	27,0	21,0	2,0	50
PCG040_P021	Pg 21	Perbunan	-20°C/+100°C	34,0	27,0	2,5	25
PCG040_P029	Pg 29	Perbunan	-20°C/+100°C	43,0	35,0	2,5	25
PCG040_P036	Pg 36	Perbunan	-20°C/+100°C	54,0	45,0	2,5	25

Code	Thread	Material	Temperature range	Sizes [mm]			Packaging [pcs]
				ØD1	ØD1	M	
PCG030_M006	M6	KlingerSIL C-4300	-40°C/+300°C	10,0	6,0	1,5	50
PCG030_M008	M8	KlingerSIL C-4300	-40°C/+300°C	12,0	8,0	1,5	50
PCG030_M010	M10	KlingerSIL C-4300	-40°C/+300°C	14,0	10,0	1,5	50
PCG030_M012	M12	KlingerSIL C-4300	-40°C/+300°C	16,0	12,0	1,5	50
PCG030_M016	M16	KlingerSIL C-4300	-40°C/+300°C	21,0	16,0	1,5	50
PCG030_M020	M20 / Pg 13	KlingerSIL C-4300	-40°C/+300°C	25,0	20,5	1,5	50
PCG030_M025	M25	KlingerSIL C-4300	-40°C/+300°C	31,0	25,0	2,0	50
PCG030_M032	M32	KlingerSIL C-4300	-40°C/+300°C	39,0	32,0	2,0	50
PCG030_M040	M40	KlingerSIL C-4300	-40°C/+300°C	48,0	40,0	2,0	50
PCG030_M050	M50	KlingerSIL C-4300	-40°C/+300°C	59,0	50,0	2,0	50
PCG030_M063	M63	KlingerSIL C-4300	-40°C/+300°C	73,0	63,0	2,0	50
PCG030_P007	Pg 7	KlingerSIL C-4300	-40°C/+300°C	16.5	12.5	1.5	50
PCG030_P009	Pg 9	KlingerSIL C-4300	-40°C/+300°C	19.0	15.2	1.5	50
PCG030_P011	Pg 11	KlingerSIL C-4300	-40°C/+300°C	22.5	18.5	1.5	50
PCG030_P016	Pg 16	KlingerSIL C-4300	-40°C/+300°C	27.0	22.5	1.5	50
PCG030_P021	Pg 21	KlingerSIL C-4300	-40°C/+300°C	33.5	28.5	2.0	50
PCG030_P029	Pg 29	KlingerSIL C-4300	-40°C/+300°C	43.5	37.0	2.0	50
PCG030_P036	Pg 36	KlingerSIL C-4300	-40°C/+300°C	55.0	47.0	2.0	50
PCG030_P042	Pg 42	KlingerSIL C-4300	-40°C/+300°C	63.0	54.0	2.0	50
PCG030_P048	Pg 48	KlingerSIL C-4300	-40°C/+300°C	69.0	59.3	2.0	50

Code composition

Cable gland

PC □□□□ _ □ □□□ **X** □□□ □□

Family
Code depending on the glands' family.

Version	To be interted
Metric	M
PG	P
NPT	N

Thread	To be interted
M12, M16, …, M63	012, 016, …, 063
Pg 7, Pg 9, …, Pg 48	007, 009, …, 048
NPT 3/8", 1/2", …, 1"	037, 050, …, 100

Color	To be interted
Light grey RAL 7035	G1
Dark grey RAL 7001	GR
Black RAL 9005*	NE

* Color available upon request and with minimum applicable quantities.

Diameter range
Code depending on the cable range.

Lock nut

PC □□□□ _ □ □□□ □□

Family
Code depending on the lock nuts' family.

Version	To be interted
Metric	**M**
PG	**P**

Thread	To be interted
M12, M16, …, M63	012, 016, …, 063
Pg 7, Pg 9, …, Pg 48	007, 009, …, 048

Color	To be interted
Light grey RAL 7035	G1
Black RAL 9005*	NE

* Color available upon request and with minimum applicable quantities.

Sealing washer

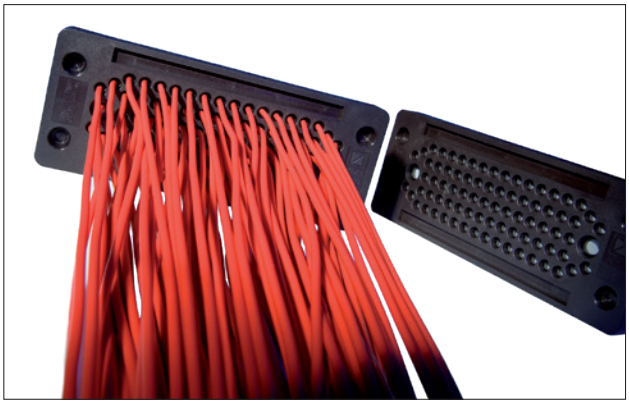
PC □□□□ _ □ □□□

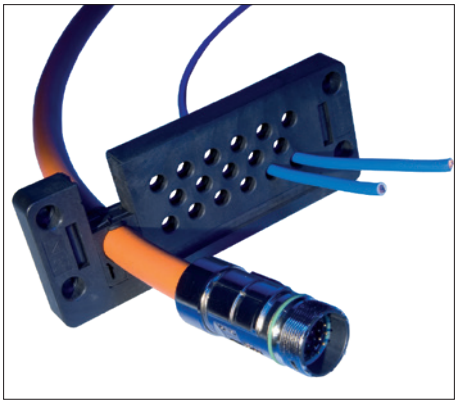
Family
Code depending on the sealing washers' family.

Version	To be interted
Metric	M
PG	P

Thread	To be interted
M12, M16, …, M63	012, 016, …, 063
Pg 7, Pg 9, …, Pg 48	007, 009, …, 048

Preconfigured cable entry systems





Use

The preconfigured cable entry systems allow quicker mounting of cables, electric conduits and pneumatic hoses. They can be installed also without screws using the special catch hooks and they allow to save a lot of space. Some of the models take up to four preassembled cable in two grommets. They are a real alternative to standard cable fittings.



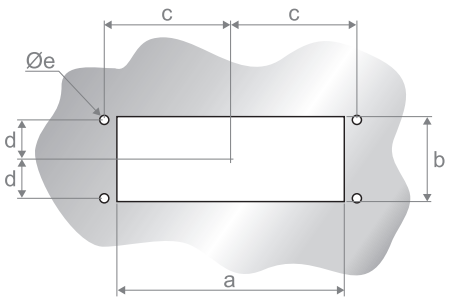
Preconfigured cable entry systems are 10 times faster and with a space saving of up to 50% compared with conventional cable glands. The preconfigured cable entry systems are simply clicked into the cut-outs and the cables are then pushed through. The preconfigured cable entry systems allow:

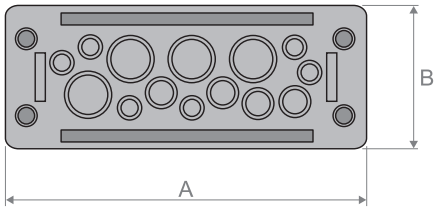
- enormous time savings during assembly,
- extremely low space requirement,
- high packing density,
- assembly without tools,
- high protection class,
- no kinks in cables and tubes.

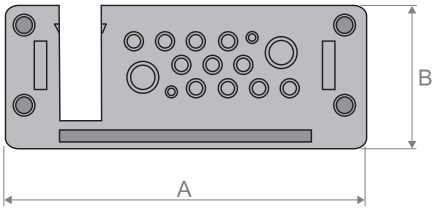
Technical data

Characteristics	Value/property	Remarks
Material	Polyammide 6.6	-
Seal material	TPU/NBR/EPDM	-
Temperature range	-30°C, +70°C	-
Flammability rating	V0	UL 94
Protection class	IP65 (codes RPPLTA...) IP54 (codes RPPLTB...)	-
Color	Black	-

Coding and dimensions







RPPLTA24.11



RPPLTA24.12



RPPLTA24.13



RPPLTA24.14



RPPLTA24.17



RPPLTA24.17-1



RPPLTA24.22



RPPLTA24.23



RPPLTA24.29



RPPLTA24.80



RPPLTB24.10.02



RPPLTB24.14.02



RPPLTB24.15.02



RPPLTB24.17.02



RPPLTB24.20.02



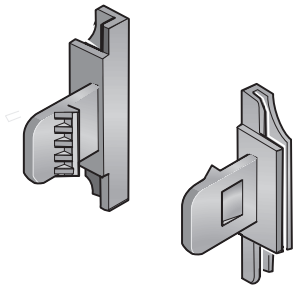
RPPLTB24.21.02



Code	No. of grommets (1)	No. openings x diameter [mm]	Thickness [mm]	Sizes [mm]							Packaging [pcs]
				A	B	a	b	c	d	e	
RPPLTA24.11	0	4 x (3÷6,5 mm) 4 x (5÷9,2 mm) 3 x (14÷20 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.12	0	12 x (8÷12 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.13	0	2 x (3÷5,5 mm) 6 x (4,1÷8,1 mm) 4 x (9÷14 mm) 1 x (14÷20 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.14	0	6 x (3÷6,5 mm) 4 x (5÷9,2 mm) 4 x (9,6÷15,9 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.17	0	17 x (5÷9,2 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.17-1	0	11 x (3÷6,5 mm) 1 x (4,1÷8,1 mm) 5 x (8÷12,5 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.22	0	16 x (3÷6,5 mm) 4 x (5÷9,2 mm) 2 x (8÷12,5 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.23	0	23 x (4,1÷8,1 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.29	0	29 x (3÷6,5 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTA24.80	0	78 x (1,5÷2,6 mm) 2 x (2,5÷5 mm)	15	147,0	59,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTB24.10.02	2 small	4 x (3÷6,5 mm) 2 x (4,5÷8,5 mm) 4 x (8÷12,5 mm)	15	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTB24.14.02	2 small	4 x (2,5÷5 mm) 2 x (3÷6,5 mm) 8 x (4,5÷8,5 mm)	15	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTB24.15.02	2 small	2 x (1,5÷3,5 mm) 11 x (3÷6,5 mm) 2 x (8,5÷12,5 mm)	15	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTB24.17.02	2 small	17 x (3÷6,5 mm)	15	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTB24.20.02	2 small	4 x (1,5÷3,5 mm) 6 x (3÷5 mm) 10 x (3÷6,5 mm)	15	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1
RPPLTB24.21.02	2 small	21 x (2,5÷5 mm)	15	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1

(1) The grommets and their codes can be selected hereinafter in the chapter “Grommets for cable entry systems”

Catch hooks

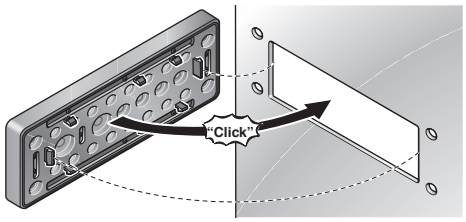


Code of the catch hooks	Plate thickness [mm]	Packaging [pcs]
RPHKS010	1,5÷2,0	10
RPHKS020	2,1÷2,7	10
RPHKS030	2,8÷3,4	10
RPHKS040	3,5÷4,1	10

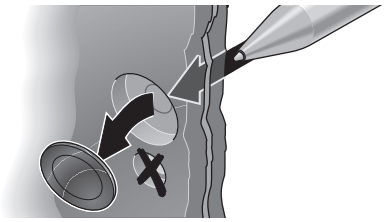
Mounting

Snap-on mounting (models without grommets)

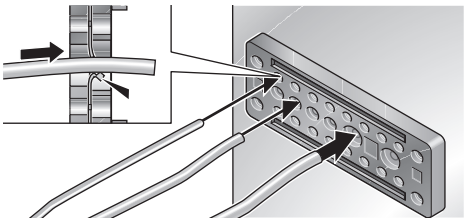
1. Create a cut-out as shown in the drawings (see “Codes and dimensions”). Insert the cable entry system and press on until it clicks into place.



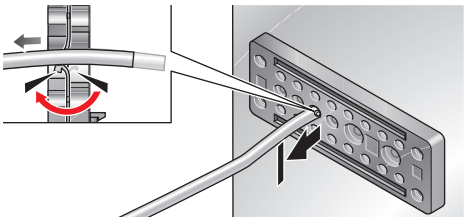
2. Where necessary, remove the black cover pressing from the rear until the cover falls out.



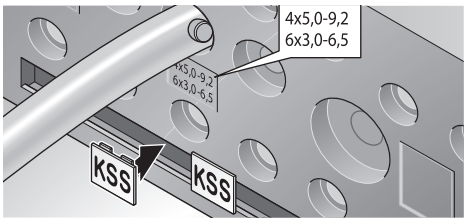
3. Select an opening appropriate for the cable diameter and push the cable through the opening from the front. Pull the cable through to desired length.



4. Retract cable approx. 10÷15 mm until the indicator on the rear is no longer visible. Depending on cable diameter and insertion size, the indicato may become visible on the front side.

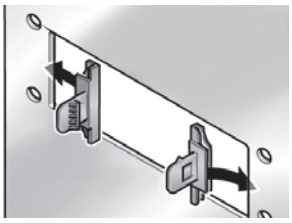


5. If required, position the optional lable plate and click in.

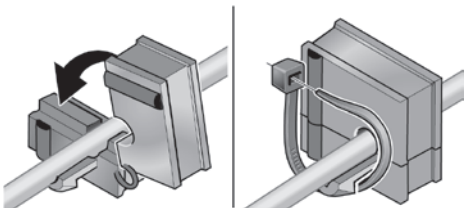


Snap-on mounting (models with grommets)

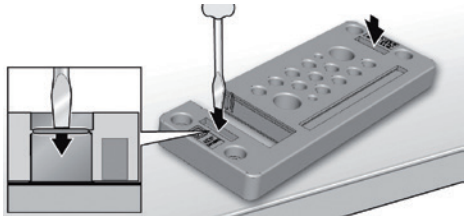
1. Create a cut-out as shown in the drawings (see “Codes and dimensions”). Set catch hooks into the sides of the cut-out.



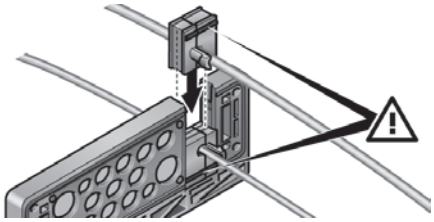
2. Lay the cable into the appropriate grommet.



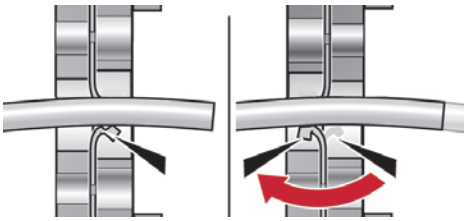
3. Punch through cover on cable entry system.



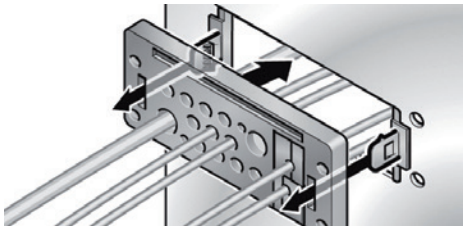
4. Install all grommets and make sure there is enough cable length.



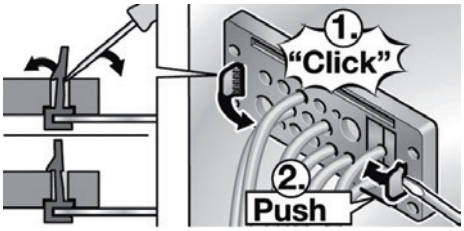
5. Select an opening appropriate for the cable diameter and push the cable through the opening from the front. Pull the cable through to desired length. Then retract cable approx. 10÷15 mm until the indicator on the rear is no longer visible. Depending on cable diameter and insertion size, the indicato may become visible on the front side.



6. Insert the cable entry system onto the catch hooks and press on.

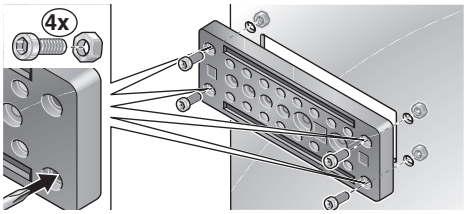


7. Lock the catch hooks and press down the cable entry system at the endges again.

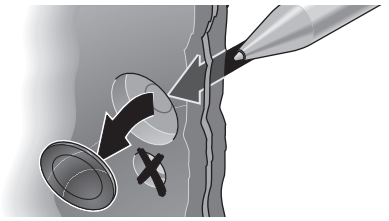


Screw-on mounting (models without grommets)

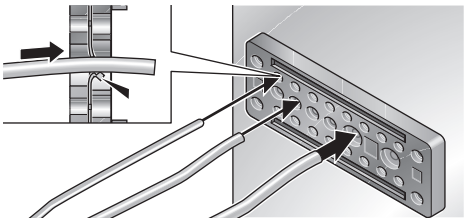
1. Create a cut-out as shown in the drawings (see “Codes and dimensions”). Press through the membrane on the mounting holes on the cable entry system, set it onto the cut-out and screw down.



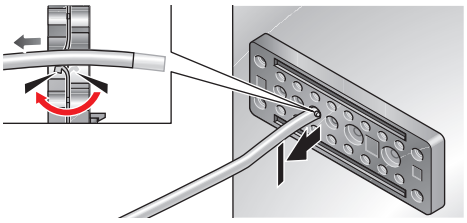
2. Where necessary, remove the black cover pressing from the rear until the cover falls out.



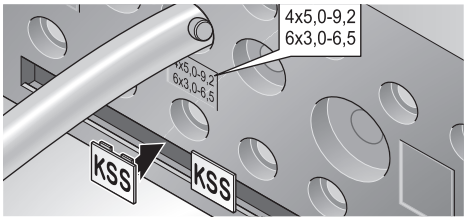
3. Select an opening appropriate for the cable diameter and push the cable through the opening from the front. Pull the cable through to desired length.



4. Retract cable approx. 10÷15 mm until the indicator on the rear is no longer visible. Depending on cable diameter and insertion size, the indicato may become visible on the front side.

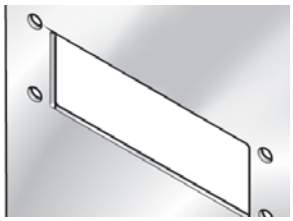


5. If required, position the optional lable plate and click in.

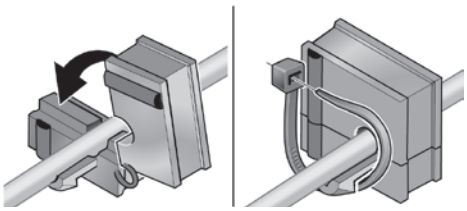


Screw-on mounting (models with grommets)

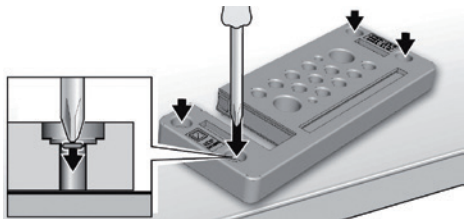
1. Create a cut-out as shown in the drawings (see “Codes and dimensions”).



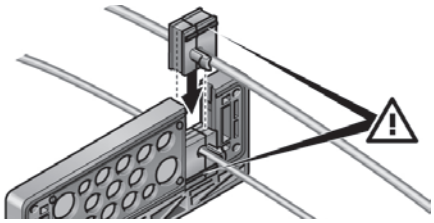
2. Lay the cable into the appropriate grommet.



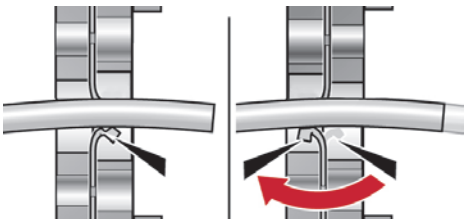
3. Punch through cover on cable entry system.



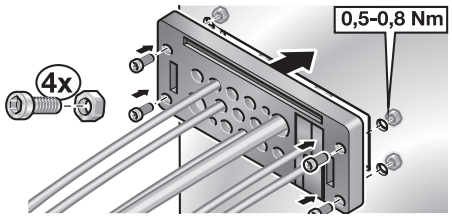
4. Install all grommets and make sure there is enough cable length.



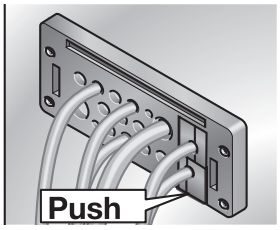
5. Select an opening appropriate for the cable diameter and push the cable through the opening from the front. Pull the cable through to desired length. Then retract cable approx. 10÷15 mm until the indicator on the rear is no longer visible. Depending on cable diameter and insertion size, the indicato may become visible on the front side.



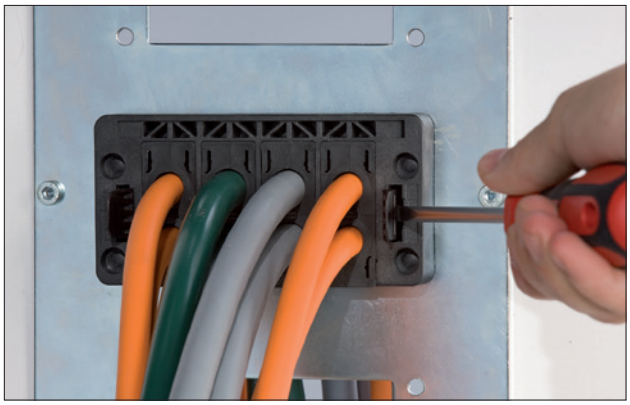
6. Position and affix the cable entry plate above the cut-out.

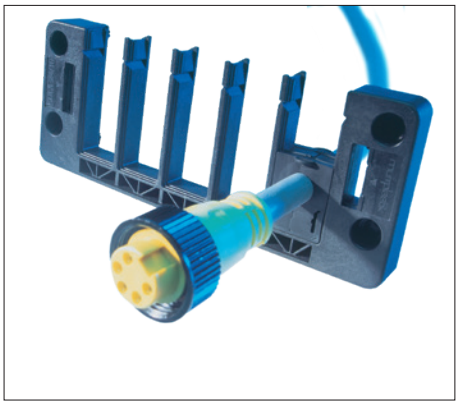


7. Press down the cable entry system at the edges again



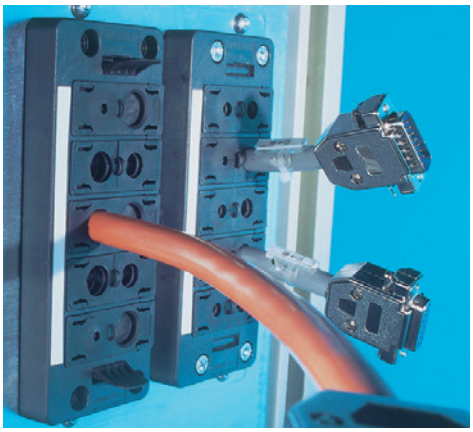
Configurable cable entry systems





Use

These cable entry systems are made of bases and grommets that can be choosen accordingly the specific application. The cable entry systems allow quicker mounting also of pre-assembled cables and can be configured according to each specific need choosing the right available grommets. They can be installed without screws using the special catch hooks (included in the package for wall thickness of 1,5÷2,0 mm). The grommets are available in two sizes, the “small” ones are suitable for cable with diameter up to 16 mm and the “large” one are suitable for cable with diameter up to 31 mm.



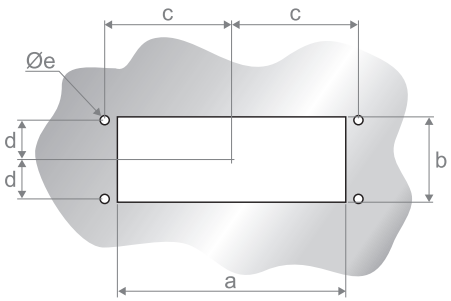
The configurable cable entry system is a split system that solves problems like introducing pre-assembled cables into enclosures. Larger plugs can also be introduced into enclosures without difficulty. The provided catch hooks significantly speed up mounting of the entire plate on the control cabinet. Different grommets allow users to choose the right solution for their application.

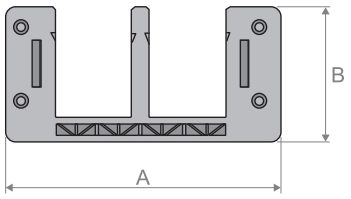
- Cable insertion without interruption.
- Simple mounting.
- Single-piece frame.
- Snap-in from 1.5 to 4.1 mm wall thickness and no need to screw on.
- Strain relief.
- High protection class.

Technical data

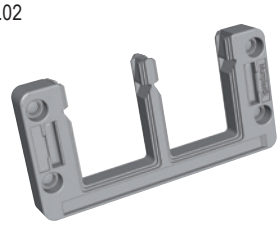
Characteristics	Value/property	Remarks
Material	Polyammide 6.6	-
Temperature range	-40°C, +80°C (transient up to 100°C)	-
Flammability rating	V0	UL 94
Protection class	IP 54	-
Color	Black	-

Coding and dimensions

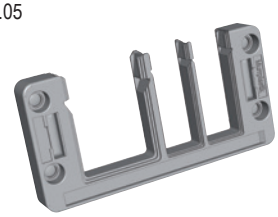




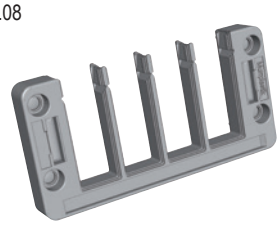
RPCRN16.02



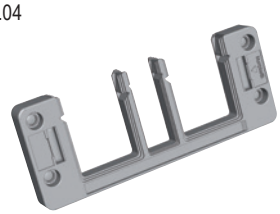
RPCRN16.05



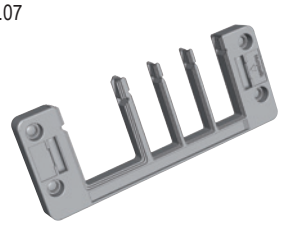
RPCRN16.08



RPCRN24.04



RPCRN24.07



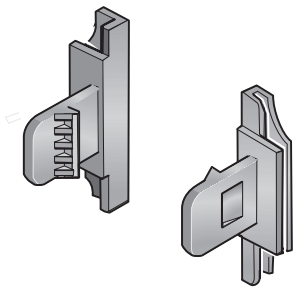
RPCRN24.10



Code of the base (1)	No. of grommets (1)		Thickness [mm]	Sizes [mm]							Packaging [pcs]
	"Small"	"Large"		A	B	a	b	c	d	e	
RPCRN16.02	0	2	15,5	116,0	58,0	86,0	36,0	51,5	16,0	5,5	1
RPCRN16.05	4	1	15,5	116,0	58,0	86,0	36,0	51,5	16,0	5,5	1
RPCRN16.08	8	0	15,5	116,0	58,0	86,0	36,0	51,5	16,0	5,5	1
RPCRN24.04	2	2	15,5	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1
RPCRN24.07	6	1	15,5	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1
RPCRN24.10	10	0	15,5	146,0	58,0	112,0	36,0	65,0	16,0	5,5	1

(1) The grommets and their codes can be selected hereinafter in the chapter "Grommets for cable entry systems".
Note. The catch hooks for 1,5÷2,0 mm wall thickness are supplied with the base, catch hooks' codes for different wall thicknesses are in the table below.

Catch hooks

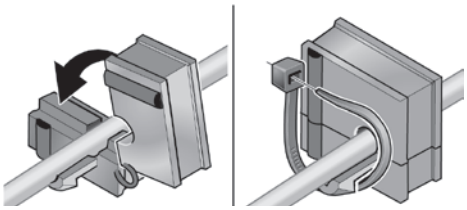


Code of the catch hooks	Plate thickness [mm]	Packaging [pcs]
RPHKS010	1,5÷2,0	10
RPHKS020	2,1÷2,7	10
RPHKS030	2,8÷3,4	10
RPHKS040	3,5÷4,1	10

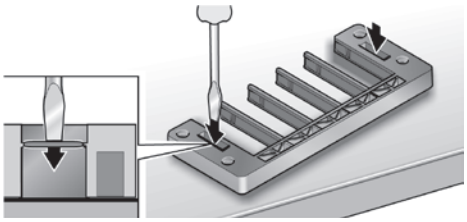
Mounting

Snap-on mounting

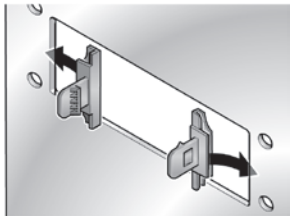
1. Lay the cable into the appropriate grommet.



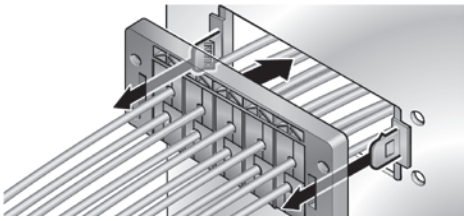
2. Punch through cover on base frame.



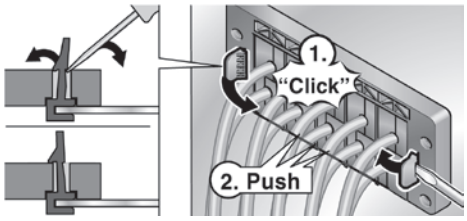
3. Create a cut-out as shown in the drawings (see “Codes and dimensions”). Set the catch hooks into the sides of the cut-out.



4. Install all grommets and insert the base onto the catch hooks and press on.

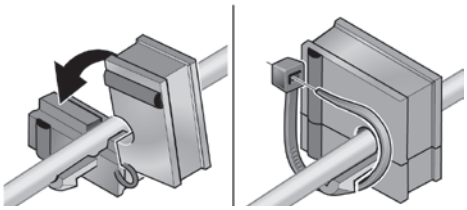


5. Lock the catch hooks with the base and press gently on the grommets.

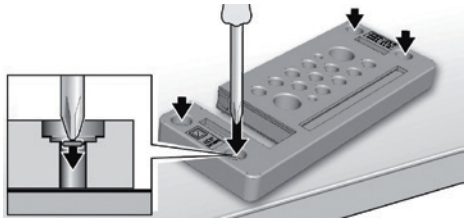


Screw-on mounting

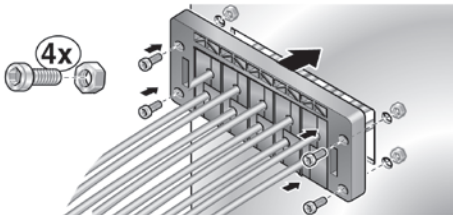
1. Lay the cable into the appropriate grommet.



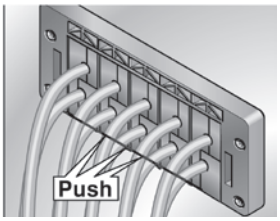
2. Punch through cover on base frame.



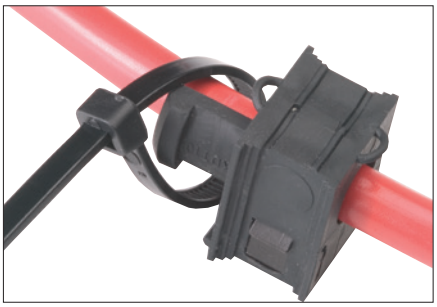
3. Create a cut as shown in the drawings (see “Codes and dimensions”). Install all grommets and fix the base with 4 screws.



4. Press gently on the grommets.



Grommets for cable entry systems



Use

Cable grommets are used in conjuction with configurable or pre-configured cable entry systems. The grommets are in two pieces that must be close around the cable and they are quipped with catch hooks that anchor themselves in the cable entry system when positioning. Strain relief is achieved using a simple cable tie (for article codes RPMPCF…). The grommets are available in two sizes, the "small" ones are suitable for cable with diameter up to 16 mm and the "large" one are suitable for cable with diameter up to 31 mm.

Technical data

Characteristics	Value/property	Remarks
Material	Thermoplastic rubber	-
Temperature range	-40°C, +80°C	-
Flammability rating	HB	UL 94
Protection class	IP54 (mounted with cable)	-
Color	Black	-

Coding and dimensions



Code	Model	Cable diameter [mm]	No. of openings	Packaging [pcs]
RPMPCF03	Small	3÷4	1	10
RPMPCF04	Small	4÷5	1	10
RPMPCF05	Small	5÷6	1	10
RPMPCF06	Small	6÷7	1	10
RPMPCF07	Small	7÷8	1	10
RPMPCF08	Small	8÷9	1	10
RPMPCF09	Small	9÷10	1	10
RPMPCF10	Small	10÷11	1	10
RPMPCF11	Small	11÷12	1	10
RPMPCF12	Small	12÷13	1	10
RPMPCF13	Small	13÷14	1	10
RPMPCF14	Small	14÷15	1	10
RPMPCF15	Small	15÷16	1	10
RPMPCF16	Large	16÷17	1	10
RPMPCF17	Large	17÷18	1	10
RPMPCF18	Large	18÷19	1	10
RPMPCF19	Large	19÷20	1	10
RPMPCF20	Large	20÷21	1	10
RPMPCF21	Large	21÷22	1	10
RPMPCF22	Large	22÷23	1	10
RPMPCF23	Large	23÷24	1	10

Code	Model	Cable diameter [mm]	No. of openings	Packaging [pcs]
RPMPCF24	Large	24÷25	1	10
RPMPCF25	Large	25÷26	1	10
RPMPCF26	Large	26÷27	1	10
RPMPCF27	Large	27÷28	1	10
RPMPCF28	Large	28÷29	1	10
RPMPCF29	Large	29÷30	1	10
RPMPCF30	Large	30÷31	1	10
RPMPC3-7	Small	3÷7	1	10
RPMPC7-10	Small	7÷10	1	10
RPMPC2X4	Small	4÷4,5	2	10
RPMPC2X5	Small	5÷5,5	2	10
RPMPC2X6	Small	6÷6,5	2	10
RPMPC2XASI	Small	Cavo ASI	2	10
RPMPCASI	Small	Cavo ASI	1	10
RPMPCAGP	Large	Adapter for small grommet	1	10
RPMPECP	Small	Dummy grommet	0	10
RPMPECG	Large	Dummy grommet	0	10

Pressure balance with membrane

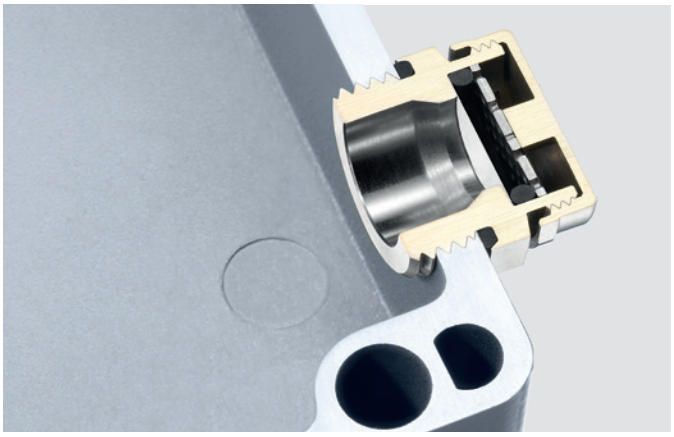


Use

Many electro-technical housings are always protected against water and dust (IP 68) but are not gastight. This results in access by humidity which condenses if below the dew point line. The water which is present often leads to corrosion and malfunctions. In order to prevent differences in pressure, high levels of humidity and the formation of condensation in the housing, there must always be constant pressure equalization and air exchange. The pressure balance and drainage elements in electrical and electronics housings prevent pressure differences, temperature variations and formation of condensation. Two opposite elements installed in the same housing allow for optimal circulation of air.

Technical data

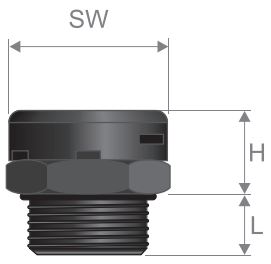
Characteristics	Value/property
Material	Polyamide PA 6 (plastic version) and nickel-plated brass (metallic versions)
Membrane material	PES (polyethersulfone)
O-ring material	NBR
Temperature range	-40°C, +100°C (plastic version) -40°C, +110°C (metallic version)
Protection class	IP 66, IP 68, IP 69K
Water intrusion pressure	> 12.0 psi / 0.83 bar
Air flow rate	> 90 ml/min/cm^2 @ 10 mbar





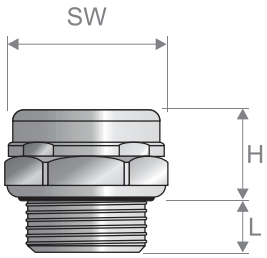
Coding and dimensions

Plastic pressure balance



Code	Thread	Tightening key SW [mm]	Sizes [mm]		Packaging [pcs]
			H	L	
PCSPB1_M012NE	M12x1,5	17	9,0	10,0	25

Metallic pressure balance



Code	Thread	Tightening key SW [mm]	Sizes [mm]		Packaging [pcs]
			H	L	
PCSMB1_M012	M12x1,5	18	9,5	8,0	25
PCSMB1_M016	M16x1,5	18	9,5	8,0	20
PCSMB1_M020	M20x1,5	22	10,0	8,0	20
PCSMB1_P007	Pg 7	18	9,5	8,0	25
PCSMB1_P011	Pg 11	22	10,0	8,0	20

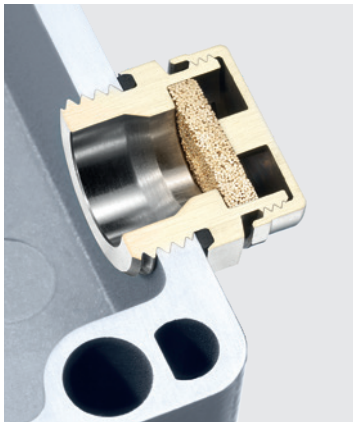
Pressure balance with sintered filter



Use

Many electro-technical housings are always protected against water and dust (IP 68) but are not gastight. This results in access by humidity which condenses if below the dew point line. The water which is present often leads to corrosion and malfunctions. In order to prevent differences in pressure, high levels of humidity and the formation of condensation in the housing, there must always be constant pressure equalization and air exchange. The pressure balance and drainage elements in electrical and electronics housings prevent pressure differences, temperature variations and formation of condensation. Pressure balance elements with sinter filter allow for bigger air exchange rates in respect to the pressure balance elements with membrane and may also be used for drainage. Two opposite elements installed in the same housing allow for optimal circulation of air.



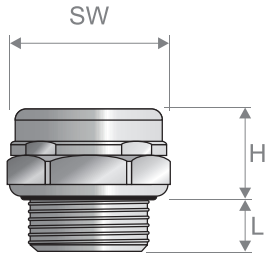


Technical data

Characteristics	Value/property
Material	Nickel-plated brass
Filter disc material	Sintered bronze
O-ring material	NBR
Temperature range	-50°C, +110°C
Protection class	IP 54, IP x9K
Filter degree	40 µm

Coding and dimensions

Metallic pressure balance



Code	Thread	Tightening key SW [mm]	Sizes [mm]		Packaging [pcs]
			H	L	
PCSMB2_M012	M12x1,5	18	9,5	8,0	25
PCSMB2_M016	M16x1,5	18	9,5	8,0	20
PCSMB2_M020	M20x1,5	22	10,0	8,0	20
PCSMB2_P007	Pg 7	18	9,5	8,0	25
PCSMB2_P011	Pg 11	22	10,0	8,0	20

Drainage element



Use

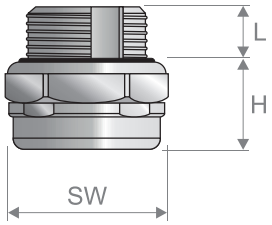
Many electro-technical housings are always protected against water and dust (IP 68) but are not gastight. This results in access by humidity which condenses if below the dew point line. The water which is present often leads to corrosion and malfunctions. In order to prevent differences in pressure, high levels of humidity and the formation of condensation in the housing, there must always be constant pressure equalization and air exchange.
The pressure balance and drainage elements in electrical and electronics housings prevent pressure differences, temperature variations and formation of condensation. Drainage elements are designed to allow bigger quantities of water to drain away quickly. In case of thin-walled housings, drainage lock nut are required.

Technical data

Characteristics	Value/property
Material	Nickel-plated brass
Filter disc material	Stainless steel A2
O-ring material	NBR
Temperature range	-50°C, +110°C
Protection class	IP 4x

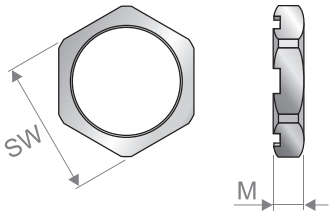
Coding and dimensions

Drainage element



Code	Thread	Tightening key SW [mm]	Sizes [mm]		Packaging [pcs]
			H	L	
PCSMD1_M012	M12x1,5	18	9,5	10,0	25
PCSMD1_M016	M16x1,5	18	9,5	10,0	20
PCSMD1_M020	M20x1,5	22	10,0	10,0	20

Lock nut for drainage element



Code	Thread	Tightening key SW [mm]	Sizes [mm]	Packaging [pcs]
			M	
PCFMS1_M012	M12x1,5	15	4,5	25
PCFMS1_M016	M16x1,5	19	5,5	20
PCFMS1_M020	M20x1,5	24	5,5	20



Appendix

tekima

Appendix A. Wires, Sizes and AWG diameters

A.1 AWG and kcmil wires' sizes measurement

The American Wire Gauge (AWG) is used in the United States and in other countries as a standard method of denoting wire diameter. Increasing gauge numbers give decreasing wire diameters; the use of this unit of measure derives from the type of processing carried out on the wire; very fine wire (for example 30 AWG) requires far more passes through the drawing dies than greater wires which, consequently, have a lower AWG identifying them. By definition, 36 AWG has the same value of a wire with 0,005 inches diameter, while 4/0 AWG has the same value of a 0,46 inches diameter. The diameters increase of 0,46/0,005 = 92 times regularly divided in 39 Sizes. Therefore, the diameter of a wire with a x AWG Size is given as follows:

$d_n = 0{,}005 \cdot 92^{\frac{36-x}{39}}$ [inch]
while the Size is
$A_n = \frac{\pi}{4} \cdot d^2_n = 0{,}000019635 \cdot 92^{\frac{36-x}{19{,}5}}$ [inch^2]
for m/0 AWG Size, use x = -(m-1) in the above formulas.

Table A.1a. AWG Size and conversion mm²

AWG	Diameter		Area [mm²]
	[inch]	[mm]	
40	0,0031	0,07987	0,00501
39	0,0035	0,08969	0,00632
38	0,0040	0,1007	0,00797
37	0,0045	0,1131	0,0100
36	0,0050	0,1270	0,0127
35	0,0056	0,1426	0,0160
34	0,0063	0,1601	0,0201
33	0,0071	0,1798	0,0254
32	0,0080	0,2019	0,0320
31	0,0089	0,2268	0,0404
30	0,0100	0,2546	0,0509
29	0,0113	0,2859	0,0642
28	0,0126	0,3211	0,081
27	0,0142	0,3606	0,102
26	0,0159	0,4049	0,129
25	0,0179	0,4547	0,162
24	0,0201	0,5106	0,205
23	0,0226	0,5733	0,258
22	0,0253	0,6438	0,326
21	0,0285	0,7229	0,410
20	0,0320	0,8118	0,518
19	0,0359	0,9116	0,653
18	0,0403	1,024	0,823
17	0,0453	1,150	1,04
16	0,0508	1,291	1,31
15	0,0571	1,450	1,65
14	0,0641	1,628	2,08
13	0,0720	1,828	2,62
12	0,0808	2,053	3,31
11	0,0907	2,305	4,17
10	0,1019	2,588	5,26
9	0,1144	2,906	6,63
8	0,1285	3,264	8,37
7	0,1443	3,665	10,5
6	0,1620	4,115	13,3
5	0,1819	4,621	16,8
4	0,2043	5,189	21,2
3	0,2294	5,827	26,7
2	0,2576	6,544	33,6
1	0,2893	7,348	42,4
0(1/0)	0,3249	8,251	53,5
00(2/0)	0,3648	9,266	67,4
000(3/0)	0,4096	10,40	85
0000(4/0)	0,4600	11,68	107

AWG	Diameter		Area [mm²]
	[inch]	[mm]	
00000(5/0)	0,5165	13,12	135
000000(6/0)	0,5800	14,73	170

The larger Sizes are given in kcmil according to the following table:

Table A.1b. kcmil Sizes and conversion in mm²

kcmil	Diameter		Area [mm²]
	[inch]	[mm]	
250	0,50	12,7	127
300	0,55	13,9	152
350	0,59	15,0	177
400	0,63	16,1	203
450	0,67	17,0	228
500	0,71	17,9	253
550	0,74	18,8	279
600	0,77	19,7	304
650	0,81	20,5	329
700	0,84	21,3	355
750	0,87	22,0	380
800	0,89	22,7	405
900	0,95	24,1	456
1000	1,00	25,4	507
1200	1,10	27,8	608
1250	1,12	28,4	633
1500	1,22	31,1	760
1750	1,32	33,6	887
2000	1,41	35,9	1010

A.2 Wires according to EN 60228

The EN 60228 "Conductors of insulated cables" standard defines the characteristics of the solid conductors (class 1), stranded conductors (class 2) and flexible conductors (class 5 and 6) as follow.

Solid conductors (class 1)

a) Solid conductors are made of bare or tinned copper.
b) Solid copper conductors shall be of circular cross-section.
c) The resistance of each conductor at 20°C must not exceed the value given in the Table A.2a.

Stranded conductors (class 2)

a) The stranded circular conductors are made of bare or tinned copper.
b) The wires in each conductor must have the same nominal diameter.
c) The number of wires in each conductor shall be not less than the value given in the Table A.2b.
d) The resistance of each conductor at 20°C must not exceed the value given in the Table A.2b.

Flexible conductors (class 5 and 6)

a) The flexible conductors are made of bare or tinned copper.
b) The wires in each conductor must have the same nominal diameter.
c) The diameter of the wires in each conductor must not exceed the value given in the Table A.2c and Table A.2d.
d) The resistance of each conductor at 20°C must not exceed the value given in the Table A.2c and Table A.2d.

Table A.2a. Characteristics of the copper solid conductors, class 1, for the production of cables according to CEI EN 60228:2005

Nominal Size	Maximum resistance of the wire at 20°C [Ω /km]	
	Bare copper	Tinned copper
0,5	36,0	36,7
0,75	24,5	24,8
1,0	18,1	18,2
1,5	12,1	12,2
2,5	7,41	7,56
4	4,61	4,70
6	3,08	3,11
10	1,83	1,84
16	1,15	1,16
25	0,727	-
35	0,524	-
50	0,387	-
70	0,268	-
95	0,193	-
120	0,153	-
150	0,124	-
185	0,101	-
240	0,0775	-
300	0,0620	-
400	0,0465	-

Table A.2b. Characteristics of the copper stranded conductors, class 2, for the production of cables according to CEI EN 60228:2005

Nominal Size [mm²]	Minimum number of wires in the conductor	Maximum resistance of the wire at 20°C [Ω /km]	
		Bare copper	Tinned copper
0,5	7	36,0	36,7
0,75	7	24,5	24,8
1,0	7	18,1	18,2
1,5	7	12,1	12,2
2,5	7	7,41	7,56
4	7	4,61	4,70
6	7	3,08	3,11
10	7	1,83	1,84
16	7	1,15	1,16
25	7	0,727	0,734
35	7	0,524	0,529
50	19	0,387	0,391
70	19	0,268	0,270
95	19	0,193	0,195
120	37	0,153	0,154
150	37	0,124	0,126
185	37	0,0991	0,100
240	37	0,0754	0,0762
300	61	0,0601	0,0607
400	61	0,0470	0,0475
500	61	0,0366	0,0369
630	91	0,0283	0,0286
800	91	0,0221	0,0224
1000	91	0,0176	0,0177

Table A.2c. Characteristics of the copper flexible conductors, class 5, for the production of cables according to CEI EN 60228:2005

Nominal Size [mm²]	Maximum diameter of the wires in conductor	Maximum resistance of the wire at 20°C [Ω /km]	
		Bare copper	Tinned copper
0,5	0,21	39,0	40,1
0,75	0,21	26,0	26,7
1,0	0,21	19,5	20,0
1,5	0,26	13,3	13,7
2,5	0,26	7,98	8,21
4	0,31	4,95	5,09
6	0,31	3,30	3,39
10	0,41	1,91	1,95
16	0,41	1,21	1,24
25	0,41	0,780	0,795
35	0,41	0,554	0,565
50	0,41	0,386	0,393
70	0,51	0,272	0,277
95	0,51	0,206	0,210
120	0,51	0,161	0,164
150	0,51	0,129	0,132
185	0,51	0,106	0,108
240	0,51	0,0801	0,0817
300	0,51	0,0641	0,0654
400	0,51	0,0486	0,0495
500	0,61	0,0384	0,0391
630	0,61	0,0287	0,0292

Table A.2d. Characteristics of the copper flexible conductors, class 6, for the production of cables according to CEI EN 60228:2005

Nominal Size [mm²]	Maximum diameter of the wires in conductor [mm]	Maximum resistance of the wire at 20°C [Ω /km]	
		Bare copper	Tinned copper
0,5	0,16	39,0	40,1
0,75	0,16	26,0	26,7
1,0	0,16	19,5	20,0
1,5	0,16	13,3	13,7
2,5	0,16	7,98	8,21
4	0,16	4,95	5,09
6	0,21	3,30	3,39
10	0,21	1,91	1,95
16	0,21	1,21	1,24
25	0,21	0,780	0,795
35	0,21	0,554	0,565
50	0,31	0,386	0,393
70	0,31	0,272	0,277
95	0,31	0,206	0,210
120	0,31	0,161	0,164
150	0,31	0,129	0,132
185	0,41	0,106	0,108
240	0,41	0,0801	0,0817
300	0,41	0,0641	0,0654

A.3 Wires, correlations between AWG and IEC Sizes

Table A.3. Correlation between mm2 (IEC) and AWG cable Sizes

Sizes		Equivalent area [mm²]		
[mm²]	[AWG]	[mm²]	[inch²]	[kcmil]
0,2		0,196	0,000304	387
	24	0,205	0,000317	404
0,3		0,283	0,000438	558
	22	0,324	0,000504	640
0,5		0,5	0,000775	987
	20	0,519	0,000802	1020
0,75		0,75	0,001162	1480
	18	0,823	0,001272	1620
1		1	0,00155	1973
	16	1,31	0,002026	2580
1,5		1,5	0,002325	2960
	14	2,08	0,003228	4110
2,5		2,5	0,003875	4934
	12	3,31	0,005129	6530
4		4	0,0062	7894
	10	5,26	0,008152	10380
6		6	0,0092	11841
	8	8,37	0,012967	16510
10		10	0,0155	19735
	6	13,3	0,02061	26240
16		16	0,0248	31576
	4	21,1	0,03278	41641
25		25	0,0388	49338
	2	33,6	0,0521	66310
35		35	0,0542	69073
	1	42,4	0,0657	83677
50		47	0,0728	92756

Example
A 10 mm² wire can be used as an 8 AWG wire because its size is 10 mm² > 8,37 mm² .
On the contrary, a 18 AWG wire cannot be used as a 1 mm² wire because its equivalent size is 0,823 mm² < 1 mm².



A.4 Minimum cross-Sizeal areas of copper conductors according to EN 60204-1

Table A.4. Minimum cross-Sizeal areas of copper conductors by application according to IEC 60204-1:2018

Location	Application	Minimum cross-Sizeal area [mm²] by type of cable				
		Single core		Multicore		
		Flexible Calss 5 or 6	Solid (Class 1) or stranded (Class 2)	Two cores, shielded	Two cores, not shielded	Three or more cores, shielded or not
Wiring outside protecting enclosures	Power circuits, fixed	1,0	1,5	0,75	0,75	0,75
	Power circuits, subjected to frequent movements	1,0	-	0,75	0,75	0,75
	Control circuits	1,0	1,0	0,2	0,5	0,2
	Data communication	-	-	-	-	0,08
Wiring inside enclosures	Power circuits (connections and moved)	0,75	0,75	0,75	0,75	0,75
	Control circuits	0,2	0,2	0,2	0,2	0,2
	Data communication	-	-	-	-	0,08

Appendix B. Ampacities of wires

B.1 Wires ampacities according to UL 508a

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

Size of equipment grounding conductor terminal according to UL 508a

Tabella B.1a. Earth wire capacities according to UL 508a - Rev. 2007-2018 (15 Grounding – Size of Terminal or Bonding Conductor)

Maximum current [A]	Minimum Size of the earth wire			
	Copper wire		Aluminium wire	
	[AWG/kcmil]	[mm²]	[AWG/kcmil]	[mm²]
15	14 AWG	2,1	12 AWG	3,3
20	12	3,3	10	5,3
30	10	5,3	8	8,4
40	10	5,3	8	8,4
60	10	5,3	8	8,4
100	8	8,4	6	13,3
200	6	13,3	4	21,2
300	4	21,2	2	33,6
400	3	26,7	1	42,4
500	2	33,6	1/0	53,5
600	1	42,4	2/0	67,4
800	1/0	53,5	3/0	85,0
1000	2/0	67,4	4/0	107,2
1200	3/0	85,0	250 kcmil	127
1600	4/0	107,2	350	177
2000	250 kcmil	127	400	203
2500	350	177	600	304
3000	400	203	600	304
4000	500	253	800	405
5000	700	355	1200	608
6000	800	506	1200	608

Ampacities of power conductors according to UL 508a

Table B.1b. Ampacities of field installed or internal power insulated conductors according to UL 508a – Rev. 2007-2018 (28.3 & 29.6 Sizing)

Wire Size		Insulated conductor ampacity at 60°C (140°F) [A]		Insulated conductor ampacity at 75°C (167°F) [A]	
[AWG/kcmil]	[mm²]	Copper wire	Aluminium wire	Aluminium wire	Aluminium wire
14 AWG	2,1	15	–	15	–
12	3,3	20	15	20	15
10	5,3	30	25	30	25
8	8,4	40	30	50	40
6	13,3	55	40	65	50
4	21,2	70	55	85	65
3	26,7	85	65	100	75
2	33,6	95	75	115	90
1	42,4	110	85	130	100
1/0	53,5	–	–	150	120
2/0	67,4	–	–	175	135
3/0	85,0	–	–	200	155
4/0	107,2	–	–	230	180
250 kcmil	127	–	–	255	205
300	152	–	–	285	230
350	177	–	–	310	250
400	203	–	–	335	270
500	253	–	–	380	310
600	304	–	–	420	340

Wire Size		Insulated conductor ampacity at 60°C (140°F) [A]		Insulated conductor ampacity at 75°C (167°F) [A]	
[AWG/kcmil]	[mm²]	Copper wire	Aluminium wire	Aluminium wire	Aluminium wire
700	355	–	–	460	375
750	380	–	–	475	385
800	405	–	–	490	395
900	456	–	–	520	425
1000	506	–	–	545	445
1250	633	–	–	590	485
1500	760	–	–	625	520
1750	887	–	–	650	545
2000	1013	–	–	665	560

These values of ampacity apply only when not more than three conductors are intended to be field-installed in the conduit. When four or more conductors, other than a neutral that carries the unbalanced current, are intended to be installed in a conduit, the ampacity of each of the conductors is: 80 percent of these values if 4 – 6 conductors are involved, 70 percent of these values if 7 – 24 conductors, 60 percent of these values if 25 – 42 conductors, and 50 percent of these values if 43 or more conductors

Ampacities of filed installed control circuit conductors according to UL 508a

Table B.1c. Ampacities of field installed control circuit conductors according to UL 508a – Rev. 2007-2018 (37.2 Sizing)

Wire Size		Conductor ampacity [A]	Conductor marking required?
[AWG]	[mm²]		
16	1,3	10	Yes
16 ÷ 14	1,3 ÷ 2,1	10	No
18	0,82	7	Yes
18 ÷ 14	0,82 ÷ 2,1	7	No
20 ÷ 18	0,52 ÷ 0,82	5	Yes
20 ÷ 14	0,52 ÷ 2,1	5	No
22 ÷ 18	0,32 ÷ 0,82	3	Yes
22 ÷ 14	0,32 ÷ 2,1	3	No
24 ÷ 18	0,20 ÷ 0,82	2	Yes
24 ÷ 14	0,20 ÷ 2,1	2	No
26 ÷ 18	0,13 ÷ 0,82	1	Yes
26 ÷ 14	0,13 ÷ 2,1	1	No
28 ÷ 18	0,08 ÷ 0,82	0,8	Yes
28 ÷ 14	0,08 ÷ 2,1	0,8	No
30 ÷ 18	0,05 ÷ 0,82	0,5	Yes
30 ÷ 14	0,05 ÷ 2,1	0,5	No

Ampacities of internal control circuit conductors according to UL 508a

Table B.1d. Ampacities of internal control circuit conductors according to UL 508a - Rev. 2007-2018 (38.2 Sizing of internal control circuit conductors)

Size		Conductor ampacity [A]
[AWG]	[mm²]	
16	1,3	10
18	0,82	7
20 (b)	0,52	5
22 (b)	0,32	3
24 (b)	0,20	2
26 (b)	0,13	1
28 (a) (b)	0,08	0,8
30 (a) (b)	0,05	0,5

(a) Where these conductors are contained in a jacketed multi-conductor cable assembly.
(b) These sizes of conductors are only for connection of control circuits for electronic programmable input/output and static control (having no moving parts).

B.2 Ampacity of conductors according to CSA C22.2 No. 286

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

Table B.2a. Allowable ampacities of insulated copper conductors inside industrial control equipment enclosures (ambient temperature 40°C) according to CSA C22.2 No.286 – Ed. 2015-2017 (Clause 4.6.2, Table 7)

Wire Size [AWG/kcmil]	Copper conductor's ampacity with 90 °C insulation [A]		Copper conductor's ampacity with 105 °C insulation [A]	
	Non-ventilated enclosure	Open or in ventilated enclosure	Non-ventilated enclosure	Open or in ventilated enclosure
24 AWG	1	2	1	2
22	2	3	2	3
20	3	4	3	4
18	4	6	4	6
16	6	9	6	9
14	9	13	10	15
12	12	17	15	22
10	18	27	22	35
8	31	47	35	55
6	45	67	52	80
4	61	91	71	108
3	70	104	80	121
2	80	120	90	140
1	94	141	107	164
0	110	164	133	190
00	128	191	148	221
000	148	221	171	257
0000	173	258	200	300
250 kcmil	194	285	221	340
300	214	322	250	384
350	242	355	276	420
400	262	385	299	449
500	298	442	343	515

Table B.2b. Ampacity adjustment factors based on the number of c conductors according CSA C22.2 No.286 – Ed. 2015-2017 (Clause 4.6.2, Table 8)

Number of conductors	Correction factor
1÷3	1,00
4÷6	0,80
7÷24	0,70
25÷42	0,60
>42	0,50

B.3 Ampacities of conductors according to NFPA 79

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

Table B.3a. Ampacities of conductors with 60°C insulation temperature according to NFPA 79 – Ed. 2007 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], Insulation temperature 60°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-
24	2,1	2,0	1,8	1,7	1,6	1,5	1,3	1,1	-	-
22	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	-	-
20	5,2	5,0	4,7	4,4	4,1	3,7	3,3	2,9	-	-
18	7,3	7,0	6,5	6,1	5,7	5,2	4,6	4,0	-	-
16	10,5	10,0	9,4	8,8	8,2	7,5	6,7	5,8	-	-
14	15,7	15,0	14,1	13,2	12,3	11,2	10,0	8,7	-	-
12	21,0	20,0	18,8	17,6	16,4	15,0	13,4	11,6	-	-
10	31,5	30,0	28,2	26,4	24,6	22,5	20,1	17,4	-	-
8	42,0	40,0	37,6	35,2	32,8	30,0	26,8	23,2	-	-
6	57,7	55,0	51,7	48,4	45,1	41,2	36,8	31,9	-	-
4	73,5	70,0	65,8	61,6	57,4	52,5	46,9	40,6	-	-
3	89,2	85,0	79,9	74,8	69,7	63,7	56,9	49,3	-	-
2	99,7	95,0	89,3	83,6	77,9	71,2	63,6	55,1	-	-
1	115,5	110,0	103,4	96,8	90,2	82,5	73,7	63,8	-	-
1/0	131,2	125,0	117,5	110,0	102,5	93,7	83,7	72,5	-	-
2/0	152,2	145,0	136,3	127,6	118,9	108,7	97,1	84,1	-	-
3/0	173,2	165,0	155,1	145,2	135,3	123,7	110,5	95,7	-	-
4/0	204,7	195,0	183,3	171,6	159,9	146,2	130,6	113,1	-	-
250 kcmil	225,7	215,0	202,1	189,2	176,3	161,2	144,0	124,7	-	-
300	252,0	240,0	225,6	211,2	196,8	180,0	160,8	139,2	-	-
350	273,0	260,0	244,4	228,8	213,2	195,0	174,2	150,8	-	-
400	294,0	280,0	263,2	246,4	229,6	210,0	187,6	162,4	-	-
500	336,0	320,0	300,8	281,6	262,4	240,0	214,4	185,6	-	-
600	372,7	355,0	333,7	312,4	291,1	266,2	237,8	205,9	-	-
700	404,2	385,0	361,9	338,8	315,7	288,7	257,9	223,3	-	-
750	420,0	400,0	376,0	352,0	328,0	300,0	268,0	232,0	-	-
800	430,5	410,0	385,4	360,8	336,2	307,5	274,7	237,8	-	-
900	456,7	435,0	408,9	382,8	356,7	326,2	291,4	252,3	-	-
1000	477,7	455,0	427,7	400,4	373,1	341,2	304,8	263,9	-	-

Table B.3b. Ampacities of conductors with 75°C insulation temperature according to NFPA 79 – Ed. 2007 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 75°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	0,5	0,5	0,4	0,4	0,4	0,3	0,3	0,2	0,1	-
28	0,8	0,8	0,7	0,7	0,6	0,6	0,5	0,4	0,2	-
26	1,0	1,0	0,9	0,8	0,8	0,7	0,6	0,5	0,3	-
24	2,1	2,0	1,8	1,7	1,6	1,5	1,3	1,1	0,6	-
22	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	0,9	-
20	5,2	5,0	4,7	4,4	4,1	3,7	3,3	2,9	1,6	-
18	7,3	7,0	6,5	6,1	5,7	5,2	4,6	4,0	2,3	-
16	10,5	10,0	9,4	8,8	8,2	7,5	6,7	5,8	3,3	-
14	15,7	15,0	14,1	13,2	12,3	11,2	10,0	8,7	4,9	-
12	21,0	20,0	18,8	17,6	16,4	15,0	13,4	11,6	6,6	-
10	31,5	30,0	28,2	26,4	24,6	22,5	20,1	17,4	9,9	-
8	52,5	50,0	47,0	44,0	41,0	37,5	33,5	29,0	16,5	-
6	68,2	65,0	61,1	57,2	53,3	48,7	43,5	37,7	21,4	-
4	89,2	85,0	79,9	74,8	69,7	63,7	56,9	49,3	28,0	-
3	105,0	100,0	94,0	88,0	82,0	75,0	67,0	58,0	33,0	-
2	120,7	115,0	108,1	101,2	94,3	86,2	77,0	66,7	37,9	-
1	136,5	130,0	122,2	114,4	106,6	97,5	87,1	75,4	42,9	-
1/0	157,5	150,0	141,0	132,0	123,0	112,5	100,5	87,0	49,5	-
2/0	183,7	175,0	164,5	154,0	143,5	131,2	117,2	101,5	57,7	-
3/0	210,0	200,0	188,0	176,0	164,0	150,0	134,0	116,0	66,0	-
4/0	241,5	230,0	216,2	202,4	188,6	172,5	154,1	133,4	75,9	-
250 kcmil	267,7	255,0	239,7	224,4	209,1	191,2	170,8	147,9	84,1	-
300	299,2	285,0	267,9	250,8	233,7	213,7	190,9	165,3	94,0	-
350	325,5	310,0	291,4	272,8	254,2	232,5	207,7	179,8	102,3	-
400	351,7	335,0	314,9	294,8	274,7	251,2	224,4	194,3	110,5	-
500	399,0	380,0	357,2	334,4	311,6	285,0	254,6	220,4	125,4	-
600	441,0	420,0	394,8	369,6	344,4	315,0	281,4	243,6	138,6	-
700	483,0	460,0	432,4	404,8	377,2	345,0	308,2	266,8	151,8	-
750	498,7	475,0	446,5	418,0	389,5	356,2	318,2	275,5	156,7	-
800	514,5	490,0	460,6	431,2	401,8	367,5	328,3	284,2	161,7	-
900	546,0	520,0	488,8	457,6	426,4	390,0	348,4	301,6	171,6	-
1000	572,2	545,0	512,3	479,6	446,9	408,7	365,1	316,1	179,8	-

Table B.3c. Ampacities of conductors with 60°C insulation temperature according to NFPA 79 – Ed. 2012 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 60°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-
24	2,1	2,0	1,8	1,7	1,6	1,5	1,3	1,1	-	-
22	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	-	-
20	5,2	5,0	4,7	4,4	4,1	3,7	3,3	2,9	-	-
18	7,3	7,0	6,5	6,1	5,7	5,2	4,6	4,0	-	-
16	10,5	10,0	9,4	8,8	8,2	7,5	6,7	5,8	-	-
14	21,0	20,0	18,8	17,6	16,4	15,0	13,4	11,6	-	-
12	26,2	25,0	23,5	22,0	20,5	18,7	16,7	14,5	-	-
10	31,5	30,0	28,2	26,4	24,6	22,5	20,1	17,4	-	-
8	42,0	40,0	37,6	35,2	32,8	30,0	26,8	23,2	-	-
6	57,7	55,0	51,7	48,4	45,1	41,2	36,8	31,9	-	-
4	73,5	70,0	65,8	61,6	57,4	52,5	46,9	40,6	-	-
3	89,2	85,0	79,9	74,8	69,7	63,7	56,9	49,3	-	-
2	99,7	95,0	89,3	83,6	77,9	71,2	63,6	55,1	-	-
1	115,5	110,0	103,4	96,8	90,2	82,5	73,7	63,8	-	-
1/0	131,2	125,0	117,5	110,0	102,5	93,7	83,7	72,5	-	-
2/0	152,2	145,0	136,3	127,6	118,9	108,7	97,1	84,1	-	-
3/0	173,2	165,0	155,1	145,2	135,3	123,7	110,5	95,7	-	-
4/0	204,7	195,0	183,3	171,6	159,9	146,2	130,6	113,1	-	-
250 kcmil	225,7	215,0	202,1	189,2	176,3	161,2	144,0	124,7	-	-
300	252,0	240,0	225,6	211,2	196,8	180,0	160,8	139,2	-	-
350	273,0	260,0	244,4	228,8	213,2	195,0	174,2	150,8	-	-
400	294,0	280,0	263,2	246,4	229,6	210,0	187,6	162,4	-	-
500	336,0	320,0	300,8	281,6	262,4	240,0	214,4	185,6	-	-
600	372,7	355,0	333,7	312,4	291,1	266,2	237,8	205,9	-	-
700	404,2	385,0	361,9	338,8	315,7	288,7	257,9	223,3	-	-
750	420,0	400,0	376,0	352,0	328,0	300,0	268,0	232,0	-	-
800	430,5	410,0	385,4	360,8	336,2	307,5	274,7	237,8	-	-
900	456,7	435,0	408,9	382,8	356,7	326,2	291,4	252,3	-	-
1000	477,7	455,0	427,7	400,4	373,1	341,2	304,8	263,9	-	-

Table B.3d. Ampacities of conductors with 75°C insulation temperature according to NFPA 79 – Ed. 2012 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 75°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	0,5	0,5	0,4	0,4	0,4	0,3	0,3	0,2	0,1	-
28	0,8	0,8	0,7	0,7	0,6	0,6	0,5	0,4	0,2	-
26	1,0	1,0	0,9	0,8	0,8	0,7	0,6	0,5	0,3	-
24	2,1	2,0	1,8	1,7	1,6	1,5	1,3	1,1	0,6	-
22	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	0,9	-
20	5,2	5,0	4,7	4,4	4,1	3,7	3,3	2,9	1,6	-
18	7,3	7,0	6,5	6,1	5,7	5,2	4,6	4,0	2,3	-
16	10,5	10,0	9,4	8,8	8,2	7,5	6,7	5,8	3,3	-
14	21,0	20,0	18,8	17,6	16,4	15,0	13,4	11,6	6,6	-
12	26,2	25,0	23,5	22,0	20,5	18,7	16,7	14,5	8,2	-
10	36,7	35,0	32,9	30,8	28,7	26,2	23,4	20,3	11,5	-
8	52,5	50,0	47,0	44,0	41,0	37,5	33,5	29,0	16,5	-
6	68,2	65,0	61,1	57,2	53,3	48,7	43,5	37,7	21,4	-
4	89,2	85,0	79,9	74,8	69,7	63,7	56,9	49,3	28,0	-
3	105,0	100,0	94,0	88,0	82,0	75,0	67,0	58,0	33,0	-
2	120,7	115,0	108,1	101,2	94,3	86,2	77,0	66,7	37,9	-
1	136,5	130,0	122,2	114,4	106,6	97,5	87,1	75,4	42,9	-
1/0	157,5	150,0	141,0	132,0	123,0	112,5	100,5	87,0	49,5	-
2/0	183,7	175,0	164,5	154,0	143,5	131,2	117,2	101,5	57,7	-
3/0	210,0	200,0	188,0	176,0	164,0	150,0	134,0	116,0	66,0	-
4/0	241,5	230,0	216,2	202,4	188,6	172,5	154,1	133,4	75,9	-
250 kcmil	267,7	255,0	239,7	224,4	209,1	191,2	170,8	147,9	84,1	-
300	299,2	285,0	267,9	250,8	233,7	213,7	190,9	165,3	94,0	-
350	325,5	310,0	291,4	272,8	254,2	232,5	207,7	179,8	102,3	-
400	351,7	335,0	314,9	294,8	274,7	251,2	224,4	194,3	110,5	-
500	399,0	380,0	357,2	334,4	311,6	285,0	254,6	220,4	125,4	-
600	441,0	420,0	394,8	369,6	344,4	315,0	281,4	243,6	138,6	-
700	483,0	460,0	432,4	404,8	377,2	345,0	308,2	266,8	151,8	-
750	498,7	475,0	446,5	418,0	389,5	356,2	318,2	275,5	156,7	-
800	514,5	490,0	460,6	431,2	401,8	367,5	328,3	284,2	161,7	-
900	546,0	520,0	488,8	457,6	426,4	390,0	348,4	301,6	171,6	-
1000	572,2	545,0	512,3	479,6	446,9	408,7	365,1	316,1	179,8	-

Table B.3e. Ampacities of conductors with 90°C insulation temperature according to NFPA 79 – Ed. 2012 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 90°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	0,5	0,5	0,4	0,4	0,4	0,3	0,3	0,2	0,1	-
28	0,8	0,8	0,7	0,7	0,6	0,6	0,5	0,4	0,2	-
26	1,0	1,0	0,9	0,8	0,8	0,7	0,6	0,5	0,3	-
24	2,1	2,0	1,8	1,7	1,6	1,5	1,3	1,1	0,6	-
22	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	0,9	-
20	5,2	5,0	4,7	4,4	4,1	3,7	3,3	2,9	1,6	-
18	14,7	14,0	13,1	12,3	11,4	10,5	9,3	8,1	4,6	-
16	18,9	18,0	16,9	15,8	14,7	13,5	12,0	10,4	5,9	-
14	26,2	25,0	23,5	22,0	20,5	18,7	16,7	14,5	8,2	-
12	31,5	30,0	28,2	26,4	24,6	22,5	20,1	17,4	9,9	-
10	42,0	40,0	37,6	35,2	32,8	30,0	26,8	23,2	13,2	-
8	57,7	55,0	51,7	48,4	45,1	41,2	36,8	31,9	18,1	-
6	78,7	75,0	70,5	66,0	61,5	56,2	50,2	43,5	24,7	-
4	99,7	95,0	89,3	83,6	77,9	71,2	63,6	55,1	31,3	-
3	115,5	110,0	103,4	96,8	90,2	82,5	73,7	63,8	36,3	-
2	136,5	130,0	122,2	114,4	106,6	97,5	87,1	75,4	42,9	-
1	157,5	150,0	141,0	132,0	123,0	112,5	100,5	87,0	49,5	-
1/0	178,5	170,0	159,8	149,6	139,4	127,5	113,9	98,6	56,1	-
2/0	204,7	195,0	183,3	171,6	159,9	146,2	130,6	113,1	64,3	-
3/0	236,2	225,0	211,5	198,0	184,5	168,7	150,7	130,5	74,2	-
4/0	273,0	260,0	244,4	228,8	213,2	195,0	174,2	150,8	85,8	-
250 kcmil	304,5	290,0	272,6	255,2	237,8	217,5	194,3	168,2	95,7	-
300	336,0	320,0	300,8	281,6	262,4	240,0	214,4	185,6	105,6	-
350	367,5	350,0	329,0	308,0	287,0	262,5	234,5	203,0	115,5	-
400	399,0	380,0	357,2	334,4	311,6	285,0	254,6	220,4	125,4	-
500	451,5	430,0	404,2	378,4	352,6	322,5	288,1	249,4	141,9	-
600	498,7	475,0	446,5	418,0	389,5	356,2	318,2	275,5	156,7	-
700	546,0	520,0	488,8	457,6	426,4	390,0	348,4	301,6	171,6	-
750	561,7	535,0	502,9	470,8	438,7	401,2	358,4	310,3	176,5	-
800	582,7	555,0	521,7	488,4	455,1	416,2	371,8	321,9	183,1	-
900	614,2	585,0	549,9	514,8	479,7	438,7	391,9	339,3	193,0	-
1000	645,7	615,0	578,1	541,2	504,3	461,2	412,0	356,7	202,9	-

Table B.3f. Ampacities of conductors with 60°C insulation temperature according to NFPA 79 – Ed. 2015-2018 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 60°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-
24	2,1	2,0	1,8	1,6	1,4	1,1	0,8	-	-	-
22	3,1	3,0	2,7	2,4	2,1	1,7	1,2	-	-	-
20	5,2	5,0	4,5	4,1	3,5	2,9	2,0	-	-	-
18	7,3	7,0	6,3	5,7	4,9	4,0	2,8	-	-	-
16	10,5	10,0	9,1	8,2	7,1	5,8	4,1	-	-	-
14	21,0	20,0	18,2	16,4	14,2	11,6	8,2	-	-	-
12	26,2	25,0	22,7	20,5	17,7	14,5	10,2	-	-	-
10	31,5	30,0	27,3	24,6	21,3	17,4	12,3	-	-	-
8	42,0	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-
6	57,7	55,0	50,0	45,1	39,0	31,9	22,5	-	-	-
4	73,5	70,0	63,7	57,4	49,7	40,6	28,7	-	-	-
3	89,2	85,0	77,3	69,7	60,3	49,3	34,8	-	-	-
2	99,7	95,0	86,4	77,9	67,4	55,1	38,9	-	-	-
1	115,5	110,0	100,1	90,2	78,1	63,8	45,1	-	-	-
1/0	131,2	125,0	113,7	102,5	88,7	72,5	51,2	-	-	-
2/0	152,2	145,0	131,9	118,9	102,9	84,1	59,4	-	-	-
3/0	173,2	165,0	150,1	135,3	117,1	95,7	67,6	-	-	-
4/0	204,7	195,0	177,4	159,9	138,4	113,1	79,9	-	-	-
250 kcmil	225,7	215,0	195,6	176,3	152,6	124,7	88,1	-	-	-
300	252,0	240,0	218,4	196,8	170,4	139,2	98,4	-	-	-
350	273,0	260,0	236,6	213,2	184,6	150,8	106,6	-	-	-
400	294,0	280,0	254,8	229,6	198,8	162,4	114,8	-	-	-
500	336,0	320,0	291,2	262,4	227,2	185,6	131,2	-	-	-
600	372,7	355,0	323,0	291,1	252,0	205,9	145,5	-	-	-
700	404,2	385,0	350,3	315,7	273,3	223,3	157,8	-	-	-
750	420,0	400,0	364,0	328,0	284,0	232,0	164,0	-	-	-
800	430,5	410,0	373,1	336,2	291,1	237,8	168,1	-	-	-
900	456,7	435,0	395,8	356,7	308,8	252,3	178,3	-	-	-
1000	477,7	455,0	414,0	373,1	323,0	263,9	186,5	-	-	-

Table B.3g. Ampacities of conductors with 75°C insulation temperature according to NFPA 79 – Ed. 2015-2018 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 75°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	0,5	0,5	0,4	0,4	0,4	0,3	0,3	0,2	0,1	-
28	0,8	0,8	0,7	0,7	0,6	0,6	0,5	0,4	0,2	-
26	1,0	1,0	0,9	0,8	0,8	0,7	0,6	0,5	0,3	-
24	2,1	2,0	1,8	1,7	1,6	1,5	1,3	1,1	0,6	-
22	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	0,9	-
20	5,2	5,0	4,7	4,4	4,1	3,7	3,3	2,9	1,6	-
18	7,3	7,0	6,5	6,1	5,7	5,2	4,6	4,0	2,3	-
16	10,5	10,0	9,4	8,8	8,2	7,5	6,7	5,8	3,3	-
14	21,0	20,0	18,8	17,6	16,4	15,0	13,4	11,6	6,6	-
12	26,2	25,0	23,5	22,0	20,5	18,7	16,7	14,5	8,2	-
10	36,7	35,0	32,9	30,8	28,7	26,2	23,4	20,3	11,5	-
8	52,5	50,0	47,0	44,0	41,0	37,5	33,5	29,0	16,5	-
6	68,2	65,0	61,1	57,2	53,3	48,7	43,5	37,7	21,4	-
4	89,2	85,0	79,9	74,8	69,7	63,7	56,9	49,3	28,0	-
3	105,0	100,0	94,0	88,0	82,0	75,0	67,0	58,0	33,0	-
2	120,7	115,0	108,1	101,2	94,3	86,2	77,0	66,7	37,9	-
1	136,5	130,0	122,2	114,4	106,6	97,5	87,1	75,4	42,9	-
1/0	157,5	150,0	141,0	132,0	123,0	112,5	100,5	87,0	49,5	-
2/0	183,7	175,0	164,5	154,0	143,5	131,2	117,2	101,5	57,7	-
3/0	210,0	200,0	188,0	176,0	164,0	150,0	134,0	116,0	66,0	-
4/0	241,5	230,0	216,2	202,4	188,6	172,5	154,1	133,4	75,9	-
250 kcmil	267,7	255,0	239,7	224,4	209,1	191,2	170,8	147,9	84,1	-
300	299,2	285,0	267,9	250,8	233,7	213,7	190,9	165,3	94,0	-
350	325,5	310,0	291,4	272,8	254,2	232,5	207,7	179,8	102,3	-
400	351,7	335,0	314,9	294,8	274,7	251,2	224,4	194,3	110,5	-
500	399,0	380,0	357,2	334,4	311,6	285,0	254,6	220,4	125,4	-
600	441,0	420,0	394,8	369,6	344,4	315,0	281,4	243,6	138,6	-
700	483,0	460,0	432,4	404,8	377,2	345,0	308,2	266,8	151,8	-
750	498,7	475,0	446,5	418,0	389,5	356,2	318,2	275,5	156,7	-
800	514,5	490,0	460,6	431,2	401,8	367,5	328,3	284,2	161,7	-
900	546,0	520,0	488,8	457,6	426,4	390,0	348,4	301,6	171,6	-
1000	572,2	545,0	512,3	479,6	446,9	408,7	365,1	316,1	179,8	-

Table B.3h. Ampacities of conductors with 90°C insulation temperature according to NFPA 79 – Ed. 2015-2018 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 90°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	0,5	0,5	0,4	0,4	0,4	0,4	0,3	0,3	0,2	0,2
28	0,8	0,8	0,7	0,7	0,6	0,6	0,6	0,5	0,4	0,3
26	1,0	1,0	0,9	0,9	0,8	0,8	0,7	0,7	0,5	0,4
24	2,0	2,0	1,9	1,8	1,7	1,6	1,5	1,4	1,1	0,8
22	3,1	3,0	2,8	2,7	2,6	2,4	2,2	2,1	1,7	1,2
20	5,2	5,0	4,8	4,5	4,3	4,1	3,8	3,5	2,9	2,0
18	14,5	14,0	13,4	12,7	12,1	11,4	10,6	9,9	8,1	5,7
16	18,7	18,0	17,2	16,3	15,6	14,7	13,6	12,7	10,4	7,3
14	26,0	25,0	24,0	22,7	21,7	20,5	19,0	17,7	14,5	10,2
12	31,2	30,0	28,8	27,3	26,1	24,6	22,8	21,3	17,4	12,3
10	41,6	40,0	38,4	36,4	34,8	32,8	30,4	28,4	23,2	16,4
8	57,2	55,0	52,8	50,0	47,8	45,1	41,8	39,0	31,9	22,5
6	78,0	75,0	72,0	68,2	65,2	61,5	57,0	53,2	43,5	30,7
4	98,8	95,0	91,2	86,4	82,6	77,9	72,2	67,4	55,1	38,9
3	114,4	110,0	105,6	100,1	95,7	90,2	83,6	78,1	63,8	45,1
2	135,2	130,0	124,8	118,3	113,1	106,6	98,8	92,3	75,4	53,3
1	156,0	150,0	144,0	136,5	130,5	123,0	114,0	106,5	87,0	61,5
1/0	176,8	170,0	163,2	154,7	147,9	139,4	129,2	120,7	98,6	69,7
2/0	202,8	195,0	187,2	177,4	169,6	159,9	148,2	138,4	113,1	79,9
3/0	234,0	225,0	216,0	204,7	195,7	184,5	171,0	159,7	130,5	92,2
4/0	270,4	260,0	249,6	236,6	226,2	213,2	197,6	184,6	150,8	106,6
250 kcmil	301,6	290,0	278,4	263,9	252,3	237,8	220,4	205,9	168,2	118,9
300	332,8	320,0	307,2	291,2	278,4	262,4	243,2	227,2	185,6	131,2
350	364,0	350,0	336,0	318,5	304,5	287,0	266,0	248,5	203,0	143,5
400	395,2	380,0	364,8	345,8	330,6	311,6	288,8	269,8	220,4	155,8
500	447,2	430,0	412,8	391,3	374,1	352,6	326,8	305,3	249,4	176,3
600	494,0	475,0	456,0	432,2	413,2	389,5	361,0	337,2	275,5	194,7
700	540,8	520,0	499,2	473,2	452,4	426,4	395,2	369,2	301,6	213,2
750	556,4	535,0	513,6	486,8	465,4	438,7	406,6	379,8	310,3	219,3
800	577,2	555,0	532,8	505,0	482,8	455,1	421,8	394,0	321,9	227,5
900	608,4	585,0	561,6	532,3	508,9	479,7	444,6	415,3	339,3	239,8
1000	639,6	615,0	590,4	559,6	535,0	504,3	467,4	436,6	356,7	252,1

Table B.3i. Ampacities of conductors with 60°C insulation temperature according to NFPA 79 – Ed. 2021 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 60°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-
24	2,1	2,0	1,8	1,6	1,4	1,1	0,8	-	-	-
22	3,1	3,0	2,7	2,4	2,1	1,7	1,2	-	-	-
20	5,2	5,0	4,5	4,1	3,5	2,9	2,0	-	-	-
18	7,3	7,0	6,3	5,7	4,9	4,0	2,8	-	-	-
16	10,5	10,0	9,1	8,2	7,1	5,8	4,1	-	-	-
14	15,7	15,0	13,6	12,3	10,6	8,7	6,1	-	-	-
12	21,0	20,0	18,2	16,4	14,2	11,6	8,2	-	-	-
10	31,5	30,0	27,3	24,6	21,3	17,4	12,3	-	-	-
8	42,0	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-
6	57,7	55,0	50,0	45,1	39,0	31,9	22,5	-	-	-
4	73,5	70,0	63,7	57,4	49,7	40,6	28,7	-	-	-
3	89,2	85,0	77,3	69,7	60,3	49,3	34,8	-	-	-
2	99,7	95,0	86,4	77,9	67,4	55,1	38,9	-	-	-
1	115,5	110,0	100,1	90,2	78,1	63,8	45,1	-	-	-
1/0	131,2	125,0	113,7	102,5	88,7	72,5	51,2	-	-	-
2/0	152,2	145,0	131,9	118,9	102,9	84,1	59,4	-	-	-
3/0	173,2	165,0	150,1	135,3	117,1	95,7	67,6	-	-	-
4/0	204,7	195,0	177,4	159,9	138,4	113,1	79,9	-	-	-
250 kcmil	225,7	215,0	195,6	176,3	152,6	124,7	88,1	-	-	-
300	252,0	240,0	218,4	196,8	170,4	139,2	98,4	-	-	-
350	273,0	260,0	236,6	213,2	184,6	150,8	106,6	-	-	-
400	294,0	280,0	254,8	229,6	198,8	162,4	114,8	-	-	-
500	336,0	320,0	291,2	262,4	227,2	185,6	131,2	-	-	-
600	372,7	355,0	323,0	291,1	252,0	205,9	145,5	-	-	-
700	404,2	385,0	350,3	315,7	273,3	223,3	157,8	-	-	-
750	420,0	400,0	364,0	328,0	284,0	232,0	164,0	-	-	-
800	430,5	410,0	373,1	336,2	291,1	237,8	168,1	-	-	-
900	456,7	435,0	395,8	356,7	308,8	252,3	178,3	-	-	-
1000	477,7	455,0	414,0	373,1	323,0	263,9	186,5	-	-	-

Table B.3j. Ampacities of conductors with 75°C insulation temperature according to NFPA 79 – Ed. 2021 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 75°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	0,5	0,5	0,4	0,4	0,4	0,3	0,3	0,2	0,1	-
28	0,8	0,8	0,7	0,7	0,6	0,6	0,5	0,4	0,2	-
26	1,0	1,0	0,9	0,8	0,8	0,7	0,6	0,5	0,3	-
24	2,1	2,0	1,8	1,7	1,6	1,5	1,3	1,1	0,6	-
22	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	0,9	-
20	5,2	5,0	4,7	4,4	4,1	3,7	3,3	2,9	1,6	-
18	7,3	7,0	6,5	6,1	5,7	5,2	4,6	4,0	2,3	-
16	10,5	10,0	9,4	8,8	8,2	7,5	6,7	5,8	3,3	-
14	21,0	20,0	18,8	17,6	16,4	15,0	13,4	11,6	6,6	-
12	26,2	25,0	23,5	22,0	20,5	18,7	16,7	14,5	8,2	-
10	36,7	35,0	32,9	30,8	28,7	26,2	23,4	20,3	11,5	-
8	52,5	50,0	47,0	44,0	41,0	37,5	33,5	29,0	16,5	-
6	68,2	65,0	61,1	57,2	53,3	48,7	43,5	37,7	21,4	-
4	89,2	85,0	79,9	74,8	69,7	63,7	56,9	49,3	28,0	-
3	105,0	100,0	94,0	88,0	82,0	75,0	67,0	58,0	33,0	-
2	120,7	115,0	108,1	101,2	94,3	86,2	77,0	66,7	37,9	-
1	136,5	130,0	122,2	114,4	106,6	97,5	87,1	75,4	42,9	-
1/0	157,5	150,0	141,0	132,0	123,0	112,5	100,5	87,0	49,5	-
2/0	183,7	175,0	164,5	154,0	143,5	131,2	117,2	101,5	57,7	-
3/0	210,0	200,0	188,0	176,0	164,0	150,0	134,0	116,0	66,0	-
4/0	241,5	230,0	216,2	202,4	188,6	172,5	154,1	133,4	75,9	-
250 kcmil	267,7	255,0	239,7	224,4	209,1	191,2	170,8	147,9	84,1	-
300	299,2	285,0	267,9	250,8	233,7	213,7	190,9	165,3	94,0	-
350	325,5	310,0	291,4	272,8	254,2	232,5	207,7	179,8	102,3	-
400	351,7	335,0	314,9	294,8	274,7	251,2	224,4	194,3	110,5	-
500	399,0	380,0	357,2	334,4	311,6	285,0	254,6	220,4	125,4	-
600	441,0	420,0	394,8	369,6	344,4	315,0	281,4	243,6	138,6	-
700	483,0	460,0	432,4	404,8	377,2	345,0	308,2	266,8	151,8	-
750	498,7	475,0	446,5	418,0	389,5	356,2	318,2	275,5	156,7	-
800	514,5	490,0	460,6	431,2	401,8	367,5	328,3	284,2	161,7	-
900	546,0	520,0	488,8	457,6	426,4	390,0	348,4	301,6	171,6	-
1000	572,2	545,0	512,3	479,6	446,9	408,7	365,1	316,1	179,8	-

Table B.3k. Ampacities of conductors with 90°C insulation temperature according to NFPA 79 – Ed. 2021 - Table 12.5.1

Size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A] Insulation temperature 90°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
30 AWG	0,5	0,5	0,4	0,4	0,4	0,4	0,3	0,3	0,2	0,2
28	0,8	0,8	0,7	0,7	0,6	0,6	0,6	0,5	0,4	0,3
26	1,0	1,0	0,9	0,9	0,8	0,8	0,7	0,7	0,5	0,4
24	2,0	2,0	1,9	1,8	1,7	1,6	1,5	1,4	1,1	0,8
22	3,1	3,0	2,8	2,7	2,6	2,4	2,2	2,1	1,7	1,2
20	5,2	5,0	4,8	4,5	4,3	4,1	3,8	3,5	2,9	2,0
18	14,5	14,0	13,4	12,7	12,1	11,4	10,6	9,9	8,1	5,7
16	18,7	18,0	17,2	16,3	15,6	14,7	13,6	12,7	10,4	7,3
14	26,0	25,0	24,0	22,7	21,7	20,5	19,0	17,7	14,5	10,2
12	31,2	30,0	28,8	27,3	26,1	24,6	22,8	21,3	17,4	12,3
10	41,6	40,0	38,4	36,4	34,8	32,8	30,4	28,4	23,2	16,4
8	57,2	55,0	52,8	50,0	47,8	45,1	41,8	39,0	31,9	22,5
6	78,0	75,0	72,0	68,2	65,2	61,5	57,0	53,2	43,5	30,7
4	98,8	95,0	91,2	86,4	82,6	77,9	72,2	67,4	55,1	38,9
3	119,6	115,0	110,4	104,6	100,0	94,3	87,4	81,6	66,7	47,1
2	135,2	130,0	124,8	118,3	113,1	106,6	98,8	92,3	75,4	53,3
1	150,8	145,0	139,2	131,9	126,1	118,9	110,2	102,9	84,1	59,4
1/0	176,8	170,0	163,2	154,7	147,9	139,4	129,2	120,7	98,6	69,7
2/0	202,8	195,0	187,2	177,4	169,6	159,9	148,2	138,4	113,1	79,9
3/0	234,0	225,0	216,0	204,7	195,7	184,5	171,0	159,7	130,5	92,2
4/0	270,4	260,0	249,6	236,6	226,2	213,2	197,6	184,6	150,8	106,6
250 kcmil	301,6	290,0	278,4	263,9	252,3	237,8	220,4	205,9	168,2	118,9
300	332,8	320,0	307,2	291,2	278,4	262,4	243,2	227,2	185,6	131,2
350	364,0	350,0	336,0	318,5	304,5	287,0	266,0	248,5	203,0	143,5
400	395,2	380,0	364,8	345,8	330,6	311,6	288,8	269,8	220,4	155,8
500	447,2	430,0	412,8	391,3	374,1	352,6	326,8	305,3	249,4	176,3
600	494,0	475,0	456,0	432,2	413,2	389,5	361,0	337,2	275,5	194,7
700	540,8	520,0	499,2	473,2	452,4	426,4	395,2	369,2	301,6	213,2
750	556,4	535,0	513,6	486,8	465,4	438,7	406,6	379,8	310,3	219,3
800	577,2	555,0	532,8	505,0	482,8	455,1	421,8	394,0	321,9	227,5
900	608,4	585,0	561,6	532,3	508,9	479,7	444,6	415,3	339,3	239,8
1000	639,6	615,0	590,4	559,6	535,0	504,3	467,4	436,6	356,7	252,1

Table B.3l. Adjustment factors based on the number of current-carrying conductors according to NFPA 79 - Ed. 2007-2021 - Table 12.5.5(b)

Number of current-carrying conductors	Ampacities adjustment factors
1÷3	1,00
4÷6	0,80
7÷9	0,70
10÷20	0,50
21÷30	0,45
31÷40	0,40
>40	0,35

B.4 Ampacities of conductors according to NFPA 70 (NEC)

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

Table B.4a. Ampacities of conductors with 60°C insulation temperature according to NFPA 70 (NEC) - Ed. 2008 - Table 310.16

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **not more than three current-carrying conductors in Raceway or Cable** Insulation temperature 60°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
18 AWG	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-
14	21,6	20,0	18,2	16,4	14,2	11,6	8,2	-	-	-
12	27,0	25,0	22,7	20,5	17,7	14,5	10,2	-	-	-
10	32,4	30,0	27,3	24,6	21,3	17,4	12,3	-	-	-
8	43,2	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-
6	59,4	55,0	50,0	45,1	39,0	31,9	22,5	-	-	-
4	75,6	70,0	63,7	57,4	49,7	40,6	28,7	-	-	-
3	91,8	85,0	77,3	69,7	60,3	49,3	34,8	-	-	-
2	102,6	95,0	86,4	77,9	67,4	55,1	38,9	-	-	-
1	118,8	110,0	100,1	90,2	78,1	63,8	45,1	-	-	-
1/0	135,0	125,0	113,7	102,5	88,7	72,5	51,2	-	-	-
2/0	156,6	145,0	131,9	118,9	102,9	84,1	59,4	-	-	-
3/0	178,2	165,0	150,1	135,3	117,1	95,7	67,6	-	-	-
4/0	210,6	195,0	177,4	159,9	138,4	113,1	79,9	-	-	-
250 kcmil	232,2	215,0	195,6	176,3	152,6	124,7	88,1	-	-	-
300	259,2	240,0	218,4	196,8	170,4	139,2	98,4	-	-	-
350	280,8	260,0	236,6	213,2	184,6	150,8	106,6	-	-	-
400	302,4	280,0	254,8	229,6	198,8	162,4	114,8	-	-	-
500	345,6	320,0	291,2	262,4	227,2	185,6	131,2	-	-	-
600	383,4	355,0	323,0	291,1	252,0	205,9	145,5	-	-	-
700	415,8	385,0	350,3	315,7	273,3	223,3	157,8	-	-	-
750	432,0	400,0	364,0	328,0	284,0	232,0	164,0	-	-	-
800	442,8	410,0	373,1	336,2	291,1	237,8	168,1	-	-	-
900	469,8	435,0	395,8	356,7	308,8	252,3	178,3	-	-	-
1000	491,4	455,0	414,0	373,1	323,0	263,9	186,5	-	-	-
1250	534,6	495,0	450,4	405,9	351,4	287,1	202,9	-	-	-
1500	561,6	520,0	473,2	426,4	369,2	301,6	213,2	-	-	-
1750	588,6	545,0	495,9	446,9	386,9	316,1	223,4	-	-	-
2000	604,8	560,0	509,6	459,2	397,6	324,8	229,6	-	-	-

Table B.4b. Ampacities of conductors with 75°C insulation temperature according to NFPA 70 (NEC) - Ed. 2008 - Table 310.16

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **not more than three current-carrying conductors in Raceway or Cable** Insulation temperature 75°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
18 AWG	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-
14	21,0	20,0	18,8	17,6	16,4	15,0	13,4	11,6	6,6	-
12	26,2	25,0	23,5	22,0	20,5	18,7	16,7	14,5	8,2	-
10	36,7	35,0	32,9	30,8	28,7	26,2	23,4	20,3	11,5	-
8	52,5	50,0	47,0	44,0	41,0	37,5	33,5	29,0	16,5	-
6	68,2	65,0	61,1	57,2	53,3	48,7	43,5	37,7	21,4	-
4	89,2	85,0	79,9	74,8	69,7	63,7	56,9	49,3	28,0	-
3	105,0	100,0	94,0	88,0	82,0	75,0	67,0	58,0	33,0	-
2	120,7	115,0	108,1	101,2	94,3	86,2	77,0	66,7	37,9	-
1	136,5	130,0	122,2	114,4	106,6	97,5	87,1	75,4	42,9	-
1/0	157,5	150,0	141,0	132,0	123,0	112,5	100,5	87,0	49,5	-
2/0	183,7	175,0	164,5	154,0	143,5	131,2	117,2	101,5	57,7	-
3/0	210,0	200,0	188,0	176,0	164,0	150,0	134,0	116,0	66,0	-
4/0	241,5	230,0	216,2	202,4	188,6	172,5	154,1	133,4	75,9	-
250 kcmil	267,7	255,0	239,7	224,4	209,1	191,2	170,8	147,9	84,1	-
300	299,2	285,0	267,9	250,8	233,7	213,7	190,9	165,3	94,0	-
350	325,5	310,0	291,4	272,8	254,2	232,5	207,7	179,8	102,3	-
400	351,7	335,0	314,9	294,8	274,7	251,2	224,4	194,3	110,5	-
500	399,0	380,0	357,2	334,4	311,6	285,0	254,6	220,4	125,4	-
600	441,0	420,0	394,8	369,6	344,4	315,0	281,4	243,6	138,6	-
700	483,0	460,0	432,4	404,8	377,2	345,0	308,2	266,8	151,8	-
750	498,7	475,0	446,5	418,0	389,5	356,2	318,2	275,5	156,7	-
800	514,5	490,0	460,6	431,2	401,8	367,5	328,3	284,2	161,7	-
900	546,0	520,0	488,8	457,6	426,4	390,0	348,4	301,6	171,6	-
1000	572,2	545,0	512,3	479,6	446,9	408,7	365,1	316,1	179,8	-
1250	619,5	590,0	554,6	519,2	483,8	442,5	395,3	342,2	194,7	-
1500	656,2	625,0	587,5	550,0	512,5	468,7	418,7	362,5	206,2	-
1750	682,5	650,0	611,0	572,0	533,0	487,5	435,5	377,0	214,5	-
2000	698,2	665,0	625,1	585,2	545,3	498,7	445,5	385,7	219,4	-

Table B.4c. Ampacities of conductors with 90°C insulation temperature according to NFPA 70 (NEC) - Ed. 2008 - Table 310.16

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **not more than three current-carrying conductors in Raceway or Cable** Insulation temperature 90°C									
	Ambient temperature Ta									
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷70°C	71÷80°C
18 AWG	14,5	14,0	13,4	12,7	12,1	11,4	10,6	9,9	8,1	5,7
16	18,7	18,0	17,2	16,3	15,6	14,7	13,6	12,7	10,4	7,3
14	26,0	25,0	24,0	22,7	21,7	20,5	19,0	17,7	14,5	10,2
12	31,2	30,0	28,8	27,3	26,1	24,6	22,8	21,3	17,4	12,3
10	41,6	40,0	38,4	36,4	34,8	32,8	30,4	28,4	23,2	16,4
8	57,2	55,0	52,8	50,0	47,8	45,1	41,8	39,0	31,9	22,5
6	78,0	75,0	72,0	68,2	65,2	61,5	57,0	53,2	43,5	30,7
4	98,8	95,0	91,2	86,4	82,6	77,9	72,2	67,4	55,1	38,9
3	114,4	110,0	105,6	100,1	95,7	90,2	83,6	78,1	63,8	45,1
2	135,2	130,0	124,8	118,3	113,1	106,6	98,8	92,3	75,4	53,3
1	156,0	150,0	144,0	136,5	130,5	123,0	114,0	106,5	87,0	61,5
1/0	176,8	170,0	163,2	154,7	147,9	139,4	129,2	120,7	98,6	69,7
2/0	202,8	195,0	187,2	177,4	169,6	159,9	148,2	138,4	113,1	79,9
3/0	234,0	225,0	216,0	204,7	195,7	184,5	171,0	159,7	130,5	92,2
4/0	270,4	260,0	249,6	236,6	226,2	213,2	197,6	184,6	150,8	106,6
250 kcmil	301,6	290,0	278,4	263,9	252,3	237,8	220,4	205,9	168,2	118,9
300	332,8	320,0	307,2	291,2	278,4	262,4	243,2	227,2	185,6	131,2
350	364,0	350,0	336,0	318,5	304,5	287,0	266,0	248,5	203,0	143,5
400	395,2	380,0	364,8	345,8	330,6	311,6	288,8	269,8	220,4	155,8
500	447,2	430,0	412,8	391,3	374,1	352,6	326,8	305,3	249,4	176,3
600	494,0	475,0	456,0	432,2	413,2	389,5	361,0	337,2	275,5	194,7
700	540,8	520,0	499,2	473,2	452,4	426,4	395,2	369,2	301,6	213,2
750	556,4	535,0	513,6	486,8	465,4	438,7	406,6	379,8	310,3	219,3
800	577,2	555,0	532,8	505,0	482,8	455,1	421,8	394,0	321,9	227,5
900	608,4	585,0	561,6	532,3	508,9	479,7	444,6	415,3	339,3	239,8
1000	639,6	615,0	590,4	559,6	535,0	504,3	467,4	436,6	356,7	252,1
1250	691,6	665,0	638,4	605,1	578,5	545,3	505,4	472,1	385,7	272,6
1500	733,2	705,0	676,8	641,5	613,3	578,1	535,8	500,5	408,9	289,0
1750	764,4	735,0	705,6	668,8	639,4	602,7	558,6	521,8	426,3	301,3
2000	780,0	750,0	720,0	682,5	652,5	615,0	570,0	532,5	435,0	307,5

Table B.4d. Ampacities of conductors with 60°C insulation temperature according to NFPA 70 (NEC) - Ed. 2011-2017 - Table 310.15(B)(16) and Ed. 2020-2023 - Table 310.16

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **not more than three current-carrying conductors in Raceway or Cable** Insulation temperature 60°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81-85°C
18 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-
14	16,2	15,0	13,6	12,3	10,6	8,7	6,1	-	-	-	-	-	-
12	21,6	20,0	18,2	16,4	14,2	11,6	8,2	-	-	-	-	-	-
10	32,4	30,0	27,3	24,6	21,3	17,4	12,3	-	-	-	-	-	-
8	43,2	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-	-	-	-
6	59,4	55,0	50,0	45,1	39,0	31,9	22,5	-	-	-	-	-	-
4	75,6	70,0	63,7	57,4	49,7	40,6	28,7	-	-	-	-	-	-
3	91,8	85,0	77,3	69,7	60,3	49,3	34,8	-	-	-	-	-	-
2	102,6	95,0	86,4	77,9	67,4	55,1	38,9	-	-	-	-	-	-
1	118,8	110,0	100,1	90,2	78,1	63,8	45,1	-	-	-	-	-	-
1/0	135,0	125,0	113,7	102,5	88,7	72,5	51,2	-	-	-	-	-	-
2/0	156,6	145,0	131,9	118,9	102,9	84,1	59,4	-	-	-	-	-	-
3/0	178,2	165,0	150,1	135,3	117,1	95,7	67,6	-	-	-	-	-	-
4/0	210,6	195,0	177,4	159,9	138,4	113,1	79,9	-	-	-	-	-	-
250 kcmil	232,2	215,0	195,6	176,3	152,6	124,7	88,1	-	-	-	-	-	-
300	259,2	240,0	218,4	196,8	170,4	139,2	98,4	-	-	-	-	-	-
350	280,8	260,0	236,6	213,2	184,6	150,8	106,6	-	-	-	-	-	-
400	302,4	280,0	254,8	229,6	198,8	162,4	114,8	-	-	-	-	-	-
500	345,6	320,0	291,2	262,4	227,2	185,6	131,2	-	-	-	-	-	-
600	378,0	350,0	318,5	287,0	248,5	203,0	143,5	-	-	-	-	-	-
700	415,8	385,0	350,3	315,7	273,3	223,3	157,8	-	-	-	-	-	-
750	432,0	400,0	364,0	328,0	284,0	232,0	164,0	-	-	-	-	-	-
800	442,8	410,0	373,1	336,2	291,1	237,8	168,1	-	-	-	-	-	-
900	469,8	435,0	395,8	356,7	308,8	252,3	178,3	-	-	-	-	-	-
1000	491,4	455,0	414,0	373,1	323,0	263,9	186,5	-	-	-	-	-	-
1250	534,6	495,0	450,4	405,9	351,4	287,1	202,9	-	-	-	-	-	-
1500	567,0	525,0	477,7	430,5	372,7	304,5	215,2	-	-	-	-	-	-
1750	588,6	545,0	495,9	446,9	386,9	316,1	223,4	-	-	-	-	-	-
2000	599,4	555,0	505,0	455,1	394,0	321,9	227,5	-	-	-	-	-	-

Table B.4e. Ampacities of conductors with 75°C insulation temperature according to NFPA 70 (NEC) - Ed. 2011-2017 - Table 310.15(B)(16) and Ed. 2020-2023 - Table 310.16

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], not more than three current-carrying conductors in Raceway or Cable Insulation temperature 75°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81-85°C
18 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-
14	21,0	20,0	18,8	17,6	16,4	15,0	13,4	11,6	9,4	6,6	-	-	-
12	26,2	25,0	23,5	22,0	20,5	18,7	16,7	14,5	11,7	8,2	-	-	-
10	36,7	35,0	32,9	30,8	28,7	26,2	23,4	20,3	16,4	11,5	-	-	-
8	52,5	50,0	47,0	44,0	41,0	37,5	33,5	29,0	23,5	16,5	-	-	-
6	68,2	65,0	61,1	57,2	53,3	48,7	43,5	37,7	30,5	21,4	-	-	-
4	89,2	85,0	79,9	74,8	69,7	63,7	56,9	49,3	39,9	28,0	-	-	-
3	105,0	100,0	94,0	88,0	82,0	75,0	67,0	58,0	47,0	33,0	-	-	-
2	120,7	115,0	108,1	101,2	94,3	86,2	77,0	66,7	54,0	37,9	-	-	-
1	136,5	130,0	122,2	114,4	106,6	97,5	87,1	75,4	61,1	42,9	-	-	-
1/0	157,5	150,0	141,0	132,0	123,0	112,5	100,5	87,0	70,5	49,5	-	-	-
2/0	183,7	175,0	164,5	154,0	143,5	131,2	117,2	101,5	82,2	57,7	-	-	-
3/0	210,0	200,0	188,0	176,0	164,0	150,0	134,0	116,0	94,0	66,0	-	-	-
4/0	241,5	230,0	216,2	202,4	188,6	172,5	154,1	133,4	108,1	75,9	-	-	-
250 kcmil	267,7	255,0	239,7	224,4	209,1	191,2	170,8	147,9	119,8	84,1	-	-	-
300	299,2	285,0	267,9	250,8	233,7	213,7	190,9	165,3	133,9	94,0	-	-	-
350	325,5	310,0	291,4	272,8	254,2	232,5	207,7	179,8	145,7	102,3	-	-	-
400	351,7	335,0	314,9	294,8	274,7	251,2	224,4	194,3	157,4	110,5	-	-	-
500	399,0	380,0	357,2	334,4	311,6	285,0	254,6	220,4	178,6	125,4	-	-	-
600	441,0	420,0	394,8	369,6	344,4	315,0	281,4	243,6	197,4	138,6	-	-	-
700	483,0	460,0	432,4	404,8	377,2	345,0	308,2	266,8	216,2	151,8	-	-	-
750	498,7	475,0	446,5	418,0	389,5	356,2	318,2	275,5	223,2	156,7	-	-	-
800	514,5	490,0	460,6	431,2	401,8	367,5	328,3	284,2	230,3	161,7	-	-	-
900	546,0	520,0	488,8	457,6	426,4	390,0	348,4	301,6	244,4	171,6	-	-	-
1000	572,2	545,0	512,3	479,6	446,9	408,7	365,1	316,1	256,1	179,8	-	-	-
1250	619,5	590,0	554,6	519,2	483,8	442,5	395,3	342,2	277,3	194,7	-	-	-
1500	656,2	625,0	587,5	550,0	512,5	468,7	418,7	362,5	293,7	206,2	-	-	-
1750	682,5	650,0	611,0	572,0	533,0	487,5	435,5	377,0	305,5	214,5	-	-	-
2000	698,2	665,0	625,1	585,2	545,3	498,7	445,5	385,7	312,5	219,4	-	-	-

Table B.4f. Ampacities of conductors with 90°C insulation temperature according to NFPA 70 (NEC) - Ed. 2011-2017 - Table 310.15(B)(16) and Ed. 2020-2023 - Table 310.16

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **not more than three current-carrying conductors in Raceway or Cable** Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81-85°C
18 AWG	14,5	14,0	13,4	12,7	12,1	11,4	10,6	9,9	9,1	8,1	7,0	5,7	4,0
16	18,7	18,0	17,2	16,3	15,6	14,7	13,6	12,7	11,7	10,4	9,0	7,3	5,2
14	26,0	25,0	24,0	22,7	21,7	20,5	19,0	17,7	16,2	14,5	12,5	10,2	7,2
12	31,2	30,0	28,8	27,3	26,1	24,6	22,8	21,3	19,5	17,4	15,0	12,3	8,7
10	41,6	40,0	38,4	36,4	34,8	32,8	30,4	28,4	26,0	23,2	20,0	16,4	11,6
8	57,2	55,0	52,8	50,0	47,8	45,1	41,8	39,0	35,7	31,9	27,5	22,5	15,9
6	78,0	75,0	72,0	68,2	65,2	61,5	57,0	53,2	48,7	43,5	37,5	30,7	21,7
4	98,8	95,0	91,2	86,4	82,6	77,9	72,2	67,4	61,7	55,1	47,5	38,9	27,5
3	119,6	115,0	110,4	104,6	100,0	94,3	87,4	81,6	74,7	66,7	57,5	47,1	33,3
2	135,2	130,0	124,8	118,3	113,1	106,6	98,8	92,3	84,5	75,4	65,0	53,3	37,7
1	150,8	145,0	139,2	131,9	126,1	118,9	110,2	102,9	94,2	84,1	72,5	59,4	42,0
1/0	176,8	170,0	163,2	154,7	147,9	139,4	129,2	120,7	110,5	98,6	85,0	69,7	49,3
2/0	202,8	195,0	187,2	177,4	169,6	159,9	148,2	138,4	126,7	113,1	97,5	79,9	56,5
3/0	234,0	225,0	216,0	204,7	195,7	184,5	171,0	159,7	146,2	130,5	112,5	92,2	65,2
4/0	270,4	260,0	249,6	236,6	226,2	213,2	197,6	184,6	169,0	150,8	130,0	106,6	75,4
250 kcmil	301,6	290,0	278,4	263,9	252,3	237,8	220,4	205,9	188,5	168,2	145,0	118,9	84,1
300	332,8	320,0	307,2	291,2	278,4	262,4	243,2	227,2	208,0	185,6	160,0	131,2	92,8
350	364,0	350,0	336,0	318,5	304,5	287,0	266,0	248,5	227,5	203,0	175,0	143,5	101,5
400	395,2	380,0	364,8	345,8	330,6	311,6	288,8	269,8	247,0	220,4	190,0	155,8	110,2
500	447,2	430,0	412,8	391,3	374,1	352,6	326,8	305,3	279,5	249,4	215,0	176,3	124,7
600	494,0	475,0	456,0	432,2	413,2	389,5	361,0	337,2	308,7	275,5	237,5	194,7	137,7
700	540,8	520,0	499,2	473,2	452,4	426,4	395,2	369,2	338,0	301,6	260,0	213,2	150,8
750	556,4	535,0	513,6	486,8	465,4	438,7	406,6	379,8	347,7	310,3	267,5	219,3	155,1
800	577,2	555,0	532,8	505,0	482,8	455,1	421,8	394,0	360,7	321,9	277,5	227,5	160,9
900	608,4	585,0	561,6	532,3	508,9	479,7	444,6	415,3	380,2	339,3	292,5	239,8	169,6
1000	639,6	615,0	590,4	559,6	535,0	504,3	467,4	436,6	399,7	356,7	307,5	252,1	178,3
1250	691,6	665,0	638,4	605,1	578,5	545,3	505,4	472,1	432,2	385,7	332,5	272,6	192,8
1500	733,2	705,0	676,8	641,5	613,3	578,1	535,8	500,5	458,2	408,9	352,5	289,0	204,4
1750	764,4	735,0	705,6	668,8	639,4	602,7	558,6	521,8	477,7	426,3	367,5	301,3	213,1
2000	780,0	750,0	720,0	682,5	652,5	615,0	570,0	532,5	487,5	435,0	375,0	307,5	217,5

Table B.4g. Adjustment factors for more than three current-carrying conductors according to NFPA 70 (NEC) – Ed. 2008/2011 - Ed. 2008 - Table 310.15(B)(2)(a), Ed. 2011-2017 - Table 310.15(B)(3)(a) and Ed. 2020-2023 - Table 310.15(C)(1)

Number of current-carrying conductors in cable, in raceway or in cable tray	Ampacities adjustment factors
4÷6	0,80
7÷9	0,70
10÷20	0,50
21÷30	0,45
31÷40	0,40
>40	0,35

B.5 Ampacities of Flexible Cords and Cables according to NFPA 70 (NEC)

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

Table B.5a. Ampacities of Flexible Cords and Cables type S, SJ, SJT with 60°C insulation temperature and 2 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type S, SJ, SJT with 2 current-carrying conductors [A], Insulation temperature 60°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	2,1	2,0	1,8	1,6	1,4	1,1	0,8	-	-	-	-	-	-
18	10,8	10,0	9,1	8,2	7,1	5,8	4,1	-	-	-	-	-	-
17	12,9	12,0	10,9	9,8	8,5	6,9	4,9	-	-	-	-	-	-
16	14,0	13,0	11,8	10,6	9,2	7,5	5,3	-	-	-	-	-	-
15	17,2	16,0	14,5	13,1	11,3	9,2	6,5	-	-	-	-	-	-
14	19,4	18,0	16,3	14,7	12,7	10,4	7,3	-	-	-	-	-	-
13	22,6	21,0	19,1	17,2	14,9	12,1	8,6	-	-	-	-	-	-
12	27,0	25,0	22,7	20,5	17,7	14,5	10,2	-	-	-	-	-	-
11	29,1	27,0	24,5	22,1	19,1	15,6	11,0	-	-	-	-	-	-
10	32,4	30,0	27,3	24,6	21,3	17,4	12,3	-	-	-	-	-	-
9	36,7	34,0	30,9	27,8	24,1	19,7	13,9	-	-	-	-	-	-
8	43,2	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-	-	-	-
7	50,7	47,0	42,7	38,5	33,3	27,2	19,2	-	-	-	-	-	-
6	59,4	55,0	50,0	45,1	39,0	31,9	22,5	-	-	-	-	-	-
5	66,9	62,0	56,4	50,8	44,0	35,9	25,4	-	-	-	-	-	-
4	75,6	70,0	63,7	57,4	49,7	40,6	28,7	-	-	-	-	-	-
3	88,5	82,0	74,6	67,2	58,2	47,5	33,6	-	-	-	-	-	-
2	102,6	95,0	86,4	77,9	67,4	55,1	38,9	-	-	-	-	-	-

Table B.5b. Ampacities of Flexible Cords and Cables type S, SJ, SJT with 60°C insulation temperature and 3 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type S, SJ, SJT with 3 current-carrying conductors [A], Insulation temperature 60°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	7,5	7,0	6,3	5,7	4,9	4,0	2,8	-	-	-	-	-	-
17	9,7	9,0	8,1	7,3	6,3	5,2	3,6	-	-	-	-	-	-
16	10,8	10,0	9,1	8,2	7,1	5,8	4,1	-	-	-	-	-	-
15	12,9	12,0	10,9	9,8	8,5	6,9	4,9	-	-	-	-	-	-
14	16,2	15,0	13,6	12,3	10,6	8,7	6,1	-	-	-	-	-	-
13	18,3	17,0	15,4	13,9	12,0	9,8	6,9	-	-	-	-	-	-
12	21,6	20,0	18,2	16,4	14,2	11,6	8,2	-	-	-	-	-	-
11	24,8	23,0	20,9	18,8	16,3	13,3	9,4	-	-	-	-	-	-
10	27,0	25,0	22,7	20,5	17,7	14,5	10,2	-	-	-	-	-	-
9	31,3	29,0	26,3	23,7	20,5	16,8	11,8	-	-	-	-	-	-
8	37,8	35,0	31,8	28,7	24,8	20,3	14,3	-	-	-	-	-	-
7	43,2	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-	-	-	-
6	48,6	45,0	40,9	36,9	31,9	26,1	18,4	-	-	-	-	-	-
5	56,1	52,0	47,3	42,6	36,9	30,1	21,3	-	-	-	-	-	-
4	64,8	60,0	54,6	49,2	42,6	34,8	24,6	-	-	-	-	-	-
3	75,6	70,0	63,7	57,4	49,7	40,6	28,7	-	-	-	-	-	-
2	86,4	80,0	72,8	65,6	56,8	46,4	32,8	-	-	-	-	-	-

Table B.5c. Ampacities of Flexible Cords and Cables type S, SJ, SJT with 60°C insulation temperature and 4÷6 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **S, SJ, SJT with 4÷6 current-carrying conductors** [A], Insulation temperature 60°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	6,0	5,6	5,0	4,5	3,9	3,2	2,2	-	-	-	-	-	-
17	7,7	7,2	6,5	5,9	5,1	4,1	2,9	-	-	-	-	-	-
16	8,6	8,0	7,2	6,5	5,6	4,6	3,2	-	-	-	-	-	-
15	10,3	9,6	8,7	7,8	6,8	5,5	3,9	-	-	-	-	-	-
14	12,9	12,0	10,9	9,8	8,5	6,9	4,9	-	-	-	-	-	-
13	14,6	13,6	12,3	11,1	9,6	7,8	5,5	-	-	-	-	-	-
12	17,2	16,0	14,5	13,1	11,3	9,2	6,5	-	-	-	-	-	-
11	19,8	18,4	16,7	15,0	13,0	10,6	7,5	-	-	-	-	-	-
10	21,6	20,0	18,2	16,4	14,2	11,6	8,2	-	-	-	-	-	-
9	25,0	23,2	21,1	19,0	16,4	13,4	9,5	-	-	-	-	-	-
8	30,2	28,0	25,4	22,9	19,8	16,2	11,4	-	-	-	-	-	-
7	34,5	32,0	29,1	26,2	22,7	18,5	13,1	-	-	-	-	-	-
6	38,8	36,0	32,7	29,5	25,5	20,8	14,7	-	-	-	-	-	-
5	44,9	41,6	37,8	34,1	29,5	24,1	17,0	-	-	-	-	-	-
4	51,8	48,0	43,6	39,3	34,0	27,8	19,6	-	-	-	-	-	-
3	60,4	56,0	50,9	45,9	39,7	32,4	22,9	-	-	-	-	-	-
2	69,1	64,0	58,2	52,4	45,4	37,1	26,2	-	-	-	-	-	-

Table B.5d. Ampacities of Flexible Cords and Cables type SOOW, SJOOW, STOW, SJTOW with 90°C insulation temperature and 2 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **SOOW, SJOOW, STOW, SJTOW with 2 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	2,0	2,0	1,9	1,8	1,7	1,6	1,5	1,4	1,3	1,1	1,0	0,8	0,5
18	10,4	10,0	9,6	9,1	8,7	8,2	7,6	7,1	6,5	5,8	5,0	4,1	2,9
17	12,4	12,0	11,5	10,9	10,4	9,8	9,1	8,5	7,8	6,9	6,0	4,9	3,4
16	13,5	13,0	12,4	11,8	11,3	10,6	9,8	9,2	8,4	7,5	6,5	5,3	3,7
15	16,6	16,0	15,3	14,5	13,9	13,1	12,1	11,3	10,4	9,2	8,0	6,5	4,6
14	18,7	18,0	17,2	16,3	15,6	14,7	13,6	12,7	11,7	10,4	9,0	7,3	5,2
13	21,8	21,0	20,1	19,1	18,2	17,2	15,9	14,9	13,6	12,1	10,5	8,6	6,0
12	26,0	25,0	24,0	22,7	21,7	20,5	19,0	17,7	16,2	14,5	12,5	10,2	7,2
11	28,0	27,0	25,9	24,5	23,4	22,1	20,5	19,1	17,5	15,6	13,5	11,0	7,8
10	31,2	30,0	28,8	27,3	26,1	24,6	22,8	21,3	19,5	17,4	15,0	12,3	8,7
9	35,3	34,0	32,6	30,9	29,5	27,8	25,8	24,1	22,1	19,7	17,0	13,9	9,8
8	41,6	40,0	38,4	36,4	34,8	32,8	30,4	28,4	26,0	23,2	20,0	16,4	11,6
7	48,8	47,0	45,1	42,7	40,8	38,5	35,7	33,3	30,5	27,2	23,5	19,2	13,6
6	57,2	55,0	52,8	50,0	47,8	45,1	41,8	39,0	35,7	31,9	27,5	22,5	15,9
5	64,4	62,0	59,5	56,4	53,9	50,8	47,1	44,0	40,3	35,9	31,0	25,4	17,9
4	72,8	70,0	67,2	63,7	60,9	57,4	53,2	49,7	45,5	40,6	35,0	28,7	20,3
3	85,2	82,0	78,7	74,6	71,3	67,2	62,3	58,2	53,3	47,5	41,0	33,6	23,7
2	98,8	95,0	91,2	86,4	82,6	77,9	72,2	67,4	61,7	55,1	47,5	38,9	27,5

Table B.5e. Ampacities of Flexible Cords and Cables type SOOW, SJOOW, STOW, SJTOW with 90°C insulation temperature and 3 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **SOOW, SJOOW, STOW, SJTOW with 3 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	7,2	7,0	6,7	6,3	6,0	5,7	5,3	4,9	4,5	4,0	3,5	2,8	2,0
17	9,3	9,0	8,6	8,1	7,8	7,3	6,8	6,3	5,8	5,2	4,5	3,6	2,6
16	10,4	10,0	9,6	9,1	8,7	8,2	7,6	7,1	6,5	5,8	5,0	4,1	2,9
15	12,4	12,0	11,5	10,9	10,4	9,8	9,1	8,5	7,8	6,9	6,0	4,9	3,4
14	15,6	15,0	14,4	13,6	13,0	12,3	11,4	10,6	9,7	8,7	7,5	6,1	4,3
13	17,6	17,0	16,3	15,4	14,7	13,9	12,9	12,0	11,0	9,8	8,5	6,9	4,9
12	20,8	20,0	19,2	18,2	17,4	16,4	15,2	14,2	13,0	11,6	10,0	8,2	5,8
11	23,9	23,0	22,0	20,9	20,0	18,8	17,4	16,3	14,9	13,3	11,5	9,4	6,6
10	26,0	25,0	24,0	22,7	21,7	20,5	19,0	17,7	16,2	14,5	12,5	10,2	7,2
9	30,1	29,0	27,8	26,3	25,2	23,7	22,0	20,5	18,8	16,8	14,5	11,8	8,4
8	36,4	35,0	33,6	31,8	30,4	28,7	26,6	24,8	22,7	20,3	17,5	14,3	10,1
7	41,6	40,0	38,4	36,4	34,8	32,8	30,4	28,4	26,0	23,2	20,0	16,4	11,6
6	46,8	45,0	43,2	40,9	39,1	36,9	34,2	31,9	29,2	26,1	22,5	18,4	13,0
5	54,0	52,0	49,9	47,3	45,2	42,6	39,5	36,9	33,8	30,1	26,0	21,3	15,0
4	62,4	60,0	57,6	54,6	52,2	49,2	45,6	42,6	39,0	34,8	30,0	24,6	17,4
3	72,8	70,0	67,2	63,7	60,9	57,4	53,2	49,7	45,5	40,6	35,0	28,7	20,3
2	83,2	80,0	76,8	72,8	69,6	65,6	60,8	56,8	52,0	46,4	40,0	32,8	23,2

Table B.5f. Ampacities of Flexible Cords and Cables type SOOW, SJOOW, STOW, SJTOW with 90°C insulation temperature and 4÷6 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **SOOW, SJOOW, STOW, SJTOW with 4÷6 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	5,8	5,6	5,3	5,0	4,8	4,5	4,2	3,9	3,6	3,2	2,8	2,2	1,6
17	7,4	7,2	6,9	6,5	6,2	5,9	5,4	5,1	4,6	4,1	3,6	2,9	2,0
16	8,3	8,0	7,6	7,2	6,9	6,5	6,0	5,6	5,2	4,6	4,0	3,2	2,3
15	9,9	9,6	9,2	8,7	8,3	7,8	7,2	6,8	6,2	5,5	4,8	3,9	2,7
14	12,4	12,0	11,5	10,9	10,4	9,8	9,1	8,5	7,8	6,9	6,0	4,9	3,4
13	14,1	13,6	13,0	12,3	11,8	11,1	10,3	9,6	8,8	7,8	6,8	5,5	3,9
12	16,6	16,0	15,3	14,5	13,9	13,1	12,1	11,3	10,4	9,2	8,0	6,5	4,6
11	19,1	18,4	17,6	16,7	16,0	15,0	13,9	13,0	11,9	10,6	9,2	7,5	5,3
10	20,8	20,0	19,2	18,2	17,4	16,4	15,2	14,2	13,0	11,6	10,0	8,2	5,8
9	24,1	23,2	22,2	21,1	20,1	19,0	17,6	16,4	15,0	13,4	11,6	9,5	6,7
8	29,1	28,0	26,8	25,4	24,3	22,9	21,2	19,8	18,2	16,2	14,0	11,4	8,1
7	33,2	32,0	30,7	29,1	27,8	26,2	24,3	22,7	20,8	18,5	16,0	13,1	9,2
6	37,4	36,0	34,5	32,7	31,3	29,5	27,3	25,5	23,4	20,8	18,0	14,7	10,4
5	43,2	41,6	39,9	37,8	36,1	34,1	31,6	29,5	27,0	24,1	20,8	17,0	12,0
4	49,9	48,0	46,0	43,6	41,7	39,3	36,4	34,0	31,2	27,8	24,0	19,6	13,9
3	58,2	56,0	53,7	50,9	48,7	45,9	42,5	39,7	36,4	32,4	28,0	22,9	16,2
2	66,5	64,0	61,4	58,2	55,6	52,4	48,6	45,4	41,6	37,1	32,0	26,2	18,5

Table B.5g. Ampacities of Flexible Cords and Cables type SOOW, STOW with 90°C insulation temperature and 7÷9 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables **type SOOW, STOW with 7÷9 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	5,0	4,9	4,7	4,4	4,2	4,0	3,7	3,4	3,1	2,8	2,4	2,0	1,4
17	6,5	6,3	6,0	5,7	5,4	5,1	4,7	4,4	4,0	3,6	3,1	2,5	1,8
16	7,2	7,0	6,7	6,3	6,0	5,7	5,3	4,9	4,5	4,0	3,5	2,8	2,0
15	8,7	8,4	8,0	7,6	7,3	6,8	6,3	5,9	5,4	4,8	4,2	3,4	2,4
14	10,9	10,5	10,0	9,5	9,1	8,6	7,9	7,4	6,8	6,0	5,2	4,3	3,0
13	12,3	11,9	11,4	10,8	10,3	9,7	9,0	8,4	7,7	6,9	5,9	4,8	3,4
12	14,5	14,0	13,4	12,7	12,1	11,4	10,6	9,9	9,1	8,1	7,0	5,7	4,0
11	16,7	16,1	15,4	14,6	14,0	13,2	12,2	11,4	10,4	9,3	8,0	6,6	4,6
10	18,2	17,5	16,8	15,9	15,2	14,3	13,3	12,4	11,3	10,1	8,7	7,1	5,0
9	21,1	20,3	19,4	18,4	17,6	16,6	15,4	14,4	13,1	11,7	10,1	8,3	5,8
8	25,4	24,5	23,5	22,2	21,3	20,0	18,6	17,3	15,9	14,2	12,2	10,0	7,1
7	29,1	28,0	26,8	25,4	24,3	22,9	21,2	19,8	18,2	16,2	14,0	11,4	8,1
6	32,7	31,5	30,2	28,6	27,4	25,8	23,9	22,3	20,4	18,2	15,7	12,9	9,1
5	37,8	36,4	34,9	33,1	31,6	29,8	27,6	25,8	23,6	21,1	18,2	14,9	10,5
4	43,6	42,0	40,3	38,2	36,5	34,4	31,9	29,8	27,3	24,3	21,0	17,2	12,1
3	50,9	49,0	47,0	44,5	42,6	40,1	37,2	34,7	31,8	28,4	24,5	20,0	14,2
2	58,2	56,0	53,7	50,9	48,7	45,9	42,5	39,7	36,4	32,4	28,0	22,9	16,2

Table B.5h. Ampacities of Flexible Cords and Cables type SOOW, STOW with 90°C insulation temperature and 10÷20 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **SOOW, STOW with 10÷20 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	3,6	3,5	3,3	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	1,4	1,0
17	4,6	4,5	4,3	4,0	3,9	3,6	3,4	3,1	2,9	2,6	2,2	1,8	1,3
16	5,2	5,0	4,8	4,5	4,3	4,1	3,8	3,5	3,2	2,9	2,5	2,0	1,4
15	6,2	6,0	5,7	5,4	5,2	4,9	4,5	4,2	3,9	3,4	3,0	2,4	1,7
14	7,8	7,5	7,2	6,8	6,5	6,1	5,7	5,3	4,8	4,3	3,7	3,0	2,1
13	8,8	8,5	8,1	7,7	7,3	6,9	6,4	6,0	5,5	4,9	4,2	3,4	2,4
12	10,4	10,0	9,6	9,1	8,7	8,2	7,6	7,1	6,5	5,8	5,0	4,1	2,9
11	11,9	11,5	11,0	10,4	10,0	9,4	8,7	8,1	7,4	6,6	5,7	4,7	3,3
10	13,0	12,5	12,0	11,3	10,8	10,2	9,5	8,8	8,1	7,2	6,2	5,1	3,6
9	15,0	14,5	13,9	13,1	12,6	11,8	11,0	10,2	9,4	8,4	7,2	5,9	4,2
8	18,2	17,5	16,8	15,9	15,2	14,3	13,3	12,4	11,3	10,1	8,7	7,1	5,0
7	20,8	20,0	19,2	18,2	17,4	16,4	15,2	14,2	13,0	11,6	10,0	8,2	5,8
6	23,4	22,5	21,6	20,4	19,5	18,4	17,1	15,9	14,6	13,0	11,2	9,2	6,5
5	27,0	26,0	24,9	23,6	22,6	21,3	19,7	18,4	16,9	15,0	13,0	10,6	7,5
4	31,2	30,0	28,8	27,3	26,1	24,6	22,8	21,3	19,5	17,4	15,0	12,3	8,7
3	36,4	35,0	33,6	31,8	30,4	28,7	26,6	24,8	22,7	20,3	17,5	14,3	10,1
2	41,6	40,0	38,4	36,4	34,8	32,8	30,4	28,4	26,0	23,2	20,0	16,4	11,6

Table B.5i. Ampacities of Flexible Cords and Cables type SOOW, STOW with 90°C insulation temperature and 21÷30 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **SOOW, STOW with 21÷30 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	3,2	3,2	3,0	2,8	2,7	2,5	2,3	2,2	2,0	1,8	1,5	1,2	0,9
17	4,2	4,1	3,8	3,6	3,5	3,3	3,0	2,8	2,6	2,3	2,0	1,6	1,1
16	4,6	4,5	4,3	4,0	3,9	3,6	3,4	3,1	2,9	2,6	2,2	1,8	1,3
15	5,6	5,4	5,1	4,9	4,6	4,4	4,1	3,8	3,5	3,1	2,7	2,2	1,5
14	7,0	6,8	6,4	6,1	5,8	5,5	5,1	4,7	4,3	3,9	3,3	2,7	1,9
13	7,9	7,7	7,3	6,9	6,6	6,2	5,8	5,4	4,9	4,4	3,8	3,1	2,2
12	9,3	9,0	8,6	8,1	7,8	7,3	6,8	6,3	5,8	5,2	4,5	3,6	2,6
11	10,7	10,4	9,9	9,4	9,0	8,4	7,8	7,3	6,7	6,0	5,1	4,2	3,0
10	11,7	11,3	10,8	10,2	9,7	9,2	8,5	7,9	7,3	6,5	5,6	4,6	3,2
9	13,5	13,1	12,5	11,8	11,3	10,7	9,9	9,2	8,4	7,5	6,5	5,3	3,7
8	16,3	15,8	15,1	14,3	13,7	12,9	11,9	11,1	10,2	9,1	7,8	6,4	4,5
7	18,7	18,0	17,2	16,3	15,6	14,7	13,6	12,7	11,7	10,4	9,0	7,3	5,2
6	21,0	20,3	19,4	18,4	17,6	16,6	15,3	14,3	13,1	11,7	10,1	8,3	5,8
5	24,3	23,4	22,4	21,2	20,3	19,1	17,7	16,6	15,2	13,5	11,7	9,5	6,7
4	28,0	27,0	25,9	24,5	23,4	22,1	20,5	19,1	17,5	15,6	13,5	11,0	7,8
3	32,7	31,5	30,2	28,6	27,4	25,8	23,9	22,3	20,4	18,2	15,7	12,9	9,1
2	37,4	36,0	34,5	32,7	31,3	29,5	27,3	25,5	23,4	20,8	18,0	14,7	10,4

Table B.5l. Ampacities of Flexible Cords and Cables type SOOW, STOW with 90°C insulation temperature and 31÷40 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **SOOW, STOW with 31÷40 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	2,9	2,8	2,6	2,5	2,4	2,2	2,1	1,9	1,8	1,6	1,4	1,1	0,8
17	3,7	3,6	3,4	3,2	3,1	2,9	2,7	2,5	2,3	2,0	1,8	1,4	1,0
16	4,1	4,0	3,8	3,6	3,4	3,2	3,0	2,8	2,6	2,3	2,0	1,6	1,1
15	4,9	4,8	4,6	4,3	4,1	3,9	3,6	3,4	3,1	2,7	2,4	1,9	1,3
14	6,2	6,0	5,7	5,4	5,2	4,9	4,5	4,2	3,9	3,4	3,0	2,4	1,7
13	7,0	6,8	6,5	6,1	5,9	5,5	5,1	4,8	4,4	3,9	3,4	2,7	1,9
12	8,3	8,0	7,6	7,2	6,9	6,5	6,0	5,6	5,2	4,6	4,0	3,2	2,3
11	9,5	9,2	8,8	8,3	8,0	7,5	6,9	6,5	5,9	5,3	4,6	3,7	2,6
10	10,4	10,0	9,6	9,1	8,7	8,2	7,6	7,1	6,5	5,8	5,0	4,1	2,9
9	12,0	11,6	11,1	10,5	10,0	9,5	8,8	8,2	7,5	6,7	5,8	4,7	3,3
8	14,5	14,0	13,4	12,7	12,1	11,4	10,6	9,9	9,1	8,1	7,0	5,7	4,0
7	16,6	16,0	15,3	14,5	13,9	13,1	12,1	11,3	10,4	9,2	8,0	6,5	4,6
6	18,7	18,0	17,2	16,3	15,6	14,7	13,6	12,7	11,7	10,4	9,0	7,3	5,2
5	21,6	20,8	19,9	18,9	18,0	17,0	15,8	14,7	13,5	12,0	10,4	8,5	6,0
4	24,9	24,0	23,0	21,8	20,8	19,6	18,2	17,0	15,6	13,9	12,0	9,8	6,9
3	29,1	28,0	26,8	25,4	24,3	22,9	21,2	19,8	18,2	16,2	14,0	11,4	8,1
2	33,2	32,0	30,7	29,1	27,8	26,2	24,3	22,7	20,8	18,5	16,0	13,1	9,2

Table B.5m. Ampacities of Flexible Cords and Cables type SOOW, STOW with 90°C insulation temperature and 41÷60 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(1)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **SOOW, STOW with 41÷60 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
20 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
18	2,5	2,5	2,3	2,2	2,1	2,0	1,8	1,7	1,5	1,4	1,2	1,0	0,7
17	3,2	3,2	3,0	2,8	2,7	2,5	2,3	2,2	2,0	1,8	1,5	1,2	0,9
16	3,6	3,5	3,3	3,1	3,0	2,8	2,6	2,4	2,2	2,0	1,7	1,4	1,0
15	4,3	4,2	4,0	3,8	3,6	3,4	3,1	2,9	2,7	2,4	2,1	1,7	1,2
14	5,4	5,3	5,0	4,7	4,5	4,3	3,9	3,7	3,4	3,0	2,6	2,1	1,5
13	6,1	6,0	5,7	5,4	5,1	4,8	4,5	4,2	3,8	3,4	2,9	2,4	1,7
12	7,2	7,0	6,7	6,3	6,0	5,7	5,3	4,9	4,5	4,0	3,5	2,8	2,0
11	8,3	8,1	7,7	7,3	7,0	6,6	6,1	5,7	5,2	4,6	4,0	3,3	2,3
10	9,1	8,8	8,4	7,9	7,6	7,1	6,6	6,2	5,6	5,0	4,3	3,5	2,5
9	10,5	10,2	9,7	9,2	8,8	8,3	7,7	7,2	6,5	5,8	5,0	4,1	2,9
8	12,7	12,3	11,7	11,1	10,6	10,0	9,3	8,6	7,9	7,1	6,1	5,0	3,5
7	14,5	14,0	13,4	12,7	12,1	11,4	10,6	9,9	9,1	8,1	7,0	5,7	4,0
6	16,3	15,8	15,1	14,3	13,7	12,9	11,9	11,1	10,2	9,1	7,8	6,4	4,5
5	18,9	18,2	17,4	16,5	15,8	14,9	13,8	12,9	11,8	10,5	9,1	7,4	5,2
4	21,8	21,0	20,1	19,1	18,2	17,2	15,9	14,9	13,6	12,1	10,5	8,6	6,0
3	25,4	24,5	23,5	22,2	21,3	20,0	18,6	17,3	15,9	14,2	12,2	10,0	7,1
2	29,1	28,0	26,8	25,4	24,3	22,9	21,2	19,8	18,2	16,2	14,0	11,4	8,1

Table B.5n. Ampacities of Flexible Cords and Cables type W, G, G-GC with 90°C insulation temperature and 1 current-carrying conductor according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(2)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **W, G, G-GC with 1 current-carrying conductor** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
12 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-
8	83,2	80,0	76,8	72,8	69,6	65,6	60,8	56,8	52,0	46,4	40,0	32,8	23,2
6	109,2	105,0	100,8	95,5	91,3	86,1	79,8	74,5	68,2	60,9	52,5	43,0	30,4
4	145,6	140,0	134,4	127,4	121,8	114,8	106,4	99,4	91,0	81,2	70,0	57,4	40,6
3	171,6	165,0	158,4	150,1	143,5	135,3	125,4	117,1	107,2	95,7	82,5	67,6	47,8
2	197,6	190,0	182,4	172,9	165,3	155,8	144,4	134,9	123,5	110,2	95,0	77,9	55,1
1	228,8	220,0	211,2	200,2	191,4	180,4	167,2	156,2	143,0	127,6	110,0	90,2	63,8
1/0	270,4	260,0	249,6	236,6	226,2	213,2	197,6	184,6	169,0	150,8	130,0	106,6	75,4
2/0	312,0	300,0	288,0	273,0	261,0	246,0	228,0	213,0	195,0	174,0	150,0	123,0	87,0
3/0	364,0	350,0	336,0	318,5	304,5	287,0	266,0	248,5	227,5	203,0	175,0	143,5	101,5
4/0	421,2	405,0	388,8	368,5	352,3	332,1	307,8	287,5	263,2	234,9	202,5	166,0	117,4
250	473,2	455,0	436,8	414,0	395,8	373,1	345,8	323,0	295,7	263,9	227,5	186,5	131,9
300	525,2	505,0	484,8	459,5	439,3	414,1	383,8	358,5	328,2	292,9	252,5	207,0	146,4
350	592,8	570,0	547,2	518,7	495,9	467,4	433,2	404,7	370,5	330,6	285,0	233,7	165,3
400	639,6	615,0	590,4	559,6	535,0	504,3	467,4	436,6	399,7	356,7	307,5	252,1	178,3
500	728,0	700,0	672,0	637,0	609,0	574,0	532,0	497,0	455,0	406,0	350,0	287,0	203,0
600	811,2	780,0	748,8	709,8	678,6	639,6	592,8	553,8	507,0	452,4	390,0	319,8	226,2
700	889,2	855,0	820,8	778,0	743,8	701,1	649,8	607,0	555,7	495,9	427,5	350,5	247,9
750	920,4	885,0	849,6	805,3	769,9	725,7	672,6	628,3	575,2	513,3	442,5	362,8	256,6
800	956,8	920,0	883,2	837,2	800,4	754,4	699,2	653,2	598,0	533,6	460,0	377,2	266,8
900	1024,4	985,0	945,6	896,3	856,9	807,7	748,6	699,3	640,2	571,3	492,5	403,8	285,6
1000	1097,2	1055,0	1012,8	960,0	917,8	865,1	801,8	749,0	685,7	611,9	527,5	432,5	305,9

Table B.5o. Ampacities of Flexible Cords and Cables type W, G, G-GC with 90°C insulation temperature and 2 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(2)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **W, G, G-GC with 2 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
12 AWG	43,6	42,0	40,3	38,2	36,5	34,4	31,9	29,8	27,3	24,3	21,0	17,2	12,1
10	61,3	59,0	56,6	53,6	51,3	48,3	44,8	41,8	38,3	34,2	29,5	24,1	17,1
8	76,9	74,0	71,0	67,3	64,3	60,6	56,2	52,5	48,1	42,9	37,0	30,3	21,4
6	102,9	99,0	95,0	90,0	86,1	81,1	75,2	70,2	64,3	57,4	49,5	40,5	28,7
4	135,2	130,0	124,8	118,3	113,1	106,6	98,8	92,3	84,5	75,4	65,0	53,3	37,7
3	158,0	152,0	145,9	138,3	132,2	124,6	115,5	107,9	98,8	88,1	76,0	62,3	44,0
2	180,9	174,0	167,0	158,3	151,3	142,6	132,2	123,5	113,1	100,9	87,0	71,3	50,4
1	210,0	202,0	193,9	183,8	175,7	165,6	153,5	143,4	131,3	117,1	101,0	82,8	58,5
1/0	243,3	234,0	224,6	212,9	203,5	191,8	177,8	166,1	152,1	135,7	117,0	95,9	67,8
2/0	281,8	271,0	260,1	246,6	235,7	222,2	205,9	192,4	176,1	157,1	135,5	111,1	78,5
3/0	325,5	313,0	300,4	284,8	272,3	256,6	237,8	222,2	203,4	181,5	156,5	128,3	90,7
4/0	375,4	361,0	346,5	328,5	314,0	296,0	274,3	256,3	234,6	209,3	180,5	148,0	104,6
250	418,0	402,0	385,9	365,8	349,7	329,6	305,5	285,4	261,3	233,1	201,0	164,8	116,5
300	466,9	449,0	431,0	408,5	390,6	368,1	341,2	318,7	291,8	260,4	224,5	184,0	130,2
350	514,8	495,0	475,2	450,4	430,6	405,9	376,2	351,4	321,7	287,1	247,5	202,9	143,5
400	556,4	535,0	513,6	486,8	465,4	438,7	406,6	379,8	347,7	310,3	267,5	219,3	155,1
500	637,5	613,0	588,4	557,8	533,3	502,6	465,8	435,2	398,4	355,5	306,5	251,3	177,7
600	-	-	-	-	-	-	-	-	-	-	-	-	-
700	-	-	-	-	-	-	-	-	-	-	-	-	-
750	-	-	-	-	-	-	-	-	-	-	-	-	-
800	-	-	-	-	-	-	-	-	-	-	-	-	-
900	-	-	-	-	-	-	-	-	-	-	-	-	-
1000	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B.5p. Ampacities of Flexible Cords and Cables type W, G, G-GC with 90°C insulation temperature and 3 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(2)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **W, G, G-GC with 3 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
12 AWG	36,4	35,0	33,6	31,8	30,4	28,7	26,6	24,8	22,7	20,3	17,5	14,3	10,1
10	50,9	49,0	47,0	44,5	42,6	40,1	37,2	34,7	31,8	28,4	24,5	20,0	14,2
8	67,6	65,0	62,4	59,1	56,5	53,3	49,4	46,1	42,2	37,7	32,5	26,6	18,8
6	90,4	87,0	83,5	79,1	75,6	71,3	66,1	61,7	56,5	50,4	43,5	35,6	25,2
4	118,5	114,0	109,4	103,7	99,1	93,4	86,6	80,9	74,1	66,1	57,0	46,7	33,0
3	138,3	133,0	127,6	121,0	115,7	109,0	101,0	94,4	86,4	77,1	66,5	54,5	38,5
2	158,0	152,0	145,9	138,3	132,2	124,6	115,5	107,9	98,8	88,1	76,0	62,3	44,0
1	184,0	177,0	169,9	161,0	153,9	145,1	134,5	125,6	115,0	102,6	88,5	72,5	51,3
1/0	213,2	205,0	196,8	186,5	178,3	168,1	155,8	145,5	133,2	118,9	102,5	84,0	59,4
2/0	246,4	237,0	227,5	215,6	206,1	194,3	180,1	168,2	154,0	137,4	118,5	97,1	68,7
3/0	284,9	274,0	263,0	249,3	238,3	224,6	208,2	194,5	178,1	158,9	137,0	112,3	79,4
4/0	328,6	316,0	303,3	287,5	274,9	259,1	240,1	224,3	205,4	183,2	158,0	129,5	91,6
250	366,0	352,0	337,9	320,3	306,2	288,6	267,5	249,9	228,8	204,1	176,0	144,3	102,0
300	408,7	393,0	377,2	357,6	341,9	322,2	298,6	279,0	255,4	227,9	196,5	161,1	113,9
350	450,3	433,0	415,6	394,0	376,7	355,0	329,0	307,4	281,4	251,1	216,5	177,5	125,5
400	486,7	468,0	449,2	425,8	407,1	383,7	355,6	332,2	304,2	271,4	234,0	191,8	135,7
500	557,4	536,0	514,5	487,7	466,3	439,5	407,3	380,5	348,4	310,8	268,0	219,7	155,4
600	-	-	-	-	-	-	-	-	-	-	-	-	-
700	-	-	-	-	-	-	-	-	-	-	-	-	-
750	-	-	-	-	-	-	-	-	-	-	-	-	-
800	-	-	-	-	-	-	-	-	-	-	-	-	-
900	-	-	-	-	-	-	-	-	-	-	-	-	-
1000	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B.5q. Ampacities of Flexible Cords and Cables type W, G, G-GC with 90°C insulation temperature and 4÷6 current-carrying conductors according to NFPA 70 (NEC) - Ed. 2020-2023 – Table 400.5(A)(2)

Conductor's size [AWG/kcmil]	Allowable ampacities of Flexible Cords and Cables type **W, G, G-GC with 4÷6 current-carrying conductors** [A], Insulation temperature 90°C												
	Ambient temperature Ta												
	21÷25°C	26÷30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷85°C
12 AWG	29,1	28,0	26,8	25,4	24,3	22,9	21,2	19,8	18,2	16,2	14,0	11,4	8,1
10	40,7	39,2	37,6	35,6	34,1	32,1	29,7	27,8	25,4	22,7	19,6	16,0	11,3
8	54,0	52,0	49,9	47,3	45,2	42,6	39,5	36,9	33,8	30,1	26,0	21,3	15,0
6	72,3	69,6	66,8	63,3	60,5	57,0	52,8	49,4	45,2	40,3	34,8	28,5	20,1
4	94,8	91,2	87,5	82,9	79,3	74,7	69,3	64,7	59,2	52,8	45,6	37,3	26,4
3	110,6	106,4	102,1	96,8	92,5	87,2	80,8	75,5	69,1	61,7	53,2	43,6	30,8
2	126,4	121,6	116,7	110,6	105,7	99,7	92,4	86,3	79,0	70,5	60,8	49,8	35,2
1	147,2	141,6	135,9	128,8	123,1	116,1	107,6	100,5	92,0	82,1	70,8	58,0	41,0
1/0	170,5	164,0	157,4	149,2	142,6	134,4	124,6	116,4	106,6	95,1	82,0	67,2	47,5
2/0	197,1	189,6	182,0	172,5	164,9	155,4	144,0	134,6	123,2	109,9	94,8	77,7	54,9
3/0	227,9	219,2	210,4	199,4	190,7	179,7	166,5	155,6	142,4	127,1	109,6	89,8	63,5
4/0	262,9	252,8	242,6	230,0	219,9	207,2	192,1	179,4	164,3	146,6	126,4	103,6	73,3
250	292,8	281,6	270,3	256,2	244,9	230,9	214,0	199,9	183,0	163,3	140,8	115,4	81,6
300	326,9	314,4	301,8	286,1	273,5	257,8	238,9	223,2	204,3	182,3	157,2	128,9	91,1
350	360,2	346,4	332,5	315,2	301,3	284,0	263,2	245,9	225,1	200,9	173,2	142,0	100,4
400	389,3	374,4	359,4	340,7	325,7	307,0	284,5	265,8	243,3	217,1	187,2	153,5	108,5
500	445,9	428,8	411,6	390,2	373,0	351,6	325,8	304,4	278,7	248,7	214,4	175,8	124,3
600	-	-	-	-	-	-	-	-	-	-	-	-	-
700	-	-	-	-	-	-	-	-	-	-	-	-	-
750	-	-	-	-	-	-	-	-	-	-	-	-	-
800	-	-	-	-	-	-	-	-	-	-	-	-	-
900	-	-	-	-	-	-	-	-	-	-	-	-	-
1000	-	-	-	-	-	-	-	-	-	-	-	-	-

B.6 Ampacity of conductors according to CSA C22.1 (CE Code)

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

Ampacity of conductors in free air according to CSA C22.1 (CE Code)

Table B.6a. Ampacities of conductors in free air with 60°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 1)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], rated not more than 5000V, in free air Insulation temperature 60°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	25,0	22,7	20,5	17,7	14,5	10,2	-	-	-	-	-
12	30,0	27,3	24,6	21,3	17,4	12,3	-	-	-	-	-
10	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-	-	-
8	60,0	54,6	49,2	42,6	34,8	24,6	-	-	-	-	-
6	80,0	72,8	65,6	56,8	46,4	32,8	-	-	-	-	-
4	105,0	95,5	86,1	74,5	60,9	43,0	-	-	-	-	-
3	120,0	109,2	98,4	85,2	69,6	49,2	-	-	-	-	-
2	140,0	127,4	114,8	99,4	81,2	57,4	-	-	-	-	-
1	165,0	150,1	135,3	117,1	95,7	67,6	-	-	-	-	-
1/0	195,0	177,4	159,9	138,4	113,1	79,9	-	-	-	-	-
2/0	220,0	200,2	180,4	156,2	127,6	90,2	-	-	-	-	-
3/0	260,0	236,6	213,2	184,6	150,8	106,6	-	-	-	-	-
4/0	300,0	273,0	246,0	213,0	174,0	123,0	-	-	-	-	-
250 kcmil	340,0	309,4	278,8	241,4	197,2	139,4	-	-	-	-	-
300	370,0	336,7	303,4	262,7	214,6	151,7	-	-	-	-	-
350	425,0	386,7	348,5	301,7	246,5	174,2	-	-	-	-	-
400	455,0	414,0	373,1	323,0	263,9	186,5	-	-	-	-	-
500	520,0	473,2	426,4	369,2	301,6	213,2	-	-	-	-	-
600	580,0	527,8	475,6	411,8	336,4	237,8	-	-	-	-	-
700	630,0	573,3	516,6	447,3	365,4	258,3	-	-	-	-	-
750	655,0	596,0	537,1	465,0	379,9	268,5	-	-	-	-	-
800	680,0	618,8	557,6	482,8	394,4	278,8	-	-	-	-	-
900	730,0	664,3	598,6	518,3	423,4	299,3	-	-	-	-	-
1000	785,0	714,3	643,7	557,3	455,3	321,8	-	-	-	-	-
1250	890,0	809,9	729,8	631,9	516,2	364,9	-	-	-	-	-
1500	985,0	896,3	807,7	699,3	571,3	403,8	-	-	-	-	-
1750	1070,0	973,7	877,4	759,7	620,6	438,7	-	-	-	-	-
2000	1160,0	1055,6	951,2	823,6	672,8	475,6	-	-	-	-	-

Table B.6b. Ampacities of conductors in free air with 75°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 1)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V, in free air** Insulation temperature 75°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	30,0	28,2	26,4	24,6	22,5	20,1	17,4	14,1	9,9	-	-
12	35,0	32,9	30,8	28,7	26,2	23,4	20,3	16,4	11,5	-	-
10	50,0	47,0	44,0	41,0	37,5	33,5	29,0	23,5	16,5	-	-
8	70,0	65,8	61,6	57,4	52,5	46,9	40,6	32,9	23,1	-	-
6	95,0	89,3	83,6	77,9	71,2	63,6	55,1	44,6	31,3	-	-
4	125,0	117,5	110,0	102,5	93,7	83,7	72,5	58,7	41,2	-	-
3	145,0	136,3	127,6	118,9	108,7	97,1	84,1	68,1	47,8	-	-
2	170,0	159,8	149,6	139,4	127,5	113,9	98,6	79,9	56,1	-	-
1	195,0	183,3	171,6	159,9	146,2	130,6	113,1	91,6	64,3	-	-
1/0	230,0	216,2	202,4	188,6	172,5	154,1	133,4	108,1	75,9	-	-
2/0	265,0	249,1	233,2	217,3	198,7	177,5	153,7	124,5	87,4	-	-
3/0	310,0	291,4	272,8	254,2	232,5	207,7	179,8	145,7	102,3	-	-
4/0	360,0	338,4	316,8	295,2	270,0	241,2	208,8	169,2	118,8	-	-
250 kcmil	405,0	380,7	356,4	332,1	303,7	271,3	234,9	190,3	133,6	-	-
300	445,0	418,3	391,6	364,9	333,7	298,1	258,1	209,1	146,8	-	-
350	505,0	474,7	444,4	414,1	378,7	338,3	292,9	237,3	166,6	-	-
400	545,0	512,3	479,6	446,9	408,7	365,1	316,1	256,1	179,8	-	-
500	620,0	582,8	545,6	508,4	465,0	415,4	359,6	291,4	204,6	-	-
600	690,0	648,6	607,2	565,8	517,5	462,3	400,2	324,3	227,7	-	-
700	755,0	709,7	664,4	619,1	566,2	505,8	437,9	354,8	249,1	-	-
750	785,0	737,9	690,8	643,7	588,7	525,9	455,3	368,9	259,0	-	-
800	815,0	766,1	717,2	668,3	611,2	546,0	472,7	383,0	268,9	-	-
900	870,0	817,8	765,6	713,4	652,5	582,9	504,6	408,9	287,1	-	-
1000	935,0	878,9	822,8	766,7	701,2	626,4	542,3	439,4	308,5	-	-
1250	1065,0	1001,1	937,2	873,3	798,7	713,5	617,7	500,5	351,4	-	-
1500	1175,0	1104,5	1034,0	963,5	881,2	787,2	681,5	552,2	387,7	-	-
1750	1280,0	1203,2	1126,4	1049,6	960,0	857,6	742,4	601,6	422,4	-	-
2000	1385,0	1301,9	1218,8	1135,7	1038,7	927,9	803,3	650,9	457,0	-	-

Table B.6c. Ampacities of conductors in free air with 90°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 1)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V, in free air** Insulation temperature 90°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	35,0	33,6	31,8	30,4	28,7	26,6	24,8	22,7	20,3	17,5	14,3
12	40,0	38,4	36,4	34,8	32,8	30,4	28,4	26,0	23,2	20,0	16,4
10	55,0	52,8	50,0	47,8	45,1	41,8	39,0	35,7	31,9	27,5	22,5
8	80,0	76,8	72,8	69,6	65,6	60,8	56,8	52,0	46,4	40,0	32,8
6	105,0	100,8	95,5	91,3	86,1	79,8	74,5	68,2	60,9	52,5	43,0
4	140,0	134,4	127,4	121,8	114,8	106,4	99,4	91,0	81,2	70,0	57,4
3	165,0	158,4	150,1	143,5	135,3	125,4	117,1	107,2	95,7	82,5	67,6
2	190,0	182,4	172,9	165,3	155,8	144,4	134,9	123,5	110,2	95,0	77,9
1	220,0	211,2	200,2	191,4	180,4	167,2	156,2	143,0	127,6	110,0	90,2
1/0	260,0	249,6	236,6	226,2	213,2	197,6	184,6	169,0	150,8	130,0	106,6
2/0	300,0	288,0	273,0	261,0	246,0	228,0	213,0	195,0	174,0	150,0	123,0
3/0	350,0	336,0	318,5	304,5	287,0	266,0	248,5	227,5	203,0	175,0	143,5
4/0	405,0	388,8	368,5	352,3	332,1	307,8	287,5	263,2	234,9	202,5	166,0
250 kcmil	455,0	436,8	414,0	395,8	373,1	345,8	323,0	295,7	263,9	227,5	186,5
300	500,0	480,0	455,0	435,0	410,0	380,0	355,0	325,0	290,0	250,0	205,0
350	570,0	547,2	518,7	495,9	467,4	433,2	404,7	370,5	330,6	285,0	233,7
400	615,0	590,4	559,6	535,0	504,3	467,4	436,6	399,7	356,7	307,5	252,1
500	700,0	672,0	637,0	609,0	574,0	532,0	497,0	455,0	406,0	350,0	287,0
600	780,0	748,8	709,8	678,6	639,6	592,8	553,8	507,0	452,4	390,0	319,8
700	850,0	816,0	773,5	739,5	697,0	646,0	603,5	552,5	493,0	425,0	348,5
750	885,0	849,6	805,3	769,9	725,7	672,6	628,3	575,2	513,3	442,5	362,8
800	920,0	883,2	837,2	800,4	754,4	699,2	653,2	598,0	533,6	460,0	377,2
900	980,0	940,8	891,8	852,6	803,6	744,8	695,8	637,0	568,4	490,0	401,8
1000	1055,0	1012,8	960,0	917,8	865,1	801,8	749,0	685,7	611,9	527,5	432,5
1250	1200,0	1152,0	1092,0	1044,0	984,0	912,0	852,0	780,0	696,0	600,0	492,0
1500	1325,0	1272,0	1205,7	1152,7	1086,5	1007,0	940,7	861,2	768,5	662,5	543,2
1750	1445,0	1387,2	1314,9	1257,1	1184,9	1098,2	1025,9	939,2	838,1	722,5	592,4
2000	1560,0	1497,6	1419,6	1357,2	1279,2	1185,6	1107,6	1014,0	904,8	780,0	639,6

Table B.6d. Ampacities of conductors in free air with 110°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 1)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V, in free air**, Ambient temperature Ta, Insulation temperature 110°C															
	Ambient temperature Ta															
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷90°C	91÷100°C	101÷110°C	111÷120°C	121÷130°C	131÷140°C
14 AWG	40,0	38,8	37,6	36,0	34,8	33,2	31,6	30,0	28,4	26,4	24,4	20,0	14,0	-	-	-	-
12	45,0	43,6	42,3	40,5	39,1	37,3	35,5	33,7	31,9	29,7	27,4	22,5	15,7	-	-	-	-
10	65,0	63,0	61,1	58,5	56,5	53,9	51,3	48,7	46,1	42,9	39,6	32,5	22,7	-	-	-	-
8	90,0	87,3	84,6	81,0	78,3	74,7	71,1	67,5	63,9	59,4	54,9	45,0	31,5	-	-	-	-
6	120,0	116,4	112,8	108,0	104,4	99,6	94,8	90,0	85,2	79,2	73,2	60,0	42,0	-	-	-	-
4	160,0	155,2	150,4	144,0	139,2	132,8	126,4	120,0	113,6	105,6	97,6	80,0	56,0	-	-	-	-
3	185,0	179,4	173,9	166,5	160,9	153,5	146,1	138,7	131,3	122,1	112,8	92,5	64,7	-	-	-	-
2	215,0	208,5	202,1	193,5	187,0	178,4	169,8	161,2	152,6	141,9	131,1	107,5	75,2	-	-	-	-
1	245,0	237,6	230,3	220,5	213,1	203,3	193,5	183,7	173,9	161,7	149,4	122,5	85,7	-	-	-	-
1/0	290,0	281,3	272,6	261,0	252,3	240,7	229,1	217,5	205,9	191,4	176,9	145,0	101,5	-	-	-	-
2/0	335,0	324,9	314,9	301,5	291,4	278,0	264,6	251,2	237,8	221,1	204,3	167,5	117,2	-	-	-	-
3/0	390,0	378,3	366,6	351,0	339,3	323,7	308,1	292,5	276,9	257,4	237,9	195,0	136,5	-	-	-	-
4/0	455,0	441,3	427,7	409,5	395,8	377,6	359,4	341,2	323,0	300,3	277,5	227,5	159,2	-	-	-	-
250 kcmil	510,0	494,7	479,4	459,0	443,7	423,3	402,9	382,5	362,1	336,6	311,1	255,0	178,5	-	-	-	-
300	560,0	543,2	526,4	504,0	487,2	464,8	442,4	420,0	397,6	369,6	341,6	280,0	196,0	-	-	-	-
350	640,0	620,8	601,6	576,0	556,8	531,2	505,6	480,0	454,4	422,4	390,4	320,0	224,0	-	-	-	-
400	690,0	669,3	648,6	621,0	600,3	572,7	545,1	517,5	489,9	455,4	420,9	345,0	241,5	-	-	-	-
500	785,0	761,4	737,9	706,5	682,9	651,5	620,1	588,7	557,3	518,1	478,8	392,5	274,7	-	-	-	-
600	870,0	843,9	817,8	783,0	756,9	722,1	687,3	652,5	617,7	574,2	530,7	435,0	304,5	-	-	-	-
700	955,0	926,3	897,7	859,5	830,8	792,6	754,4	716,2	678,0	630,3	582,5	477,5	334,2	-	-	-	-
750	990,0	960,3	930,6	891,0	861,3	821,7	782,1	742,5	702,9	653,4	603,9	495,0	346,5	-	-	-	-
800	1030,0	999,1	968,2	927,0	896,1	854,9	813,7	772,5	731,3	679,8	628,3	515,0	360,5	-	-	-	-
900	1100,0	1067,0	1034,0	990,0	957,0	913,0	869,0	825,0	781,0	726,0	671,0	550,0	385,0	-	-	-	-
1000	1180,0	1144,6	1109,2	1062,0	1026,6	979,4	932,2	885,0	837,8	778,8	719,8	590,0	413,0	-	-	-	-
1250	1345,0	1304,6	1264,3	1210,5	1170,1	1116,3	1062,5	1008,7	954,9	887,7	820,4	672,5	470,7	-	-	-	-
1500	1485,0	1440,4	1395,9	1336,5	1291,9	1232,5	1173,1	1113,7	1054,3	980,1	905,8	742,5	519,7	-	-	-	-
1750	1620,0	1571,4	1522,8	1458,0	1409,4	1344,6	1279,8	1215,0	1150,2	1069,2	988,2	810,0	567,0	-	-	-	-
2000	1750,0	1697,5	1645,0	1575,0	1522,5	1452,5	1382,5	1312,5	1242,5	1155,0	1067,5	875,0	612,5	-	-	-	-

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V, in free air**, Ambient temperature Ta, Insulation temperature 125°C																
	Ambient temperature Ta																
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷90°C	91÷100°C	101÷110°C	111÷120°C	121÷130°C	131÷140°C
14 AWG	40,0	38,8	38,0	36,8	35,6	34,4	33,2	31,6	30,4	29,2	27,6	24,4	20,4	16,0	9,2	-	-
12	45,0	43,6	42,7	41,4	40,0	38,7	37,3	35,5	34,2	32,8	31,0	27,4	22,9	18,0	10,3	-	-
10	65,0	63,0	61,7	59,8	57,8	55,9	53,9	51,3	49,4	47,4	44,8	39,6	33,1	26,0	14,9	-	-
8	95,0	92,1	90,2	87,4	84,5	81,7	78,8	75,0	72,2	69,3	65,5	57,9	48,4	38,0	21,8	-	-
6	130,0	126,1	123,5	119,6	115,7	111,8	107,9	102,7	98,8	94,9	89,7	79,3	66,3	52,0	29,9	-	-
4	170,0	164,9	161,5	156,4	151,3	146,2	141,1	134,3	129,2	124,1	117,3	103,7	86,7	68,0	39,1	-	-
3	195,0	189,1	185,2	179,4	173,5	167,7	161,8	154,0	148,2	142,3	134,5	118,9	99,4	78,0	44,8	-	-
2	230,0	223,1	218,5	211,6	204,7	197,8	190,9	181,7	174,8	167,9	158,7	140,3	117,3	92,0	52,9	-	-
1	265,0	257,0	251,7	243,8	235,8	227,9	219,9	209,3	201,4	193,4	182,8	161,6	135,1	106,0	60,9	-	-
1/0	310,0	300,7	294,5	285,2	275,9	266,6	257,3	244,9	235,6	226,3	213,9	189,1	158,1	124,0	71,3	-	-
2/0	355,0	344,3	337,2	326,6	315,9	305,3	294,6	280,4	269,8	259,1	244,9	216,5	181,0	142,0	81,6	-	-
3/0	420,0	407,4	399,0	386,4	373,8	361,2	348,6	331,8	319,2	306,6	289,8	256,2	214,2	168,0	96,6	-	-
4/0	485,0	470,4	460,7	446,2	431,6	417,1	402,5	383,1	368,6	354,0	334,6	295,8	247,3	194,0	111,5	-	-
250 kcmil	545,0	528,6	517,7	501,4	485,0	468,7	452,3	430,5	414,2	397,8	376,0	332,4	277,9	218,0	125,3	-	-
300	600,0	582,0	570,0	552,0	534,0	516,0	498,0	474,0	456,0	438,0	414,0	366,0	306,0	240,0	138,0	-	-
350	680,0	659,6	646,0	625,6	605,2	584,8	564,4	537,2	516,8	496,4	469,2	414,8	346,8	272,0	156,4	-	-
400	735,0	712,9	698,2	676,2	654,1	632,1	610,0	580,6	558,6	536,5	507,1	448,3	374,8	294,0	169,0	-	-
500	835,0	809,9	793,2	768,2	743,1	718,1	693,0	659,6	634,6	609,5	576,1	509,3	425,8	334,0	192,0	-	-
600	930,0	902,1	883,5	855,6	827,7	799,8	771,9	734,7	706,8	678,9	641,7	567,3	474,3	372,0	213,9	-	-
700	1020,0	989,4	969,0	938,4	907,8	877,2	846,6	805,8	775,2	744,6	703,8	622,2	520,2	408,0	234,6	-	-
750	1060,0	1028,2	1007,0	975,2	943,4	911,6	879,8	837,4	805,6	773,8	731,4	646,6	540,6	424,0	243,8	-	-
800	1100,0	1067,0	1045,0	1012,0	979,0	946,0	913,0	869,0	836,0	803,0	759,0	671,0	561,0	440,0	253,0	-	-
900	1175,0	1139,7	1116,2	1081,0	1045,7	1010,5	975,2	928,2	893,0	857,7	810,7	716,7	599,2	470,0	270,2	-	-
1000	1260,0	1222,2	1197,0	1159,2	1121,4	1083,6	1045,8	995,4	957,6	919,8	869,4	768,6	642,6	504,0	289,8	-	-
1250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B.6f. Ampacities of conductors in free air with 200°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 1)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V, in free air**, Ambient temperature Ta, Insulation temperature 200°C																
	Ambient temperature Ta																
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷90°C	91÷100°C	101÷110°C	111÷120°C	121÷130°C	131÷140°C
14 AWG	50,0	49,5	48,5	47,5	47,0	46,0	45,5	44,5	43,5	43,0	42,0	40,0	38,5	36,5	34,5	32,0	29,5
12	55,0	54,4	53,3	52,2	51,7	50,6	50,0	48,9	47,8	47,3	46,2	44,0	42,3	40,1	37,9	35,2	32,4
10	80,0	79,2	77,6	76,0	75,2	73,6	72,8	71,2	69,6	68,8	67,2	64,0	61,6	58,4	55,2	51,2	47,2
8	115,0	113,8	111,5	109,2	108,1	105,8	104,6	102,3	100,0	98,9	96,6	92,0	88,5	83,9	79,3	73,6	67,8
6	155,0	153,4	150,3	147,2	145,7	142,6	141,0	137,9	134,8	133,3	130,2	124,0	119,3	113,1	106,9	99,2	91,4
4	205,0	202,9	198,8	194,7	192,7	188,6	186,5	182,4	178,3	176,3	172,2	164,0	157,8	149,6	141,4	131,2	120,9
3	240,0	237,6	232,8	228,0	225,6	220,8	218,4	213,6	208,8	206,4	201,6	192,0	184,8	175,2	165,6	153,6	141,6
2	280,0	277,2	271,6	266,0	263,2	257,6	254,8	249,2	243,6	240,8	235,2	224,0	215,6	204,4	193,2	179,2	165,2
1	320,0	316,8	310,4	304,0	300,8	294,4	291,2	284,8	278,4	275,2	268,8	256,0	246,4	233,6	220,8	204,8	188,8
1/0	375,0	371,2	363,7	356,2	352,5	345,0	341,2	333,7	326,2	322,5	315,0	300,0	288,7	273,7	258,7	240,0	221,2
2/0	435,0	430,6	421,9	413,2	408,9	400,2	395,8	387,1	378,4	374,1	365,4	348,0	334,9	317,5	300,1	278,4	256,6
3/0	510,0	504,9	494,7	484,5	479,4	469,2	464,1	453,9	443,7	438,6	428,4	408,0	392,7	372,3	351,9	326,4	300,9
4/0	590,0	584,1	572,3	560,5	554,6	542,8	536,9	525,1	513,3	507,4	495,6	472,0	454,3	430,7	407,1	377,6	348,1
250 kcmil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B.6g. Adjustment factors for the ampacities indicated in the previous tables and based on the number of c conductors.
It applies when the space between cables is less than 25% of the largest cable diameter. Values according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 5B)

Number of conductors	Correction factor
2	0,90
3	0,85
4	0,80

Note. Where more than four conductors are in contact, the ratings for conductors in raceways shall be used.

Ampacity of conductors in raceway or cable according to CSA C22.1 (CE Code)

Table B.6h. Ampacities of conductors in raceway or cable with 60°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 2)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V**, in raceway or cable Insulation temperature 60°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	15,0	13,6	12,3	10,6	8,7	6,1	-	-	-	-	-
12	20,0	18,2	16,4	14,2	11,6	8,2	-	-	-	-	-
10	30,0	27,3	24,6	21,3	17,4	12,3	-	-	-	-	-
8	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-	-	-
6	55,0	50,0	45,1	39,0	31,9	22,5	-	-	-	-	-
4	70,0	63,7	57,4	49,7	40,6	28,7	-	-	-	-	-
3	85,0	77,3	69,7	60,3	49,3	34,8	-	-	-	-	-
2	95,0	86,4	77,9	67,4	55,1	38,9	-	-	-	-	-
1	110,0	100,1	90,2	78,1	63,8	45,1	-	-	-	-	-
1/0	125,0	113,7	102,5	88,7	72,5	51,2	-	-	-	-	-
2/0	145,0	131,9	118,9	102,9	84,1	59,4	-	-	-	-	-
3/0	165,0	150,1	135,3	117,1	95,7	67,6	-	-	-	-	-
4/0	195,0	177,4	159,9	138,4	113,1	79,9	-	-	-	-	-
250 kcmil	215,0	195,6	176,3	152,6	124,7	88,1	-	-	-	-	-
300	240,0	218,4	196,8	170,4	139,2	98,4	-	-	-	-	-
350	260,0	236,6	213,2	184,6	150,8	106,6	-	-	-	-	-
400	280,0	254,8	229,6	198,8	162,4	114,8	-	-	-	-	-
500	320,0	291,2	262,4	227,2	185,6	131,2	-	-	-	-	-
600	350,0	318,5	287,0	248,5	203,0	143,5	-	-	-	-	-
700	385,0	350,3	315,7	273,3	223,3	157,8	-	-	-	-	-
750	400,0	364,0	328,0	284,0	232,0	164,0	-	-	-	-	-
800	410,0	373,1	336,2	291,1	237,8	168,1	-	-	-	-	-
900	435,0	395,8	356,7	308,8	252,3	178,3	-	-	-	-	-
1000	455,0	414,0	373,1	323,0	263,9	186,5	-	-	-	-	-
1250	495,0	450,4	405,9	351,4	287,1	202,9	-	-	-	-	-
1500	525,0	477,7	430,5	372,7	304,5	215,2	-	-	-	-	-
1750	545,0	495,9	446,9	386,9	316,1	223,4	-	-	-	-	-
2000	555,0	505,0	455,1	394,0	321,9	227,5	-	-	-	-	-

Table B.6i. Ampacities of conductors in raceway or cable with 75°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 2)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V**, in raceway or cable Insulation temperature 75°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	20,0	18,8	17,6	16,4	15,0	13,4	11,6	9,4	6,6	-	-
12	25,0	23,5	22,0	20,5	18,7	16,7	14,5	11,7	8,2	-	-
10	35,0	32,9	30,8	28,7	26,2	23,4	20,3	16,4	11,5	-	-
8	50,0	47,0	44,0	41,0	37,5	33,5	29,0	23,5	16,5	-	-
6	65,0	61,1	57,2	53,3	48,7	43,5	37,7	30,5	21,4	-	-
4	85,0	79,9	74,8	69,7	63,7	56,9	49,3	39,9	28,0	-	-
3	100,0	94,0	88,0	82,0	75,0	67,0	58,0	47,0	33,0	-	-
2	115,0	108,1	101,2	94,3	86,2	77,0	66,7	54,0	37,9	-	-
1	130,0	122,2	114,4	106,6	97,5	87,1	75,4	61,1	42,9	-	-
1/0	150,0	141,0	132,0	123,0	112,5	100,5	87,0	70,5	49,5	-	-
2/0	175,0	164,5	154,0	143,5	131,2	117,2	101,5	82,2	57,7	-	-
3/0	200,0	188,0	176,0	164,0	150,0	134,0	116,0	94,0	66,0	-	-
4/0	230,0	216,2	202,4	188,6	172,5	154,1	133,4	108,1	75,9	-	-
250 kcmil	255,0	239,7	224,4	209,1	191,2	170,8	147,9	119,8	84,1	-	-
300	285,0	267,9	250,8	233,7	213,7	190,9	165,3	133,9	94,0	-	-
350	310,0	291,4	272,8	254,2	232,5	207,7	179,8	145,7	102,3	-	-
400	335,0	314,9	294,8	274,7	251,2	224,4	194,3	157,4	110,5	-	-
500	380,0	357,2	334,4	311,6	285,0	254,6	220,4	178,6	125,4	-	-
600	420,0	394,8	369,6	344,4	315,0	281,4	243,6	197,4	138,6	-	-
700	460,0	432,4	404,8	377,2	345,0	308,2	266,8	216,2	151,8	-	-
750	475,0	446,5	418,0	389,5	356,2	318,2	275,5	223,2	156,7	-	-
800	490,0	460,6	431,2	401,8	367,5	328,3	284,2	230,3	161,7	-	-
900	520,0	488,8	457,6	426,4	390,0	348,4	301,6	244,4	171,6	-	-
1000	545,0	512,3	479,6	446,9	408,7	365,1	316,1	256,1	179,8	-	-
1250	590,0	554,6	519,2	483,8	442,5	395,3	342,2	277,3	194,7	-	-
1500	625,0	587,5	550,0	512,5	468,7	418,7	362,5	293,7	206,2	-	-
1750	650,0	611,0	572,0	533,0	487,5	435,5	377,0	305,5	214,5	-	-
2000	665,0	625,1	585,2	545,3	498,7	445,5	385,7	312,5	219,4	-	-

Table B.6l. Ampacities of conductors in raceway or cable with 90°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 2)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V**, in raceway or cable Insulation temperature 90°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	25,0	24,0	22,7	21,7	20,5	19,0	17,7	16,2	14,5	12,5	10,2
12	30,0	28,8	27,3	26,1	24,6	22,8	21,3	19,5	17,4	15,0	12,3
10	40,0	38,4	36,4	34,8	32,8	30,4	28,4	26,0	23,2	20,0	16,4
8	55,0	52,8	50,0	47,8	45,1	41,8	39,0	35,7	31,9	27,5	22,5
6	75,0	72,0	68,2	65,2	61,5	57,0	53,2	48,7	43,5	37,5	30,7
4	95,0	91,2	86,4	82,6	77,9	72,2	67,4	61,7	55,1	47,5	38,9
3	115,0	110,4	104,6	100,0	94,3	87,4	81,6	74,7	66,7	57,5	47,1
2	130,0	124,8	118,3	113,1	106,6	98,8	92,3	84,5	75,4	65,0	53,3
1	145,0	139,2	131,9	126,1	118,9	110,2	102,9	94,2	84,1	72,5	59,4
1/0	170,0	163,2	154,7	147,9	139,4	129,2	120,7	110,5	98,6	85,0	69,7
2/0	195,0	187,2	177,4	169,6	159,9	148,2	138,4	126,7	113,1	97,5	79,9
3/0	225,0	216,0	204,7	195,7	184,5	171,0	159,7	146,2	130,5	112,5	92,2
4/0	260,0	249,6	236,6	226,2	213,2	197,6	184,6	169,0	150,8	130,0	106,6
250 kcmil	290,0	278,4	263,9	252,3	237,8	220,4	205,9	188,5	168,2	145,0	118,9
300	320,0	307,2	291,2	278,4	262,4	243,2	227,2	208,0	185,6	160,0	131,2
350	350,0	336,0	318,5	304,5	287,0	266,0	248,5	227,5	203,0	175,0	143,5
400	380,0	364,8	345,8	330,6	311,6	288,8	269,8	247,0	220,4	190,0	155,8
500	430,0	412,8	391,3	374,1	352,6	326,8	305,3	279,5	249,4	215,0	176,3
600	475,0	456,0	432,2	413,2	389,5	361,0	337,2	308,7	275,5	237,5	194,7
700	520,0	499,2	473,2	452,4	426,4	395,2	369,2	338,0	301,6	260,0	213,2
750	535,0	513,6	486,8	465,4	438,7	406,6	379,8	347,7	310,3	267,5	219,3
800	555,0	532,8	505,0	482,8	455,1	421,8	394,0	360,7	321,9	277,5	227,5
900	585,0	561,6	532,3	508,9	479,7	444,6	415,3	380,2	339,3	292,5	239,8
1000	615,0	590,4	559,6	535,0	504,3	467,4	436,6	399,7	356,7	307,5	252,1
1250	665,0	638,4	605,1	578,5	545,3	505,4	472,1	432,2	385,7	332,5	272,6
1500	705,0	676,8	641,5	613,3	578,1	535,8	500,5	458,2	408,9	352,5	289,0
1750	735,0	705,6	668,8	639,4	602,7	558,6	521,8	477,7	426,3	367,5	301,3
2000	750,0	720,0	682,5	652,5	615,0	570,0	532,5	487,5	435,0	375,0	307,5

Table B.6m. Ampacities of conductors in raceway or cable with 110°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 2)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V, in raceway or cable,** Ambient temperature Ta, Insulation temperature 110°C																
	Ambient temperature Ta																
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷90°C	91÷100°C	101÷110°C	111÷120°C	121÷130°C	131÷140°C
14 AWG	25,0	24,2	23,5	22,5	21,7	20,7	19,7	18,7	17,7	16,5	15,2	12,5	8,7	-	-	-	-
12	30,0	29,1	28,2	27,0	26,1	24,9	23,7	22,5	21,3	19,8	18,3	15,0	10,5	-	-	-	-
10	45,0	43,6	42,3	40,5	39,1	37,3	35,5	33,7	31,9	29,7	27,4	22,5	15,7	-	-	-	-
8	65,0	63,0	61,1	58,5	56,5	53,9	51,3	48,7	46,1	42,9	39,6	32,5	22,7	-	-	-	-
6	80,0	77,6	75,2	72,0	69,6	66,4	63,2	60,0	56,8	52,8	48,8	40,0	28,0	-	-	-	-
4	105,0	101,8	98,7	94,5	91,3	87,1	82,9	78,7	74,5	69,3	64,0	52,5	36,7	-	-	-	-
3	125,0	121,2	117,5	112,5	108,7	103,7	98,7	93,7	88,7	82,5	76,2	62,5	43,7	-	-	-	-
2	145,0	140,6	136,3	130,5	126,1	120,3	114,5	108,7	102,9	95,7	88,4	72,5	50,7	-	-	-	-
1	165,0	160,0	155,1	148,5	143,5	136,9	130,3	123,7	117,1	108,9	100,6	82,5	57,7	-	-	-	-
1/0	190,0	184,3	178,6	171,0	165,3	157,7	150,1	142,5	134,9	125,4	115,9	95,0	66,5	-	-	-	-
2/0	220,0	213,4	206,8	198,0	191,4	182,6	173,8	165,0	156,2	145,2	134,2	110,0	77,0	-	-	-	-
3/0	255,0	247,3	239,7	229,5	221,8	211,6	201,4	191,2	181,0	168,3	155,5	127,5	89,2	-	-	-	-
4/0	290,0	281,3	272,6	261,0	252,3	240,7	229,1	217,5	205,9	191,4	176,9	145,0	101,5	-	-	-	-
250 kcmil	320,0	310,4	300,8	288,0	278,4	265,6	252,8	240,0	227,2	211,2	195,2	160,0	112,0	-	-	-	-
300	360,0	349,2	338,4	324,0	313,2	298,8	284,4	270,0	255,6	237,6	219,6	180,0	126,0	-	-	-	-
350	390,0	378,3	366,6	351,0	339,3	323,7	308,1	292,5	276,9	257,4	237,9	195,0	136,5	-	-	-	-
400	425,0	412,2	399,5	382,5	369,7	352,7	335,7	318,7	301,7	280,5	259,2	212,5	148,7	-	-	-	-
500	480,0	465,6	451,2	432,0	417,6	398,4	379,2	360,0	340,8	316,8	292,8	240,0	168,0	-	-	-	-
600	530,0	514,1	498,2	477,0	461,1	439,9	418,7	397,5	376,3	349,8	323,3	265,0	185,5	-	-	-	-
700	580,0	562,6	545,2	522,0	504,6	481,4	458,2	435,0	411,8	382,8	353,8	290,0	203,0	-	-	-	-
750	600,0	582,0	564,0	540,0	522,0	498,0	474,0	450,0	426,0	396,0	366,0	300,0	210,0	-	-	-	-
800	620,0	601,4	582,8	558,0	539,4	514,6	489,8	465,0	440,2	409,2	378,2	310,0	217,0	-	-	-	-
900	655,0	635,3	615,7	589,5	569,8	543,6	517,4	491,2	465,0	432,3	399,5	327,5	229,2	-	-	-	-
1000	690,0	669,3	648,6	621,0	600,3	572,7	545,1	517,5	489,9	455,4	420,9	345,0	241,5	-	-	-	-
1250	745,0	722,6	700,3	670,5	648,1	618,3	588,5	558,7	528,9	491,7	454,4	372,5	260,7	-	-	-	-
1500	790,0	766,3	742,6	711,0	687,3	655,7	624,1	592,5	560,9	521,4	481,9	395,0	276,5	-	-	-	-
1750	820,0	795,4	770,8	738,0	713,4	680,6	647,8	615,0	582,2	541,2	500,2	410,0	287,0	-	-	-	-
2000	840,0	814,8	789,6	756,0	730,8	697,2	663,6	630,0	596,4	554,4	512,4	420,0	294,0	-	-	-	-

Table B.6n. Ampacities of conductors in raceway or cable with 125°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 2)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V, in raceway or cable,** Ambient temperature Ta, Insulation temperature 125°C															
	Ambient temperature Ta															
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷90°C	91÷100°C	101÷110°C	111÷120°C	121÷130°C	131÷140°C
14 AWG	30,0	29,1	28,5	27,6	26,7	25,8	24,9	23,7	22,8	21,9	20,7	18,3	15,3	12,0	6,9		
12	35,0	33,9	33,2	32,2	31,1	30,1	29,0	27,6	26,6	25,5	24,1	21,3	17,8	14,0	8,0		
10	45,0	43,6	42,7	41,4	40,0	38,7	37,3	35,5	34,2	32,8	31,0	27,4	22,9	18,0	10,3		
8	65,0	63,0	61,7	59,8	57,8	55,9	53,9	51,3	49,4	47,4	44,8	39,6	33,1	26,0	14,9		
6	90,0	87,3	85,5	82,8	80,1	77,4	74,7	71,1	68,4	65,7	62,1	54,9	45,9	36,0	20,7		
4	115,0	111,5	109,2	105,8	102,3	98,9	95,4	90,8	87,4	83,9	79,3	70,1	58,6	46,0	26,4		
3	135,0	130,9	128,2	124,2	120,1	116,1	112,0	106,6	102,6	98,5	93,1	82,3	68,8	54,0	31,0		
2	155,0	150,3	147,2	142,6	137,9	133,3	128,6	122,4	117,8	113,1	106,9	94,5	79,0	62,0	35,6		
1	175,0	169,7	166,2	161,0	155,7	150,5	145,2	138,2	133,0	127,7	120,7	106,7	89,2	70,0	40,2		
1/0	200,0	194,0	190,0	184,0	178,0	172,0	166,0	158,0	152,0	146,0	138,0	122,0	102,0	80,0	46,0		
2/0	235,0	227,9	223,2	216,2	209,1	202,1	195,0	185,6	178,6	171,5	162,1	143,3	119,8	94,0	54,0		
3/0	270,0	261,9	256,5	248,4	240,3	232,2	224,1	213,3	205,2	197,1	186,3	164,7	137,7	108,0	62,1		
4/0	310,0	300,7	294,5	285,2	275,9	266,6	257,3	244,9	235,6	226,3	213,9	189,1	158,1	124,0	71,3		
250 kcmil	345,0	334,6	327,7	317,4	307,0	296,7	286,3	272,5	262,2	251,8	238,0	210,4	175,9	138,0	79,3		
300	385,0	373,4	365,7	354,2	342,6	331,1	319,5	304,1	292,6	281,0	265,6	234,8	196,3	154,0	88,5		
350	420,0	407,4	399,0	386,4	373,8	361,2	348,6	331,8	319,2	306,6	289,8	256,2	214,2	168,0	96,6		
400	450,0	436,5	427,5	414,0	400,5	387,0	373,5	355,5	342,0	328,5	310,5	274,5	229,5	180,0	103,5		
500	510,0	494,7	484,5	469,2	453,9	438,6	423,3	402,9	387,6	372,3	351,9	311,1	260,1	204,0	117,3		
600	565,0	548,0	536,7	519,8	502,8	485,9	468,9	446,3	429,4	412,4	389,8	344,6	288,1	226,0	129,9		
700	620,0	601,4	589,0	570,4	551,8	533,2	514,6	489,8	471,2	452,6	427,8	378,2	316,2	248,0	142,6		
750	640,0	620,8	608,0	588,8	569,6	550,4	531,2	505,6	486,4	467,2	441,6	390,4	326,4	256,0	147,2		
800	660,0	640,2	627,0	607,2	587,4	567,6	547,8	521,4	501,6	481,8	455,4	402,6	336,6	264,0	151,8		
900	700,0	679,0	665,0	644,0	623,0	602,0	581,0	553,0	532,0	511,0	483,0	427,0	357,0	280,0	161,0		
1000	735,0	712,9	698,2	676,2	654,1	632,1	610,0	580,6	558,6	536,5	507,1	448,3	374,8	294,0	169,0		

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], **rated not more than 5000V, in raceway or cable,** Ambient temperature Ta, Insulation temperature 200°C																
	Ambient temperature Ta																
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C	81÷90°C	91÷100°C	101÷110°C	111÷120°C	121÷130°C	131÷140°C
14 AWG	35,0	34,6	33,9	33,2	32,9	32,2	31,8	31,1	30,4	30,1	29,4	28,0	26,9	25,5	24,1	22,4	20,6
12	40,0	39,6	38,8	38,0	37,6	36,8	36,4	35,6	34,8	34,4	33,6	32,0	30,8	29,2	27,6	25,6	23,6
10	60,0	59,4	58,2	57,0	56,4	55,2	54,6	53,4	52,2	51,6	50,4	48,0	46,2	43,8	41,4	38,4	35,4
8	80,0	79,2	77,6	76,0	75,2	73,6	72,8	71,2	69,6	68,8	67,2	64,0	61,6	58,4	55,2	51,2	47,2
6	110,0	108,9	106,7	104,5	103,4	101,2	100,1	97,9	95,7	94,6	92,4	88,0	84,7	80,3	75,9	70,4	64,9
4	140,0	138,6	135,8	133,0	131,6	128,8	127,4	124,6	121,8	120,4	117,6	112,0	107,8	102,2	96,6	89,6	82,6
3	165,0	163,3	160,0	156,7	155,1	151,8	150,1	146,8	143,5	141,9	138,6	132,0	127,0	120,4	113,8	105,6	97,3
2	190,0	188,1	184,3	180,5	178,6	174,8	172,9	169,1	165,3	163,4	159,6	152,0	146,3	138,7	131,1	121,6	112,1
1	215,0	212,8	208,5	204,2	202,1	197,8	195,6	191,3	187,0	184,9	180,6	172,0	165,5	156,9	148,3	137,6	126,8
1/0	245,0	242,5	237,6	232,7	230,3	225,4	222,9	218,0	213,1	210,7	205,8	196,0	188,6	178,8	169,0	156,8	144,5
2/0	290,0	287,1	281,3	275,5	272,6	266,8	263,9	258,1	252,3	249,4	243,6	232,0	223,3	211,7	200,1	185,6	171,1
3/0	330,0	326,7	320,1	313,5	310,2	303,6	300,3	293,7	287,1	283,8	277,2	264,0	254,1	240,9	227,7	211,2	194,7
4/0	380,0	376,2	368,6	361,0	357,2	349,6	345,8	338,2	330,6	326,8	319,2	304,0	292,6	277,4	262,2	243,2	224,2
250 kcmil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B.6o. Ampacities of conductors in raceway or cable with 200°C insulation temperature according to CSA C22.1 (CE Code) – Ed. 2015-2021 (Table 2)

Table B.6p. Adjustment factors of ampacities indicated in the previous tables based on the number of c conductors in raceway or cable according CSA C22.1 (CE Code)– Ed. 2015-2021 (Table 5C)

Number of conductors	Correction factor
1÷3	1,00
4÷6	0,80
7÷24	0,70
25÷42	0,60
>42	0,50

B.7 Current-carrying capacity of conductors according to EN 60204-1

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

Table B.7a. Current-carrying capacity of conductors according to IEC 60204-1:2016.- Conductors or single core cables in conduits.

Size [mm2]	Current-carrying capacity [A] for PVC insulated copper conductors or single core cables				
	Installation in conduits or in cable trays 				
	Ambient temperature Ta				
	40°C	45°C	50°C	55°C	60°C
0,2 [a]	4,5	4,1	3,7	3,2	2,6
0,5 [a]	7,9	7,2	6,5	5,6	4,6
0,75 [a]	9,5	8,6	7,8	6,7	5,5
0,75 [b]	8,6	7,8	7,1	6,1	5,0
1 [b]	10,3	9,4	8,4	7,3	6,0
1,5 [b]	13,5	12,3	11,1	9,6	7,8
2,5 [b]	18,3	16,7	15,0	13,0	10,6
4 [b]	24,0	21,8	19,7	17,0	13,9
6 [b]	31,0	28,2	25,4	22,0	18,0
10 [b]	44,0	40,0	36,1	31,2	25,5
16 [b]	59,0	53,7	48,4	41,9	34,2
25 [b]	77,0	70,1	63,1	54,7	44,7
35 [b]	96,0	87,4	78,7	68,2	55,7
50 [b]	117,0	106,5	95,9	83,1	67,9
70 [b]	149,0	135,6	122,2	105,8	86,4
95 [b]	180,0	163,8	147,6	127,8	104,4
120 [b]	208,0	189,3	170,6	147,7	120,6

[a] The values of the current-carrying capacity are based on one control circuit pari for size between 0,2 mm^2 and 0,75 mm^2.

[b] The values of the current-carrying capacity are based one symmetrical three-phase circuit for size 0,75 mm^2 and greater.

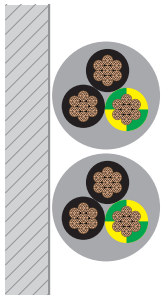
Table B.7b. Current-carrying capacity of conductors according to IEC 60204-1:2016. Multicore cables in conduits.

Size [mm2]	Current-carrying capacity [A] for **PVC insulated copper cables**				
	Installation in conduits or in cable trays 				
	Ambient temperature Ta				
	40°C	45°C	50°C	55°C	60°C
0,2 [a]	4,3	3,9	3,5	3,1	2,5
0,5 [a]	7,5	6,8	6,2	5,3	4,4
0,75 [a]	9	8,2	7,4	6,4	5,2
0,75 [b]	8,5	7,7	7,0	6,0	4,9
1 [b]	10,1	9,2	8,3	7,2	5,9
1,5 [b]	13,1	11,9	10,7	9,3	7,6
2,5 [b]	17,4	15,8	14,3	12,4	10,1
4 [b]	23,0	20,9	18,9	16,3	13,3
6 [b]	30,0	27,3	24,6	21,3	17,4
10 [b]	40,0	36,4	32,8	28,4	23,2
16 [b]	54,0	49,1	44,3	38,3	31,3
25 [b]	70,0	63,7	57,4	49,7	40,6
35 [b]	86,0	78,3	70,5	61,1	49,9
50 [b]	103,0	93,7	84,5	73,1	59,7
70 [b]	130,0	118,3	106,6	92,3	75,4
95 [b]	156,0	142,0	127,9	110,8	90,5
120 [b]	179,0	162,9	146,8	127,1	103,8

[a] The values of the current-carrying capacity are based on one control circuit pari for size between 0,2 mm^2 and 0,75 mm^2.

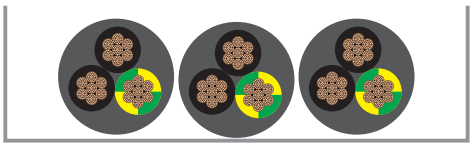
[b] The values of the current-carrying capacity are based one symmetrical three-phase circuit for size 0,75 mm^2 and greater.

Table B.7c. Current-carrying capacity of conductors according to IEC 60204-1:2016. Multicore cables installed in free air, horizontal or vertical without gap between cables on walls.

Size [mm2]	Current-carrying capacity [A] for **PVC insulated copper cables** Installation in free air, horizontal or vertical without gap between cables on walls 				
	Ambient temperature Ta				
	40°C	45°C	50°C	55°C	60°C
0,2 (a)	4,4	4,0	3,6	3,1	2,6
0,5 (a)	7,5	6,8	6,2	5,3	4,4
0,75 (a)	9,5	8,6	7,8	6,7	5,5
0,75 (b)	9,8	8,9	8,0	7,0	5,7
1 (b)	11,7	10,6	9,6	8,3	6,8
1,5 (b)	15,2	13,8	12,5	10,8	8,8
2,5 (b)	21,0	19,1	17,2	14,9	12,2
4 (b)	28,0	25,5	23,0	19,9	16,2
6 (b)	36,0	32,8	29,5	25,6	20,9
10 (b)	50,0	45,5	41,0	35,5	29,0
16 (b)	66,0	60,1	54,1	46,9	38,3
25 (b)	84,0	76,4	68,9	59,6	48,7
35 (b)	104,0	94,6	85,3	73,8	60,3
50 (b)	125,0	113,8	102,5	88,8	72,5
70 (b)	160,0	145,6	131,2	113,6	92,8
95 (b)	194,0	176,5	159,1	137,7	112,5
120 (b)	225,0	204,8	184,5	159,8	130,5

(a) The values of the current-carrying capacity are based on one control circuit pari for size between 0,2 mm^2 and 0,75 mm^2.
(b) The values of the current-carrying capacity are based one symmetrical three-phase circuit for size 0,75 mm2 and greater.

Table B.7d. Current-carrying capacity of conductors according to IEC 60204-1:2016. Multicore cables installed in free air, horizontal or vertical laid on open cable trays.

Size [mm2]	Current-carrying capacity [A] for **PVC insulated copper cables** Installation in free air, horizontal or vertical laid on open trays 				
	Ambient temperature Ta				
	40°C	45°C	50°C	55°C	60°C
0,2 [a]	4,4	4,0	3,6	3,1	2,6
0,5 [a]	7,8	7,1	6,4	5,5	4,5
0,75 [a]	10	9,1	8,2	7,1	5,8
0,75 [b]	10,4	9,5	8,5	7,4	6,0
1 [b]	12,4	11,3	10,2	8,8	7,2
1,5 [b]	16,1	14,7	13,2	11,4	9,3
2,5 [b]	22,0	20,0	18,0	15,6	12,8
4 [b]	30,0	27,3	24,6	21,3	17,4
6 [b]	37,0	33,7	30,3	26,3	21,5
10 [b]	52,0	47,3	42,6	36,9	30,2
16 [b]	70,0	63,7	57,4	49,7	40,6
25 [b]	88,0	80,1	72,2	62,5	51,0
35 [b]	110,0	100,1	90,2	78,1	63,8
50 [b]	133,0	121,0	109,1	94,4	77,1
70 [b]	171,0	155,6	140,2	121,4	99,2
95 [b]	207,0	188,4	169,7	147,0	120,1
120 [b]	240,0	218,4	196,8	170,4	139,2

(a) The values of the current-carrying capacity are based on one control circuit pari for size between 0,2 mm^2 and 0,75 mm^2.
(b) The values of the current-carrying capacity are based one symmetrical three-phase circuit for size 0,75 mm2 and greater.

Table B.7e. Derating factors based on the number loaded conductors or pairs in multicore cables according to EN 60204-1:2016.

Number of loaded conductors or pairs	Conductors' sizes > 1 mm^2	Pairs' sizes 0,25 mm^2 to 0,75 mm^2
1	-	1,0
3	1,0	-
5	0,75	0,39
7	0,65	0,34
10	0,55	0,29
24	0,40	0,21

Table B.7f. Derating factors for cables grouping according to IEC 60204-1:2016.

Method of installation	Number of loaded circuits/cables			
	2	4	6	9
Control circuit pairs < 0,5 mm^2 independent of methods of installation	0,76	0,57	0,48	0,40
Conductors, single core cables or multicore cables in conduits.	0,80	0,65	0,57	0,50
Multicore cables installed in free air, horizontal or vertical without gap between cables and walls (single layer).	0,85	0,75	0,72	0,70
Multicore cables installed in free air, horizontal or vertical on one perforated tray[(a)] without gap between cables (single layer).	0,88	0,77	0,73	0,72
Multicore cables installed in free air, horizontal or vertical on one perforated tray[(a)] without gap between cables (2 or 3 trays, with a vertical spacing between each tray of 300 mm).	0,86	0,76	0,71	0,66

[(a)] A perforated cable tray is a tray where the holes occupy more than 30 % of the area of the base.

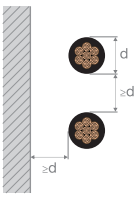
Nota 1. These factors are applicable to cables, all equally loaded, the circuit itself symmetrically loaded or to groups of circuits of insulated conductors or cables having the same allowable maximum ope Temperature range.

Nota 2. The same factors are applied to groups ot two or three single core or multicore cables.

B.8 Ampacities of conductors according to VDE 0298-4

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

Table B.8a. Ampacities of conductors with rated voltage up to 1000V according to VDE 0298-4 – Ed. 2013 - Table 11

Conductor's size [mm2]	Cable's type and method of installation				
	Single core cables (rubber, PVC, TPE insulated; heat resistant(3)) free in air 	Multicore cables (rubber, PVC, TPE insulated) for home- and portable apparatus, on surfaces 		Multicore cables (rubber, PVC, TPE insulated; heat resistant(3)) excluded for home- and portable apparatus, on surfaces 	
	Number of current carrying conductors				
	1	2	3	2	3
	Allowable ampacity [A]				
0,08(1)	1,5	-	-	1	1
0,14(1)	3	-	-	2	2
0,25(1)	5	-	-	4	4
0,34(1)	8	-	-	6	6
0,5	12(2)	3	3	9(2)	9(2)
0,75	15	6	6	12	12
1	19	10	10	15	15
1,5	24	16	16	18	18
2,5	32	25	20	26	26
4	42	32	25	34	34
6	54	40	-	44	44
10	73	63	-	61	61
16	98	-	-	82	82
25	129	-	-	108	108
35	158	-	-	135	135
50	198	-	-	168	168
70	245	-	-	207	207
95	292	-	-	250	250
120	344	-	-	292	292
150	391	-	-	335	335
185	448	-	-	382	382
240	528	-	-	453	453
300	608	-	-	523	523
400	726	-	-	-	-
500	830	-	-	-	-
Factor	**Reference table for the correction factors for the ampacities indicated above**				
Ambient temperature	Table B.8b	Table B.8b	Table B.8b	Table B.8b	Table B.8b
Circuits of single-core cables	Table B.8c	-	-	-	-
Circuits of multi-cores cables	-	Table B.8d	Table B.8d	Table B.8d	Table B.8d
Factor	**Reference table for the correction factors for the ampacities indicated above**				
Cables winded in spool, reel, drum or helix-type coiled	Table B.8e	Table B.8e	Table B.8e	Table B.8e	Table B.8e
Installation on surfaces, in racewyas or conduits	Table B.8f	Table B.8f	Table B.8f	Table B.8f	Table B.8f
Installation in cable trays	Table B.8g	Table B.8h	Table B.8h	Table B.8h	Table B.8h

(1) According to VDE 0891-1, values not included in VDE 0298-4.
(2) According to VDE 0100-523, values not included in VDE 0298-4.
(3) Heat resistant cables are typically with at least 90°C insulation temperature (see VDE 0298-4 for more details).

Table B.8b. Correction factors for the ampacities indicated in the table B.8a for different ambient temperatures and different insulation temperatures of cables according to VDE 0298-4 Ed. 2013 - Table 17-18

Ambient temperature Ta	Insulation temperature						
	60°C	70°C	80°C	90°C(1)	110°C(1)	135°C(1)	180°C(1)
	Correction factor						
30	1,00	1,00	1,00	1,00	1,00	1,00	1,00
35	0,91	0,94	0,95	1,00	1,00	1,00	1,00
40	0,82	0,87	0,89	1,00	1,00	1,00	1,00
45	0,71	0,79	0,84	1,00	1,00	1,00	1,00
50	0,58	0,71	0,77	1,00	1,00	1,00	1,00
55	0,41	0,61	0,71	0,94	1,00	1,00	1,00
60	-	0,50	0,63	0,87	1,00	1,00	1,00
65	-	0,35	0,55	0,79	1,00	1,00	1,00
70	-	-	0,45	0,71	1,00	1,00	1,00
75	-	-	0,32	0,61	1,00	1,00	1,00
80	-	-	-	0,50	1,00	1,00	1,00
85	-	-	-	0,35	0,91	1,00	1,00
90	-	-	-		0,82	1,00	1,00
95	-	-	-		0,71	1,00	1,00
100	-	-	-	-	0,58	0,94	1,00
105	-	-	-	-	0,41	0,87	1,00
110	-	-	-	-	-	0,79	1,00
115	-	-	-	-	-	0,71	1,00
120	-	-	-	-	-	0,61	1,00
125	-	-	-	-	-	0,50	1,00
130	-	-	-	-	-	0,35	1,00
135	-	-	-	-	-	-	1,00
140	-	-	-	-	-	-	1,00
145	-	-	-	-	-	-	1,00
150	-	-	-	-	-	-	1,00
155	-	-	-	-	-	-	0,91
160	-	-	-	-	-	-	0,82
165	-	-	-	-	-	-	0,71
170	-	-	-	-	-	-	0,58
175	-	-	-	-	-	-	0,41

(1) Heat resistant cables (see VDE 0298-4 for more details).

Table B.8c. Correction factors for single-core cables' circuits according to VDE 0298-4 – Ed. 2013 - Table 10 – Note a

Ambient temperature Ta	Type of installation for single core cables	
	Clusters of single core cables in touch to each other or bundled installed on surfaces	Clusters of single core cables in touch to each other or bundled installed free in air or in cable trays
	Correction factor	
A.C. single-phase circuits or D.C. circuits	0,76	0,80
A.C. three-phase circuits	0,67	0,70

Attention: for single core cables installed in conduits or in ducts please see rule of Table 10 of VDE 0298-4 standard.

Table B.8d. Correction factors for multi core cables' circtuits up to 10 mm² size according to VDE 0298-4 – Ed. 2013 - Table 26

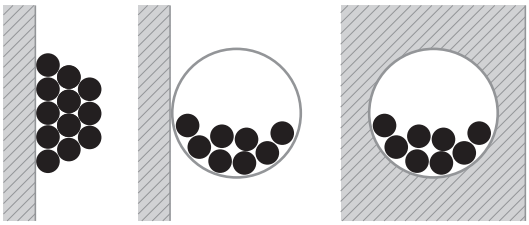
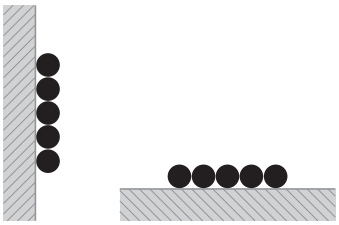
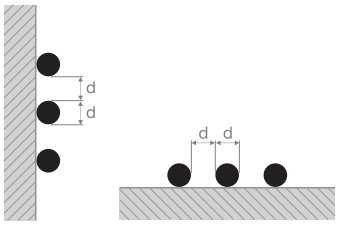
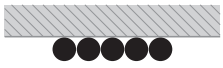
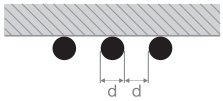
Number of current carrying conductors	Correction factor for cables in free air	Correction factor for cables in earth (burial)
5	0,75	0,70
7	0,65	0,60
10	0,55	0,50
14	0,50	0,45
19	0,45	0,40
24	0,40	0,35
40	0,35	0,30
61	0,30	0,25

Table B.8e. Correction factors for cables winded in spool, reel, drum or helix-type coiled according to VDE 0298-4 – Ed. 2013 - Tabelle 27

Number of layers on spool, reel or drum	1	2	3	4	5
Correction factor	0,80(1)	0,61	0,49	0,42	0,38

(1) Use this correction factor for spiral cables (in one layer).

Table B.8f. Correction factors for single-core and multicore cables' circuits on surfaces, walls, ceiling or in conduits according to VDE 0298-4 – Ed. 2013 - Table 21

Installation method	Number of multi-core cables or number of A.C. or three-phase circuits of single-core cables (2 or 3 current-carrying conductors)														
	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
Bunched directly and in touch between each other on floors, on walls, in conduits or in wireways or in the wall. 	1,00	0,80	0,70	0,65	0,60	0,57	0,54	0,52	0,50	0,48	0,45	0,43	0,41	0,39	0,38
In one layer in touch between each other on floors or attached to walls. 	1,00	0,85	0,79	0,75	0,73	0,72	0,72	0,71	0,70	0,70	0,70	0,70	0,70	0,70	0,70
In one layer with a clearance equal to the external diameter "d" on floors or attached to walls 	1,00	0,94	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90
In one layer in touch between each other under the ceiling. 	0,95	0,81	0,72	0,68	0,66	0,64	0,63	0,62	0,61	0,61	0,61	0,61	0,61	0,61	0,61
In one layer with a clearance equal to the external diameter i"d" under the ceiling. 	0,95	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85

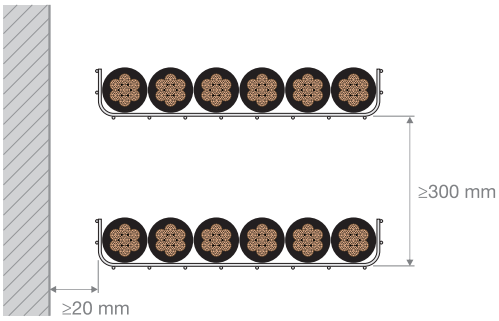
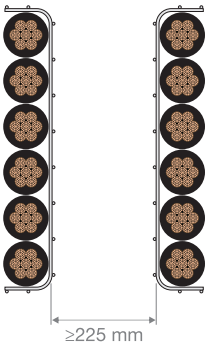
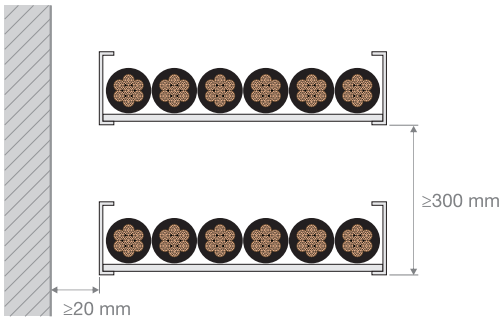
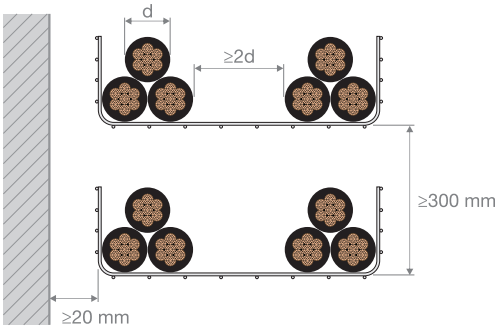
Note 1. Correction factors can be applied only to similar loaded cables of a similar type of installation and nominal cross sections differ one step only.

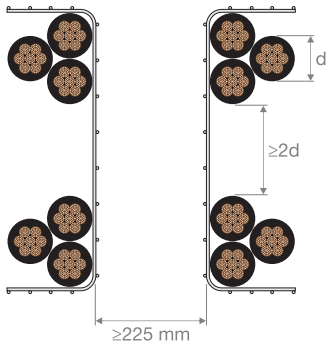
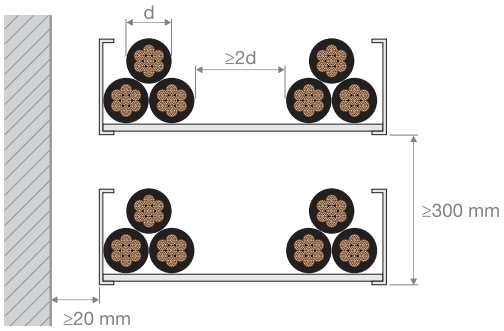
Note 2. If the actual horizontal-space between adjacent cables is more than double of the outer diameter, no correction factor is necessary.

Note 3. For a system consisting of multicore cables, the number of circuits have to be considered. The correction factor has to be applied to the ampacity of the two or three current currying conductors in the cables.

Note 4. If the grouping of single core cables consists of n loaded single core cables, the correction factor shall be determinate for n/2 or n/3 circuits depending on the number of current-carrying conductors.

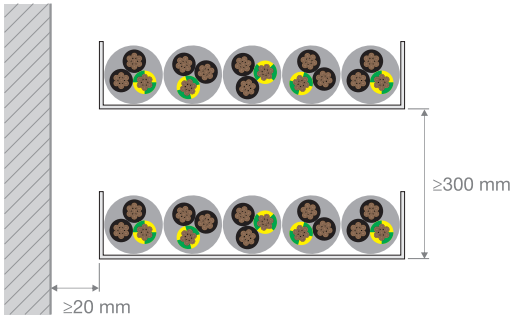
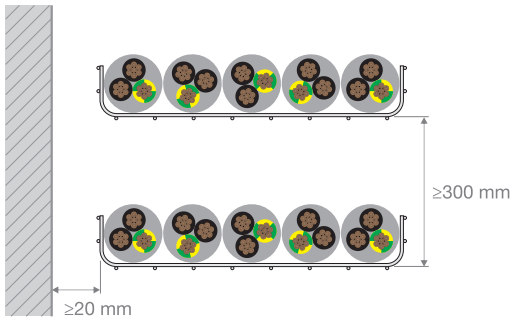
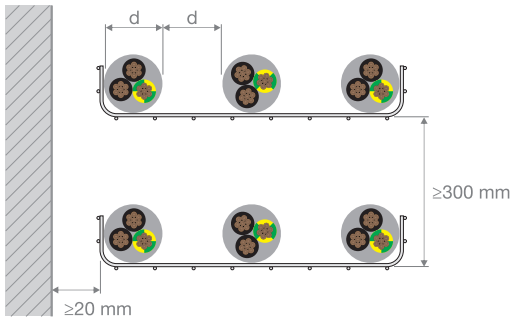
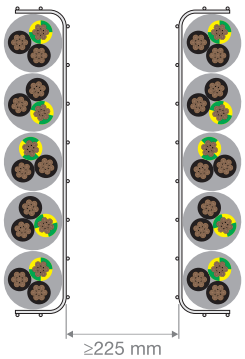
Table B.8g. Correction factors for single-core cables' circuits installed in cable trays according to VDE 0298-4 – Ed. 2013 - Tabelle 23

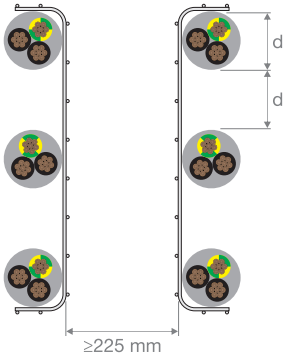
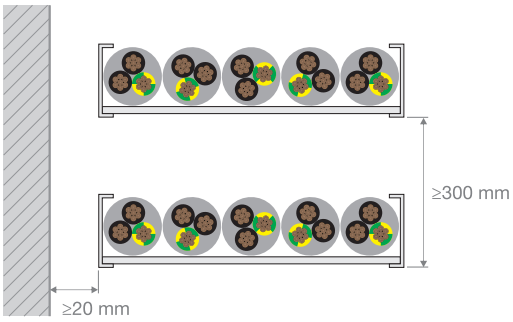
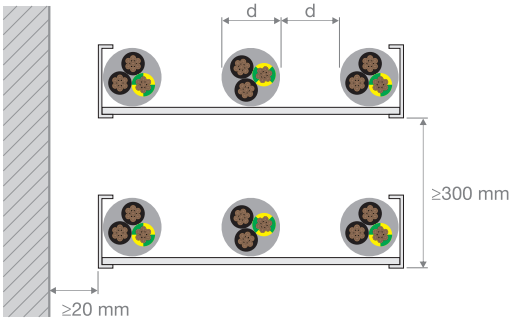
Installation method	Number of cable trays	Number of three-phase circuits of single-core cables		
		1	2	3
		Correction factor		
Single layer in touch between each other in **ventilated cable trays** in a horizontal plane arrangement. 	1	0,98	0,91	0,87
	2	0,96	0,87	0,81
	3	0,95	0,85	0,78
Single layer between each other in **ventilated cable trays** in a vertical plane arrangement. 	1	0.96	0,86	-
	2	0,95	0,84	-
Single layer between each other in **cable ladders** in a horizontal plane arrangement. 	1	1,00	0,97	0,96
	2	0,98	0,93	0,89
	3	0,97	0,90	0,86
Delta configuration in **ventilated cable trays** in a horizontal plane arrangement. 	1	1,00	0,98	0,96
	2	0,97	0,93	0,89
	3	0,96	0,92	0,86

Installation method	Number of cable trays	Number of three-phase circuits of single-core cables		
		1	2	3
		Correction factor		
Delta configuration in **ventilated cable trays** in a vertical plane arrangement. 	1	1,00	0,91	0,89
	2	1,00	0,90	0,86
Delta configuration in **cable ladders** in a horizontal plane arrangement. 	1	1,00	1,00	1,00
	2	0,97	0,95	0,93
	3	0,96	0,94	0,90

Note 1. If the cables are lying on top to each other as well as if minimum distance required is not guaranteed, extra correction factors must be applied, i.e. correction factors of table B.8f.

Table B.8h. Correction factors for multicore cables installed in cable trays according to VDE 0298-4 – Ed. 2013 - Table 22

Installation method	Number of cable trays	Number of multicore cables					
		1	2	3	4	6	9
		Correction factor					
Single layer in touch between each other in **non ventilated cable trays** in a horizontal plane arrangement. 	1	0,97	0,84	0,78	0,75	0,71	0,68
	2	0,97	0,83	0,76	0,72	0,68	0,63
	3	0,97	0,82	0,75	0,71	0,66	0,61
	6	0,97	0,81	0,73	0,69	0,63	0,58
Single layer in touch between each other in **ventilated cable trays** in a horizontal plane arrangement. 	1	1,00	0,88	0,82	0,79	0,76	0,73
	2	1,00	0,87	0,80	0,77	0,73	0,68
	3	1,00	0,86	0,79	0,76	0,71	0,66
	6	1,00	0,84	0,77	0,73	0,68	0,64
Single layer with a clearance equal to the external diameter "d" in **ventilated cable trays** in a horizontal plane arrangement. 	1	1,00	1,00	0,98	0,95	0,91	-
	2	1,00	0,99	0,96	0,92	0,87	-
	3	1,00	0,98	0,95	0,91	0,85	-
Single layer between each other in **ventilated cable trays** in a vertical plane arrangement. 	1	1,00	0,88	0,82	0,78	0,73	0,72
	2	1,00	0,88	0,81	0,76	0,71	0,70

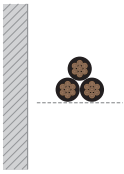
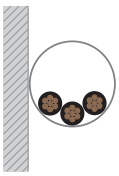
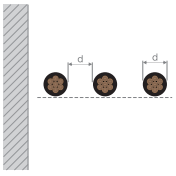
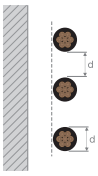
Installation method	Number of cable trays	Number of multicore cables					
		1	2	3	4	6	9
		Correction factor					
Single layer with a clearance equal to the external diameter "d" in **ventilated cable trays** in a vertical plane arrangement. 	1	1,00	0,91	0,89	0,88	0,87	-
	2	1,00	0,91	0,88	0,87	0,85	-
Single layer between each other in **cable ladders** in a horizontal plane arrangement. 	1	1,00	0,87	0,82	0,80	0,79	0,78
	2	1,00	0,86	0,81	0,78	0,76	0,73
	3	1,00	0,85	0,79	0,76	0,73	0,70
	6	1,00	0,83	0,76	0,73	0,69	0,66
Single layer with a clearance equal to the external diameter "d" in **cable ladders** in a horizontal plane arrangement. 	1	1,00	1,00	1,00	1,00	1,00	-
	2	1,00	0,99	0,98	0,97	0,96	-
	3	1,00	0,98	0,97	0,96	0,93	-

Note 1. If the cables are lying on top to each other as well as if minimum distance required is not guaranteed, extra correction factors must be applied, i.e. correction factors of table B.8f.

B.9 Ampacities of conductors according to IEC 60364-5-52/CEI UNEL 35024-1/CEI 64-8

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

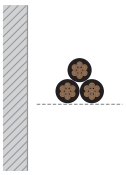
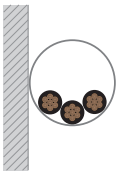
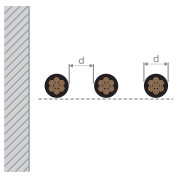
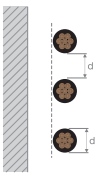
Table B.9a. Ampacities of single-core cables with thermoplastic insulation at 30°C ambient temperature according to IEC 60364-5-52/CEI UNEL 35024-1/CEI 64-8

Conductor's size [mm²]	Type of cable								
	Single core cables with thermoplastic insulation such as PVC 60°C, PVC 75°C and PVC 80°C with voltage rating up to 1000V a.c. or 1500V d.c. ambient temperature 30°C								
	Base method of installation								
	Trefoil cables in air	Cables in conduit in air		Cables on a surface in contact with each other in air		Cables on a horizontal surface at a distance between them in air		Cables on a vertical surface at a distance between them in air	
									
	Reference to the installation methods indicated in the standards								
	UNEL 35024-1/CEI 64-8 Met.11, 12, 21, 25, 43, 52, 53 IEC 60364-5-52 Met. F Tab. B.52.10 (5)	UNEL 35024-1/CEI 64-8 Met. 3, 4, 5, 22, 23, 24, 31, 32, 33, 34, 41, 42, 72 IEC 60364-5-52 Met. B1 Tab. B.52.2 (4), B.52.4 (4)		UNEL 35024-1/CEI 64-8 Met. 13, 14, 15, 16, 17 IEC 60364-5-52 Met. F Tab. B.52.10 (4), B.52.10 (6)		UNEL 35024-1/CEI 64-8 Met. 14, 15, 16 IEC 60364-5-52 Met. G Tab. B.52.10 (7)		UNEL 35024-1/CEI 64-8 Met. 13, 14, 15, 16 IEC 60364-5-52 Met. G Tab. B.52.10 (8)	
	Reference to other installation methods[1]								
	Diagrams U1-3	Diagrams U2-2	Diagrams U2-3	Diagrams U3-2	Diagrams U3-3	Diagrams U4-2	Diagrams U4-3	Diagrams U5-2	Diagrams U5-3
	Number of current carrying conductors								
	3	2	3	2	3	2	3	2	3
	Allowable ampacity [A][2]								
0,5	8	9	8	11	9	12	12	10	10
0,75	11	11	10	14	11	16	16	13	13
1	13	13,5	12	17	14	19	19	16	16
1,5	19,5	17,5	15,5	22	19,5	24	24	21	21
2,5	26	24	21	30	26	34	34	29	29
4	35	32	28	40	35	45	45	39	39
6	46	41	36	52	46	59	59	51	51
10	63	57	50	71	63	81	81	71	71
16	85	76	68	96	85	110	110	97	97
25	110	101	89	131	114	146	146	130	130
35	137	125	110	162	143	181	181	162	162
50	167	151	134	196	174	219	219	197	197
70	216	192	171	251	225	281	281	254	254
95	264	232	207	304	275	341	341	311	311
120	308	269	239	352	321	396	396	362	362
150	356	309	275	406	372	456	456	419	419
185	409	353	314	463	427	521	521	480	480
240	485	415	369	546	507	615	615	569	569
300	561	477	426	629	587	709	709	659	659
400	656	571	510	754	689	852	852	795	795
500	759	656	587	868	789	982	982	920	920
630	855	758	678	1005	905	1138	1138	1070	1070

(1) Refer to Table B.9c and to the standards for more details.

(2) The values not published in the Standards have been calculated using the interpolation curves suggested by the IEC 60364-5-52 norm.

Table B.9b. Ampacities of single-core cables with elastomeric insulation at 30°C ambient temperature according to IEC 60364-5-52/CEI UNEL 35024-1/CEI 64-8

Conductor's size [mm²]	Type of cable								
	Single-core cables with thermoplastic insulation such as XLPE, TPE, PUR, Silicon, Rubber or PVC 90°C with voltage rating up to 1000V a.c. or 1500V d.c. ambient temperature 30°C								
	Base method of installation								
	Trefoil cables in air	Cables in conduit in air		Cables on a surface in contact with each other in air		Cables on a horizontal surface at a distance between them in air		Cables on a vertical surface at a distance between them in air	
									
	Reference to the installation methods indicated in the standards								
	UNEL 35024-1/CEI 64-8 Met.11, 12, 21, 25, 43, 52, 53 IEC 60364-5-52 Met. F Tab. B.52.12 (5)	UNEL 35024-1/CEI 64-8 Met. 3, 4, 5, 22, 23, 24, 31, 32, 33, 34, 41, 42, 72 IEC 60364-5-52 Met. B1 Tab. B.52.3 (4), B.52.5 (4)		UNEL 35024-1/CEI 64-8 Met. 13, 14, 15, 16, 17 IEC 60364-5-52 Met. F Tab. B.52.12 (4), B.52.12 (6)		UNEL 35024-1/CEI 64-8 Met. 14, 15, 16 IEC 60364-5-52 Met. G Tab. B.52.12 (7)		UNEL 35024-1/CEI 64-8 Met. 13, 14, 15, 16 IEC 60364-5-52 Met. G Tab. B.52.12 (8)	
	Reference to other installation methods[1]								
	Diagrams U1-3	Diagrams U2-2	Diagrams U2-3	Diagrams U3-2	Diagrams U3-3	Diagrams U4-2	Diagrams U4-3	Diagrams U5-2	Diagrams U5-3
	Number of current carrying conductors								
	3	2	3	2	3	2	3	2	3
	Allowable ampacity [A][2]								
0,5	10	12	10	13	10	15	15	12	12
0,75	13	15	13	17	14	19	19	16	16
1	16	17	15	21	17	23	23	19	19
1,5	24	23	20	27	24	30	30	25	25
2,5	33	31	28	37	33	41	41	35	35
4	45	42	37	50	45	56	56	48	48
6	58	54	48	64	58	73	73	63	63
10	80	75	66	88	80	101	101	88	88
16	107	100	88	119	107	137	137	120	120
25	135	133	117	161	141	182	182	161	161
35	169	164	144	200	176	226	226	201	201
50	207	198	175	242	216	275	275	246	246
70	268	253	222	310	279	353	353	318	318
95	328	306	269	377	342	430	430	389	389
120	383	354	312	437	400	500	500	454	454
150	444	402	355	504	464	577	577	527	527
185	510	472	417	575	533	661	661	605	605
240	607	555	490	679	634	781	781	719	719
300	703	628	553	783	736	902	902	833	833
400	823	751	661	940	868	1085	1085	1008	1008
500	946	864	760	1083	998	1253	1253	1169	1169
630	1088	998	879	1254	1151	1454	1454	1362	1362

(1) Refer to Table B.9c and to the standards for more details.

(2)The values not published in the Standards have been calculated using the interpolation curves suggested by the IEC 60364-5-52 norm.

Table B.9c. Other methods of installation of single-core cables according to IEC 60364-5-52/CEI UNEL 35024-1/CEI 64-8

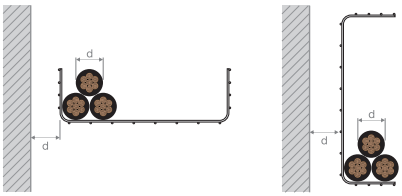
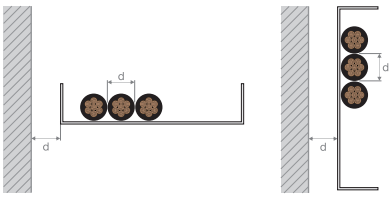
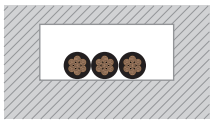
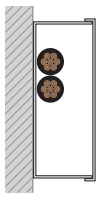
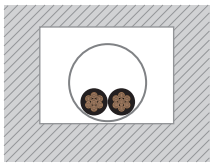
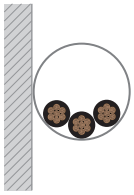
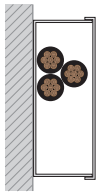
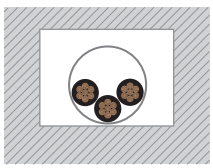
Diagram	Representative images	Note
U1-3		Trefoil installation on open cable trays (wire mesh, ventilated or ladder) in vertical or horizontal position.
		Installation on non-ventilated cable trays without cover in vertical or horizontal position.
		Installation in cavities of structures or in open or ventilated tunnels with horizontal or vertical path for maximum lengths of 0.5 m for cables up to 10 mm^2, 1 m for cables up to 95 mm^2 and 1.5 m for cables over 95 mm^2.
U2-2		Installation in conduits laid on or spaced from walls.
		Installation in cable trunking on a wall in vertical or horizontal position.
		Installation in circular or non-circular conduits laid in cavities of structures.
U2-3		Installation in conduits laid on or spaced from walls.
		Installation in cable trunking on a wall in vertical or horizontal position.
		Installation in circular or non-circular conduits laid in cavities of structures.

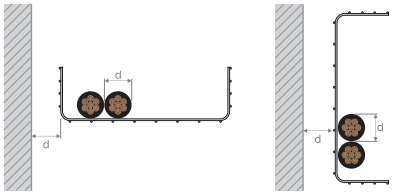
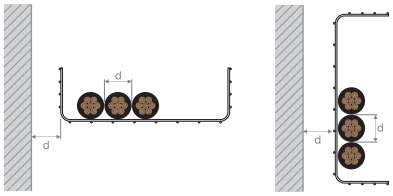
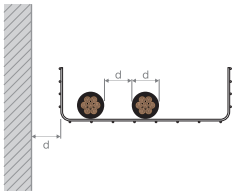
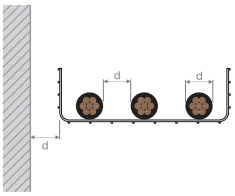
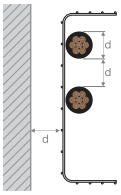
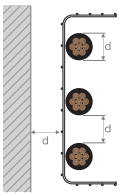
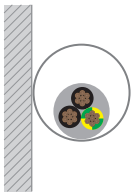
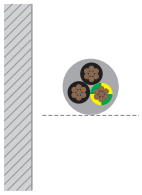
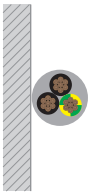
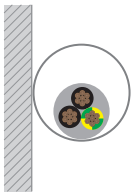
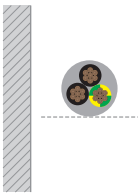
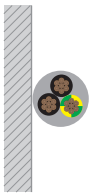
Diagram	Representative images	Note
U3-2		Installation on open cable trays (wire mesh, ventilated or ladder) in vertical or horizontal position.
U3-3		Installation on open cable trays (wire mesh, ventilated or ladder) in vertical or horizontal position.
U4-2		Installation at a distance on open cable trays (wire mesh, ventilated or ladder) in horizontal position.
U4-3		Installation at a distance on open cable trays (wire mesh, ventilated or ladder) in horizontal position.
U5-2		Installation at a distance on open cable trays (wire mesh, ventilated or ladder) in vertical position.
U5-3		Installation at a distance on open cable trays (wire mesh, ventilated or ladder) in vertical position.

Table B.9d. Ampacities of multi-core cables with thermoplastic insulation at 30°C ambient temperature according to IEC 60364-5-52/CEI UNEL 35024-1/CEI 64-8

Conductor's size [mm²]	Type of cable					
	Multi-core cables with thermoplastic insulation such as PVC 60°C, PVC 75°C and PVC 80°C with voltage rating up to 1000V a.c. or 1500V d.c. ambient temperature 30°C					
	Base method of installation					
	Cables in conduit in air		Cables on a surface in air		Cables on wall/ceiling in air	
						
	Reference to the installation methods indicated in the standards					
	UNEL 35024-1/CEI 64-8 Met. 3A, 4A, 5A, 21, 22A, 24A, 25, 31, 32, 33A, 34A, 43 IEC 60364-5-52 Met. B2 Tab. B.52.2 (5), B.52.4 (5)		UNEL 35024-1/CEI 64-8 Met. 13, 14, 15, 16, 17 IEC 60364-5-52 Met. E Tab. B.52.10 (2), B.52.10 (3)		UNEL 35024-1/CEI 64-8 Met. 11, 11A, 12, 52, 53 IEC 60364-5-52 Met. C Tab. B.52.2 (6), B.52.4 (6)	
	Reference to other installation methods[1]					
	Diagrams M1-2	Diagrams M1-3	Diagrams M2-2	Diagrams M2-3	Diagrams M3-2	Diagrams M3-3
	Number of current carrying conductors					
	2	3	2	3	2	3
	Allowable ampacity [A] [2]					
0,5	9	8	11	9	10	9
0,75	11	10	14	12	13	11
1	13,5	12	15	13,6	15	13,5
1,5	16,5	15	22	18,5	19,5	17,5
2,5	23	20	30	25	27	24
4	30	27	40	34	36	32
6	38	34	51	43	46	41
10	52	46	70	60	63	57
16	69	62	94	80	85	76
25	90	80	119	101	112	96
35	111	99	148	126	138	119
50	133	118	180	153	168	144
70	168	149	232	196	213	184
95	201	179	282	238	258	223
120	232	206	328	276	299	259
150	258	225	379	319	344	299
185	294	255	434	364	392	341
240	344	297	514	430	461	403
300	394	339	593	497	530	464
400	477	425	715	597	634	557
500	545	486	826	689	729	642
630	626	559	958	798	843	743

(1) Refer to Table B.9f and to the standards for more details.
(2) The values not published in the Standards have been calculated using the interpolation curves suggested by the IEC 60364-5-52 norm.

Table B.9e. Ampacities of multi-core cables with elastomeric insulation at 30°C ambient temperature according to IEC 60364-5-52/CEI UNEL 35024-1/CEI 64-8

Conductor's size [mm²]	Type of cable					
	Multi-core cables with thermoplastic insulation such as XLPE, TPE, PUR, Silicon, Rubber or PVC 90°C with voltage rating up to 1000V a.c. or 1500V d.c. ambient temperature 30°C					
	Base method of installation					
	Cables in conduit in air		Cables on a surface in air		Cables on wall/ceiling in air	
						
	Reference to the installation methods indicated in the standards					
	UNEL 35024-1/CEI 64-8 Met. 3A, 4A, 5A, 21, 22A, 24A, 25, 31, 32, 33A, 34A, 43 IEC 60364-5-52 Met. B2 Tab. B.52.3 (5), B.52.5 (5)		UNEL 35024-1/CEI 64-8 Met. 13, 14, 15, 16, 17 IEC 60364-5-52 Met. E Tab. B.52.12 (2), B.52.12 (3)		UNEL 35024-1/CEI 64-8 Met. 11, 11A, 12, 52, 53 IEC 60364-5-52 Met. C Tab. B.52.3 (6), B.52.5 (6)	
	Reference to other installation methods[1]					
	Diagrams M1-2	Diagrams M1-3	Diagrams M2-2	Diagrams M2-3	Diagrams M3-2	Diagrams M3-3
	Number of current carrying conductors					
	2	3	2	3	2	3
	Allowable ampacity [A] [2]					
0,5	11	10	13	12	12	11
0,75	15	13	17	15	16	14
1	17	15	19	17	19	17
1,5	22	19,5	26	23	24	22
2,5	30	26	36	32	33	30
4	40	35	49	42	45	40
6	51	44	63	54	58	52
10	69	60	86	75	80	71
16	91	80	115	100	107	96
25	119	105	149	127	138	119
35	146	128	185	158	171	147
50	175	154	225	192	209	179
70	221	194	289	246	269	229
95	265	233	352	298	328	278
120	305	268	410	346	382	322
150	334	300	473	399	441	371
185	384	340	542	456	506	424
240	459	398	641	538	599	500
300	532	455	741	621	693	576
400	628	552	892	745	808	710
500	718	631	1030	859	930	816
630	825	725	1196	995	1075	943

(1) Refer to Table B.9f and to the standards for more details.
(2) The values not published in the Standards have been calculated using the interpolation curves suggested by the IEC 60364-5-52 norm.

Table B.9f. Other methods of installation of single-core cables according to IEC 60364-5-52/CEI UNEL 35024-1/CEI 64-8

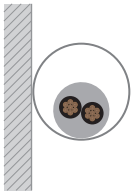
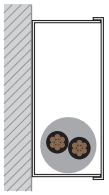
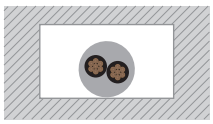
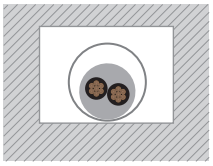
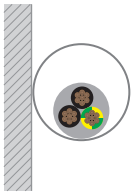
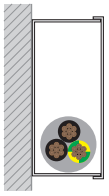
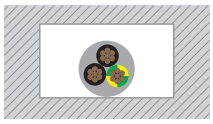
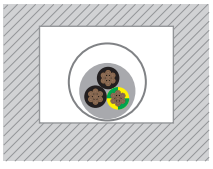
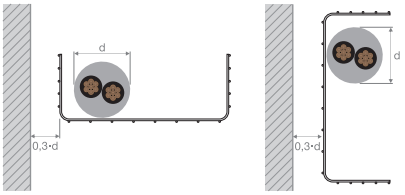
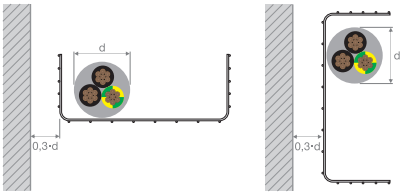
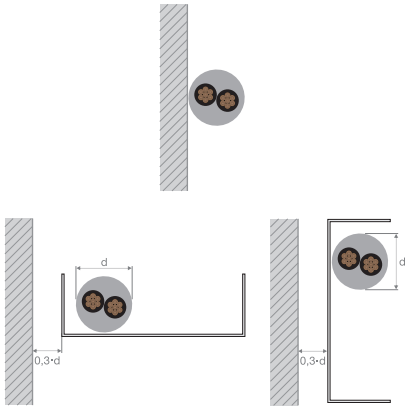
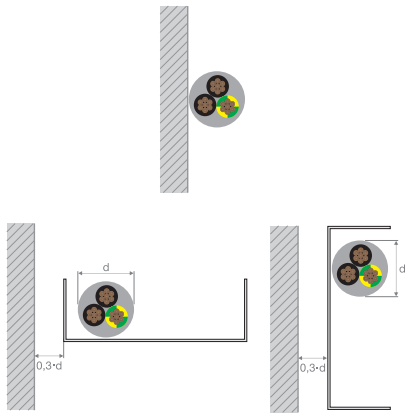
Diagram	Representative images	Note
M1-2		Installation in conduits laid on or spaced from walls.
		Installation in cable trunking on a wall in vertical or horizontal position.
		Installation in cavities of structures or in open or ventilated tunnels with horizontal or vertical path for maximum lengths of 0.5 m for cables up to 10 mm^2, 1 m for cables up to 95 mm^2 and 1.5 m for cables over 95 mm^2.
		Installation in conduits laid in cavities of structures or in open or ventilated tunnels with horizontal or vertical path for maximum lengths of 0.5 m for cables up to 10 mm^2, 1 m for cables up to 95 mm^2 and 1.5 m for cables over 95 mm^2.
M1-3		Installation in conduits laid on or spaced from walls.
		Installation in cable trunking on a wall in vertical or horizontal position.
		Installation in cavities of structures or in open or ventilated tunnels with horizontal or vertical path for maximum lengths of 0.5 m for cables up to 10 mm^2, 1 m for cables up to 95 mm^2 and 1.5 m for cables over 95 mm^2.
		Installation in conduits laid in cavities of structures or in open or ventilated tunnels with horizontal or vertical path for maximum lengths of 0.5 m for cables up to 10 mm^2, 1 m for cables up to 95 mm^2 and 1.5 m for cables over 95 mm^2.

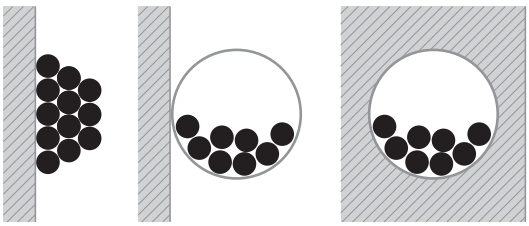
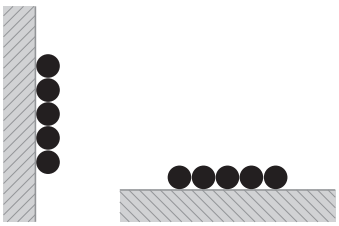
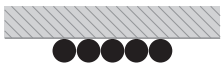
Diagram	Representative images	Note
M2-2		Installation on open cable trays (wire mesh, ventilated or ladder) in vertical or horizontal position.
M2-3		Installation on open cable trays (wire mesh, ventilated or ladder) in vertical or horizontal position.
M3-2		Installation on or spaced from walls. Installation on non-ventilated cable trays without cover in vertical or horizontal position.
M3-3		Installation on or spaced from walls. Installation on non-ventilated cable trays without cover in vertical or horizontal position.

To the ampacities indicated in the previous tables it is necessary to apply the correction factors that take into account the installation configuration and in particular the ambient temperature and the number of circuits. By circuit we mean a three-core or two-core cable or three single-core cables in a three-phase system or two single-core cables in a phase-phase or phase-ground system.
For ambient temperatures other than 30°C use Table B.9g.
For installations of single-core or multi-core cable circuits on walls, floors, ceilings, non-ventilated cable trays or conduits use Table B.8f.
For installations of single-core cable circuits in cable trays use Table B.8g.
For installations of multi-core cables in cable trays use Table B.8h.

Table B.9g. Correction factors for the ampacities for different ambient temperatures and different insulation temperatures of cables

Ambient temperature	Insulation temperature				
	60°C	70°C	75°C	80°C	90°C
	Correction factor				
10	1,29	1,22	1,20	1,18	1,15
15	1,22	1,17	1,15	1,14	1,12
20	1,15	1,12	1,11	1,10	1,08
25	1,08	1,06	1,05	1,05	1,04
30	**1,00**	**1,00**	**1,00**	**1,00**	**1,00**
35	0,91	0,94	0,94	0,95	0,96
40	0,82	0,87	0,88	0,89	0,91
45	0,71	0,79	0,82	0,84	0,87
50	0,58	0,71	0,75	0,77	0,82
55	0,41	0,61	0,67	0,71	0,76
60	-	0,50	0,58	0,63	0,71
65	-	0,35	0,47	0,55	0,65
70	-	-	0,33	0,45	0,58
75	-	-	-	0,32	0,50
80	-	-	-	-	0,41
85	-	-	-	-	0,29

Table B.9h. Correction factors for single-core and multicore cables' circuits on surfaces, walls, ceiling, non-ventilated cable trays or in conduits

Installation method	Number of multi-core cables or number of circuits of single-core cables (2 or 3 current-carrying conductors)														
	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
	Correction factor														
Bunched directly and in touch between each other on floors, on walls, in conduits or in wireways or in the wall. 	1,00	0,80	0,70	0,65	0,60	0,57	0,54	0,52	0,50	0,48	0,45	0,43	0,41	0,39	0,38
In one layer in touch between each other on floors or attached to walls. 	1,00	0,85	0,79	0,75	0,73	0,72	0,72	0,71	0,70	0,70	0,70	0,70	0,70	0,70	0,70
In one layer in touch between each other under the ceiling. 	0,95	0,81	0,72	0,68	0,66	0,64	0,63	0,62	0,61	0,61	0,61	0,61	0,61	0,61	0,61

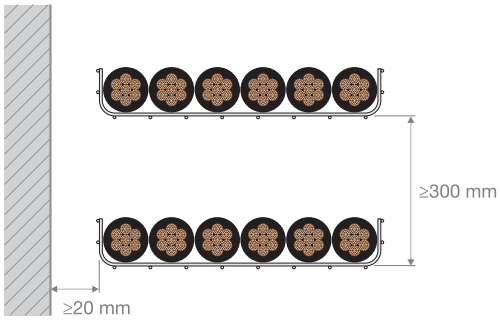
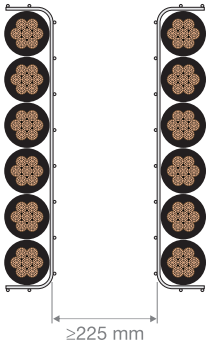
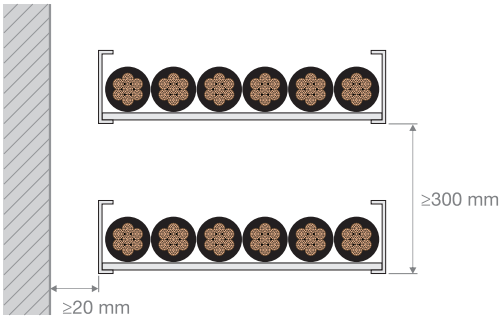
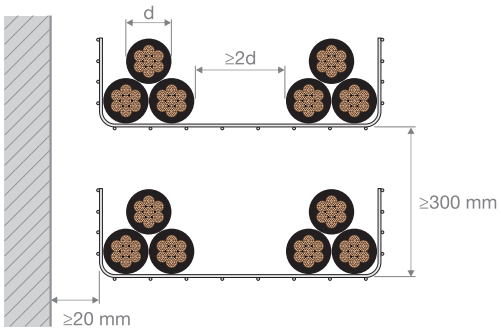
Note 1. Correction factors can be applied only to similar loaded cables of a similar type of installation and nominal cross sections differ one step only.

Note 2. If the actual horizontal-space between adjacent cables is more than double of the outer diameter, no correction factor is necessary.

Note 3. For a system consisting of multicore cables, the number of circuits have to be considered. The correction factor has to be applied to the ampacity of the two or three current currying conductors in the cables.

Note 4. If the grouping of single core cables consists of n loaded single core cables, the correction factor shall be determinate for n/2 or n/3 circuits depending on the number of current-carrying conductors.

Table B.9i. Correction factors for single-core cables' circuits installed in cable trays

Installation method	Number of cable trays	Number of three-phase circuits of single-core cables		
		1	2	3
		Correction factor		
Single layer in touch between each other in **ventilated cable trays** in a horizontal plane arrangement. 	1	0,98	0,91	0,87
	2	0,96	0,87	0,81
	3	0,95	0,85	0,78
Single layer between each other in **ventilated cable trays** in a vertical plane arrangement. 	1	0.96	0,86	-
	2	0,95	0,84	-
Single layer between each other in **cable ladders** in a horizontal plane arrangement. 	1	1,00	0,97	0,96
	2	0,98	0,93	0,89
	3	0,97	0,90	0,86
Delta configuration in **ventilated cable trays** in a horizontal plane arrangement. 	1	1,00	0,98	0,96
	2	0,97	0,93	0,89
	3	0,96	0,92	0,86

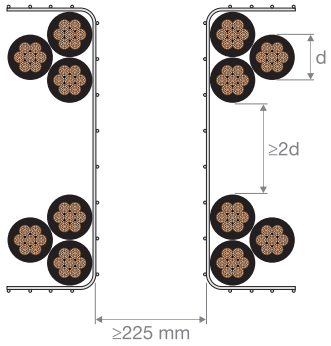
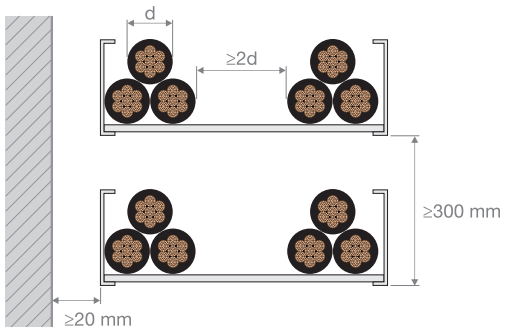
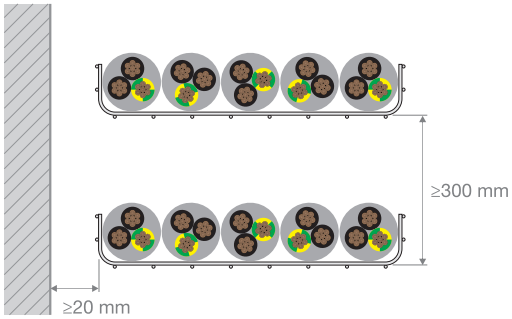
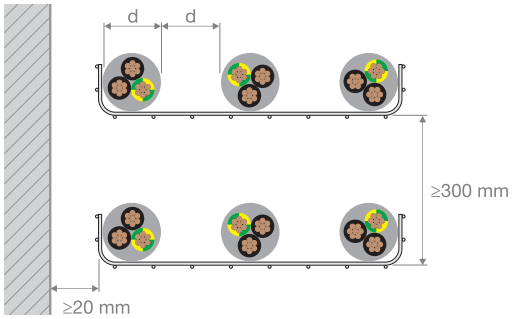
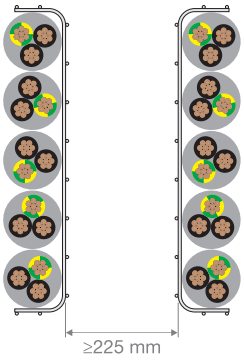
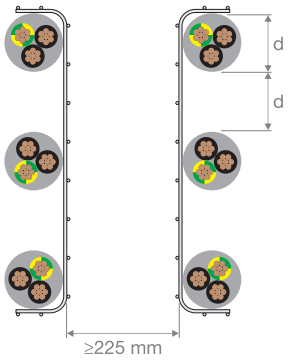
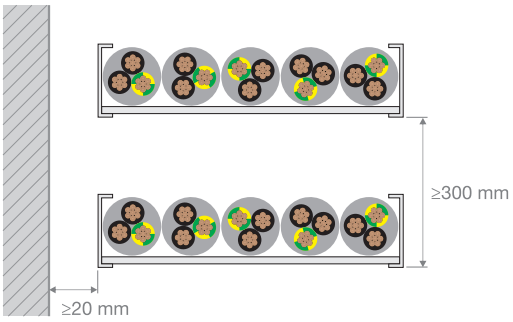
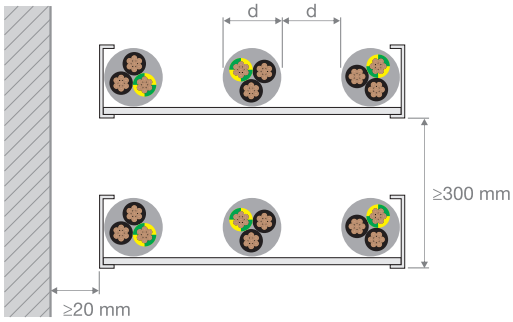
Installation method	Number of cable trays	Number of three-phase circuits of single-core cables		
		1	2	3
		Correction factor		
Delta configuration in ventilated **cable trays** in a vertical plane arrangement. 	1	1,00	0,91	0,89
	2	1,00	0,90	0,86
Delta configuration in **cable ladders** in a horizontal plane arrangement. 	1	1,00	1,00	1,00
	2	0,97	0,95	0,93
	3	0,96	0,94	0,90

Table B.9I. Correction factors for multicore cables installed in cable trays

Installation method	Number of cable trays	Number of multicore cables					
		1	2	3	4	6	9
		Correction factor					
Single layer in touch between each other in **ventilated cable trays** in a horizontal plane arrangement. 	1	1,00	0,88	0,82	0,79	0,76	0,73
	2	1,00	0,87	0,80	0,77	0,73	0,68
	3	1,00	0,86	0,79	0,76	0,71	0,66
	6	1,00	0,84	0,77	0,73	0,68	0,64
Single layer with a clearance equal to the external diameter '"d" in **ventilated cable trays** in a horizontal plane arrangement. 	1	1,00	1,00	0,98	0,95	0,91	-
	2	1,00	0,99	0,96	0,92	0,87	-
	3	1,00	0,98	0,95	0,91	0,85	-
Single layer between each other in **ventilated cable trays** in a vertical plane arrangement. 	1	1,00	0,88	0,82	0,78	0,73	0,72
	2	1,00	0,88	0,81	0,76	0,71	0,70

Installation method	Number of cable trays	Number of multicore cables					
		1	2	3	4	6	9
		Correction factor					
Single layer with a clearance equal to the external diameter "d" in **ventilated cable trays** in a vertical plane arrangement. 	1	1,00	0,91	0,89	0,88	0,87	-
	2	1,00	0,91	0,88	0,87	0,85	-
Single layer between each other in **cable ladders** in a horizontal plane arrangement. 	1	1,00	0,87	0,82	0,80	0,79	0,78
	2	1,00	0,86	0,81	0,78	0,76	0,73
	3	1,00	0,85	0,79	0,76	0,73	0,70
	6	1,00	0,83	0,76	0,73	0,69	0,66
Single layer with a clearance equal to the external diameter "d" in **cable ladders** in a horizontal plane arrangement. 	1	1,00	1,00	1,00	1,00	1,00	-
	2	1,00	0,99	0,98	0,97	0,96	-
	3	1,00	0,98	0,97	0,96	0,93	-

B.10 Ampacities of conductors with silicone insulation

The tables show the ampacities of single core conductors with silicone insulation in free air and the correction factors at different ambient temperatures.

Table B.10a. Ampacities of single-core copper conductors with silicone insulation AWM Style 3644, 1000V, installed in free air at 30°C ambient temperature

Size [mm²]	Insulation thickness [mm]	Outer diameter [mm]	Insulation temperature					
			60°C	75°C	90°C	110°C	125°C	150°C
			Ampacities [A] of silicon insulated copper conductors, AWM Style 3644, 1000V, Ambient temperature 30°C					
1,5	0,8	3,2	19	24	27	31	34	38
2,5	0,8	3,6	25	31	36	41	45	50
4	0,8	4,2	34	42	48	55	60	67
6	0,8	4,8	45	55	63	73	79	89
10	1,2	7,0	63	77	90	103	112	125
16	1,6	8,6	84	103	119	137	149	167
25	1,6	10,0	112	139	160	185	201	225
35	1,6	11,1	148	182	211	243	264	296
50	2,1	13,6	176	217	251	289	314	351
70	2,1	15,6	235	290	335	387	421	470
95	2,1	17,6	278	343	397	458	498	558
120	2,1	19,0	324	400	463	534	582	651
150	2,5	21,4	363	448	518	598	650	727
185	2,5	23,5	448	552	639	737	802	898
240	2,5	26,0	532	657	760	878	956	1070
300	3,0	29,0	613	756	874	1008	1097	1227

Table B.10b. Ampacities of single-core copper conductors with silicone insulation and polyester fiber braiding AWM Style 3640/3988, 1100V, installed in free air at 30°C ambient temperature

Size [mm²]	Insulation thickness [mm]	Totale thickness [mm]	Outer diameter [mm]	Insulation temperature						
				60°C	75°C	90°C	110°C	125°C	150°C	180°C
				Ampacities [A] of silicon and polyester fiber braiding insulated copper conductors, AWM Style 3640/3988, 1100V, Ambient temperature 30°C						
1,5	1,4	1,8	5,2	23	28	32	37	40	44	48
2,5	1,4	1,8	5,6	30	37	43	49	53	59	65
4	1,4	1,8	6,2	40	49	56	65	70	78	86
6	1,4	1,8	6,9	51	63	72	83	90	100	111
10	1,4	2,0	8,1	70	85	98	113	123	137	151
16	1,4	2,0	9,2	92	114	131	151	164	182	202
25	1,4	2,0	10,6	123	151	174	201	218	243	270
35	1,7	2,3	12,2	152	187	215	248	269	300	333
50	1,8	2,4	14,0	191	235	272	313	340	379	421
70	1,8	2,4	15,8	238	294	339	391	425	474	526
95	2,0	2,6	18,2	294	362	418	482	524	585	649
120	2,2	2,8	19,7	329	404	467	538	584	653	724
150	2,2	2,8	21,8	383	471	544	627	682	762	845
185	2,4	3,0	24,2	446	549	634	731	794	887	984
240	2,7	3,3	27,0	527	649	750	864	938	1048	1161
300	2,9	3,65	30,3	612	753	870	1002	1088	1214	1345

Table B.10c. Ampacities of single-core copper conductors with silicone insulation AWM Style 3529, 600V, installed in free air at 30°C ambient temperature

Size [mm²]	Insulation thickness [mm]	Outer diameter [mm]	Insulation temperature					
			60°C	75°C	90°C	110°C	125°C	150°C
			Ampacities [A] of silicon insulated copper conductors, AWM Style 3529, 600V, Ambient temperature 30°C					
1,0	0,8	3,2	15	18	21	24	26	29
1,5	0,8	3,6	19	24	27	31	34	38
2,5	0,8	4,2	25	31	36	41	45	50
4	1,2	5,6	34	42	48	55	60	67
6	1,6	7,8	46	56	65	75	81	91
10	1,6	8,6	64	79	91	105	114	127
16	1,6	10,0	84	103	119	137	149	167
25	1,6	11,1	112	139	160	185	201	225
35	2,1	13,6	148	182	211	243	264	296
50	2,1	15,6	176	217	251	289	314	351
70	2,1	17,6	235	290	335	387	421	470
95	2,1	19,0	278	343	397	458	498	558
120	2,5	21,4	324	400	463	534	582	651
150	2,5	23,5	363	448	518	598	650	727
185	2,5	26,0	448	552	639	737	802	898
240	3,0	29,0	532	657	760	878	956	1070

Note. Conductors used for the production of Series 380/380S multicore cables.

Table B.10d. Correction factors for the ampacities for different ambient temperatures and different insulation temperatures of conductors

Ambient temperature	Insulation temperature							
	60°C	75°C	90°C	110°C	125°C	150°C	180°C	200°C
	Correction factor							
30°C	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
40°C	0,81	0,88	0,91	0,94	0,95	0,96	0,97	0,98
50°C	0,57	0,74	0,82	0,87	0,90	0,92	0,94	0,95
60°C	-	0,57	0,71	0,80	0,84	0,88	0,91	0,92
70°C	-	0,32	0,58	0,71	0,77	0,83	0,88	0,90
80°C	-	-	0,40	0,62	0,70	0,78	0,84	0,87
90°C	-	-	-	0,50	0,62	0,73	0,80	0,83
100°C	-	-	-	0,35	0,52	0,67	0,76	0,80
110°C	-	-	-	-	0,40	0,60	0,71	0,76
120°C	-	-	-	-	0,23	0,52	0,67	0,72
130°C	-	-	-	-	-	0,43	0,61	0,68
140°C	-	-	-	-	-	0,30	0,55	0,63
150°C	-	-	-	-	-	-	0,48	0,58
160°C	-	-	-	-	-	-	0,39	0,52
180°C	-	-	-	-	-	-	-	0,37

B.11 Calculation of short circuit current in cables according to CEI 64-8

In the selection of a cable, an important factor, in addition to its capacity to supply the connected load, is its performance in the event of a fault, particularly in the case of a short circuit. A cable subjected to a fault condition generates heat, which negatively affects the cable's insulation. The calculation of the fault condition is based on the principle that a protective device should be able to isolate the fault within a time frame that prevents the temperature of the insulation material from exceeding its allowable limit. The CEI 64-8 standard in paragraph 434.3.2 suggests a method for calculating the short circuit regime, based on the assumption that the duration of the short circuit is short enough that no heat dissipation occurs from the cable to the environment (adiabatic heating).
The relationship between the conductor cross-sectional area, protection device response time, and short circuit current is as follows:

$$I^2 \cdot t \leq K^2 \cdot S^2$$

where:
t is the duration of the short circuit in seconds (typically 1 second, maximum 5 seconds)
S is the cross-sectional area of the conductor in square millimiters
I is the short circuit current in Amperes
K is a characteristic constant of the conductor, which is 74 for aluminum conductors insulated with PVC, 87 for aluminum conductors insulated with ethylene-propylene rubber or cross-linked polyethylene, 115 for copper conductors insulated with PVC or thermoplastic material, and 143 for copper conductors insulated with ethylene-propylene rubber or cross-linked polyethylene.

Using the above formula, it is possible to calculate the short circuit current to which a conductor with cross-sectional area S is subjected for a duration of time t.

$$I = \sqrt{\frac{K^2 \cdot S^2}{t}}$$

The values are reported in the following tables.

Table B.11a. Short circuit current allowed for copper conductors insulated with PVC or thermoplastic material (K=115) according to CEI 64-8, conductor cross-sections in mm²

Duration of short circuit [sec]	Conductor cross sectional area [mm²]												
	0,08	0,14	0,2	0,25	0,34	0,5	0,75	1	1,5	2,5	4	6	10
	Short circuit current [A]												
0,2	20,6	36,0	51,4	64,3	87,4	128,6	192,9	257,1	385,7	642,9	1029	1543	2571
0,4	14,5	25,5	36,4	45,5	61,8	90,9	136,4	181,8	272,7	454,6	727,3	1091	1818
0,6	11,9	20,8	29,7	37,1	50,5	74,2	111,3	148,5	222,7	371,2	593,9	890,8	1485
0,8	10,3	18,0	25,7	32,1	43,7	64,3	96,4	128,6	192,9	321,4	514,3	771,4	1286
1,0	9,2	16,1	23,0	28,8	39,1	57,5	86,3	115,0	172,5	287,5	460,0	690,0	1150
1,2	8,4	14,7	21,0	26,2	35,7	52,5	78,7	105,0	157,5	262,5	419,9	629,9	1050
1,4	7,8	13,6	19,4	24,3	33,0	48,6	72,9	97,2	145,8	243,0	388,8	583,2	971,9
1,6	7,3	12,7	18,2	22,7	30,9	45,5	68,2	90,9	136,4	227,3	363,7	545,5	909,2
1,8	6,9	12,0	17,1	21,4	29,1	42,9	64,3	85,7	128,6	214,3	342,9	514,3	857,2
2,0	6,5	11,4	16,3	20,3	27,6	40,7	61,0	81,3	122,0	203,3	325,3	487,9	813,2
2,2	6,2	10,9	15,5	19,4	26,4	38,8	58,1	77,5	116,3	193,8	310,1	465,2	775,3
2,4	5,9	10,4	14,8	18,6	25,2	37,1	55,7	74,2	111,3	185,6	296,9	445,4	742,3
2,6	5,7	10,0	14,3	17,8	24,2	35,7	53,5	71,3	107,0	178,3	285,3	427,9	713,2
2,8	5,5	9,6	13,7	17,2	23,4	34,4	51,5	68,7	103,1	171,8	274,9	412,4	687,3
3,0	5,3	9,3	13,3	16,6	22,6	33,2	49,8	66,4	99,6	166,0	265,6	398,4	664,0
3,2	5,1	9,0	12,9	16,1	21,9	32,1	48,2	64,3	96,4	160,7	257,1	385,7	642,9
3,4	5,0	8,7	12,5	15,6	21,2	31,2	46,8	62,4	93,6	155,9	249,5	374,2	623,7
3,6	4,8	8,5	12,1	15,2	20,6	30,3	45,5	60,6	90,9	151,5	242,4	363,7	606,1
3,8	4,7	8,3	11,8	14,7	20,1	29,5	44,2	59,0	88,5	147,5	236,0	354,0	589,9
4,0	4,6	8,1	11,5	14,4	19,6	28,8	43,1	57,5	86,3	143,8	230,0	345,0	575,0
4,2	4,5	7,9	11,2	14,0	19,1	28,1	42,1	56,1	84,2	140,3	224,5	336,7	561,1
4,4	4,4	7,7	11,0	13,7	18,6	27,4	41,1	54,8	82,2	137,1	219,3	328,9	548,2
4,6	4,3	7,5	10,7	13,4	18,2	26,8	40,2	53,6	80,4	134,0	214,5	321,7	536,2
4,8	4,2	7,3	10,5	13,1	17,8	26,2	39,4	52,5	78,7	131,2	210,0	314,9	524,9
5,0	4,1	7,2	10,3	12,9	17,5	25,7	38,6	51,4	77,1	128,6	205,7	308,6	514,3

Table B.11a (continue). Short circuit current allowed for copper conductors insulated with PVC or thermoplastic material (K=115) according to CEI 64-8, conductor cross-sections in mm²

Duration of short circuit [sec]	Conductor cross sectional area [mm²]												
	16	25	35	50	70	95	120	150	185	240	300	400	500
	Short circuit current [A]												
0,2	4114	6429	9000	12857	18000	24429	30858	38572	47572	61715	77144	102859	128574
0,4	2909	4546	6364	9092	12728	17274	21820	27275	33639	43639	54549	72732	90915
0,6	2375	3712	5196	7423	10393	14104	17816	22270	27466	35631	44539	59386	74232
0,8	2057	3214	4500	6429	9000	12215	15429	19286	23786	30858	38572	51430	64287
1,0	1840	2875	4025	5750	8050	10925	13800	17250	21275	27600	34500	46000	57500
1,2	1680	2625	3674	5249	7349	9973	12598	15747	19421	25195	31494	41992	52490
1,4	1555	2430	3402	4860	6803	9233	11663	14579	17981	23326	29158	38877	48596
1,6	1455	2273	3182	4546	6364	8637	10910	13637	16819	21820	27275	36366	45458
1,8	1371	2143	3000	4286	6000	8143	10286	12857	15857	20572	25715	34286	42858
2,0	1301	2033	2846	4066	5692	7725	9758	12198	15044	19516	24395	32527	40659
2,2	1241	1938	2714	3877	5427	7366	9304	11630	14344	18608	23260	31013	38766
2,4	1188	1856	2598	3712	5196	7052	8908	11135	13733	17816	22270	29693	37116
2,6	1141	1783	2496	3566	4992	6775	8558	10698	13194	17117	21396	28528	35660
2,8	1100	1718	2405	3436	4811	6529	8247	10309	12714	16494	20618	27490	34363
3,0	1062	1660	2324	3320	4648	6308	7967	9959	12283	15935	19919	26558	33198
3,2	1029	1607	2250	3214	4500	6107	7714	9643	11893	15429	19286	25715	32143
3,4	998	1559	2183	3118	4366	5925	7484	9355	11538	14968	18710	24947	31184
3,6	970	1515	2121	3031	4243	5758	7273	9092	11213	14546	18183	24244	30305
3,8	944	1475	2065	2950	4130	5604	7079	8849	10914	14159	17698	23598	29497
4,0	920	1438	2013	2875	4025	5463	6900	8625	10638	13800	17250	23000	28750
4,2	898	1403	1964	2806	3928	5331	6734	8417	10381	13467	16834	22446	28057
4,4	877	1371	1919	2741	3838	5208	6579	8224	10142	13158	16447	21930	27412
4,6	858	1340	1877	2681	3753	5094	6434	8043	9920	12869	16086	21448	26810
4,8	840	1312	1837	2625	3674	4987	6299	7874	9711	12598	15747	20996	26245
5,0	823	1286	1800	2571	3600	4886	6172	7714	9514	12343	15429	20572	25715

Table B.11b. Short circuit current allowed for copper conductors insulated with PVC or thermoplastic material (K=115) according to CEI 64-8, conductor size in AWG/kcmil

Duration of short circuit [sec]	Conductor cross sectional area [AWG/kcmil]															
	40 AWG	38	36	34	32	30	28	26	24	22	21	20	19	18	16	14
	Short circuit current [A]															
0,2	1,29	2,05	3,27	5,17	8,23	13,1	20,8	33,2	52,7	83,8	105,4	133,2	167,9	211,6	336,9	534,9
0,4	0,91	1,45	2,31	3,65	5,82	9,26	14,7	23,5	37,3	59,3	74,6	94,2	118,7	149,6	238,2	378,2
0,6	0,74	1,18	1,89	2,98	4,75	7,56	12,0	19,2	30,4	48,4	60,9	76,9	96,9	122,2	194,5	308,8
0,8	0,64	1,02	1,63	2,58	4,11	6,54	10,4	16,6	26,4	41,9	52,7	66,6	84,0	105,8	168,4	267,4
1,0	0,58	0,92	1,46	2,31	3,68	5,85	9,32	14,8	23,6	37,5	47,2	59,6	75,1	94,6	150,7	239,2
1,2	0,53	0,84	1,33	2,11	3,36	5,34	8,50	13,5	21,5	34,2	43,0	54,4	68,6	86,4	137,5	218,4
1,4	0,49	0,77	1,23	1,95	3,11	4,95	7,87	12,5	19,9	31,7	39,8	50,3	63,5	80,0	127,3	202,2
1,6	0,46	0,72	1,15	1,83	2,91	4,63	7,36	11,7	18,6	29,6	37,3	47,1	59,4	74,8	119,1	189,1
1,8	0,43	0,68	1,09	1,72	2,74	4,36	6,94	11,1	17,6	27,9	35,1	44,4	56,0	70,5	112,3	178,3
2,0	0,41	0,65	1,03	1,63	2,60	4,14	6,59	10,5	16,7	26,5	33,3	42,1	53,1	66,9	106,5	169,1
2,2	0,39	0,62	0,98	1,56	2,48	3,95	6,28	10,0	15,9	25,3	31,8	40,2	50,6	63,8	101,6	161,3
2,4	0,37	0,59	0,94	1,49	2,38	3,78	6,01	9,58	15,2	24,2	30,4	38,5	48,5	61,1	97,2	154,4
2,6	0,36	0,57	0,91	1,43	2,28	3,63	5,78	9,20	14,6	23,3	29,2	36,9	46,6	58,7	93,4	148,3
2,8	0,34	0,55	0,87	1,38	2,20	3,50	5,57	8,87	14,1	22,4	28,2	35,6	44,9	56,6	90,0	142,9
3,0	0,33	0,53	0,84	1,33	2,12	3,38	5,38	8,56	13,6	21,6	27,2	34,4	43,4	54,6	87,0	138,1
3,2	0,32	0,51	0,82	1,29	2,06	3,27	5,21	8,29	13,2	21,0	26,4	33,3	42,0	52,9	84,2	133,7
3,4	0,31	0,50	0,79	1,25	2,00	3,17	5,05	8,05	12,8	20,3	25,6	32,3	40,7	51,3	81,7	129,7
3,6	0,30	0,48	0,77	1,22	1,94	3,09	4,91	7,82	12,4	19,8	24,9	31,4	39,6	49,9	79,4	126,1
3,8	0,30	0,47	0,75	1,19	1,89	3,00	4,78	7,61	12,1	19,2	24,2	30,6	38,5	48,6	77,3	122,7
4,0	0,29	0,46	0,73	1,16	1,84	2,93	4,66	7,42	11,8	18,7	23,6	29,8	37,5	47,3	75,3	119,6
4,2	0,28	0,45	0,71	1,13	1,80	2,86	4,55	7,24	11,5	18,3	23,0	29,1	36,6	46,2	73,5	116,7
4,4	0,27	0,44	0,70	1,10	1,75	2,79	4,44	7,07	11,2	17,9	22,5	28,4	35,8	45,1	71,8	114,0
4,6	0,27	0,43	0,68	1,08	1,72	2,73	4,34	6,92	11,0	17,5	22,0	27,8	35,0	44,1	70,2	111,5
4,8	0,26	0,42	0,67	1,06	1,68	2,67	4,25	6,77	10,8	17,1	21,5	27,2	34,3	43,2	68,8	109,2
5,0	0,26	0,41	0,65	1,03	1,65	2,62	4,17	6,63	10,5	16,8	21,1	26,6	33,6	42,3	67,4	107,0

Table B.11b (continue). Short circuit current allowed for copper conductors insulated with PVC or thermoplastic material (K=115) according to CEI 64-8, conductor size in AWG/kcmil

Duration of short circuit [sec]	Conductor cross sectional area [AWG/kcmil]															
	12 AWG	10	8	6	4	3	2	1	1/0	2/0	3/0	4/0	5/0	6/0	250 kcmil	300
	Short circuit current [A]															
0,2	851,2	1353	2152	3420	5452	6866	8640	10903	13757	17332	21858	27515	34715	43715	32658	39086
0,4	601,9	956,4	1522	2418	3855	4855	6110	7710	9728	12255	15456	19456	24547	30911	23093	27638
0,6	491,4	780,9	1243	1975	3147	3964	4988	6295	7943	10006	12619	15886	20043	25239	18855	22567
0,8	425,6	676,3	1076	1710	2726	3433	4320	5452	6879	8666	10929	13757	17357	21858	16329	19543
1,0	380,7	604,9	962,6	1530	2438	3071	3864	4876	6153	7751	9775	12305	15525	19550	14605	17480
1,2	347,5	552,2	878,7	1396	2226	2803	3527	4451	5616	7076	8923	11233	14172	17847	13332	15957
1,4	321,7	511,2	813,5	1293	2060	2595	3266	4121	5200	6551	8261	10400	13121	16523	12343	14773
1,6	300,9	478,2	761,0	1209	1927	2427	3055	3855	4864	6128	7728	9728	12274	15456	11546	13819
1,8	283,7	450,9	717,4	1140	1817	2289	2880	3634	4586	5777	7286	9172	11572	14572	10886	13029
2,0	269,2	427,7	680,6	1082	1724	2171	2732	3448	4350	5481	6912	8701	10978	13824	10327	12360
2,2	256,6	407,8	649,0	1031	1644	2070	2605	3287	4148	5226	6590	8296	10467	13181	9847	11785
2,4	245,7	390,5	621,3	987	1574	1982	2494	3147	3971	5003	6310	7943	10021	12619	9427	11283
2,6	236,1	375,1	596,9	949	1512	1904	2396	3024	3816	4807	6062	7631	9628	12124	9058	10841
2,8	227,5	361,5	575,2	914	1457	1835	2309	2914	3677	4632	5842	7354	9278	11683	8728	10446
3,0	219,8	349,2	555,7	883	1408	1773	2231	2815	3552	4475	5644	7104	8963	11287	8432	10092
3,2	212,8	338,1	538,1	855	1363	1716	2160	2726	3439	4333	5464	6879	8679	10929	8164	9772
3,4	206,4	328,1	522,0	829	1322	1665	2096	2644	3337	4204	5301	6673	8420	10602	7921	9480
3,6	200,6	318,8	507,3	806	1285	1618	2037	2570	3243	4085	5152	6485	8182	10304	7698	9213
3,8	195,3	310,3	493,8	785	1251	1575	1982	2501	3156	3976	5014	6312	7964	10029	7492	8967
4,0	190,3	302,5	481,3	765	1219	1535	1932	2438	3076	3876	4888	6153	7763	9775	7303	8740
4,2	185,7	295,2	469,7	746	1190	1498	1885	2379	3002	3782	4770	6004	7575	9539	7127	8529
4,4	181,5	288,4	458,9	729	1162	1464	1842	2325	2933	3695	4660	5866	7401	9320	6963	8333
4,6	177,5	282,0	448,8	713	1137	1432	1802	2273	2869	3614	4558	5737	7239	9115	6810	8150
4,8	173,7	276,1	439,3	698	1113	1401	1764	2226	2808	3538	4462	5616	7086	8923	6666	7978
5,0	170,2	270,5	430,5	684	1090	1373	1728	2181	2751	3466	4372	5503	6943	8743	6532	7817

Table B.11b (continue). Short circuit current allowed for copper conductors insulated with PVC or thermoplastic material (K=115) according to CEI 64-8, conductor size in AWG/kcmil

Duration of short circuit [sec]	Conductor cross sectional area [AWG/kcmil]															
	350 kcmil	400	450	500	550	600	700	750	800	900	1000	1200	1250	1500	1750	2000
	Short circuit current [A]															
0,2	45515	52201	58630	65058	71744	78173	91287	97716	104145	117259	130374	156346	162775	195432	228090	260491
0,4	32184	36912	41457	46003	50731	55277	64550	69096	73642	82915	92188	110553	115099	138192	161284	184195
0,6	26278	30138	33850	37561	41422	45133	52705	56416	60128	67700	75271	90266	93978	112833	131688	150394
0,8	22758	26101	29315	32529	35872	39086	45644	48858	52072	58630	65187	78173	81387	97716	114045	130245
1,0	20355	23345	26220	29095	32085	34960	40825	43700	46575	52440	58305	69920	72795	87400	102005	116495
1,2	18581	21311	23935	26560	29289	31914	37268	39892	42517	47871	53225	63828	66452	79785	93117	106345
1,4	17203	19730	22160	24590	27117	29547	34503	36933	39363	44320	49277	59093	61523	73866	86210	98456
1,6	16092	18456	20729	23002	25365	27638	32275	34548	36821	41457	46094	55277	57550	69096	80642	92097
1,8	15172	17400	19543	21686	23915	26058	30429	32572	34715	39086	43458	52115	54258	65144	76030	86830
2,0	14393	16507	18540	20573	22688	24720	28868	30901	32933	37081	41228	49441	51474	61801	72128	82374
2,2	13723	15739	17678	19616	21632	23570	27524	29463	31401	35355	39309	47140	49078	58925	68772	78541
2,4	13139	15069	16925	18781	20711	22567	26352	28208	30064	33850	37636	45133	46989	56416	65844	75197
2,6	12624	14478	16261	18044	19898	21681	25319	27102	28885	32522	36159	43363	45146	54203	63261	72247
2,8	12164	13951	15669	17388	19174	20893	24398	26116	27834	31339	34844	41785	43503	52231	60960	69619
3,0	11752	13478	15138	16798	18524	20184	23570	25230	26890	30276	33662	40368	42028	50460	58893	67258
3,2	11379	13050	14657	16265	17936	19543	22822	24429	26036	29315	32593	39086	40694	48858	57023	65123
3,4	11039	12661	14220	15779	17401	18960	22140	23700	25259	28440	31620	37919	39479	47399	55320	63178
3,6	10728	12304	13819	15334	16910	18426	21517	23032	24547	27638	30729	36851	38366	46064	53761	61398
3,8	10442	11976	13451	14925	16459	17934	20943	22418	23892	26901	29910	35868	37343	44835	52327	59761
4,0	10178	11673	13110	14548	16043	17480	20413	21850	23288	26220	29153	34960	36398	43700	51003	58248
4,2	9932	11391	12794	14197	15656	17059	19921	21323	22726	25588	28450	34117	35520	42647	49773	56844
4,4	9704	11129	12500	13870	15296	16667	19463	20833	22204	25000	27796	33333	34704	41666	48629	55537
4,6	9491	10885	12225	13566	14960	16300	19035	20375	21716	24450	27185	32600	33941	40750	47560	54316
4,8	9291	10655	11968	13280	14645	15957	18634	19946	21258	23935	26612	31914	33226	39892	46559	53172
5,0	9103	10440	11726	13012	14349	15635	18257	19543	20829	23452	26075	31269	32555	39086	45618	52098

Table B.11c. Short circuit current allowed for copper conductors insulated with ethylene-propylene rubber or cross-linked polyethylene (K=143) according to CEI 64-8, conductor cross-sections in mm²

Duration of short circuit [sec]	Conductor cross sectional area [mm²]												
	0,08	0,14	0,2	0,25	0,34	0,5	0,75	1	1,5	2,5	4	6	10
	Short circuit current [A]												
0,2	25,6	44,8	64,0	79,9	108,7	159,9	239,8	319,8	479,6	799,4	1279	1919	3198
0,4	18,1	31,7	45,2	56,5	76,9	113,1	169,6	226,1	339,2	565,3	904,4	1357	2261
0,6	14,8	25,8	36,9	46,2	62,8	92,3	138,5	184,6	276,9	461,5	738,4	1108	1846
0,8	12,8	22,4	32,0	40,0	54,4	79,9	119,9	159,9	239,8	399,7	639,5	959,3	1599
1,0	11,4	20,0	28,6	35,8	48,6	71,5	107,3	143,0	214,5	357,5	572,0	858,0	1430
1,2	10,4	18,3	26,1	32,6	44,4	65,3	97,9	130,5	195,8	326,4	522,2	783,2	1305
1,4	9,7	16,9	24,2	30,2	41,1	60,4	90,6	120,9	181,3	302,1	483,4	725,1	1209
1,6	9,0	15,8	22,6	28,3	38,4	56,5	84,8	113,1	169,6	282,6	452,2	678,3	1131
1,8	8,5	14,9	21,3	26,6	36,2	53,3	79,9	106,6	159,9	266,5	426,3	639,5	1066
2,0	8,1	14,2	20,2	25,3	34,4	50,6	75,8	101,1	151,7	252,8	404,5	606,7	1011
2,2	7,7	13,5	19,3	24,1	32,8	48,2	72,3	96,4	144,6	241,0	385,6	578,5	964,1
2,4	7,4	12,9	18,5	23,1	31,4	46,2	69,2	92,3	138,5	230,8	369,2	553,8	923,1
2,6	7,1	12,4	17,7	22,2	30,2	44,3	66,5	88,7	133,0	221,7	354,7	532,1	886,8
2,8	6,8	12,0	17,1	21,4	29,1	42,7	64,1	85,5	128,2	213,6	341,8	512,8	854,6
3,0	6,6	11,6	16,5	20,6	28,1	41,3	61,9	82,6	123,8	206,4	330,2	495,4	825,6
3,2	6,4	11,2	16,0	20,0	27,2	40,0	60,0	79,9	119,9	199,8	319,8	479,6	799,4
3,4	6,2	10,9	15,5	19,4	26,4	38,8	58,2	77,6	116,3	193,9	310,2	465,3	775,5
3,6	6,0	10,6	15,1	18,8	25,6	37,7	56,5	75,4	113,1	188,4	301,5	452,2	753,7
3,8	5,9	10,3	14,7	18,3	24,9	36,7	55,0	73,4	110,0	183,4	293,4	440,1	733,6
4,0	5,7	10,0	14,3	17,9	24,3	35,8	53,6	71,5	107,3	178,8	286,0	429,0	715,0
4,2	5,6	9,8	14,0	17,4	23,7	34,9	52,3	69,8	104,7	174,4	279,1	418,7	697,8
4,4	5,5	9,5	13,6	17,0	23,2	34,1	51,1	68,2	102,3	170,4	272,7	409,0	681,7
4,6	5,3	9,3	13,3	16,7	22,7	33,3	50,0	66,7	100,0	166,7	266,7	400,0	666,7
4,8	5,2	9,1	13,1	16,3	22,2	32,6	49,0	65,3	97,9	163,2	261,1	391,6	652,7
5,0	5,1	9,0	12,8	16,0	21,7	32,0	48,0	64,0	95,9	159,9	255,8	383,7	639,5

Table B.11c (continue). Short circuit current allowed for copper conductors insulated with ethylene-propylene rubber or cross-linked polyethylene (K=143) according to CEI 64-8, conductor cross-sections in mm²

Duration of short circuit [sec]	Conductor cross sectional area [mm²]												
	16	25	35	50	70	95	120	150	185	240	300	400	500
	Short circuit current [A]												
0,2	5116	7994	11192	15988	22383	30377	38371	47964	59155	76742	95927	127903	159879
0,4	3618	5653	7914	11305	15827	21480	27132	33915	41829	54265	67831	90441	113051
0,6	2954	4615	6461	9231	12923	17538	22153	27692	34153	44307	55384	73845	92306
0,8	2558	3997	5596	7994	11192	15188	19185	23982	29578	38371	47964	63952	79939
1,0	2288	3575	5005	7150	10010	13585	17160	21450	26455	34320	42900	57200	71500
1,2	2089	3264	4569	6527	9138	12401	15665	19581	24150	31330	39162	52216	65270
1,4	1934	3021	4230	6043	8460	11481	14503	18129	22359	29006	36257	48343	60429
1,6	1809	2826	3957	5653	7914	10740	13566	16958	20915	27132	33915	45221	56526
1,8	1705	2665	3731	5329	7461	10126	12790	15988	19718	25581	31976	42634	53293
2,0	1618	2528	3539	5056	7078	9606	12134	15167	18707	24268	30335	40447	50558
2,2	1543	2410	3374	4821	6749	9159	11569	14462	17836	23139	28923	38564	48205
2,4	1477	2308	3231	4615	6461	8769	11077	13846	17077	22153	27692	36922	46153
2,6	1419	2217	3104	4434	6208	8425	10642	13303	16407	21284	26605	35474	44342
2,8	1367	2136	2991	4273	5982	8119	10255	12819	15810	20510	25638	34184	42729
3,0	1321	2064	2890	4128	5779	7843	9907	12384	15274	19815	24768	33024	41281
3,2	1279	1998	2798	3997	5596	7594	9593	11991	14789	19185	23982	31976	39970
3,4	1241	1939	2714	3878	5429	7368	9306	11633	14347	18613	23266	31021	38776
3,6	1206	1884	2638	3768	5276	7160	9044	11305	13943	18088	22610	30147	37684
3,8	1174	1834	2568	3668	5135	6969	8803	11004	13571	17606	22007	29343	36679
4,0	1144	1788	2503	3575	5005	6793	8580	10725	13228	17160	21450	28600	35750
4,2	1116	1744	2442	3489	4884	6629	8373	10467	12909	16746	20933	27911	34888
4,4	1091	1704	2386	3409	4772	6476	8181	10226	12612	16361	20452	27269	34086
4,6	1067	1667	2334	3334	4667	6334	8001	10001	12335	16002	20002	26670	33337
4,8	1044	1632	2284	3264	4569	6201	7832	9791	12075	15665	19581	26108	32635
5,0	1023	1599	2238	3198	4477	6075	7674	9593	11831	15348	19185	25581	31976

Table B.11d. Short circuit current allowed for copper conductors insulated with ethylene-propylene rubber or cross-linked polyethylene (K=143) according to CEI 64-8, conductor cross-sections in AWG/kcmil

Duration of short circuit [sec]	Conductor cross sectional area [AWG/kcmil]															
	40 AWG	38	36	34	32	30	28	26	24	22	21	20	19	18	16	14
	Short circuit current [A]															
0,2	1,60	2,55	4,06	6,43	10,2	16,3	25,9	41,2	65,6	104,2	131,1	165,6	208,8	263,2	418,9	665,1
0,4	1,13	1,80	2,87	4,54	7,24	11,5	18,3	29,2	46,4	73,7	92,7	117,1	147,6	186,1	296,2	470,3
0,6	0,92	1,47	2,34	3,71	5,91	9,40	15,0	23,8	37,8	60,2	75,7	95,6	120,6	151,9	241,8	384,0
0,8	0,80	1,27	2,03	3,21	5,12	8,14	13,0	20,6	32,8	52,1	65,6	82,8	104,4	131,6	209,4	332,5
1,0	0,72	1,14	1,82	2,87	4,58	7,28	11,6	18,4	29,3	46,6	58,6	74,1	93,4	117,7	187,3	297,4
1,2	0,65	1,04	1,66	2,62	4,18	6,64	10,6	16,8	26,8	42,6	53,5	67,6	85,2	107,4	171,0	271,5
1,4	0,61	0,96	1,53	2,43	3,87	6,15	9,79	15,6	24,8	39,4	49,6	62,6	78,9	99,5	158,3	251,4
1,6	0,57	0,90	1,44	2,27	3,62	5,75	9,16	14,6	23,2	36,9	46,4	58,6	73,8	93,0	148,1	235,1
1,8	0,53	0,85	1,35	2,14	3,41	5,43	8,63	13,7	21,9	34,7	43,7	55,2	69,6	87,7	139,6	221,7
2,0	0,51	0,81	1,28	2,03	3,24	5,15	8,19	13,0	20,7	33,0	41,5	52,4	66,0	83,2	132,5	210,3
2,2	0,48	0,77	1,22	1,94	3,09	4,91	7,81	12,4	19,8	31,4	39,5	49,9	63,0	79,3	126,3	200,5
2,4	0,46	0,74	1,17	1,86	2,95	4,70	7,48	11,9	18,9	30,1	37,8	47,8	60,3	76,0	120,9	192,0
2,6	0,44	0,71	1,13	1,78	2,84	4,51	7,18	11,4	18,2	28,9	36,4	45,9	57,9	73,0	116,2	184,5
2,8	0,43	0,68	1,09	1,72	2,73	4,35	6,92	11,0	17,5	27,9	35,0	44,3	55,8	70,3	112,0	177,8
3,0	0,41	0,66	1,05	1,66	2,64	4,20	6,69	10,7	16,9	26,9	33,9	42,8	53,9	67,9	108,2	171,7
3,2	0,40	0,64	1,02	1,61	2,56	4,07	6,48	10,3	16,4	26,1	32,8	41,4	52,2	65,8	104,7	166,3
3,4	0,39	0,62	0,98	1,56	2,48	3,95	6,28	10,0	15,9	25,3	31,8	40,2	50,6	63,8	101,6	161,3
3,6	0,38	0,60	0,96	1,51	2,41	3,84	6,10	9,72	15,5	24,6	30,9	39,0	49,2	62,0	98,7	156,8
3,8	0,37	0,58	0,93	1,47	2,35	3,73	5,94	9,46	15,0	23,9	30,1	38,0	47,9	60,4	96,1	152,6
4,0	0,36	0,57	0,91	1,44	2,29	3,64	5,79	9,22	14,7	23,3	29,3	37,0	46,7	58,8	93,7	148,7
4,2	0,35	0,56	0,89	1,40	2,23	3,55	5,65	9,00	14,3	22,7	28,6	36,1	45,6	57,4	91,4	145,1
4,4	0,34	0,54	0,87	1,37	2,18	3,47	5,52	8,79	14,0	22,2	28,0	35,3	44,5	56,1	89,3	141,8
4,6	0,33	0,53	0,85	1,34	2,13	3,39	5,40	8,60	13,7	21,7	27,3	34,5	43,5	54,9	87,3	138,7
4,8	0,33	0,52	0,83	1,31	2,09	3,32	5,29	8,42	13,4	21,3	26,8	33,8	42,6	53,7	85,5	135,8
5,0	0,32	0,51	0,81	1,29	2,05	3,26	5,18	8,25	13,1	20,8	26,2	33,1	41,8	52,6	83,8	133,0

Table B.11d (continue). Short circuit current allowed for copper conductors insulated with ethylene-propylene rubber or cross-linked polyethylene (K=143) according to CEI 64-8, conductor cross-sections in AWG/kcmil

Duration of short circuit [sec]	Conductor cross sectional area [AWG/kcmil]															
	12 AWG	10	8	6	4	3	2	1	1/0	2/0	3/0	4/0	5/0	6/0	250 kcmil	300
	Short circuit current [A]															
0,2	1058	1682	2676	4253	6779	8538	10744	13558	17107	21552	27179	34214	43167	54359	40609	48603
0,4	748,4	1189	1892	3007	4793	6037	7597	9587	12097	15239	19219	24193	30524	38437	28715	34368
0,6	611,1	971,1	1545	2455	3914	4929	6203	7828	9877	12443	15692	19754	24923	31384	23446	28061
0,8	529,2	841,0	1338	2126	3389	4269	5372	6779	8554	10776	13590	17107	21584	27179	20305	24302
1,0	473,3	752,2	1197	1902	3032	3818	4805	6063	7651	9638	12155	15301	19305	24310	18161	21736
1,2	432,1	686,6	1093	1736	2767	3485	4386	5535	6984	8798	11096	13968	17623	22192	16579	19842
1,4	400,0	635,7	1012	1607	2562	3227	4061	5124	6466	8146	10273	12932	16316	20546	15349	18370
1,6	374,2	594,7	946,2	1504	2397	3018	3799	4793	6048	7620	9609	12097	15262	19219	14358	17184
1,8	352,8	560,6	892,1	1418	2260	2846	3581	4519	5702	7184	9060	11405	14389	18120	13536	16201
2,0	334,7	531,9	846,3	1345	2144	2700	3398	4287	5410	6815	8595	10819	13651	17190	12842	15370
2,2	319,1	507,1	807,0	1282	2044	2574	3239	4088	5158	6498	8195	10316	13015	16390	12244	14654
2,4	305,5	485,5	772,6	1228	1957	2465	3101	3914	4938	6221	7846	9877	12461	15692	11723	14031
2,6	293,5	466,5	742,3	1180	1880	2368	2980	3760	4745	5977	7538	9489	11972	15076	11263	13480
2,8	282,9	449,5	715,3	1137	1812	2282	2871	3623	4572	5760	7264	9144	11537	14528	10853	12990
3,0	273,3	434,3	691,0	1098	1750	2204	2774	3501	4417	5565	7018	8834	11146	14035	10485	12549
3,2	264,6	420,5	669,1	1063	1695	2134	2686	3389	4277	5388	6795	8554	10792	13590	10152	12151
3,4	256,7	407,9	649,1	1031	1644	2071	2606	3288	4149	5227	6592	8298	10470	13184	9849	11788
3,6	249,5	396,4	630,8	1002	1598	2012	2532	3196	4032	5080	6406	8064	10175	12812	9572	11456
3,8	242,8	385,9	614,0	975,7	1555	1959	2465	3110	3925	4944	6235	7849	9903	12471	9316	11150
4,0	236,7	376,1	598,5	951,0	1516	1909	2402	3032	3825	4819	6078	7651	9653	12155	9081	10868
4,2	231,0	367,0	584,0	928,0	1479	1863	2345	2959	3733	4703	5931	7466	9420	11862	8862	10606
4,4	225,7	358,6	570,6	906,7	1445	1820	2291	2891	3647	4595	5795	7294	9203	11589	8658	10362
4,6	220,7	350,7	558,1	886,8	1413	1780	2240	2827	3567	4494	5667	7134	9001	11335	8468	10134
4,8	216,0	343,3	546,3	868,1	1384	1743	2193	2767	3492	4399	5548	6984	8811	11096	8289	9921
5,0	211,7	336,4	535,3	850,6	1356	1708	2149	2712	3421	4310	5436	6843	8633	10872	8122	9721

Table B.11d (continue). Short circuit current allowed for copper conductors insulated with ethylene-propylene rubber or cross-linked polyethylene (K=143) according to CEI 64-8, conductor cross-sections in AWG/kcmil

Duration of short circuit [sec]	Conductor cross sectional area [AWG/kcmil]															
	350 kcmil	400	450	500	550	600	700	750	800	900	1000	1200	1250	1500	1750	2000
	Short circuit current [A]															
0,2	56597	64911	72905	80899	89212	97206	113514	121508	129502	145810	162117	194413	202407	243016	283625	323915
0,4	40020	45899	51551	57204	63083	68735	80267	85919	91572	103103	114634	137471	143123	171838	200553	229042
0,6	32676	37476	42092	46707	51507	56122	65537	70153	74768	84183	93598	112244	116860	140305	163751	187012
0,8	28299	32455	36452	40449	44606	48603	56757	60754	64751	72905	81059	97206	101203	121508	141813	161957
1,0	25311	29029	32604	36179	39897	43472	50765	54340	57915	65208	72501	86944	90519	108680	126841	144859
1,2	23106	26500	29763	33027	36421	39684	46342	49605	52869	59526	66184	79369	82632	99211	115789	132238
1,4	21392	24534	27555	30577	33719	36741	42904	45926	48947	55111	61275	73481	76503	91851	107200	122428
1,6	20010	22949	25776	28602	31541	34368	40133	42960	45786	51551	57317	68735	71562	85919	100277	114521
1,8	18866	21637	24302	26966	29737	32402	37838	40503	43167	48603	54039	64804	67469	81005	94542	107972
2,0	17898	20527	23055	25582	28211	30739	35896	38424	40952	46109	51266	61479	64007	76848	89690	102431
2,2	17065	19571	21982	24392	26899	29309	34226	36636	39046	43963	48880	58618	61028	73272	85516	97664
2,4	16338	18738	21046	23353	25753	28061	32769	35076	37384	42092	46799	56122	58430	70153	81876	93506
2,6	15697	18003	20220	22437	24743	26960	31483	33700	35917	40440	44963	53920	56138	67400	78663	89838
2,8	15126	17348	19485	21621	23843	25979	30338	32474	34611	38969	43328	51959	54095	64949	75802	86570
3,0	14613	16760	18824	20888	23035	25099	29309	31373	33437	37648	41858	50197	52261	62746	73232	83634
3,2	14149	16228	18226	20225	22303	24302	28378	30377	32375	36452	40529	48603	50602	60754	70906	80979
3,4	13727	15743	17682	19621	21637	23576	27531	29470	31409	35364	39319	47152	49091	58940	68789	78561
3,6	13340	15300	17184	19068	21028	22912	26756	28640	30524	34368	38211	45824	47708	57279	66851	76347
3,8	12984	14892	16725	18559	20467	22301	26042	27876	29710	33451	37192	44601	46435	55752	65068	74311
4,0	12656	14515	16302	18090	19949	21736	25383	27170	28958	32604	36251	43472	45260	54340	63421	72430
4,2	12351	14165	15909	17654	19468	21212	24771	26515	28260	31818	35377	42424	44169	53030	61892	70684
4,4	12067	13839	15543	17248	19020	20724	24201	25906	27610	31087	34563	41449	43153	51811	60469	69059
4,6	11801	13535	15202	16869	18602	20269	23669	25336	27003	30403	33804	40538	42205	50672	59140	67541
4,8	11553	13250	14882	16513	18210	19842	23171	24803	26434	29763	33092	39684	41316	49605	57895	66119
5,0	11319	12982	14581	16180	17842	19441	22703	24302	25900	29162	32423	38883	40481	48603	56725	64783

B.12 Considerations on the sizing of conductors stranded in mm² (IEC) according to North American standards

The following table is intended to show what technical advantages conductors stranded in mm² (IEC) can have when they are used and sized according to North American standards and therefore when they are selected by referring to their corresponding section in AWG/kcmil.
For each IEC section in mm² the following is indicated:
- the corresponding AWG/kcmil section and its equivalent in mm²
- the surplus of copper compared to a corresponding conductor stranded in AWG/kcmil
- the percentage current load of the conductor when it is sized according to North American standards (net of the safety factors that the standards themselves introduce).
- the corresponding safety factor that results from using an IEC conductor in mm² sized according to North American standards.

An example.
If, following sizing, an AWG 18 conductor is identified, the use of the corresponding 1 mm² conductor provides 22% more copper.
This surplus of copper constitutes an extra "section" that allows the cable to never reach its load limit but, in this specific case, only 82% of its capacity.
This means that the conductor, even though it carries all the current required by the American reference standard, will heat up less than an AWG 18 stranded conductor and therefore will be further from its maximum insulation temperature. The conductor will be "stressed" less during its life and in the application it will be possible to guarantee an extra safety factor of 18%.

Size IEC [mm²]	Correspondent size [AWG/kcmil]	Equivalent size of AWG/kcmil [mm²]	Quantity of extra copper in the conductor	Percentage current load of conductor	Safety factor
0,5	21	0,411	22%	82%	18%
0,75	19	0,653	15%	87%	13%
1	18	0,823	22%	82%	18%
1,5	16	1,31	15%	87%	13%
2,5	14	2,08	20%	83%	17%
4	12	3,31	21%	83%	17%
6	10	5,26	14%	88%	12%
10	8	8,37	19%	84%	16%
16	6	13,3	20%	83%	17%
25	4	21,15	18%	85%	15%
35	2	33,62	4%	96%	4%
50	1	42,41	18%	85%	15%
70	2/0	67,43	4%	96%	4%
95	3/0	85,01	12%	89%	11%
120	4/0	107,22	12%	89%	11%
150	250	127	18%	85%	15%
185	350	177	5%	96%	4%
240	450	228	5%	95%	5%

Appendix C. Wire bending space at filed wiring terminals

Table C.1. Minimum bending space, terminal to wall, according to UL 508a – Rev. 2007-2018 (25 Wire Bending Space)

Wire Size		Minimum bending space d* [inch] & [mm]							
[AWG/kcmil]	[mm²]	1 wire		2 wires		3 wires		4 or more wires	
14 ÷ 10 AWG	2,1 ÷ 5,3	Not specified		**		**		**	
8 ÷ 6	8,4 ÷ 13,3	1-1/2	38	**		**		**	
4 ÷ 3	21,2 ÷ 26,7	2	51	**		**		**	
2	33,6	2-1/2	64	**		**		**	
1	42,4	3	76	**		**		**	
1/0	53,5	5	127	5	127	7	178	n.a.	
2/0	67,4	6	152	6	152	7-1/2	191	n.a.	
3/0	85	7	178	7	178	8	203	n.a.	
4/0	107,2	7	178	7	178	8-1/2	216	n.a.	
250 kcmil	127	8	203	8	203	9	229	10	254
300	152	10	254	10	254	11	279	12	305
350	177	12	305	12	305	13	330	14	356
400	203	12	305	12	305	14	356	15	381
500	253	12	305	12	305	15	381	16	406
600	304	14	356	16	406	18	457	19	483
700	355	14	356	16	406	20	508	22	559
750 ÷ 800	380 ÷ 405	18	457	19	483	22	559	24	610
900	456	18	457	19	483	24	610	24	610
1000	506	20	508	n.a.		n.a.		n.a.	
1250	633	22	559	n.a.		n.a.		n.a.	
1500 ÷ 2000	760 ÷1013	24	610	n.a.		n.a.		n.a.	

* The distance between the end of a pressure wire connector or terminal block for connection of a field installed wire, and the wall of the enclosure toward which the wire is to be directed.

** Conductors smaller than 1/0 AWG shall not be connected in parallel.

n.a. Values not available.

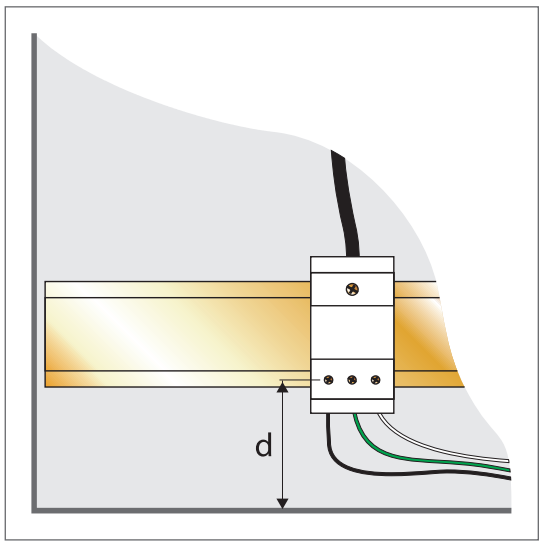


Figure C.1. Definition of bending space

Appendix D. Motors' full-load currents

D.1 Motors' full-load currents with alternate current according to UL 508a

Table D.1. Motors' full-load currents with alternate current related to the power in according to UL 508a – Rev. 2018 (50 Individual Load Ratings)

Power [HP]	110 – 120 V		200 V		208 V		220 – 240 V		380 – 415 V		440 – 480 V		550 – 600 V	
	Phase: 1	Phase: 3	Phase: 1	Phase: 3	Phase: 1	Phase: 3	Phase: 1	Phase: 3	Phase: 1	Phase: 3	Phase: 1	Phase: 3	Phase: 1	Phase: 3
1/10	3,0	–	–	–	–	–	1,5	–	1	–	–	–	–	–
1/8	3,8	–	–	–	–	–	1,9	–	1,2	–	–	–	–	–
1/6	4,4	–	2,5	–	2,4	–	2,2	–	1,4	–	–	–	–	–
1/4	5,8	–	3,3	–	3,2	–	2,9	–	1,8	–	–	–	–	–
1/3	7,2	–	4,1	–	4,0	–	3,6	–	2,3	–	–	–	–	–
1/2	9,8	4,4	5,6	2,5	5,4	2,4	4,9	2,2	3,2	1,3	2,5	1,1	2	0,9
3/4	13,8	6,4	7,9	3,7	7,6	3,5	6,9	3,2	4,5	1,8	3,5	1,6	2,8	1,3
1	16,0	8,4	9,2	4,8	8,8	4,6	8	4,2	5,1	2,3	4	2,1	3,2	1,7
1-1/2	20,0	12	11,5	6,9	11,0	6,6	10	6	6,4	3,3	5	3	4	2,4
2	24,0	13,6	13,8	7,8	13,2	7,5	12	6,8	7,7	4,3	6	3,4	4,8	2,7
3	34,0	19,2	19,6	11,0	18,7	10,6	17	9,6	10,9	6,1	8,5	4,8	6,8	3,9
5	56,0	30,4	32,2	17,5	30,8	16,7	28	15,2	17,9	9,7	14	7,6	11,2	6,1
7-1/2	80,0	44,0	46,0	25,3	44,0	24,2	40	22	27	14	21	11	16	9
10	100,0	56,0	57,5	32,2	55,0	30,8	50	28	33	18	26	14	20	11
15	135,0	84,0	–	48,3	–	46,2	56	42	44	27	34	21	27	17
20	–	108,0	–	62,1	–	59,4	88	54	56	34	44	27	35	22
25	–	136,0	–	78,2	–	74,8	110	68	70	44	55	34	44	27
30	–	160,0	–	92,0	–	88,0	136	80	87	51	68	40	54	32
40	–	208,0	–	120,0	–	114,0	176	104	112	66	88	52	70	41
50	–	260,0	–	150,0	–	143,0	216	130	139	83	108	65	86	52
60	–	–	–	177,0	–	169,0	–	154	–	103	–	77	–	62
75	–	–	–	221,0	–	211,0	–	192	–	128	–	96	–	77
100	–	–	–	285,0	–	273,0	–	248	–	165	–	124	–	99
125	–	–	–	359,0	–	343,0	–	312	–	208	–	156	–	125
150	–	–	–	414,0	–	396,0	–	360	–	240	–	180	–	144
200	–	–	–	552,0	–	528,0	–	480	–	320	–	240	–	192
250	–	–	–	–	–	–	–	604	–	403	–	302	–	242
300	–	–	–	–	–	–	–	722	–	482	–	361	–	289
350	–	–	–	–	–	–	–	828	–	560	–	414	–	336
400	–	–	–	–	–	–	–	954	–	636	–	477	–	382
450	–	–	–	–	–	–	–	1030	–	–	–	515	–	412
500	–	–	–	–	–	–	–	1180	–	786	–	590	–	472

* To obtain full-load currents for 265 V and 277 V motors, decrease corresponding 220 – 240 volt ratings by 13% and 17% respectively.

D.2 Motors' full-load currents with direct current according to UL 508a

Table D.2. Motors' full-load currents with direct current related to the power in according to UL 508a – Rev. 2018 (50 Individual Load Ratings)

Power [HP]	90 V	110 – 120 V	180 V	220 – 240 V	500 V	550 – 600 V
1/10	–	2,0	–	1,0	–	–
1/8	–	2,2	–	1,1	–	–
1/6	–	2,4	–	1,2	–	–
1/4*	4,0	3,1	2,0	1,6	–	–
1/3	5,2	4,1	2,6	2,0	–	–
1/2	6,8	5,4	3,4	2,7	–	–
3/4	9,6	7,6	4,8	3,8	–	1,6
1	12,2	9,5	6,1	4,7	–	2,0
1-1/2	–	13,2	8,3	6,6	–	2,7
2	–	17,0	10,8	8,5	–	3,6
3	–	25,0	16,0	12,2	–	5,2
5	–	40,0	27,0	20,0	–	8,3
7-1/2	–	58,0	–	29,0	13,6	12,2
10	–	76,0	–	38,0	18,0	16,0
15	–	110,0	–	55,0	27,0	24,0
20	–	148,0	–	72,0	34,0	31,0
25	–	184,0	–	89,0	43,0	38,0
30	–	220,0	–	106,0	51,0	46,0
40	–	292,0	–	140,0	67,0	61,0
50	–	360,0	–	173,0	83,0	75,0
60	–	–	–	206,0	99,0	90,0
75	–	–	–	255,0	123,0	111,0
100	–	–	–	341,0	164,0	148,0
125	–	–	–	425,0	205,0	185,0
150	–	–	–	506,0	246,0	222,0
200	–	–	–	675,0	330,0	294,0

* The full-load current for a 1/4 HP, 32 Vdc motor is 8.6 A.

Appendix E. Conductors for general wiring according to NFPA 70

In the table below types and applications for conductors for general wiring are specified.

Table E.1. Conductors for general wiring according to Art. 310 of NFPA 70 (NEC) – Ed. 2020 - Table 310.4(A)

Trade Name	Type	Maximum operating temperarure	Application	Insulation	Size [AWG/kcmil]	Outer Covering
Fluorinated ethylene propylene	FEP or FEPB	90°C	Dry and damp locations	Fluorinated ethylene propylene	14÷2	None
		200°C	Dry locations special applications	Fluorinated ethylene propylene	14÷8	Glass braid
					6÷2	Glass or other suitable braid material
Mineral insulation (metal sheathed)	MI	90°C	Dry and wet locations	Magnesium oxide	18÷500	Copper or alloy steel
		250°C	For special applications			
Moisture-, heat-, and oil-resistant thermoplastic	MTW	60°C	Machine tool wiring in wet locations	Flame-retardant, moisture-, heat-, and oil-resistant thermoplastic	22÷1000	None or Nylon jacket or equivalent
		90°C	Machine tool wiring in dry locations Informational Note: See NFPA 79.			
Paper		85°C	For underground service conductors, or by special permission	Paper		Lead sheath
Perfluoro-alkoxy	PFA	90°C	Dry and damp locations	Perfluoro-alkoxy	14÷4/0	None
		200°C	Dry locations special applications			
Perfluoro-alkoxy	PFAH	250°C	Dry locations only. Only for leads within apparatus or within raceways connected to apparatus (nickel or nickel-coated copper only)	Perfluoro-alkoxy	14÷4/0	None
Thermoset	RHH	90°C	Dry and damp locations		14÷2000	Moisture-resistant, flame-retardant, nonmetallic covering
Moisture-resistant thermoset	RHW	75°C	Dry and wet locations	Flame-retardant, moisture-resistant thermoset	14÷2000	Moisture-resistant, flame-retardant, nonmetallic covering
	RHW-2	90°C				
Silicone	SA	90°C	Dry and damp locations	Silicone rubber	14÷2000	Glass or other suitable braid material
		200°C	For special application			
Thermoset	SIS	90°C	Switchboard and switchgear wiring only	Flame-retardant thermoset	14÷4/0	None
Thermoplastic and fibrous outer braid	TBS	90°C	Switchboard and switchgear wiring only	Thermoplastic	14÷4/0	Flame-retardant, nonmetallic covering
Extended polytetra-fluoro-ethylene	TFE	250°C	Dry locations only. Only for leads within apparatus or within raceways connected to apparatus, or as open wiring (nickel or nickel-coated copper only)	Extruded polytetra-fluoro-ethylene	14÷4/0	None
Heat-resistant thermoplastic	THHN	90°C	Dry and damp locations	Flame-retardant, heat-resistant thermoplastic	14÷1000	Nylon jacket or equivalent
Moisture- and heat-resistant thermoplastic	THHW	75°C	Wet location	Flame-retardant, moisture- and heat-resistant thermoplastic	14÷2000	None
		90°C	Dry location			

Trade Name	Type	Maximum operating temperarure	Application	Insulation	Size [AWG/kcmil]	Outer Covering
Moisture- and heat-resistant thermoplastic	THW	75°C	Dry and wet locations	Flame-retardant, moisture- and heat-resistant thermo-plastic	14÷2000	None
		90°C	Special applications within electric discharge lighting equipment. Li-mited to 1000 open-circuit volts or less. (Size 14-8 only as permitted in 410.68.)			
	THW-2	90°C	Dry and wet locations			
Moisture- and heat-resistant thermoplastic	THWN	75°C	Dry and wet locations	Flame-retardant, moi-sture- and heat-resistant thermoplasti	14÷1000	Nylon jacket or equi-valent
	THWN-2	90°C				
Moisture-resistant thermoplastic	TW	60°C	Dry and wet locations	Flame-retardant, moisture-resistant thermoplastic	14÷2000	None
Underground feeder and branch-circuit cable - single conductor (for Type UF cable employing more than one conductor, see Article 340).	UF	60°C	See Article 340.	Moisture-resistant	14÷4/0	Integral with insulation
		75°C		Moisture- and heat-resistant		
Underground service-entrance cable - single conductor (for Type USE cable employing more than one conduc-tor, see Article 338).	USE	75°C	See Article 338.	Heat- and moisture-resistant	14÷2000	Moisture-resistant nonmetallic covering (See 338.2.)
	USE-2	90°C	Dry and wet locations			
Thermoset	XHH	90°C	Dry and damp locations	Flame-retardant thermoset	14÷2000	None
Thermoset	XHHN	90°C	Dry and damp locations	Flame-retardant thermoset	14÷1000	Nylon jacket or equi-valent
Moisture-resistant thermoset	XHHW	90°C	Dry and damp locations	Flame-retardant, moisture-resistant thermoset	14÷2000	None
		75°C	Wet locations			
Moisture-resistant thermoset	XHHW-2	90°C	Dry and wet locations	Flame-retardant, moisture-resistant thermoset	14÷2000	None
Moisture-resistant thermoset	XHWN	75°C	Dry and wet locations	Flame-retardant, moisture-resistant thermoset	14÷1000	Nylon jacket or equi-valent
	XHWN-2	90°C				
Modified ethylene tetrafluoro-ethylene	Z	90°C	Dry and damp locations	Modified ethylene tetrafluoro-ethylene	14÷4/0	None
		150°C	Dry locations special applications			
Modified ethylene tetrafluoro-ethylene	ZW	75°C	Wet locations	Modified ethylene tetrafluo-ro-ethylene	14÷2	None
		90°C	Dry and damp locations			
		150°C	Dry locations — special applica-tions			
	ZW-2	90°C	Dry and wet locations			

Appendix F. Flexible cords and cables according to NFPA 70

In the tables below identification letters for coding and types for Flexible cords and cables are specified.

Table F.1. Letters used for Flexible cords and cables coding specified in the Art. 400 of NFPA 70 (NEC)

Letter	Description
E	As first letter: Elevator cable.
E	After first letter: Thermoplastic elastomer insulation.
H	Heater cord.
NI	"Non-integral" used for parallel cords such as Type NISPT-1 to denote insulated conductors and jacket are separate.
O	The jacket is oil resistant.
OO	The jacket and the conductor insulation are oil resistant.
P	Parallel conductor cord.
S	Extra hard usage Flexible Cord.
SJ	Hard usage Flexible Cord.
SV	Not hard usage Flexible Cord.
T	As first letter: Tinsel cord. Single flattened No. 27 AWG conductor wound around insulating core, for very low current, highly flexible application.
T	After first letter: Thermoplastic insulation.
-1, -2, -3	Insulation thickness for parallel cords, thinnest to thickest. Actual insulation thickness varies with cord type and AWG size.
XTW	Parallel cord for decorative lighting strings.
CXTW	Twisted pair cord or single conductor for decorative lighting strings.
W	As last letter: Moisture and sunlight resistant.
W	As the only letter: Portable Power Cable.

Examples

SOOW – Extra hard usage, jacket and conductor insulation are oil resistant, moisture and sunlight resistant

SJTO – Hard usage, thermoplastic insulation, jacket is oil resistant

Table F2. Flexible cords and cables according to Art. 400 of NFPA 70 (NEC) - Ed. 2020 - Table 400.4

Trade name	Type	Family code TEKIMA	Use	Voltage [V]	Size [AWG/kcmil]	Number of conductors	Insulation	Outer covering
Lamp cord	C	80160	Pendant or portable. Dry locations. Not hard usage.	300	18÷16	min. 2	Thermoset or thermoplastic	None
				600	15÷10			
Elevator cable	E	80170	Elevator lighting and control. Unclassified locations.	300 o 600	20÷2	min. 2	Thermoset	Three cotton, Outer one flame-retardant & moisture-resistant
Elevator cable	EO	80180	Elevator lighting and control. Unclassified locations.	300 o 600	20÷2	min. 2	Thermoset	Three cotton, Outer one flame-retardant & moisture-resistant
Elevator cable	EO	80190	Elevator lighting and control. Hazardous (classified) locations.	300 o 600	20÷2	min. 2	Thermoset	One cotton and a neoprene jacket.
Elevator cable	ETP	80200	Hazardous (classified) locations.	300 o 600	-	-	-	Thermoplastic
	ETT	80210	Hazardous (classified) locations.	300 o 600	-	-	-	One cotton or equivalent and a thermoplastic jacket
Electric vehicle cable	EV	80220	Electric vehicle charging. Wet location. Extra hard usage.	1000	18÷500	min. 2 plus grounding conductor(s), plus optional hybrid data, signal communications, and optical fiber cables.	Thermoset with optional nylon	Thermoset
	EVJ	80230	Electric vehicle charging. Wet location. Hard usage.	300	18÷12			
	EVE	80240	Electric vehicle charging. Wet location. Extra hard usage.	1000	18÷500	min. 2 plus grounding conductor(s), plus optional hybrid data, signal communications, and optical fiber cables.	Thermoplastic elastomer with optional nylon	Thermoplastic elastomer
	EVJE	80250	Electric vehicle charging. Wet location. Hard usage.	300	18÷12			
	EVT	80260	Electric vehicle charging. Wet location. Extra hard usage.	1000	18÷500	min. 2 plus grounding conductor(s), plus optional hybrid data, signal communications, and optical fiber cables.	Thermoplastic with optional nylon	Thermoplastic
	EVJT	80270	Electric vehicle charging. Wet location. Hard usage.	300	18÷12			
Portable power cable	G	80155	Portable and extra hard usage.	2000	12÷500	2÷6 plus grounding conductor(s)	Thermoset	Oil-resistant thermoset
	G-GC	80150		2000	12÷500	3÷6 plus grounding conductors and 1 ground check conductor	Thermoset	Oil-resistant thermoset
Heater cord	HPD	80280	Portable heaters. Dry locations. Not hard usage.	300	18÷12	2, 3 or 4	Thermoset	Cotton or rayon

Trade name	Type	Family code TEKIMA	Use	Voltage [V]	Size [AWG/kcmil]	Number of conductors	Insulation	Outer covering
Parallel heater cord	HPN	80290	Portable. Damp locations. Not hard usage.	300	18÷12	2 or 3	Oil-resistant thermoset	Oil-resistant thermoset
Thermoset jacketed heater cords	HSJ	80300	Portable or portable heater. Damp locations. Hard usage.	300	18÷12	2, 3 or 4	Thermoset	Cotton and thermoset
	HSJO	80310		300	18÷12		Thermoset	Cotton and oil-resistant thermoset
	HSJOO	80320		300	18÷12		Oil-resistant thermoset	
Nonintegral parallel cords	NISP-1	80330	Pendant or portable. Damp locations. Not hard usage.	300	20÷18	2 or 3	Thermoset	Thermoset
	NISP-2	80340		300	18÷16			
	NISPE-1	80350		300	20÷18		Thermoplastic elastomer	Thermoplastic elastomer
	NISPE-2	80360		300	18÷16			
	NISPT-1	80370		300	20÷18		Thermoplastic	Thermoplastic
	NISPT-2	80380		300	18÷16			
Twisted portable cord	PD	80390	Pendant or portable. Dry locations. Not hard usage.	300	18÷16	min. 2	Thermoset or thermoplastic	Cotton or rayon
				600	14÷10			
Portable power cable	PPE	80400	Portable, extra hard usage.	2000	12÷500	1÷6 plus optional grounding conduttor(s)	Thermoplastic elastomer	Oil-resistant thermplastic elastomer
Hard service cord	S	80010	Pendant or portable. Damp locations. Extra hard usage.	600	18÷12	min. 2	Thermoset	Thermoset
Flexible stage and lighting power cable	SC	80410	Portable, extra hard usage.	600	8÷250	min. 1	Thermoset	Thermoset
	SCE	80420		600			Thermoplastic elastomer	Thermoplastic elastomer
	SCT	80430		600			Thermoplastic	Thermoplastic
Hard service cord	SE	80440	Pendat or portable. Damp locations. Extra hard usage.	600	18÷2	min. 2	Thermoplastic elastomer	Thermoplastic elastomer
	SEW	80450	Pendat or portable. Damp locations and wet locations. Extra hard usage.	600				
	SEO	80460	Pendat or portable. Damp locations. Extra hard usage	600				Oil-resistant thermoplastic elastomer
	SEOW	80470	Pendat or portable. Damp locations and wet locations. Extra hard usage.	600				
	SEOO	80480	Pendat or portable. Damp locations. Extra hard usage.	600			Oil-resistant thermoplastic elastomer	
	SEOOW	80490	Pendat or portable. Damp locations and wet locations. Extra hard usage.	600				

Trade name	Type	Family code TEKIMA	Use	Voltage [V]	Size [AWG/kcmil]	Number of conductors	Insulation	Outer covering
Junior hard service cord	SJ	80020	Pendant or portable. Damp locations. Hard usage.	300	18÷10	2÷6	Thermoset	Thermoset
	SJE	80500		300			Thermoplastic elastomer	Thermoplastic elastomer
	SJEW	80510	Pendant or portable. Damp and wet locations. Hard usage.	300				
	SJEO	80520	Pendant or portable. Damp locations. Hard usage.	300				Oil-resistant thermoplastic elastomer
	SJEOW	80530	Pendant or portable. Damp and wet locations. Hard usage.	300				
	SJEOO	80540	Pendant or portable. Damp locations. Hard usage.	300			Oil-resistant thermoplastic elastomer	
	SJEOOW	80550	Pendant or portable. Damp and wet locations. Hard usage.	300				
	SJO	80030	Pendant or portable. Damp locations. Hard usage.	300			Thermoset	Oil-resistant thermoset
	SJOW	80560	Pendant or portable. Damp and wet locations. Hard usage.	300				
	SJOO	80570	Pendant or portable. Damp locations. Hard usage.	300			Oil-resistant thermoset	
	SJOOW	80140	Pendant or portable. Damp and wet locations. Hard usage.	300				
	SJT	80050	Pendant or portable. Damp locations. Hard usage.	300			Thermoplastic	Thermoplastic
	SJTW	80580	Pendant or portable. Damp and wet locations. Hard usage.	300				
	SJTO	80590	Pendant or portable. Damp locations. Hard usage.	300				Oil-resistant thermoplastic
	SJTOW	80060	Pendant or portable. Damp and wet locations. Hard usage.	300				
	SJTOO	80600	Pendant or portable. Damp locations. Hard usage.	300			Oil-resistant thermoplastic	
	SJTOOW	80610	Pendant or portable. Damp and wet locations. Hard usage.	300				
Hard service cord	SO	80070	Pendant or portable. Damp locations. Extra hard usage.	600	18÷2	min. 2	Thermoset	Oil-resistant thermoset
	SOW	80620	Pendant or portable. Damp and wet locations. Extra hard usage.	600				
	SOO	80630	Pendant or portable. Damp locations. Extra hard usage.	600			Oil-resistant thermoset	
	SOOW	80120	Pendant or portable. Damp and wet locations. Extra hard usage.	600				
All thermoset parallel cord	SP-1	80640	Pendant or portable. Damp locations. Not hard usage.	300	20÷18	2 or 3	Thermoset	None
	SP-2	80650		300	18÷16			
	SP-3	80660	Refrigerators, room air conditioners, and as permitted in 422.16(B). Damp locations. Not hard usage.	300	18÷10			

Trade name	Type	Family code TEKIMA	Use	Voltage [V]	Size [AWG/kcmil]	Number of conductors	Insulation	Outer covering
All elastomer (thermoplastic) parallel cord	SPE-1	80670	Pendant or portable. Damp locations. Not hard usage.	300	20÷18	2 or 3	Thermoplastic elastomer	None
	SPE-2	80680		300	18÷16			
	SPE-3	80690	Refrigerators, room air conditioners, and as permitted in 422.16(B). Damp locations. Not hard usage.	300	18÷10			
All plastic parallel cord	SPT-1	80700	Pendant or portable. Damp locations. Not hard usage.	300	20÷18	2 or 3	Thermoplastic	None
	SPT-1W	80710	Pendant or portable. Damp and wet locations. Not hard usage.	300		2		
	SPT-2	80720	Pendant or portable. Damp locations. Not hard usage.	300	18÷16	2 or 3		
	SPT-2W	80730	Pendant or portable. Damp and wet locations. Not hard usage.	300		2		
	SPT-3	80740	Refrigerators, room air conditioners, and as permitted in 422.16(B). Damp locations. Not hard usage.	300	18÷10	2 or 3		
Range, dryer cable	SRD	80750	Portable. Damp locations. Ranges, dryers.	300	10÷4	3 or 4	Thermoset	Thermoset
	SRDE	80760		300	10÷4	3 or 4	Thermoplastic elastomer	Thermoplastic elastomer
	SRDT	80770		300	10÷4	3 or 4	Thermoplastic	Thermoplastic
Hard service cord	ST	80780	Pendant or portable. Damp locations. Extra hard usage.	600	18÷2	min. 2	Thermoplastic	Thermoplastic
	STW	80790	Pendant or portable. Damp and wet locations. Extra hard usage.	600				
	STO	80800	Pendant or portable. Damp locations. Extra hard usage.	600				Oil-resistant thermoplastic
	STOW	80080	Pendant or portable. Damp and wet locations. Extra hard usage.	600				
	STOO	80810	Pendant or portable. Damp locations. Extra hard usage.	600			Oil-resistant thermoplastic	
	STOOW	80820	Pendant or portable. Damp and wet locations. Extra hard usage.	600				

Trade name	Type	Family code TEKIMA	Use	Voltage [V]	Size [AWG/kcmil]	Number of conductors	Insulation	Outer covering
Vacuum cleaner cord	SV	80090	Pendant or portable. Damp locations. Not hard usage.	300	18÷16	2 o 3	Thermoset	Thermoset
	SVE	80830		300			Thermoplastic elastomer	Thermoplastic elastomer
	SVEO	80840		300				Oil-resistant thermoplastic elastomer
	SVO	80850		300			Oil-resistant thermoplastic elastomer	
	SVEOO	80860		300			Thermoset	Oil-resistant thermoset
	SVOO	80870		300			Oil-resistant thermoset	Oil-resistant thermoset
	SVT	80100		300			Thermoplastic	Thermoplastic
	SVTO	80880		300			Thermoplastic	Oil-resistant thermoplastic
	SVTOO	80890		300			Oil-resistant thermoplastic	
Parallel tinsel cord	TPT	80900	Attached to an appliance. Damp locations. Not hard usage.	300	27	2	Thermoplastic	Thermoplastic
Jacketed tinsel cord	TST	80910	Attached to an appliance. Damp locations. Not hard usage.	300	27	2	Thermoplastic	Thermoplastic
Portable power-cable	W	80130	Portable, extra hard usage.	2000	12÷500	1÷6	Thermoset	Oil-resistant thermoset
					501÷1000	1	Thermoset	Oil-resistant thermoset

Appendix G. Wires and cables marking according to UL

Notes used in Table G.1

(A) CCN is the Category Control Number as defined by UL.
(B) Indicates whether the UL Mark ("UL" in a circle) is required (R), optional (O) or prohibited (P) on the product.
(C) Temperature rating for the wire and cable when exposed to water or moisture such as in wet and damp locations.
(3) Flexible Cords evaluated for water resistance have a "W" in the Type designation, i.e. Type SJTW. The terms "water resistant" or "water resistant 60°C" may also be marked in addition to the "W" designation.
(4) The wire or cable has been investigated for the temperature rating marked on the product, tag, reel or smallest unit container.
(6) Cable evaluated for wet-location use is marked "WET-LOCATIONS CABLE" or "WET-LOCS CABLE.". Cable containing conductors evaluated for wet-location use may be marked, but such marking is not required.
(7) 250°C for special applications in locations where environmental conditions require operation at above 90°C temperature. Temperatures of fittings are limited to 85°C in dry locations and 60°C in wet locations.
(8) Wire or cable evaluated for wet-location use is marked "60°C WET" or "75°C WET".
(9) Temperature rating may be indicated on the product by colored marker threads located under either the insulation or separator.
(10) The cable is marked with predefined temperature ratings or codes (example: marking with temperature rating "60°C dry 60°C wet" or marking with code "BC-1W1").
(12) 90°C dry and damp location. 150°C dry locations for special applications in locations where environmental conditions require maximum conductor opeTemperature ranges above 90°C.
(13) 200°C in dry locations for special applications.
(14) The temperature rating of the cable is the rating marked on the cable or implied by the conductor type in the cable.
(15) Indicates minimum temperature rating. Suitable for use at higher temperatures if marked on the cable or cord. The higher temperatures (above 60°C) only apply to dry applications.
(16) May be rated 600 volts when employing 45-mil insulation.
(17) Cable evaluated for wet location use is marked "wet" or "wet location".
(22) Type designation indicates suitability for use in accordance with the appropriate NEC Article, with respect to voltage and power limitations.
(24) Rating is indicated by number in the Type designations, "-1" defines 300V, "-2" defines 600V.
(27) Some Mineral-Insulated cable may be rated 300V for use in Class 1 remote control and signaling circuits not exceeding 300V.
(30) A product evaluated for outdoor use has a "W" in its Type designation (example: SJTW).
(32) Cable evaluated for outdoor use is marked "outdoor" or "outdoor use".
(33) Cable evaluated for outdoor use is marked "SUNLIGHT RESISTANT" or "SUN. RES." plus "60°C WET" or "75°C WET".
(35) A product evaluated for sunlight resistance is marked "SUNLIGHT RESISTANT", "SUN. RES.", or "SR.".
(40) When evaluated for use in cable trays, the product is marked "for cable tray use," "for CT use" or "for use in cable trays".
(45) A product evaluated for 60°C oil resistance is marked "OIL RESISTANT I", "OIL RES I", "OIL RESISTANT", or "PR1". A product evaluated for 75°C oil resistance is marked "OIL RESISTANT II", "OIL RES II", or "PR2".
(46) A product evaluated for 60°C oil resistance and for gasoline resistance is marked "GASOLINE AND OIL RESISTANT I", or "GR1". Similarly, for 75°C oil and for gasoline resistance, the product is marked "GASOLINE AND OIL RESISTANT II" or "GR2".
(47) When evaluated for gasoline resistance only, the insulated conductors are marked "GASOLINE RESISTANT". If this marking appears on the outer covering of the cable, "GASOLINE RESISTANT" is followed by "CDRS," "CONDS" or "CONDUCTORS".
(50) When evaluated for direct burial use, the product is marked "FOR DIRECT BURIAL," "DIRECT BURIAL," "DIR BUR" or "DIR BURIAL".
(51) When evaluated, the product is marked "PUMP CABLE" or "SUBMERSIBLE PUMP CABLE".
(70) "OO" indicates oil resistant insulation and jacket. "O" indicates oil resistant jacket only.

Table G.1. Wires and cables marking according to UL

	Characteristic	Type	NEC article	CCN[A]	UL Mark[B]	Temperature Dry [°C]	Temperatur Wet[C] [°C]	Voltage [V]	Outdoor use	Sunlight Resistance	Cable Tray Use	Oil Resistance	Gasoline Resistance	Direct Burial	Submersible Pump Use
BUILDING WIRES	Thermoset insulation	RHH	310	ZKST	R	90	-	600/2000	-	(35)	(40)	(45)	(46)	-	-
	Thermoset insulation	RHW	310	ZKST	R	75	75	600/2000	-	(35)	(40)	(45)	(46)	-	(51)
	Thermoset insulation	RHW	310	ZKST	R	90	90	600/2000	-	(35)	(40)	(45)	(46)	-	(51)
	Thermoset insulation	RHW-2	310	ZKST	R	90(13)	-	600	-	-	(40)	-	-	-	-
	Thermoset insulation	SA, SF	310	ZKST	O	90	-	600	-	-	-	-	-	-	-
	Thermoset insulation	SIS	310	ZKST	R	90	-	600	-	(35)	(40)	(45)	(46)	-	-
	Thermoset insulation	XHH	310	ZKST	R	90	75	600	-	(35)	(40)	(45)	(46)	-	(51)
	Thermoset insulation	XHHW	310	ZKST	R	90	90	600	-	(35)	(40)	(45)	(46)	-	(51)
	Thermoset insulation	XHHW-2	310	ZKST	R	90	-	600	-	-	-	-	-	-	-
	Thermoplastic insulation	FEP, FEPB	310	ZLGR	R	90(13)	-	600	-	-	-	-	-	-	-
	Thermoplastic insulation	PFA	310	ZLGR	R	90(13)	-	600	-	-	-	-	-	-	-
	Thermoplastic insulation	PFAH	310	ZLGR	R	250	-	600	-	-	-	-	-	-	-
	Thermoplastic insulation	TBS	310	ZLGR	O	90	-	600	-	-	-	-	-	-	-
	Thermoplastic insulation	TFE	310	ZLGR	R	250	-	600	-	-	-	-	-	-	-
	Thermoplastic insulation	THHN	310	ZLGR	R	90	-	600	-	(35)	(40)	(45)	-	-	-
	Thermoplastic insulation	THHW	310	ZLGR	R	90	75	600	-	(35)	(40)	(45)	-	-	(51)
	Thermoplastic insulation	THW	310	ZLGR	R	75	75	600	-	(35)	(40)	(45)	-	-	(51)
	Thermoplastic insulation	THW-2	310	ZLGR	R	90	90	600	-	(35)	(40)	(45)	-	-	(51)
	Thermoplastic insulation	THWN	310	ZLGR	R	75	75	600	-	(35)	(40)	(45)	(46)	-	(51)
	Thermoplastic insulation	THWN-2	310	ZLGR	R	90	90	600	-	(35)	(40)	(45)	(46)	-	(51)
	Thermoplastic insulation	TW	310	ZLGR	R	60	60	600	-	(35)	(40)	(45)	(46)	-	(51)
	Thermoplastic insulation	Z	310	ZLGR	R	90(12)	-	600	-	-	-	-	-	-	-
	Thermoplastic insulation	ZW	310	ZLGR	R	90(12)	75	600	-	(35)	-	-	-	-	(51)
BUILDING CABLES	Armored	ACTH	320	AWEZ	O	75	-	600	-	-	(40)	-	-	-	-
	Armored	ACHH, ACTHH	320	AWEZ	O	90	-	600	-	-	-	-	-	-	-
	Flat cable	FC	322	GQKT	R	75(3)	-	300	-	-	-	-	-	-	-
	Flat conductor	FCC	324	IKKT	R	(4)	-	300/600	-	-	-	-	-	-	-
	Instrumentation Tray Cable	ITC	727	NYTT	R	(4)	(17)	(22)	-	Yes	Yes	-	-	(50)	-
	Metal ·Clad	MC	330	PJAZ	R	(14)	(6)	600 / 2000	Yes	Yes	Yes	Yes	Yes	Yes	-
	Metal·Clad Hazardous Location	MC-HL	330	PJPP	R	(14)	(6)	600 / 2000	Yes	Yes	Yes	Yes	Yes	Yes	-

	Characteristic	Type	NEC article	CCN[A]	UL Mark[B]	Temperature Dry [°C]	Temperatur Wet[C] [°C]	Voltage [V]	Outdoor use	Sunlight Resistance	Cable Tray Use	Oil Resistance	Gasoline Resistance	Direct Burial	Submersible Pump Use
BUILDING CABLES	Mineral Insulated Metal Sheathed Cable	MI	332	PPKV	O	90(7)	90(7)	600(27)	Yes	(35)	(40)	Yes	Yes	Yes	-
	Power and Control Tray Cable	TC	336	QPOR	R	(14)	(8)	600 / 2000	-	(35)	Yes	(45)	(46)	(50)	-
LOW VOLTAGE CABLES, FLEXIBLE CORD AND FIXTURE CABLES	Flexible Cords	C, PD	400	ZJCZ	R	(4)	-	300(16)	-	-	-	-	-	-	-
	Flexible Cords	E, ETP, ETT	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	EO	400	ZJCZ	R	(4)	-	300	-	-	-	Yes	-	-	-
	Flexible Cords	HPD	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	HPN	400	ZJCZ	R	(4)	-	300	-	-	-	Yes	-	-	-
	Flexible Cords	HS, HSJ	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	HSO, HSJO	400	ZJCZ	R	(4)	-	300	-	-	-	Yes	-	-	-
	Flexible Cords	NISP-1, NISP-2	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	NISPE-1, NISPE-2	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	NISPT-1, NISPT-2	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	S, ST	400	ZJCZ	R	(4)	(3)	600	(30)	-	-	-	-	-	-
	Flexible Cords	SE	400	ZJCZ	R	(4)	(3)	600	(30)	-	-	-	-	-	-
	Flexible Cords	SEO	400	ZJCZ	R	(4)	(3)	600	(30)	-	-	Yes	-	-	-
	Flexible Cords	SJ, SJT	400	ZJCZ	R	(4)	(3)	300	(30)	-	-	-	-	-	-
	Flexible Cords	SJE	400	ZJCZ	R	(4)	(3)	300	(30)	-	-	-	-	-	-
	Flexible Cords	SJEO	400	ZJCZ	R	(4)	(3)	300	(30)	-	-	Yes	-	-	-
	Flexible Cords	SJO, SJOO, SJTO, SJTOO	400	ZJCZ	R	(4)	(3)	300	(30)	-	-	Yes (70)	-	-	-
	Flexible Cords	SO, SOO, STO, STOO	400	ZJCZ	R	(4)	(3)	600	(30)	-	-	Yes (70)	-	-	-
	Flexible Cords	SP-1, SP-2, SP-3, SRD, SRDT	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-

	Characteristic	Type	NEC article	CCN[A]	UL Mark[B]	Temperature Dry [°C]	Temperatur Wet[C] [°C]	Voltage [V]	Outdoor use	Sunlight Resistance	Cable Tray Use	Oil Resistance	Gasoline Resistance	Direct Burial	Submersible Pump Use
LOW VOLTAGE CABLES, FLEXIBLE CORD AND FIXTURE CABLES	Flexible Cords	SPE-1, SPE-2, SPE-3, SRDE	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	SPT-1, SPT-2, SPT-3	400	ZJCZ	R	(4)	-	600	(30)	-	-	-	-	-	-
	Flexible Cords	SV, SVT	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	SVE	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Flexible Cords	SVEO	400	ZJCZ	R	(4)	-	300	-	-	-	Yes	-	-	-
	Flexible Cords	SVO, SVOO, SVTO, SVTOO	400	ZJCZ	R	(4)	-	300	-	-	-	Yes (70)	-	-	-
	Flexible Cords	TPT, TS, TST	400	ZJCZ	R	(4)	-	300	-	-	-	-	-	-	-
	Fixture Wire	KF-1, KF-2, KFF-1, KFF-2	402	ZIPR	O	200(9)	-	(24)	-	-	-	-	-	-	-
	Fixture Wire	PAF	402	ZIPR	R	250(9)	-	600	-	-	-	-	-	-	-
	Fixture Wire	PAFF	402	ZIPR	R	150(9)	-	600	-	-	-	-	-	-	-
	Fixture Wire	PF, PGF	402	ZIPR	O	200(9)	-	600	-	-	-	-	-	-	-
	Fixture Wire	PFF, PGFF	402	ZIPR	O	150(9)	-	600	-	-	-	-	-	-	-
	Fixture Wire	PTF	402	ZIPR	R	250	-	600	-	-	-	-	-	-	-
	Fixture Wire	PTFF	402	ZIPR	R	150	-	600	-	-	-	-	-	-	-
	Fixture Wire	RFH-2, FFH-2	402	ZIPR	O	75(9)	-	600	-	-	-	-	-	-	-
	Fixture Wire	SF-1, SF-2	402	ZIPR	O	200(9)	-	(24)	-	-	-	-	-	-	-
	Fixture Wire	SFF-1, SFF-2	402	ZIPR	O	150(9)	-	(24)	-	-	-	-	-	-	-
	Fixture Wire	TF. TFF	402	ZIPR	R	60	-	600	-	-	-	(45)	(46)	-	-
	Fixture Wire	RFHH-2, RFHH-3	402	ZIPR	R	90(9)	-	600	-	-	-	-	-	-	-
	Fixture Wire	TFN, TFFN	402	ZIPR	R	90(9)	-	600	-	-	-	(45)	(46)	-	-
	Fixture Wire	XF, XFF	402	ZIPR	R	150(9)	-	300	-	-	-	-	-	-	-
	Fixture Wire	ZF, ZFF	402	ZIPR	R	150(9)	-	600	-	-	-	-	-	-	-
	Fixture Wire	ZHF	402	ZIPR	R	200(9)	-	600	-	-	-	-	-	-	-

	Characteristic	Type	NEC article	CCN[A]	UL Mark[B]	Temperature Dry [°C]	Temperatur Wet[C] [°C]	Voltage [V]	Outdoor use	Sunlight Resistance	Cable Tray Use	Oil Resistance	Gasoline Resistance	Direct Burial	Submersible Pump Use
SPECIAL PURPOSE WIRES AND CABLES	Boat Cable	-	-	BDFX	R	(10)		(10)	(25)	-	-	-	(45)	-	-
	Bus Drop Cable	-	368	ZIMX	R	60(15)	(8)	600	(32)	-	-	(45)	-	-	-
	Festoon Cable	-	610	ZIPF	R	60(15)	-	600	(32)	-	-	(45)	-	-	-
	Flexible Motor Supply Cable	-	-	ZJFH	R	90	-	1000/2000	-	(35)	Yes	(45)	(47)	(50)	-
	Heat-Resistant Wire	TGT, TGS, TMGT, KGS, KGT, TGGT, ITFL	-	ZNNA	O	(4)	-	300	-	(35)	(40)	Yes	(46)	-	-
	Machine Tool Wires	MTW	670	ZKHZ	R	90	60	600	-	-	-	-	-	-	-
	Pendant Cable	-	610	ZKKA	O	60	-	300/600	(32)	-	-	(45)	-	-	-
	Photovoltaic Wire	-	690	ZKLA	R	90/150	90	600/2000	Yes	Yes	-	-	-	-	-
	Portable Power Cables	W, G, G-GC, PPE	400	QPMU	R	75	(8)	2000	(33)	(35)	-	Yes	-	-	-
	Submersible Pump Cable (TPE Insulation)	-	-	ZMHX	R	(4)	60	600	-	-	-	-	-	Yes	-

Appendix H. Style, definition and reference

The manufacture of each wire is specified by a “style number” identifying a chart with all the manufacturing aspects of the wire. The chart includes the allowed temperatures and voltages, the wiring dimensions and material, the insulation material and thickness, the material and thickness of the possible conduit , possible jackets and shields, the reference standard and the use. Underwriters Laboratories Inc. divides the “style numbers” in 5 sections from 1 to 5. Inside them are classified the Appliance Wiring Materials.
Sections 1 and 2 include products manufactured with insulation and conduit made of a thermoplastic material such as the polyvinil chloride PVC, the polyethylene PE, the polypropylene PP; sections 3 and 4 include products manufactured with thermosetting material such as the rubber, the cross-linked polyethylene XLPE. Section 5 includes products which can be either single core or multicore, while insulation and conduit can be made of composite materials or with protection bands.

Table H.1. Classification of styles

Style	Size	Type
1000 – 1999 e 10000	1	Single conductor, thermoplastic - insulated wire
2000 – 2999 e 20000	2	Multi-conductor, thermoplastic - insulated and jacketed wire
3000 – 3999	3	Single conductor, thermosetting - insulated wire
4000 – 4999	4	Multi-conductor, thermosetting - insulated and jacketed wire
5000 – 5999	5	Single and multiple conductor specialty items

Here are resumed the main manufacturing characteristics specified in the respective “style numbers” of the electrical cables described in this document.

Table H.2. Manufacturing aspects recalled by the styles

Style	Product	Temperature Voltage	Conductor's section Insulation	Assembly	Jacket Shield	Braid Conduit	Use
1015	PVC Insulated Wire	80°C, 90°C or 105°C	30 AWG ÷ 2000 kcmil.	-	-	-	Internal Wiring of Appliances; or Internal Wiring of Appliances where exposed to oil at a temperature not exceeding 60°C or 80°C (whichever is applicable). Tags may also indicate the following: 2,500 V peak - for electronic use only.
		600Vac, 750Vdc	PVC insulation.		-	-	
1284	Thermoplastic (PVC) - Insulated Wire for Appliance Hook-Up Use	105°C	8 AWG ÷ 1000 MCM. Tinned or bare copper.	-	-	-	Internal wiring of appliances; or internal wiring of appliances where exposed to oil at a temperature not exceeding 60°C or 80°C (whichever is applicable).
		600V	PVC Insulation.		-	-	
2464	PVC Jacketed Cable	80°C	-	Two or more singles, twisted pairs of groups of twisted singles twisted together or singles or groups of singles may be laid parallel to form flat, oval or round cable. Lay not specified. Barrier layer and/or fillers optional. Manufacturer shall maintain a complete description of each assembly. May use same or mixed AWG size.	Optional	Optional	Internal wiring or external interconnection of electronic equipment (such as desk-type calculators, dictating machines, or x-ray equipment).
		300 V	Labeled or complying with manufacturer's AWM Procedure having a minimum rating of 80°C and 300 V		Optional	PVC, Class 43	
2570	PVC Jacketed Cable	80°C	40 AWG minimum	Consists of two or more conductors, twisted pairs or groups of twisted conductors twisted together. The conductors or groups of conductors may be laid parallel forming a flat, oval or round cable. The lay of the conductors is not specified. A barrier layer and/or fillers are optional. Manufacturer shall maintain a complete description of each assembly. May use same or mixed AWG size.	Optional: a 6 mil or heavier PVC covering may be extruded over the conductor assembly	-	External interconnection or internal wiring of electronic equipment.
		600 or 1000V	Labeled or complying with Manufacturer's AWM Procedure having a minimum rating of 80°C, 600 or 1000V.		Optional	PVC, Class 43	
2587	PVC Jacketed Cable	90°C	40 AWG minimum	Consists of two or more conductors, twisted pairs or groups of twisted conductors twisted together. The conductors or groups of conductors may be laid parallel forming a flat, oval or round cable. The lay of the conductors is not specified. A barrier layer and/or fillers are optional. Manufacturer shall maintain a complete description of each assembly. May use same or mixed AWG size.	Optional: a 6 mil or heavier PVC covering may be extruded over the conductor assembly.	-	External interconnection or internal wiring of electronic equipment.
		600V	Labeled or complying with Manufacturer's AWM Procedure having a minimum rating of 90°C, 600V.		Optional	PVC, Class 43	
2919	Low Voltage Computer Cable	80°C	40 AWG minimum	Consists of two or more conductors, twisted pairs or groups of twisted conductors twisted together. The conductors or groups of conductors may be laid parallel forming a flat, oval or round cable. The lay of the conductors is not specified. A barrier layer and/or fillers are optional. Manufacturer shall maintain a complete description of each assembly. May use same or mixed AWG size.	Optional: a 6 mil or heavier PVC covering may be extruded over the conductor assembly	Optional	As internal wiring or external interconnection in Class 2 Circuits of electronic computers and electric business machines.
		30V	Labeled or complying with Manufacturer's AWM Procedure having a minimum rating of 80°C, 30V.		Optional	PVC, Class 43	

Style	Product	Temperature Voltage	Conductor's section Insulation	Assembly	Jacket Shield	Braid Conduit	Use
20233	Multi-Conductor Jacketed Cable	80°C	36 AWG minimum. Solid or Stranded.	Two or more individually insulated conductors or groups ofinsulated conductors cabled together to form a round cable. A flat or oval cable may also be constructed with not more than three rows of single conductors or groups of conductors. The length of lay of the twisted conductors or groups is not specified. Fillers may be used in a cable but are not required. A barrier layer, if employed, may be a fibrous wrap serving, or braid, paper, nylon, oriented polyethylene terephthalate, or thermoplastic-tape wrap. Such a barrier layer would serve to protect the cable during further processing and would be applied immediately over the twisted assembly of individual conductors or groups of conductors.	Optional	Optional	External interconnection of electronic equipment.
		300V	Labeled or complying with manufacturer's AWM Procedure and Having a min rating of 80°C and 300V. The designations of all styles of individual conductors used in making up the cable assembly shall be available.		Optional	Poly-urethane	
20234	Thermoplastic Polyurethane Jacketed Cable	80°C	36 AWG minimum. Solid or stranded	Two or more individually insulated conductors or groups ofinsulated conductors cabled together to form a round cable. A flat or oval cable may also be constructed with not more than three rows of single conductors or groups of conductors. The length of lay of the twisted conductors orgroups is not specified. Fillers may be used in a cable but are not required. A barrier layer, if employed, may be a fibrous wrap serving, or braid; paper; nylon; oriented polyethylene terephthalate; or thermoplastic-tape wrap. Such a barrier layer would serve to protect the cable during further processing and would be applied immediately over thetwisted assembly of individual conductors or groups of conductors.	Optional	Optional	External interconnection of electronic equipment.
		600 or 1000V	Labeled or complying with manufacturer's AWM Procedure and having a minimum rating of 80°C and 600V or 1000V respectively.		Optional	Poly-urethane	
20236	Polyurethane Jacketed Cable	80°C	36 AWG minimum. Solid or stranded	Two or more individually insulated conductors or groups of insulated conductors cabled together to form a round cable. A flat or oval cable may also be constructed with not more than three rows of single conductors or groups of conductors. The length of lay of the twisted conductors or groups is not specified. Fillers may be used in a cable but are not required. A barrier layer, if employed, may be a fibrous wrap serving, or braid; paper; nylon; oriented polyethylene terephthalate; thermoplastic covering, or thermoplastic-tape wrap.	Optional: 4 mil or heavier wall of PVC or other thermoplastic covering may be extruded over the conductor assembly or groups of conductors (with or without shields)	-	Internal wiring or external interconnection of electronic equipment.
		30V	Labeled or complying with manufacturer's AWM Procedure and having a min rating of 80°C and 30V. The designations of all styles of individual conductors used in making up the cable assembly shall be available.		Optional	Poly-urethane	
20554	Polyurethane Jacketed Cable	80°C	40 AWG minimum	Consists of two or more conductors, twisted pairs or groups of twisted conductors twisted together. The conductors or groups of conductors may be laid parallelforming a flat, oval or round cable. The lay of the conductor is not specified. A barrier layer and/or fillers are optional. Manufacturer shall maintain a complete description of each assembly. May use same or mixed AWG size.	Optional: a 6 mil or heavier covering may be extruded over the conductor assembly	-	Internal wiring of electronic equipment and appliances.
		30V	Labeled or complying with Manufacturer's AWM Procedure having a minimum rating of 80°C, 30V.		Optional	Poly-urethane	
20886	PVC Jacketed Cable	80°C, 90°C or 105°C	40 AWG minimum	Consists of two or more conductors, twisted pairs or groups of twisted conductors twisted together. The conductors or groups of conductors may be laid parallel forming a flat, oval or round cable. The lay of the conductors is not specified. A barrier layer and/or fillers are optional. May use same or mixed AWG size.	Optional: a 6 mil or heavier PVC covering may be extruded over the conductor assembly	-	External interconnection or internal wiring of electronic equipment.
		1000Vac, 1200Vdc	Labeled or complying with 1000Vac, 1200Vdc and a temperature rating equalling or exceeding the rating of the cable.		Optional	PVC, Class 43	

Appendix I. System for designation of cables

I.1 System for designation of cables according to CEI UNEL 35011 and 36011

The designation code of a cable is composed of symbols that represent the various components of the cable, listed in succession from the inside to the outside of the cable. Below are some of the symbols used; for more details, please refer to the CEI UNEL 35011 and CEI UNEL 36011 standards.

Nature of the conductors	
Symbol	**Description**
	Copper conductor, no symbol
A	Aluminum conductor

Shape and flexibility of the conductors	
Symbol	**Description**
EF	Extra flexible round-stranded or of spe-cial construction
F	Flexible round-stranded
FF	Highly flexible round-stranded
R	Rigid round-stranded, standard or compact
U	Single solid wire

Insulation material	
Symbol	**Description**
E	Thermoplastic polyethylene compound
E4	Cross-linked polyethylene compound with a characteristic tempe-rature of 85°C, also suitable for protective sheaths
G	Compound based on natural and/or synthetic rubber with a characteristic temperature of 60°C, quality EI1
G4	Silico-ne rubber-based compound with a characteristic temperature of 180°C, quality EI2
G7	High modulus ethylene-propylene rubber-based compound with a characteristic temperature of 90°C
G8	Ethylene-propylene rubber-based compound suitable for cables without protective sheaths with a characteristic temperature of 85°C
G9	Cross-linked ela-stomeric compound with low smoke, toxic, and corrosive gas emissions, also suitable for cables without protective sheaths with a characteristic temperature of 90°C
G10	Cross-linked elastomeric compound with low smoke, toxic, and corro-sive gas emissions with a characteristic temperature of 90°C
G16	High modulus ethylene-propylene rubber-based insulating compound with low smoke and acidity emissions with a characteristic temperature of 90°C for use in cables according to the fire reaction classes provided by the Con-struction Products Regulation (CPR)
G17	Cross-linked elasto-meric insulating compound with low smoke and acidity emissions, suitable for cables without protective sheaths with a characteristic temperature of 90°C for use in cables according to the fire reaction classes provided by the Construction Products Regulation (CPR)
G18	Cross-linked elastomeric insulating compound with low smoke and acidity emissions with a characteristic temperature of 90°C for use in cables ac-cording to the fire reaction classes provided by the Construction Products Regulation (CPR)
G19	Cross-linked elastomeric compound with low smoke, toxic, and corro-sive gas emissions with a characteristic temperature of 90°C
G20	Cross-linked insulating compound with low smoke, toxic, and corrosive gas emissions with a characteristic temperature of 90°C
G26	High modulus ethylene-propylene rubber-based insulating compound with low smoke and acidity emissions with a characteristic temperature of 105°C for use in cables with nominal voltages of 12/20 kV and 18/30 kV according to the fire reaction classes provided by the Construction Products Regulation (CPR)
M	Mineral insulation
M9	Thermoplastic compound with low smoke, toxic, and corrosive gas emissions with a characteristic temperature of 70°C
R	Po-lyvinyl chloride-based compound with a characteristic temperature of 70°C, quality TI1 and TI2
R2	Polyvinyl chloride-based compound with a characteristic temperature of 70°C, quality R2
R4	Polyamide resin-based compound
R5	Fluorocarbon resin-based compound
R5F	Fluorocarbon resin-based compound – Tetrafluoroethylene-hexafluoropropylene copolymer (EFP)
R5M	Fluorocarbon resin-based compound – Tetrafluoroethylene-perfluoromethylvinyl ether copolymer (MFA)
R5P	Fluorocarbon resin-based compound – Tetrafluoroethylene-perfluoropropylvinyl ether copolymer (PFA)
R7	Polyvinyl chloride-based compound with a characteristic temperature of 90°C, quality TI3
S17	Polyvinyl chloride-based insulating compound with a characteristic temperature of 70°C for use in cables according to the fire reaction classes provided by the Construction Products Regula-tion (CPR)
S18	Polyvinyl chloride-based insulating compound with a cha-racteristic temperature of 70°C for use in cables with nominal voltages of 300/500 V according to the fire reaction classes provided by the Construction Products Regulation (CPR)
T	One or more mica glass tapes or closed glass braiding
T4	Sterling tape (varnished with oils and resins)
V	Glass fabric, possibly impregnated

Shape and composition of the cables	
Symbol	**Description**
	Single-core cables, no symbol
O	Cores, possibly with their own sheath, bundled with or without fillers to form an almost round cable
D	Cores as above, arran-ged in parallel (cable with a flattened outer shape)
X	Cores as above, twisted helically
W	Parallel cores with an intermediate groove (separable flat cable, with sharp or rounded edges)
W1	Parallel cores with an intermediate insulat-ing strip

Armour or metallic coating	
Symbol	**Description**
A	Smooth aluminum sheath, or armored with a metal braid (mesh)
A1	Corrugated aluminum sheath
EL	Lead alloy sheath, with under-lying continuity conductor
EP	Non-alloyed lead sheath, with underlying continuity conductor
F	Cylindrical wire armoring, usually steel
FJ	Wire armoring as above, with an external covering of impregnated jute or other equivalent material
H	Aluminum tape or metallized synthetic material
H1	Copper tape or wires
H2	Copper braid
H4	Longitudinal corrugated steel tape shield
H5	Longitudinal coated aluminum tape shield
L	Lead alloy sheath
N	Tape armoring, usually steel
NJ	Tape armoring as above, with an external covering of impregnated jute or other equivalent material
P	Non-alloyed lead sheath
Q	Copper sheath
Z	Flat steel strip armoring, usually steel

Non-metallic sheath	
Symbol	**Description**
E	Thermoplastic sheath, quality Ez
E4	Cross-linked polyethylene sheath, quality E4M
G	Natural and/or synthetic rubber sheath, quali-ty Gy
G6	Sheath based on chlorinated or chlorosulfonated polyethylene, quality G6M
K	Sheath based on poly-chloroprene or equivalent products, quality Ky, Kn, Kz
M1	Thermoplastic sheath with low emission of smoke and toxic and corrosive gases
M2	Elastomeric sheath with low emission of smoke and toxic and corrosive gases, quality M2
M3	lastomeric sheath with low emission of smoke and toxic and corrosive gases, quality M3
M4	Elastomeric sheath with low emission of smoke and toxic and corrosive gases, quality M4
M16	Thermoplastic sheath with low emission of smoke and acidity for use in cables according to the fire reaction classes provided by the Construction Products Regula-tion (CPR)
M18	Elastomeric sheath with low emission of smoke and acidity for use in cables according to the fire reaction classes provided by the Construction Products Regulation (CPR)
M20	Thermoplastic sheath with low emission of smoke and acidi-ty for use in cables with nominal voltages above 0.6/1 kV up to 18/30 kV according to the fire reaction classes provided by the Construction Products Regulation (CPR)
R	Sheath based on polyvinyl chloride, quality TM1, TM2, quality Rz
R4	Sheath based on polyamide resin
R12	Sheaths based on polyvinyl chloride for use in cables with nominal voltages above 0.6/1 kV up to 18/30 kV according to the fire reaction classes provided by the Construction Pro-ducts Regulation (CPR)
R16	Thermoplastic sheath based on po-lyvinyl chloride for use in cables according to the fire reaction classes provided by the Construc-tion Products Regulation (CPR)
R18	Sheath based on polyvinyl chloride compound for use in cables with nominal voltages of 300/500 V according to the fire reaction classes provided by the Construction Products Regulation (CPR)
T	Textile braid (possibly impregnated) of normal type
T1	Glass tape wrapping
T2	Special tex-tile braid (e.g., glass fiber braid), possibly impregnated

Examples

FG7OR
Cable with flexible round-stranded copper conductors (F), insulated with ethylene-propylene rubber with a characteristic temperature of 90°C (G7), cores bundled with or without fillers to form a round cable (O), and polyvinyl chloride sheath (R)

FG7OH2R
Cable with flexible round-stranded copper conductors (F), insulated with ethylene-propylene rubber with a characteristic temperature of 90°C (G7), cores bundled with or without fillers to form a round cable (O), copper braid screen (H2), and polyvinyl chloride sheath (R)

ARG7OR
Cable with rigid round-stranded aluminum conductors (A) (R), insulated with ethylene-propylene rubber with a characteristic temperature of 90°C (G7), cores bundled with or without fillers to form a round cable (O), and polyvinyl chloride sheath (R)

FR2OH2R
Cable with flexible round-stranded copper conductors (F), insulated with a polyvinyl chloride-based compound with a characteristic temperature of 70°C (R2), cores bundled with or without fillers to form a round cable (O), copper braid screen (H2), and polyvinyl chloride sheath (R)

FG16OR16
Cable with flexible round-stranded copper conductors (F), insulated with a high-modulus ethylene-propylene rubber compound with low smoke and acidity emissions, with a characteristic temperature of 90°C for use in cables according to the fire reaction classes provided by the Construction Products Regulation (G16), cores bundled with or without fillers to form a round cable (O), and thermoplastic sheath based on polyvinyl chloride for use in cables according to the fire reaction classes provided by the Construction Products Regulation (R16)

I.2 System for designation of cables according to CEI HD 361-S4

The designation code of a cable is made by a sequence of symbols that represent the various characteristics of the cable. The symbols used are listed below; for more details, please refer to the CEI HD 361-S4 standard.

Relashionship to standards	
Symbol	**Description**
	Non-harmonized cable, no symbol
H	Cable conforming with harmonized standards

Voltage rating	
Symbol	**Description**
01	100/100 V
03	300/300 V
05	300/500 V
07	450/750 V
1	600/1000 V

Materials for insulation	
Symbol	**Description**
B	Ethylene-propylene rubber for continuous operation at 90°C
G	Ethylene-vinyl acetate
J	Glass fiber braid
M	Mineral
N	Polychloroprene rubber (or equivalent mate-rial)
N2	Special polychloro-prene compound for welding cable sheathing
N4	Chlorosulfonated polyethylen
N8	Special water-resistant polychloroprene compound
Q	Polyurethane
Q4	Polyamide
R	Ethylene-propylene rubber or equivalent synthetic elastomer for conti-nuous operation at 60°C
S	Silicone rubber
T	Textile braid, impregnated or not, around the bundle of cores
T6	Textile braid, impre-gnated or not, around the individual cores of a multi-core cable
V	Ordinary polyvinyl chloride (PVC)
V2	PVC compound for con-tinuous operation at 90°C
V3	PVC compound for cables installed at low temperatures
V4	Ordinary cross-linked PVC
V5	Ordinary (special) oil-resistant PVC
Z	Cross-linked polyolefin compound that emits low smoke and non-corrosive gases in case of combustion
Z1	Thermoplastic polyolefin compound that emits low smoke and non-corrosive gases in case of combustion for photovoltaic cables

Symbol	Description
Z2	Cross-linked polyolefin compound that emits low smoke and non-corrosive gases in case of combustion for photovoltaic cables
Z5	Thermoplastic EVM-1 compound that emits low smoke and non-corrosive gases in case of combustion for electric vehicle charging cables
Z6	Cross-linked EVM-2 compound that emits low smoke and non-corrosive gases in case of combustion for electric vehicle charging cables

Metallic coverings	
Symbol	**Description**
C	Concentric copper conductor
C4	Copper braid over assembled cores

Constructional components	
Symbol	**Description**
D3	Strain-bearing element consisting of one or more components (textile or metallic), placed at the center of a round cable, or distributed inside a flat cable
D5	Central filler (non-strain-bearing element)

Special constructions	
Symbol	**Description**
	Round cable, no symbol
H	Flat construction of "separable" cables and cores, with or without sheath
H2	Flat construction of non-separable cables
H6	Flat cables with three or more cores, according to EN 50214
H7	Cables with double-layer insulation applied by extrusion
H8	Extendable cord

Materials for jacket
See table “Materials for insulation”

Material of the conductor	
Symbol	**Description**
	Copper, no symbol
-A	Aluminum

Shape of the conductor	
Symbol	**Description**
-D	Flexible conductor for use in arc welding cables (flexibility different from Class 5 of EN 60228)
-E	Highly flexible conductor for use in arc welding cables (flexibility different from Class 6 of EN 60228)
-F	Flexible conductor (flexibility according to Class 5 of EN 60228)
-H	Highly flexible conductor (flexibility according to Class 6 of EN 60228)
-K	Flexible conductor of a cable for fixed installations (unless otherwise specified, flexibility according to Class 5 of EN 60228)
-R	Rigid round stranded conductor
-U	Rigid round solid conductor
-Y	Tinsel conductor

Examples

H05V2-K
Harmonized cable (H) with a nominal voltage of 300/500V (05), insulated with PVC compound for an operating temperature of 90°C (V2), consisting of flexible conductors for fixed installations (-K)

H07V-K
Harmonized cable (H) with a nominal voltage of 450/750V (07), insulated with ordinary PVC compound (V), consisting of flexible conductors for fixed installations (-K)

H07V2-K
Harmonized cable (H) with a nominal voltage of 450/750V (07), insulated with PVC compound for an operating temperature of 90°C (V2), consisting of flexible conductors for fixed installations (-K)

Appendix J. Ethernet cables' naming

The table shows the nomenclature of the Ethernet cables and the meaning of the abbreviations used.

Table J.1. Ethernet cables' naming

Naming	Shield on cable	Shield on pairs
U/UTP	None	None
U/FTP	None	Foil shield
F/UTP	Foil shield	None
S/UTP	Braid shield	None
SF/UTP	Foil and braid shield	None
F/FTP	Foil shield	Foil shield
S/FTP	Braid shield	Foil shield
SF/FTP	Foil and braid shield	Foil shield

TP = Twisted Pair
U = Unshielded
F = Foiled
S = Shielded

Appendix K. Listed or Recognized products

During the daily research of components to be installed in the automation systems, we often find various components which differ as concerns standard approvals. Some products are classified as “Recognized” and others as “Listed”; here are the differences as follows:

K.1 Listed products

UL Listed mark is for sure the most commonly used mark for the equipment assigned to final users, but it is not the only one available on the market. There are other marks such as ETL Listed and CSA Listed, having the same value from the normative point of view. If a product has one of these marks, it means that it complies with the safety requirements based on the Safety Standards published by ANSI (American National Standard Institute), that is, the American national standard institute which acknowledges, in its turn, the rules of various institutes such as UL, ETL, CSA, NEMA or other reliable authorities. Furthermore, it means that the product has been verified through a series of tests and analysis carried out at NRTL (National Recognized Testing Laboratories) laboratories, such as UL, CSA, TUV, ETL, which are institutes recognized by OSHA (Occupational Safety and Health Administration), the American national institute dealing with safety at work.
This mark can be seen usually on finished products addressed to the users, such as electric household appliances, equipment for computers, ovens, smoke and carbon monoxide alarms, fire extinguishers, life jackets, bullet-proof glass and thousands of other products.
Typical examples of products belonging to the industrial automation sector are the industrial computers, the actuators for electrical motors, fuses and fuseholders, or the flexible metal conduits and pertinent fittings intended to protect the cables for the connection of motors or equipment. Besides, there are tray cables, which are cables made for the connection of cable trays with the equipment; they are all products whose use is specified by reference standards.
The UL Listed mark on a product can be recognized through a fundamental feature: the round UL mark and the name of the manufacturer, the trade name or a number identifying the manufacturer, which can be followed by other two elements: the “LISTED” word in capital letters and the name of the product (e.g. “portable lamp”, “fuseholders”, etc.).

UL Listed mark with before a “C” letter, means that the product is specific for the Canadian market. Products with this kind of mark have been evaluated and tested in compliance with the Canadian safety requirements which, in some respects, can differ from the ones applied in the United States.
UL Listed mark with before a “C” letter and the “US” abbreviation after, indicates the product compliance with both Canadian and United States requirements.
A similar marking structure is issued by the Canadian certification institute CSA.



K.2 Recognized products

The UL Recognized mark can be hardly seen by the user, as it is used in particular for components being the basic elements of greater products or systems. Being basic components, they can have restricted functional characters or incomplete structure. They differ from the Listed products for the fact that in their own standard a “ condition of acceptability” is always reported: that means, that their suitability depends on how the manufacturer uses them, for instance how he measures them as regards the system they are inserted in.
This mark can be found on several products such as feeders, switches, printed circuits and some types of industrial control equipment and other numerous products. A typical example is the one of the single core cables style 1015/1284 for the internal wire harness of equipment or lamps; they are products whose destination is not specified by reference standards and their use covers a wide range of possibilities.

Also in case of a Recognized product, the UL Recognized mark can be recognized through some fundamental elements: the UR mark, the name of the manufacturer, the trade name or a number identifying the manufacturer.
The products for the Canadian markets show the UL Recognized mark with a “C” letter before. Also for the UL Recognized mark there is the possibility of a simultaneous compliance with the Canadian and the United States requirements, and in this case the mark has a “C” letter before and a “US” abbreviation after.
A similar marking structure is issued by the Canadian certification institute CSA.



K.3 Difference between Listed products and Recognized products

As an example, see a hydromassage tub: if there is a label with a UL Listed mark on it and all the other previously mentioned information, it means that the hydromassage tub, which is the end product, meets the requirements of UL 1563 standard, Electric Spas, Equipment Assemblies and Associated Equipment.
If, otherwise, the UL Listed mark cannot be found on the product, after a careful consideration, it could be possible to find out that some components of the hydromassage tub , such as the pump, the control system or the filter show the UL Recognized mark. Some manufacturers could say that, as the components are UL Recognized marked, the product they are installed in meets the necessary requirements. This is not always true, because the UL Recognized mark means that the single component meets the requirements for a specific and limited use, and just the UL Listed mark applied on the product, in this case on the hydromassage tub, indicates that the product as a whole meets the standard requirements.

To sum up, we can say that the UL Recognized mark covers the check and evaluation of components which are incomplete or have reduced functionalities. They could be suitable if used as components of a certain machine, but they are unfit if that same machine is installed in a burst hazard location or in a place where the installation must follow specific standards. These components will be used with complete finished products or UL Listed systems. In any case, the finished products can be always subject to evaluation by AHJs (Authorities Having Jurisdiction), that is, the American inspection institutions for installations. When the finished product is Listed, the inspection is limited to recognition of the mark presence and right installation; in case the product is not Listed, the inspection can include also the verification of suitability for each single component as regards functionality, use and installation of the end-item.

The distinction between a component and the end-item is the critical point between the certification of one component and the certification of the end-item, where the component is used. So, going back to the example of the hydromassage tub, the use of UL Recognized components within a end-item does not mean neither that the product is UL Listed, nor that it is in compliance with the reference standard regarding that kind of product.

K.4 Interchangeable product certification marks

In USA and Canada there are several independent organizations working on national standards that are sometimes in direct competition. The most known organizations* that are working on electrical standards, product approvals and certifications for the American and Canadian markets are UL "Underwriters Laboratories Inc." in U.S. and CSA "Canadian Standards Association" in Canada. Both companies, CSA and UL signed a Memorandum of Understanding (latest update: April 2006) which defines the mutually acceptance for tests and investigations in accordance to defined standards.

The Memorandum of Understanding agreement between the two organizations simplifies the certification process for companies who desire U.S. and/or Canadian marks. If a company requires the CSA or the UL mark, it can ask for the approval by the CSA "Canadian Standards Association" or by the UL "Underwriters Laboratories Inc.".

It is important to demystify the certification marks. The certification mark provides visual evidence that the product has been tested and certified to meet the applicable standard for a specific market. All products (i.e. the luminaires, the tray cables, the fuses, etc.) certified for a specific market have been tested to the same standard, regardless of whether they carry a UL or CSA mark. Hence, as you can see in the following table, UL and CSA marks are interchangeable and are equally accepted today.

		Market of destination		
		USA	Canada	USA+Canada
Certification organization	UL	Products bearing these marks are certified by American Organization (UL) for the U.S. market according to the applicable U.S. standards.	Products bearing this marks are certified by American Organization (UL) for the Canadian ("c" on the left of the logo) market according to the applicable Canadian standards.	Products bearing this marks are certified by American Organization (UL) for both the U.S. ("us" on the right of the logo) and Canadian ("c" on the left of the logo) markets according to the applicable U.S. and Canadian standards.
	CSA	Products bearing this mark are certified by Canadian Organization (CSA) for the U.S. market ("us" on the right of the logo) according to the applicable U.S. standards.	Products bearing this mark are certified by Canadian Organization (CSA) for the Canadian market according to the applicable Canadian standards.	Products bearing this mark are certified by Canadian Organization (CSA) for both the U.S. ("us" on the right of the logo) and Canadian ("c" on the left of the logo) markets according to the applicable U.S. and Canadian standards.

Based on the table above two products (one certified by UL and one certified by CSA) can be interchangeable from the certification and market-destination point of view, this means that the standard requirements are guaranteed by both the products. However, remember, if you just look at the visual marks that are on the products** you cannot understand which application they are manufactured for. You always have to check the technical characteristics and the performance declared by the producer.

Some frequently asked questions.

1) Isn't the CSA mark only for Canadian products? No, although CSA is often perceived as only for Canadian products, this organization can test and certify products according for both Canada and USA markets.
2) Tray Cable marked with the c(UL) mark can be used on the Canadian market? Yes, this product has been produced according to Canadian standards (identified by the "c" on the left of UL) and certified by the American Organization (UL) to be used in the Canadian market.
3) I understand that your Series 1060 single core cable is marked with the c(UR)us mark but I need a cable marked CSA because my installation is in Canada! Our product has been produced according to both U.S. and Canadian standards (identified by "c" on the left and "us" on the right of UR) and certified by the American Organization (UL) to be used in the U.S. and Canadian market.
4) I understand that your product has been tested to a UL standard but it carries a CSA mark, how can this be possible? If the standard is UL, doesn't the mark also have to come from UL? Certification organization such as UL and CSA are involved in both standards publication and testing. It is a common misperception that because an organization's name appears on a particular standard, that organization must exclusively perform product testing against the standard. The fact is that the standards publication and testing roles must be performed independently in order to avoid a conflict of interest. The standards are available for the manufacturer's use in design and manufacturing process but are also available to all accredited certification organizations for product testing. The manufacturer can choose to certify his product by any of the certification organizations.

* Other Organizations (NRTL Nationally Recognized Testing Laboratory) recognized by OSHA (Occupational Safety and Health Administration) are QPS, CCL, FM, ETL, MET, NSF, TÜV, etc.

** Not necessarily the mark is printed or stamped on the product, it could also be on the packaging, it depends on the type of product and on the requirements of the specific standard.

Appendix L. Degrees of protection provided by enclosures

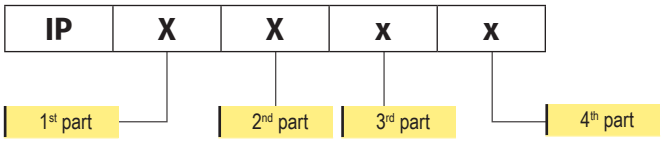
Herewith will be analysed all the reference standards specifying the degrees of protection provided by enclosures for electrical equipment and materials both for the European and for the North American markets, with the aim of clarifying the definition of the degrees of protection and a correlation, if possible, between the European and the American requirements.

L.1 Degree of protection IP

The European EN 60529 standard and the German DIN 40050 standard, part 9, are, combined, an exhaustive document as concerns the degrees of protection provided by enclosures. The object of this standard is to give:

1) Definitions for the degrees of protection provided by enclosures for electrical equipment as regards:
   a) Protection of persons against contact with hazardous parts inside the enclosures;
   b) Protection of the equipment inside the enclosures against ingress of solid foreign objects;
   c) Protection of the equipment inside the enclosures against the harmful effects due to the ingress of water.
2) Designations and classification for the degrees of protection
3) Requirements for each designation
4) Tests to be performed

These Standards classify the degree of protection of the enclosures with the IP code. The IP code (International Protection or Ingress Protection) is made by 4 parts which identify and characterize the degree of protection provided by the enclosure.



First part indicates the protection of the equipment against the ingress of solid foreign objects and the protection against access to hazardous parts also by means of tools in the hands of a person.

Table L.1. Definition of the first part of the IP code

Level	Definition	Effects
IP0_	Non-protected.	Non- protected.
IP1_	Protected against solid foreign objects ≥ 50 mm in diameter.	Protected against access with the back of hand.
IP2_	Protected against solid foreign objects ≥ 12,5 mm in diameter.	Protected against access with a finger.
IP3_	Protected against solid foreign objects ≥ 2,5 mm in diameter.	Protected against access with a tool, for instance with a screwdriver.
IP4_	Protected against solid foreign objects ≥ 1 mm in diameter.	Protected against access with a wire.
IP5_	Partially dust-protected. Ingress of dust is not totally prevented, but the dust must not enter in sufficient quantity to interface with satisfactory operation of the equipment or compromise its safety.	Ingress of dust is not totally prevented, protected against access with a thin wire.
IP6_	Protection against ingress of dust.	No ingress of dust, complete protection against contact (dust tight).

Second part indicates the degree of protection against the harmful effects due to the ingress of water inside the enclosure. If a protection against the ingress of water is not foreseen, the characteristic numeral must be replaced by letter X. This part may consist of additional levels contained in the DIN 40050-9 standard.

Table L.2. Definition of the second part of the IP code

Level	Definition	Standard
IP_0	Non-protected.	EN 60529, DIN 40050-9
IP_1	Protected against the vertical water dripping.	EN 60529, DIN 40050-9
IP_2	Protected against the water dripping when the enclosure is tilted at an angle up to to 15°.	EN 60529, DIN 40050-9
IP_3	Protected against rain (enclosure tilted up to 60°).	EN 60529, DIN 40050-9
IP_4	Protected against spraying (water sprayed from any direction).	EN 60529, DIN 40050-9
IP_4K	Protected against high-pressure water spray (from any direction).	DIN 40050-9
IP_5	Protected against water jets (from any direction).	EN 60529, DIN 40050-9
IP_6	Protected against powerful water jets (from any direction).	EN 60529, DIN 40050-9
IP_6K	Protected against powerful high-pressure jetting (from any direction).	DIN 40050-9
IP_7	Protected against the effects of temporary immersion (up to 1 m).	EN 60529, DIN 40050-9
IP_8	Protected against the effects of continuous immersion (beyond 1 m).	EN 60529, DIN 40050-9
IP_9K	Protected against high-pressure jets or steam (from any direction).	DIN 40050-9

The integration with DIN standard allows additional designations which permit to identify the products with high qualitative standards, such as the corrugated plastic conduits for the protection of cables and pertinent fittings. The test with high-pressure jets (about 80 bar) permits to define the product as IP 69K degree of protection (6 = total protection against dust and access with a wire, 9K = Protection against the harmful effects due to the high-pressure jets).

Third part is the first additional letter and indicates the degree of protection for persons against the access to hazardous parts. It is used when the protection for persons against access to hazardous parts is higher than the one indicated by the first part, usually when there is no coincidence between the degree of protection for persons and the degree of protection against the ingress of solid foreign objects; when the degree of protection against solid foreign objects is not indicated (the first part is replaced by a X), but only the degree of protection for persons.

Table L.3. Definition of the third part of the IP code

Level	Definition
a	Protected against access with the back of hand.
b	Protected against access with a finger.
c	Protected against access with a tool, for instance with a screwdriver.
d	Protected against access with a wire.

Fourth part, after the second part or after the supplementary letter, an additional letter can be appended to provide further information related to the protection of the device.

Table L.4. Definition of the fourth part of the IP code

Level	Definition
f	Oil resistant.
H	High-voltage equipment.
M	Tested against the harmful effects due to the ingress of water when its movable parts are in motion.
S	Tested against the harmful effects due to the ingress of water when its movable parts are not in motion.
W	Suitable for use under specific atmospheric conditions and provided with additional protective measures or proceedings.

L.2 Degree of protection NEMA

On the USA market the enclosures' degrees of protection is defined by the "Type" (type of enclosure) according to NEMA (National Electrical Manufacturers Association) classification. NEMA, unlike the European standards, includes specific conditions such as corrosion, rust, ice, oils and coolants; the NEMA classification takes also into consideration uses for indoor, outdoor and hazardous locations. In the following tables are indicated the Types of Enclosure and the conditions under which they provide protection in nonhazardous and hazardous locations.

Table L.5. Type of enclosure for use in nonhazardous locations

Provides protection against the following conditions	Type of Enclosure															
	1[a]	2[a]	3	3X	3R[a]	3RX[a]	3S	3SX	4	4X	5	6	6P	12	12K	13
Indoor	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Outdoor			•	•	•	•	•	•	•	•	•	•	•			
Access to hazardous parts	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Ingress of solid foreign objects (falling dirt)	•	•							•	•	•	•	•	•	•	•
Ingress of solid foreign objects (settling airborne dust, lint, fibers, and flyings [b])									•	•	•	•	•	•	•	•
Ingress of solid foreign objects (circulating dust, lint, fibers, and flyings [b])									•	•	•	•	•	•	•	•
Ingress of solid foreign objects (windblown dust, lint, fibers, and flyings [b])			•	•			•	•	•	•		•	•			
Ingress of water (dripping and light splashing)		•							•	•	•	•	•	•	•	•
Ingress of water (rain, snow, and sleet [c])			•	•	•	•	•	•	•	•		•	•			
Ingress of water (hosedown and splashing water)									•	•		•	•			
Sleet [d]							•	•								
Ingress of water (occasional temporary submersion)												•	•			
Ingress of water (occasional prolonged submersion)													•			
Oil and coolant seepage														•	•	•
Oil or coolant spraying and splashing																•
Corrosive agents				•		•		•		•			•			

(a) These enclosures may be ventilated.

(b) These fibers and flyings are nonhazardous materials and are not considered Class III type ignitable fibers or combustible flyings. For Class III type ignitable fibers or combustible flyings see the National Electrical Code, Article 500.

(c) External operating mechanisms are not required to be operable when the enclosure is ice covered.

(d) External operating mechanisms are operable when the enclosure is ice covered.

Table L6. Type of enclosure for use in hazardous locations

Provides protection against the following typical chemicals contained in atmosphere and for the specified ambient type [a]	Related hazardous locations	Type of Enclosure [b]			
		7	8	9	10
Indoor	-	•	•	•	cfr. [d]
Outdoor	-		•		cfr. [d]
Acetylene	Class I Group A	•	•		
Hydrogen, manufactured gas	Class I Group B	•	•		
Diethyl ether, ethylene, cyclopropane	Class I Group C	•	•		
Gasoline, hexane, butane, naphtha, propane, acetone, toluene, isoprene	Class I Group D	•	•		
Metal dust	Class I Group E			•	
Carbon black, coal dust, coke dust	Class II Group F			•	
Flour, starch, grain dust	Class II Group G			•	
Fibers, flyings (c)	Class III Group G			•	
Methane with or without coal dust	MSHA [d]				•

(a) If the installation of Type 7, 8, 9 and 10 is outdoors and/or additional protection is required by Table K.5, a combination-type enclosure is required.
(b) Due to the characteristics of the gas, vapor, or dust, a product suitable for one Class or Group may not be suitable for another Class or Group unless marked on the product.
(c) For Class III type ignitable fibers or combustible flyings see the National Electrical Code, Article 500.
(d) Mine Safety and Health Administration, 30 CFR, Part 18.

L.3 Conversion between degrees of protection

The NEMA standard n.250 (Appendix A) gives a correlation among the recognized enclosures and the degrees of protection of the enclosures according to IP classification. As the European standard does not specify degrees of protection against the mechanical damage of equipment, risk of explosion or particular conditions such as moisture, corrosive vapors, etc., the correlation with the IP degrees of protection is not univocal and binding. The IEC designation consists of the letters IP followed by two numerals. The first characteristic numeral indicates the degree of protection provided by the enclosure with respect to persons and solid foreign objects entering the enclosure. The second characteristic numeral indicates the degree of protection provided by the enclosure with respect to the harmful ingress of water.
The following tables provide an equivalent conversion from the enclosure NEMA Type numbers to the IEC enclosure classification designations IP. The enclosure type numbers meet or exceed the test requirements for the associated IEC classification; for this reason the tables cannot be used to convert from IEC classifications to enclosure NEMA Type numbers.

Table L.7. Conversion of NEMA enclosures with the first part of the IP code.

First part of the IP code	NEMA Type of Enclosure															
	1	2	3	3X	3R	3RX	3S	3SX	4	4X	5	6	6P	12	12K	13
IP0_	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IP1_	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IP2_	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IP3_			•	•			•	•	•	•	•	•	•	•	•	•
IP4_			•	•			•	•	•	•	•	•	•	•	•	•
IP5_			•	•			•	•	•	•	•	•	•	•	•	•
IP6_									•	•		•	•			

Table L.8. Conversion of NEMA enclosures with the second part of the IP code.

Second part of the IP code	NEMA Type of Enclosure															
	1	2	3	3X	3R	3RX	3S	3SX	4	4X	5	6	6P	12	12K	13
IP_0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IP_1		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IP_2		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IP_3			•	•	•	•	•	•	•	•	•	•	•	•	•	•
IP_4			•	•	•	•	•	•	•	•		•	•	•	•	•
IP_5			•	•			•	•	•	•		•	•			
IP_6									•	•		•	•			
IP_7												•	•			
IP_8												•	•			

For convenience, the table below sets the NEMA Types of enclosures and the correspondent maximum degree of protection IP.

Table L.9. Conversion of NEMA enclosures with the correspondent maximum degree of protection IP.

NEMA Type of Enclosure	1	2	3	3X	3R	3RX	3S	3SX	4	4X	5	6	6P	12	12K	13
IP Degree of protection	IP20	IP22	IP55	IP55	IP24	IP24	IP55	IP55	IP66	IP66	IP53	IP67	IP68	IP54	IP54	IP54

Example
A IP65 degree of protection is defined, what are the types (Type) of NEMA enclosures that meet or exceed the requirements for this degree of protection?

Using table K.7 identifies the NEMA types of enclosures that satisfy the first part of the IP code, with table K.8 those which satisfy the second part of the IP code.

Conversion	1	2	3	3X	3R	3RX	3S	3SX	4	4X	5	6	6P	12	12K	13
IP6_									•	•		•	•			
IP_5			•	•			•	•	•	•		•	•			
On the row below only the common type of enclosures are listed																
IP65									•	•		•	•			

Finally the NEMA types 4, 4X, 6 and 6P meet or exceed the requirements for the degree of protection IP65.

Appendix M. Hazardous locations

The ANSI/NFPA 70 “National Electrical Code” (NEC) defines the Hazardous Locations as locations where fire or explosion hazards may exist due to flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers or flyings. The NEC pays attention to the hazardous locations because the electrical equipment can become source of ignition in these volatile areas. Articles 500 through 504, and 510 through 517 provide classification and installation standards for the use of electrical equipment in these locations.
Hazardous locations are classified in three ways: location types , danger condition and nature of the material in the location.

There are three types of hazardous locations.
The first type of location, Class I, is an area where flammable gases or vapours in the air are present in concentrations suitable to produce, which could be ignited if an electrical or other source of ignition is present.
The second type of location, Class II, is the area made hazardous by the presence of combustible dust, suspended in the atmosphere, which can cause an explosion.
The third type of location, Class III, is the area where there are easily-ignitable fibers or flyings present, due to the types of materials being handled, stored or processed. In this case the fibers or the flyings can collect around machinery where heat, a spark or hot metals parts can ignite them.
In addition to the types of hazardous locations, the NEC concerns itself with the kind of conditions under which the hazard is present. The hazardous materials may exist in several different kinds of conditions which, for simplicity, the NEC describe as normal conditions, Division 1, and abnormal conditions, Division 2. In the normal condition, the hazard would be expected to be present in everyday production operations or during frequent repair and maintenance activity. While, when the hazardous material is expected to be confined within closed systems (e.g. containers) and is present in the atmosphere only through accidental rupture, breakage or unusual faulty operation, the situation could be called abnormal.
Finally, the NEC defines the nature of the hazardous materials which are present in the location, grouping them according to the ignition temperature, the explosion pressure and other flammable characteristics (Group A, B, C, D, E, F, G).
An example: how would we classify a storage area where LP gas is contained in closed containers? LP gas is a Class I substance; the gas would be present in the atmosphere only if a leakage or an accidental rupture of one or more containers occurred, so it is an abnormal condition, Division 2. Finally, the material, liquid petroleum gas, belongs to Group D material, as shown in the following table.
In Europe the hazardous locations are classified by EN 60079-10 standard, and in Canada by the Canadian Electrical Code.

Table M.1. Hazardous locations according to Art. 500 of NFPA 70 (NEC) - Ed. 2008/2011

Type of location	Hazardous condition	Nature of the material	Examples
Class I (Art. 501 of NEC) Locations in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.	**Division 1** Locations in which ignitable concentrations of flammable gases or vapors can exist under normal operating conditions. Or in which ignitable concentrations of such gases or vapors may exist frequently because of repair or maintenance operations or because of leakage. Or in which breakdown or faulty operation of equipment or processes might release ignitible concentrations of flammable gases or vapors and might also cause simultaneous failure of electrical equipment in such a way as to directly cause the electrical equipment to become a source of ignition. **Division 2** Locations in which volatile flammable liquids or flammable gases are handled, processed, or used, but in which the liquids, vapors, or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems or in case of abnormal operation of equipment. Or in which ignitable concentrations of gases or vapors are normally prevented by positive mechanical ventilation and which might become hazardous through failure or abnormal operation of the ventilating equipment. Or that is adjacent to a Class I, Division 1 location, and to which ignitable concentrations of gases or vapors might occasionally be communicated unless such communication is prevented by adequate positive-pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.	**Group A** Atmospheres containing acetylene. **Group B** Atmospheres containing hydrogen or other materials with similar characteristics. **Group C** Atmospheres containing ethylene or other materials with similar characteristics. **Group D** Atmospheres containing butane, gasoline, natural gas and propane.	Within this classifications there are the petroleum refineries, petrol pumps and stowages; plants for dry cleaning where could be present vapours coming out from the cleaning fluids; hangars for airplanes and petrol stations; areas for the stowage and distribution of LP gas or natural gas. All these areas require special equipments and components homologated in Class I.
Class II (Art. 502 of NEC) Locations hazardous because of the presence of combustible dust.	**Division 1** Locations in which combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures. Or where mechanical failure or abnormal operation of machinery or equipment might cause such explosive or ignitable mixtures to be produced, and might also provide a source of ignition through simultaneous failure of electric equipment, through operation of protection devices, or from other causes. Or in which Group E combustible dusts may be present in quantities sufficient to be hazardous. **Division 2** Locations in which combustible dust due to abnormal operations may be present in the air in quantities sufficient to produce explosive or ignitable mixtures. Or where combustible dust accumulations are present but are normally insufficient to interfere with the normal operation of electrical equipment or other apparatus, but could as a result of infrequent malfunctioning of handling or processing equipment become suspended in the air. Or in which combustible dust accumulations on, in, or in the vicinity of the electrical equipment could be sufficient to interfere with the safe dissipation of heat from electrical equipment, or could be ignitible by abnormal operation or failure of electrical equipment.	**Group E** Atmospheres containing metal dusts such as aluminium or magnesium dust. **Group F** Atmospheres containing explosive dusts such as carbon dust. **Group G** Atmospheres containing flour, starch, grain and similar materials.	Within this classification are transport systems for grain, mills, system for flour production; systems for the production, the use of the storage of aluminium or magnesium dusts; machinery for the manufacturing of plastics, medicinal, fireworks; systems for sweets production and sugar processing; plants for carbon treatment and transformation.

Type of location	Hazardous condition	Nature of the material	Examples
Class III (Art. 503 of NEC) Locations hazardous because of the presence of easily ignitable fibers or flyings, but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitible mixtures.	**Division 1** Locations in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured, or used. **Division 2** Locations in which easily ignitable fibers are stored or handled other than in the process of manufacture.	No group.	Within this classifications are included the systems for the production of fabrics or for cotton processing; machinery for wood processing or cutting and for the production of sawdust or fiber glass.

With explicit reference to the chapter concerning the degrees of protection of the enclosures, the standards concerning the hazardous locations define the TYPE of enclosures which can be used for such locations.

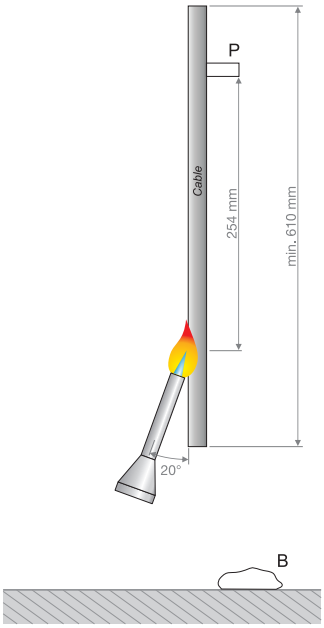
Table M.2. NEMA classification of enclosures to be used in the hazardous locations

Type	Type of enclosures for indoor use in hazardous locations
NEMA 7	Enclosures for indoor use in locations classified as Class I, Division 1, Group A, B, C or D. Enclosures constructed to contain internal explosions without causing external damages.
NEMA 8	Enclosures for indoor or outdoor use in locations classified as Class I, Division 1, Group A, B, C or D. Enclosures constructed to prevent the combustion through the use oil-immersed equipment.
NEMA 9	Enclosures for indoor or outdoor use in locations classified as Class I, Division 1, Group A, B, C or D. Enclosures constructed to prevent the combustion through the use oil-immersed equipment.
NEMA 10	Enclosures meeting the requirements of the Mine Safety and Health Administration, 30 CFR, Part. 18. Enclosures constructed to contain internal explosions without causing external damages.

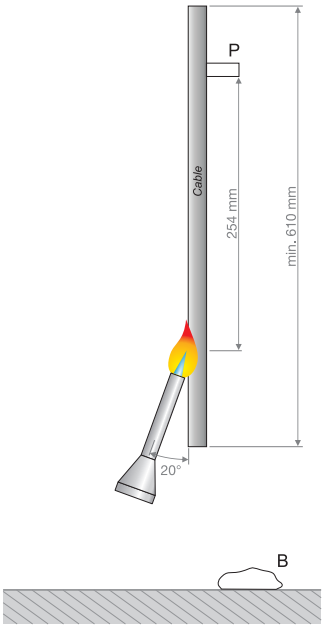
Appendix N. Cables and wires' flame resistance tests

Flammability tests and determination of combustion products are vital to cable technology. They provide information on how fire spreads along the cable as well as on the potential threats to people and materials in the event of a cable fire.
In order to make sure that a particular cable meets the necessary flammability requirements, a wide range of different testing procedures are often used. These procedures are typically performed in either the vertical or horizontal orientation, on single cables or on group cables.

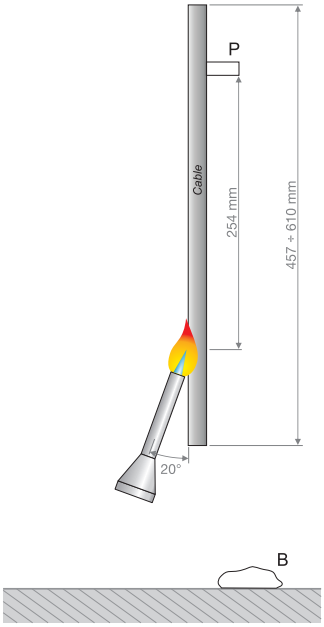
Test method	**UL 1581 – Par. 1080 – VW-1 (Vertical Specimen) Flame test** **UL 2556 – Par. 9.4 – FV-2/VW-1**
Description	The cable is secured vertically. A burner is used to apply the flame and it is secured at an angle of 20° in respect to the vertical.
Duration	15 s of flame application and 15 s of pause for 5 cycles. When flaming of the specimen persists longer than 15 s after removal of the burner flame, the burner flame shall not be re-applied until immediately after the flaming ceases.
Compliance	The paper indicator flag (P) shall not be burned more than 25% and the specimen shall not continue to burn for more than 60 s. Dripping material shall not ignite the cotton wool underneath (B).



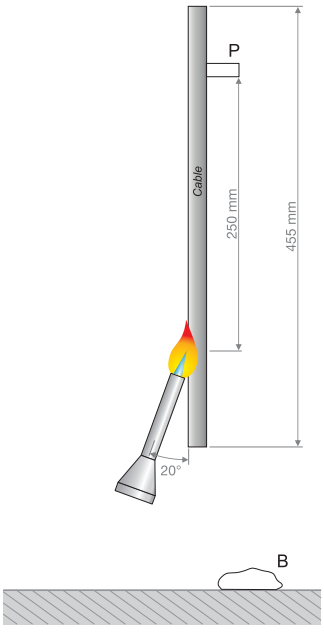
Test method	**UL 1581 – Par. 1060 – Vertical Flame** **UL 2556 – Par. 9.5 – FV-1/Vertical flame**
Description	The cable is secured vertically. A burner is used to apply the flame and it is secured at an angle of 20° in respect to the vertical.
Duration	15 s of flame application and 15 s of pause for 5 cycles. The burner flame shall be reapplied after 15 s, regardless of whether flaming of the specimen persists longer than 15 s.
Compliance	The paper indicator flag (P) shall not be burned more than 25% and the specimen shall not continue to burn for more than 60 s. Dripping material shall not ignite the cotton wool underneath (B).



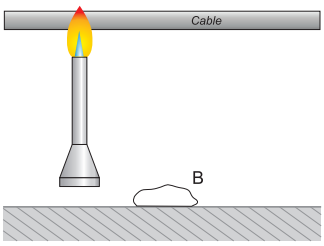
Test method	**UL 1581 – Par. 1060 – FT1** **UL 2556 – Par. 9.3 – FT1**
Description	The cable is secured vertically. A burner is used to apply the flame and it is secured at an angle of 20° in respect to the vertical.
Duration	15 s of flame application and 15 s of pause for 5 cycles. The burner flame shall be reapplied after 15 s, regardless of whether flaming of the specimen persists longer than 15 s.
Compliance	The paper indicator flag (P) shall not be burned more than 25% and the specimen shall not continue to burn for more than 60 s. Dripping material or the ignition of the cotton wool underneath (B) are ignored for the compliance of this test.



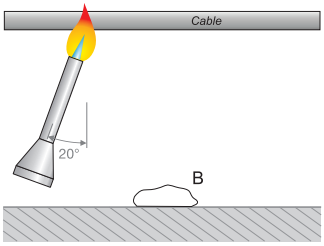
Test method	**UL 1581 – Par. 1061 – Cable Flame test**
Description	The cable is secured vertically. A burner is used to apply the flame and it is secured at an angle of 20° in respect to the vertical.
Duration	60 s of flame application and 30 s of pause for 3 cycles. The burner flame shall be reapplied after 30 s, regardless of whether flaming of the specimen persists longer than 30 s.
Compliance	The paper indicator flag (P) shall not be burned more than 25% and the specimen shall not continue to burn for more than 60 s. Dripping material shall not ignite the cotton wool underneath (B).



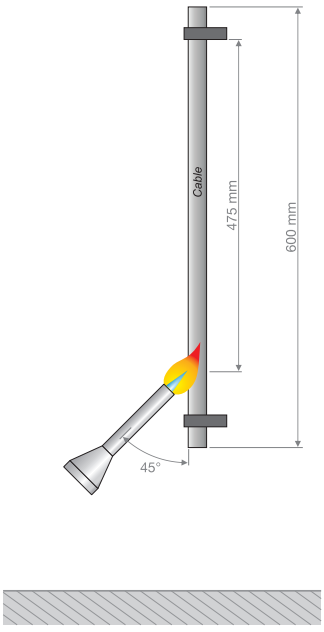
Test method	UL 1581 – Par. 1090 – Horizontal-Specimen Appliance-Wire Flame Test
Description	The cable is secured horizontally. A burner is used to apply the flame and it is secured vertically.
Duration	30 s of flame application.
Compliance	The flame propagation speed must not exceed 25 mm/min. Dripping material shall not ignite the cotton wool (B) placed next to the burner.



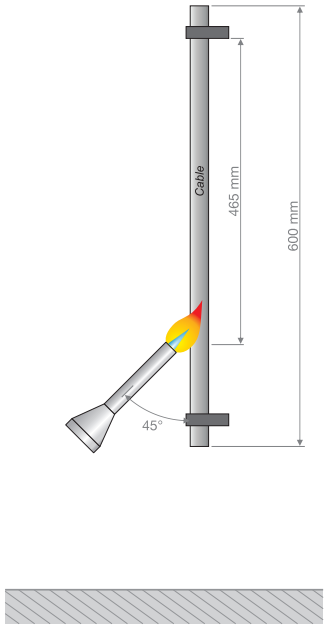
Test method	UL 1581 – Par. 1100 – Horizontal-Specimen / FT2 Flame Test UL 2556 – Par. 9.1 – FT2/FH/Horizontal flame
Description	The cable is secured horizontally. A burner is used to apply the flame and it is secured at an angle of 20° in respect to the vertical.
Duration	30 s of flame application.
Compliance	The length of the carbonized specimen has to be no greater than 100 mm. Dripping material shall not ignite the cotton wool (B) placed next to the burner.



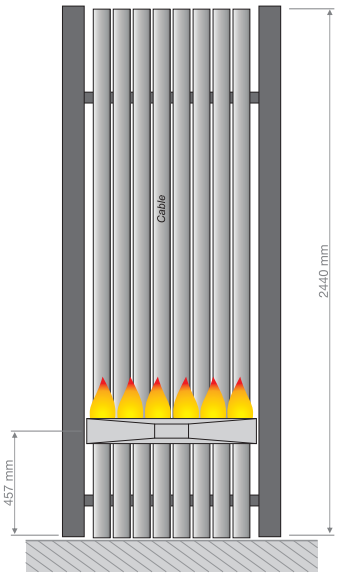
Test method	IEC 60332-1-2 / EN 60332-1-2
Description	The cable is secured vertically. A burner is used to apply the flame and it is secured at an angle of 45° in respect to the vertical.
Duration	Based on the cable diameter: 60 s (D≤25 mm), 120 s (25<D≤50 mm), 240 s (50<D≤75 mm), 480 s (D>75 mm)
Compliance	The fire damage must end at least 50 mm below the upper fixing clamp. The cable must be self-extinguishing.



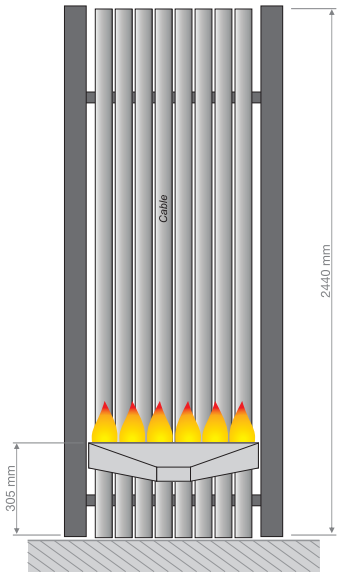
Test method	IEC 60332-2-2 / EN 60332-2-2
Description	The cable is secured vertically. A burner is used to apply the flame and it is secured at an angle of 45° in respect to the vertical.
Duration	20 s
Compliance	The fire damage must end at least 50 mm below the upper fixing clamp. The cable must be self-extinguishing



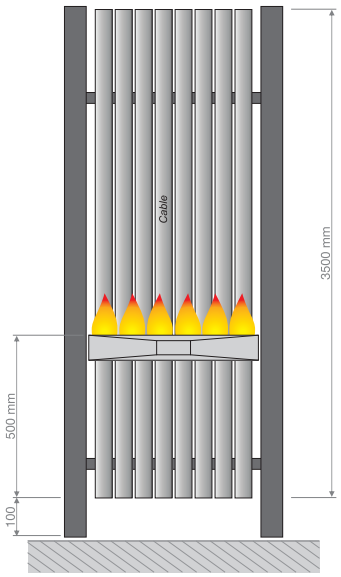
Test method	UL 2556 – Par. 9.6 – Vertical tray (Method 1) UL 1581 – Par. 1160 – Vertical Tray Flame Test UL 1685
Description	The cables are secured vertically to a ladder in a single layer. A burner is used to apply the flame and it is secured horizontally.
Duration	20 min of flame application for 2 tests.
Compliance	The damage height of all specimens shall be less than 2440 mm when measured from the bottom of the tray.



Test method	UL 2556 – Par. 9.6 – FT4 (Method 2)
Description	The cables are secured vertically to a ladder in a single layer. A burner is used to apply the flame and it is secured at an angle of 20° in respect to the vertical.
Duration	20 min of flame application for 2 tests.
Compliance	The damage height of all specimens shall be less than 1500 mm when measured from the bottom edge of the burner.



Test method	IEC 60332-3-24 / EN 60332-3-24
Description	The cables are secured vertically to a ladder also in several layers. A burner is used to apply the flame and it is secured horizontally.
Duration	20 min
Compliance	The damage height of all specimens shall be less than 2500 mm when measured from the bottom of the tray.



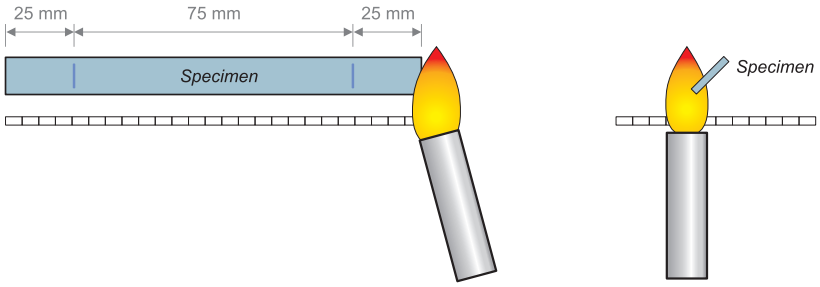
Appendix O. Flammability rating for plastic materials

UL 94 is the Standard which defines the tests for flammability of plastic materials for parts in devices and appliances.
The standard classifies plastics according to how they burn in various orientations and thicknesses, from the least flame-retardant to most flame-retardant.

Class HB – Horizontal burning test

The specimen is placed horizontally and exposed to a Bunsen burner flame (h = 20 mm) for 30 seconds.
Any ignition or burning is noted. A HB classification is awarded on the basis of the burning rate of specimens (6 test specimens 125 mm x 13 mm) up to 13 mm thick.
Assessment criteria for UL 94 HB are:
- burning rate of specimens between 3 and 13 mm thick over a distance of 75 mm is ≤ 40 mm/min or
- burning rate of specimens up to 3 mm thick over a distance of 75 mm is ≤ 75 mm/min or
- burning must cease before the 100 mm mark.

Figure O.1. Horizontal burning test

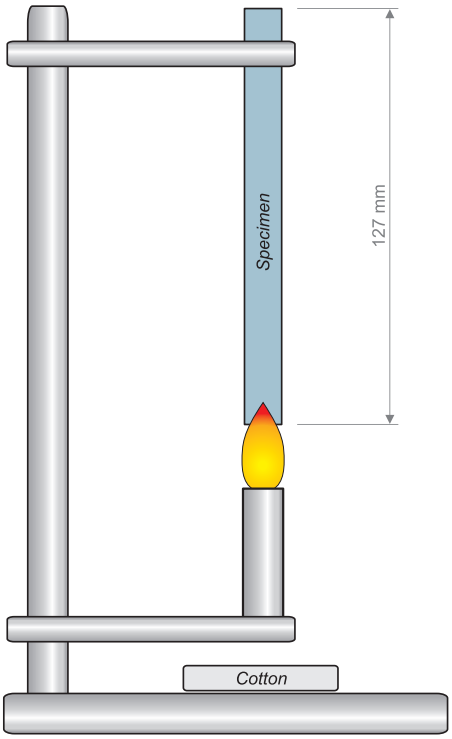


Class V0, V1 e V2 – Vertical burning test

In this test the specimen is placed vertically and exposed to a Bunsen burner flame (h = 20) for two periods of 10 seconds (the second period is applied after extinction).
The assessment criteria are burning time, total burning time and the dropping of burning particles of specimens (10 test specimens 125 mm x 13 mm) up to 13 mm thick as follows.

Classification	V0	V1	V2
Burning time after each flame application	≤ 10 sec	≤ 30 sec	≤ 30 sec
Total burning time per batch	≤ 50 sec	≤ 250 sec	≤ 250 sec
Burning up to the clamp	No	No	No
Burning and glowing time after second flame application	≤ 30 sec	≤ 60 sec	≤ 60 sec
Ignition of cotton wadding	No	No	Yes

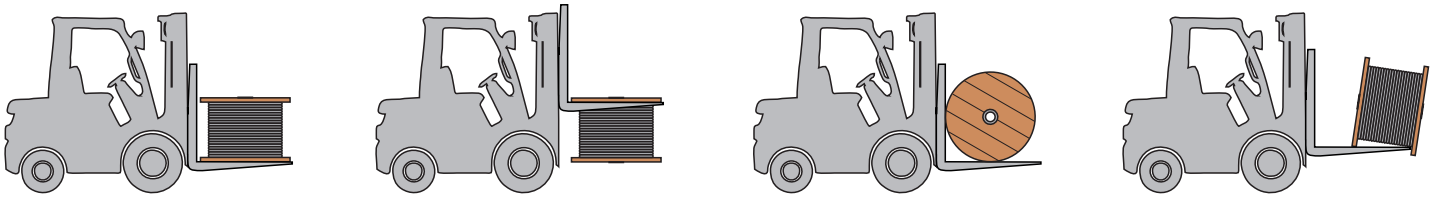
Figure O.2. Vertical burning test



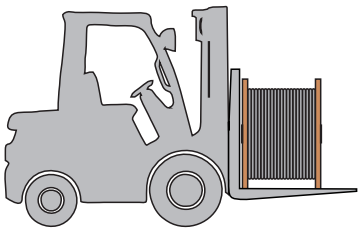
Appendix P. Cables' transportation, storage and handling

P.1 Transportation and storage

Reasonable precautions must be taken in consideration to avoid damage to the cable and injury to people. Lifting and moving operations must be carried out in accordance with the relevant local regulations or codes of practice. Always pay attention to the weight of the drum, the method and direction of rolling and the method of handling and lifting. All reels or drums must be transported on their sides and are not allowed to lie on the flange.

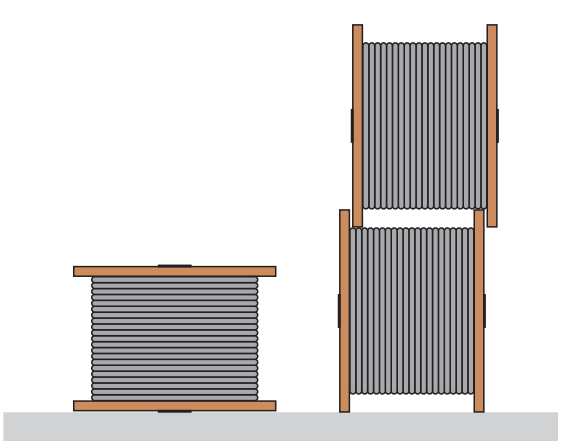


Wrong

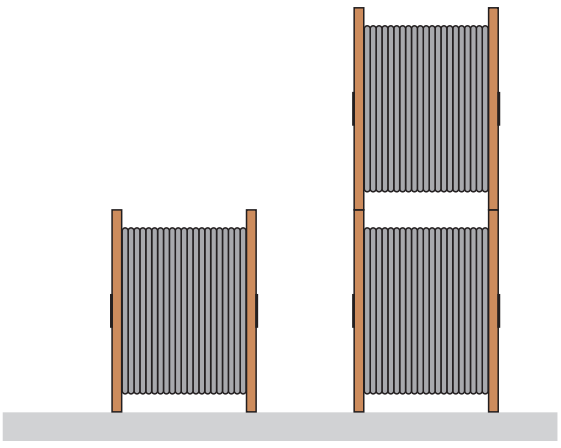


Correct

Cable drums should be stored so that the drum flanges do not contact cable on another drum. Drums should be stored on a level surface, on the flange edges (not with the flange flat on the ground) and restricted from rolling.



Wrong

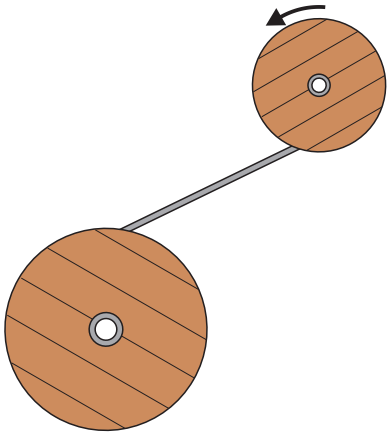


Correct

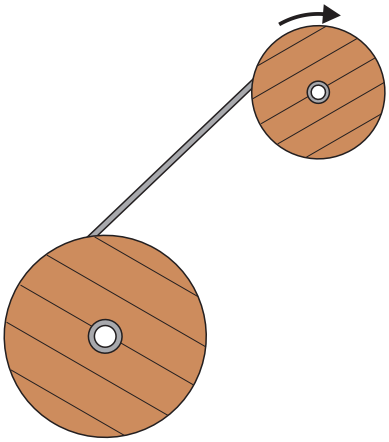
Cables should not be exposed to large temperature fluctuations and wherever possible must be stored indoor. Cables stored in wet location must be protected by sealing the exposed end with heat shrinkable end caps. Cables stored at temperatures below the ones recommended for installation, should not be subject to any mechanical stress, impacts, bending or torsions. Cables should be stored in a dry and frost-free locations. Cables with colored outer jacket should not be stored in direct sunlight to prevent damages and fading of the color. Cables should be protected against direct sun light with suitable protection package such as black plastic lagging. The cables must not be placed in contact with chemicals and corrosive media.

P.2 Handling

Prior to installation, the cables must be kept in-house storage for at least 24 hours to reach the temperature recommended for installation. Cables should be operated on clean floor without metal or wooden parts, nails, etc. to avoid any damage.
At very cold temperatures the material stiffens and becomes inflexible and irreparable damage can occur. Since the mechanical strain on the cable in its laid form is significantly less than the one during laying and use, the permissible minimum temperature is lower than the temperature valid for the installation period. Unless otherwise specified, minimum laying temperature is -5°C for PVC jacketed cables, -20°C for PE jacketed cables and it is +5°C for winding/unwinding process.
Spooling from the top of one reel to the bottom of the other will induce a twist in the cable. Always maintain direction of cable wraps throughout spooling system. Unless otherwise specified, the maximum tensile stress of the copper conductors during installation should be 50 N/mm² which as to be considered as the sum of the static and dynamic stress; residual stress after installation for fixed application should be 10 N/mm². Cables must never be bend to a radius tighter than the minimum bending radius specified in the technical datasheets.

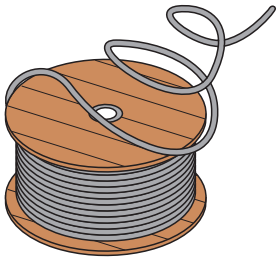


Wrong

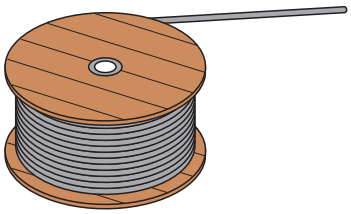


Correct

During unwinding, a straight torsion-free guiding has to be observed and the cable has to be fixed and connected torsion-free. Cables must never be unwound off over the drum flange, this will causes kinks and may results in cable damages.



Wrong



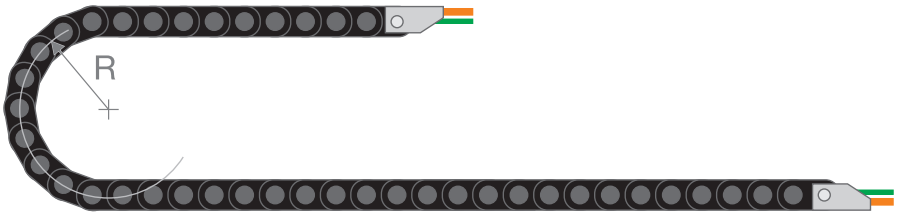
Correct

P.3 Use of cables in drag-chain

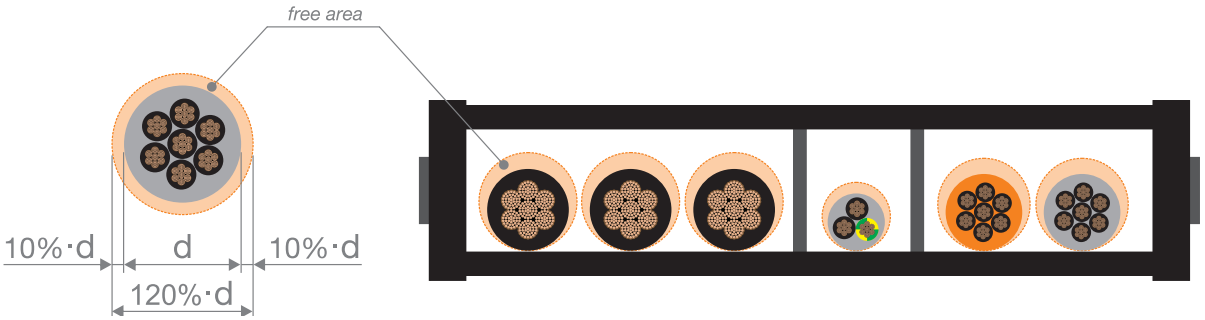
For dynamic applications, cables in drag-chain (also called energy chain, cable track, cable carrier) can be used. A drag-chain is a mechanical system designed to carry, protect and guide power, control, signal cables and hydraulic or pneumatic hoses in dynamic applications to transfer power and signal between two points in relative movement (translation, rotation or both) to each other.

Following instructions are suggested for a proper installation of cables in drag-chain.

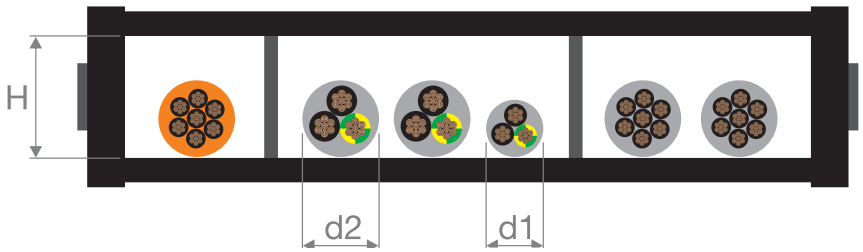
- The cables must be selected extremely carefully. Always use only cables which are suitable for the specific drag-chain application.
- Cables should be stored in closed space and within the temperature range given in the technical datasheet. The cable temperature should not be below +5°C during installation.
- The minimum bending radius R must always be respected. The cable with the largest diameter must be used for dimensioning the minimum bending radius of the drag-chain.



- The total cross-section of the drag-chain should be filled not more than 80%. Allow a free space around the cable of at least 10% of the diameter.



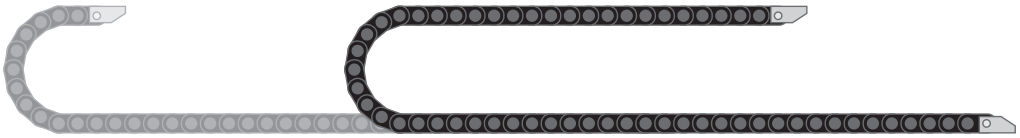
- The cable must not cross another and must not be placed on top of another. Single layer of cables should be preferred over multi-layer arrangement. Dividing bars should be installed between the layers of multi-layer cable arrangement. Cables with different diameters, jacket material or conducting material should be installed separately with dividing bars (separators). If this is not possible verify that the internal space of the drag-chain does not allow cables to be twisted (H < d1 + d2).



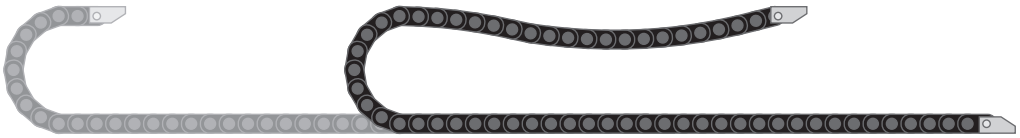
- Cables must be able to move freely also around the bending radius. The cables must never be fixed or tied together in the chain.
- Cables must be laid in drag chains without any inducted torsion (twisting) or load. It is suggested to lay or, better, hang the cables before use in order to release any possible twist.
- Before and after fixing cables, it is suggested to operate the drag-chain for few cycles in order to verify free movements, spaces around the cables and to bring the cables in a neutral position.
- A certain amount of loose cable (reserve) must be guaranteed on both ends of the drag-chain. Avoid keeping the movement up to the utility. Install cable fixation devices (cable clamps, cable ties, fixation profiles) at the moving end and at the fixed point.
- Verify periodically the cables: check overlaps, torsions or stretching. Replace all the cables after failure of a drag-chain.

The drag-chain configurations are depending on the travel distance, the fill weight, the drag-chain type and the applications.

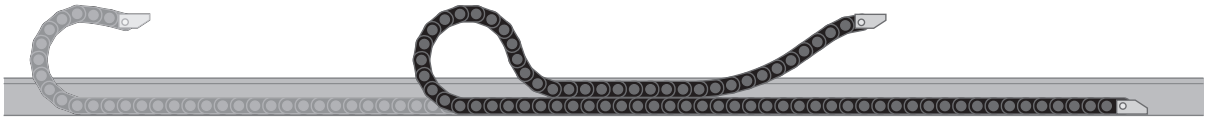
Unsupported (or self-supported).
When the upper run of the drag-chain operates without touching the lower run along the entire travel. This configuration allow higher speed and acceleration and less cable and drag-chain stress, lifetime is longer.

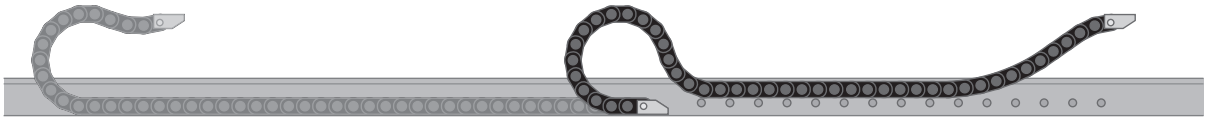


Unsupported with sag (or self-supported with sag).
When the upper run of the drag-chain operates with a sag. This configuration allow longer travel distances but must be operated with lower speed and acceleration and the lifetime is reduced.



Gliding (or sliding).
In the case of long travel lengths, the upper run of the drag-chain glides on its lower run. Beyond the fixed point the drag-chain glides on the sliding surface (support) of the guide channel which is required to prevent the upper run from slipping off the lower run.





Appendix Q. Tables of Color

Q.1 Colors of conductors according to their function

Table Q.1. Colors of conductors according to their function

Function	International codification	North American codification
N-Neutral (Neutral)	Light blue	White
L-Live (Phase)	Brown	Black
E-Earth or Ground	Yellow/Green	Green or Yellow /Green

Q.2 Colors of conductors according to DIN 47100

Table Q.2a. Colors of conductors according to DIN 47100 – Multicore cables

Conductor ID	Color
1	White
2	Brown
3	Green
4	Yellow
5	Gray
6	Pink
7	Blue
8	Red
9	Black
10	Violet
11	Gray/Pink
12	Red/Blue
13	White/Green
14	Brown/Green
15	White/Yellow
16	Yellow/Brown
17	White/Gray
18	Gray/Brown
19	White/Pink
20	Pink/Brown
21	White/Blue
22	Brown/Blue
23	White/Red
24	Brown/Red
25	White/Black
26	Brown/Black
27	Gray/Green
28	Yellow/Gray
29	Pink/Green
30	Yellow/Pink
31	Green/Blue
32	Yellow/Blue
33	Green/Red
34	Yellow/Red
35	Green/Black
36	Yellow/Black
37	Gray/Blue
38	Pink/Blue
39	Gray/Red
40	Pink/Red
41	Gray/Black
42	Pink/Black
43	Blue/Black
44	Red/Black

Table Q.2b. Colors of conductors according to DIN 47100 – Muticore cables in pairs

Pairs ID	Conductor 1 color	Conductor 2 color
1	White	Brown
2	Green	Yellow
3	Gray	Pink
4	Blue	Red
5	Black	Violet
6	Gray/Pink	Red/Blue
7	White/Green	Brown/Green
8	White/Yellow	Yellow/Brown
9	White/Gray	Gray/Brown
10	White/Pink	Pink/Brown
11	White/Blue	Brown/Blue
12	White/Red	Brown/Red
13	White/Black	Brown/Black
14	Gray/Green	Yellow/Gray
15	Pink/Green	Yellow/Pink
16	Green/Blue	Yellow/Blue
17	Green/Red	Yellow/Red
18	Green/Black	Yellow/Black
19	Gray/Blue	Pink/Blue
20	Gray/Red	Pink/Red
21	Gray/Black	Pink/Black
22	Blue/Black	Red/Black

Q.3 Colors of conductors according to CEI UNEL 00722

Table Q.3a. Colors of conductors according to CEI UNEL 00722:2002 – Multicore cables without Yellow/Green conductor

Num. of conductors	Conductor 1	Conductor 2	Conductor 3	Conductor 4	Conductor 5	Conductor 6÷n
2	Blue	Brown				
3	Brown	Black	Gray			
4	Blue	Brown	Black	Gray		
5	Blue	Brown	Black	Gray	Black	
>5	Black numbered					

Table Q.3b. Colors of conductors according to CEI UNEL 00722:2002 – Multicore cables with Yellow/Green conductor

Num. of conductors	Conductor 1	Conductor 2	Conductor 3	Conductor 4	Conductor 5	Conductor 6÷n
3	Yellow/Green	Blue	Brown			
4	Yellow/Green	Brown	Black	Gray		
5	Yellow/Green	Blue	Brown	Black	Gray	
>5	Black numbered + Yellow/Green					

Q.4 Colors of conductors according to UL508a

Table Q.4a. Colors of conductors according to UL 508a - Rev. 2007-2018, requirements for all kind of control panels (17.3 Identification of Grounding and Grounded Circuit Conductors and Terminals)

Color	Function
Green (or Yellow/Green)	Ground conductor

Table Q.4b. Colors of conductors according to UL 508a - Rev. 2007-2018, requirements for power circuit conductors of control panels (66.5 Internal wiring - power circuits)

Color	Function
Black	Ungrounded power circuit conductors
White or gray or three continuous white stripes on other than green, blue, orange or yellow	Grounded alternate current power circuit conductors

Table Q.4c. Colors of conductors according to UL 508a - Rev. 2007-2018, requirements for control circuit conductors of control panels (66.9 Internal wiring of control circuit)

Color	Function
Black	All ungrounded control circuit conductors operating at the supply voltage
Red	Ungrounded alternate current control circuits operating at a voltage less than the supply voltage
Blue	Ungrounded direct current control circuit conductor
Yellow or Orange	Ungrounded control circuits or other wiring, such as for cabinet lighting, that remain energized when the main disconnect is in the “off” position.
White or gray or three white stripes on other than green, blue, orange or yellow	Grounded alternate current control circuit conductor
White with blue stripe	Grounded direct current control circuit conductor

Q.5 Colors of conductors according to NFPA 79

Table Q.5. Colors of conductors according to NFPA 79 - Ed. 2007-2018 - 13.2 Identification of Conductors

Color	Function
Black	Ungrounded alternate and direct current power conductors
Red	Ungrounded alternate current control circuit conductors
Blue	Ungrounded direct current control circuit conductors
Orange	Ungrounded conductors that remain energized when the main supply circuit disconnecting means is in the “off” position
Green (or Yellow/Green)	Grounded conductors
White with orange stripes	Grounded alternate current circuit conductors that remain energized when the main supply circuit disconnecting means is in the “off” position
White or gray or three white stripes on other than green, blue or orange	Grounded alternate current control circuit conductor
White with blue stripe	Grounded direct current control circuit conductor

Q.6 Colors of conductors according to EN 60204-1

Table Q.6. Colors of conductors according to IEC 60204-1:2016

Color	Function
Black	Ungrounded alternate and direct current power conductors
Red	Ungrounded alternate current control circuit conductors
Blue	Ungrounded direct current control circuit conductors
Yellow/Green	Grounded conductors

Q.7 Colors of conductors according to ICEA (Insulated Cable Engineers Association)

Table Q.7a. Colors of conductors according to ICEA (Insulated Cable Engineers Association) – Method 1, table E-1

Conductor ID	Color	Conductor ID	Color	Conductor ID	Color	Conductor ID	Color	Conductor ID	Color
1	Black	11	Blue/Black	21	Orange/Green	31	Green/Black/Orange	41	Green/White/Blue
2	White	12	Black/White	22	Black/White/Red	32	Orange/Black/Green	42	Orange/Red/Green
3	Red	13	Red/White	23	White/Black/Red	33	Blue/White/Orange	43	Blue/Red/Green
4	Green	14	Green/White	24	Red/Black/White	34	Black/White/Orange	44	Black/White/Blue
5	Orange	15	Blue/White	25	Green/Black/White	35	White/Red/Orange	45	White/Black/Blue
6	Blue	16	Black/Red	26	Orange/Black/White	36	Orane/White/Blue	46	Red/White/Blue
7	White/Black	17	White/Red	27	Blue/Black/White	37	White/Red/Blue	47	Green/Orange/Red
8	Red/Black	18	Orange/Red	28	Blacke/Red/Green	38	Black/White/Green	48	Orange/Red/Blue
9	Green/Black	19	Blue/Red	29	White/Red/Green	39	White/Black/Green	49	Blue/Orange/Red
10	Orange/Black	20	Red/Green	30	Red/Black/Green	40	Red/White/Green	50	Black/Orange/Red

Table Q.7b. Colors of conductors according to ICEA (Insulated Cable Engineers Association) – Method 1, table E-2

Conductor ID	Color	Wire	Color
1	Black	17	Black/Blue
2	Red	18	Red/Blue
3	Blue	19	Orange/Blue
4	Orange	20	Yellow/Blue
5	Yellow	21	Brown/Blue
6	Brown	22	Black/Orange
7	Red/Black	23	Red/Orange
8	Blu/Black	24	Blue/Orange
9	Orange/Black	25	Yellow/Orange
10	Yellow/Black	26	Brown/Orange
11	Brown/Red	27	Black/Yellow
12	Black/Red	28	Red/Yellow
13	Blue/Red	29	Blue/Yellow
14	Orange/Red	30	Orange/Yellow
15	Yellow/Red	31	Brown/Yellow
16	Brown/Red	32	Black/Brown

Q.8 Colors of conductors according to internal specification Type 1-P

Table Q.8. Colors of pairs

Pair ID	Conductor 1	Conductor 2
1	White	Blue
2	White	Orange
3	White	Green
4	White	Black
5	White	Red
6	White	Gray
7	White	Brown
8	White	Yellow

Q.9 Colors of conductors according to internal specification Type 1-C

Table Q.9. Colors of pairs

Pair ID	Conductor 1	Conductor 2
1	Black	Red
2	Black	White
3	Black	Green
4	Black	Blue
5	Black	Yellow
6	Black	Brown

Q.10 Colors of conductors according to internal specification Type 1-T

Table Q.10. Colors of pairs

Pair ID	Conductor 1	Conductor 2
1	Yellow	Blue
2	Red/White	Black/White
3	Red	Black
4	White	Blue
5	Red	White
6	Red/White	White

Q.11 Colors of conductors according to internal specification Type 2-C

Table Q.11a. Colors of pairs 0,35 mm²

Pair ID	Conductor 1	Conductor 2
1	Yellow	Pink
2	White	Blue
3	Violet	Brown

Table Q.11b. Colors of pairs 0,5 mm²

Pair ID	Conductor 1	Conductor 2
1	Red	Black

Q.12 Colors of conductors according to internal specification Type 3-P

Table Q.12a. Colors of pairs

Pair ID	Conductor 1	Conductor 2
1	Green	White/Green
2	Blue	White/Blue
3	Orange	White/Orange

Table Q.12b. Colors of conductors

Conductor ID	Color
1	Red
2	Black
3	Yellow/Green

Q.13 Colors of conductors according to internal specification Type 4-C

Table Q.13a. Colors of pairs 0,25 mm²

Pair ID	Conductor 1	Conductor 2
1	Brown	Green
2	Gray	Pink
3	Blue	Violet
4	Red	Black

Table Q.13b. Colors of pairs 1 mm²

Pair ID	Conductor 1	Conductor 2
1	White	Brown

Q.14 Colors of conductors according to internal specification Type 5-P

Table Q.14a. Colors of pairs

Pair ID	Conductor 1	Conductor 2
1	Red	Orange
2	Yellow	Green
3	Blue	Violet
4	Brown	Black

Table Q.14b. Colors of conductors

Pair ID	Color
1	White/Blue
2	White/Red
3	White/Black
4	White/Yellow

Q.15 Colors of conductors according to internal specification Type 6-T

Table Q.15a. Colors of pairs

Pair ID	Conductor 1	Conductor 2
1	White	Yellow
2	White	Blue
3	White	Rosso
4	White	Green

Q.16 Colors of conductors according to internal specification Type 7-P

Table Q.16a. Colors of pairs

Pair ID	Conductor 1	Conductor 2
1	Blue	Black

Table Q.16b. Colors of conductors

Conductor ID	Color
1	Black
2	Violet
3	Pink
4	Brown
5	Green
6	Yellow
7	White
8	Blue

Q.17 Colors of conductors according to internal specification Type 8-C

Table Q.17a. Colors of pairs 0,14 mm^2

Pair ID	Conductor 1	Conductor 2
1	Green	Yellow
2	Black	Brown
3	Gray	Pink

Table Q.17b. Colors of pairs 0,5 mm^2

Pair ID	Conductor 1	Conductor 2
1	White	Brown

Q.18 Colors of conductors according to internal specification Type 9-P

Table Q.18a. Colors of pairs 0,14 mm^2

Pair ID	Conductor 1	Conductor 2
1	Yellow	Green
2	Black	Brown
3	Red	Orange

Table Q.18b. Colors of pairs 0,5 mm²

Pair ID	Conductor 1	Conductor 2
1	Brown/Blue	Brown/Red

Table Q.18c. Colors of pairs 0,14 mm²

Pair ID	Conductor 1	Conductor 2
1	Gray	White/Yellow
2	Blue	White/Black

Table Q.18d. Colors of pairs 0,25 mm²

Pair ID	Conductor 1	Conductor 2
1	Brown/Yellow	Green/Black
2	Brown/Gray	Green/Red

Q.19 Colors of conductors according to internal specification Type 10-P

Table Q.19. Colors of pairs

Pair ID	Conductor 1	Conductor 2
1	Black	Green
2	Red	Blue

Q.20 Colors of conductors according to HD 308 S2

Table Q.20a. Color of conductors with yellow/green conductor according to HD 308 S2

Num. of conductors	Conductor 1	Conductor 2	Conductor 3	Conductor 4	Conductor 5
3	Yellow/Green	Blue	Brown	-	-
4	Yellow/Green	Brown	Black	Gray	-
4*	Yellow/Green	Blue	Brown	Black	-
5	Yellow/Green	Blue	Brown	Black	Gray

* For certain applications.

Table Q.20b. Color of conductors without yellow/green conductor according to HD 308 S2

Num. of conductors	Conductor 1	Conductor 2	Conductor 3	Conductor 4	Conductor 5
2	Blue	Brown	-	-	-
3	Brown	Black	Gray	-	-
3*	Blue	Brown	Black	-	-
4	Blue	Brown	Black	Gray	-
5	Blue	Brown	Black	Gray	Black

* For certain applications.

Appendix R. Standard reference

Table R1. List of the main references standards

Standard	Description
ANSI C37.20	Switch gear assemblies and metal-enclosed bus
ANSI C80.1	Electrical Rigid Steel Conduit (ERSC)
ANSI C80.3	Steel Electrical Metallic Tubing (EMT)
ANSI C80.6	Electrical Intermediate Metal Conduit (EIMC)
ANSI Z535-4	Product Safety Signs and Labels
ANSI/NFPA 70	National Electrical Code
ANSI/NFPA 79	Electrical Standard for Industrial Machinery
ASTM A123/123M	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM-D 1000	Standard Test Method for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications
ASTM-D 149	Standard Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
ASTM-D 150	Standard Test Methods for AC Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation
ASTM-D 2303	Standard Test Methods for Liquid-Contaminant, Inclined-Plane Tracking and Erosion of Insulating Materials
ASTM-D 257	Standard Test Methods for DC Resistance or Conductance of Insulating Materials
ASTM-D 2671	Standard Test Methods for Heat-Shrinkable Tubing for Electrical Use
ASTM-D 412	Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension
ASTM-D 570	Standard Test Method for Water Absorption of Plastics
ASTM-D 635	Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
ASTM-D 638	Standard Test Method for Tensile Properties of Plastics
ASTM-D 792	Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM-E 28	Standard Test Methods for Softening Point of Resins Derived from Naval Stores by Ring-and-Ball Apparatus
ASTM-G 21	Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi
ASTM-G 53	Practice for Operating Light- and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials
CEI 15-26	Electrical insulation. Thermal evaluation and designation
CSA C22.2 No. 227.2.1-04	Liquid-Tight Flexible Nonmetallic Conduit
CSA C22.2 No. 227.3-05	Nonmetallic Mechanical Protection Tubing (NMPT)
CSA C22.2 No. 83.1-07	Electrical Metallic Tubing - Steel
CSA C22.2 No.126.1-09	Metal cable tray systems
DIN 40050	Road vehicles; degrees of protection (IP-code); protection against foreign objects; water and contact; electrical equipment
DIN 53474	Testing of plastics, rubber and elastomers - Determination of the chlorine content
EN 60228	Conductors of insulated cables
EN 60243	Electrical Strength of Insulating Materials – Test Methods
EN 60529	Specification for degrees of protection provided by enclosures (IP code)
EN 60707	Flammability of solid non-metallic materials when exposed to flame sources. List of test methods.
EN 61386	Conduit systems for cable management.
EN 61537	Cable management. Cable tray systems and cable ladder systems.
FMVSS 302	Flammability of Interior Materials - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses
IEC 60684-2	Flexible insulating sleeving
ISO 180/1C	Plastics - Determination of Izod impact strength
ISO 37	Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties
ISO 527	Determination of tensile properties
ISO R 1183	Plastics - Methods for determining the density and relative density (specific gravity) of plastics excluding cellular plastics
ISO R 527	Plastics - Determination of tensile properties
ISO-62	Plastics - Determination of water absorption
NEMA 250	Enclosures for Electrical Equipment (1000 Volts Maximum)
NEMA FB1	Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable
NEMA VE 1	Metal Cable Tray Systems
NEMA VE 2	Cable Tray Installation Guidelines
NEMA WD-6	Locking Plugs and Receptacles
UL 1	Flexible Metal Conduit
UL 1063	Machine-Tool Wires and Cables
UL 1242	Electrical Intermediate Metal Conduit - Steel
UL 1563	Metal-Cald Cables
UL 1581	Reference Standard for Electrical Wires, Cables, and Flexible Cords
UL 1598	Luminaires
UL 1660	Liquid-Tight Flexible Nonmetallic Conduit

Standard	Description
UL 1685	Vertical-Tray Fire-Propagation and Smoke-Release Test for Electrical and Optical-Fiber Cables
UL 1696	Nonmetallic Mechanical Protection Tubing (NMPT)
UL 2225	Cables and Cable-Fittings For Use In Hazardous (Classified) Locations
UL 224	Extruded Insulating Tubing
UL 248-4	Low-Voltage Fuses - Part 4: Class CC Fuses
UL 248-6	Low-Voltage Fuses - Part 6: Class H Non-Renewable Fuses
UL 248-8	Low-Voltage Fuses - Part 8: Class J Fuses
UL 248-9	Low-Voltage Fuses - Part 9: Class K Fuses
UL 360	Liquid-Tight Flexible Metal Conduit
UL 4248-12	Fuseholders - Part 12: Class R
UL 4248-4	Fuseholders - Part 4: Class CC
UL 4248-6	Fuseholders - Part 6: Class H
UL 4248-8	Fuseholders - Part 8: Class J
UL 498	Attachment Plugs and Receptacles
UL 50	Enclosures for Electrical Equipment
UL 508	Industrial Control Equipment
UL 508A	Industrial Control Panels
UL 514B	Conduit, Tubing, and Cable Fittings
UL 6	Electrical Rigid Metal Conduit - Steel
UL 758	Appliance Wiring Material
UL 797	Electrical Metallic Tubing - Steel
UL 83	Thermoplastic-Insulated Wires and Cables
UL 886	Outlet Boxes and Fittings for Use in Hazardous (Classified) Locations
UL 94	Tests for Flammability of Plastic Materials for Parts in Devices and Appliances
UL 943	Ground-Fault Circuit-Interrupters
UL 969	Marking and Labeling Systems
VDE 0207	Insulating and sheathing compunds for cables and flexible cords; rubber insulating compound
VDE 0295	Conductors of cables, wires and flexible cords for power installation
VDE 0303	Electric strength of insulating materials
VDE 0472	Testing of cables, wires and flexible cords
VG 95343	Heat shrinkable components

Appendix S. Definitions

Table S.1. Abbreviations and definitions

Abbreviation	Defintion	Remarks/description
AHJs	Authorities Having Jurisdiction. An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.	
Ampacity	The maximum current, in amperes, that a conductor can carry continuously under the conditions of use without exceeding its temperature rating.	See NEC.
ANSI	American National Standards Institute	American National Standards Institute
Appliance	A piece of utilization equipment that incorporates both controls and loads (rif. UL 508a).	
Attachment Plugs, Fuseless	This category covers adapters, appliance couplers, appliance and flatiron plugs, attachment plugs, cord connectors, male inlets (equipment inlets, motor attachment plugs), non-separable attachment plugs, separable attachment plugs, shore power inlets and table taps. These devices do not incorporate switches or overcurrent protection.	
AWG	American Wire Gauge size	
AWM	Appliance Wiring Material, multitude of types and constructions for specific applications that may not meet specific or all UL requirements for a given type in a UL standard	
Branch circuit	The conductors and components following the last overcurrent protective device protecting a load (rif. UL 508a).	
Cable, Easy Tear	The cables defined as Easy Tear are characterized by sheaths with a tensile strength of less than 2.5 N/mm² for PVC and 15 N/mm² for polyethylene and elastomeric materials (polychloroprene, chlorosulfonated polymers, and similar polymers). Cables known as Easy Tear should not be used in hazardous areas unless installed in a protective conduit.	See CEI EN 60079-14.
Cable Sealing Fittings for Use in Hazardous Locations	This category covers combination termination and sealing fittings for threaded connection of cables to equipment in Class I, Division 1 and Division 2, and/or Class II, Division 1 and 2 hazardous locations, as indicated in the individual Listings. They are intended for use only with sealing compound as specified by the manufacturer in instructions furnished with the fitting. These devices are intended for use in sealing the conductors and outer jackets of Listed cables of the type indicated in the individual Listings. No splices of conductors are intended to be made in the fitting. Restrictions on position and/or location of the sealing fitting are indicated in the manufacturer's instructions.	
Cable Tray System	A unit or assembly of units or sections and associated fittings forming a structural system used to securely fasten or support cables and raceways.	See NEC.
Cable Tray, Ladder	A fabricated structure consisting of two longitudinal side rails connected by individual transverse members (rungs).	See NEMA VE 2.
Cable Tray, Solid-bottom or Non-Ventilated	A fabricated structure consisting of a bottom without ventilation openings within integral or separate longitudinal side rails.	See NEMA VE 2.
Cable Tray, Trough or Ventilated	A fabricated structure consisting of integral or separate longitudinal rails and a bottom having openings sufficient for the passage of air and utilizing 75% or less of the plan area of the surface to support cables where the maximum open spacings between cable support surfaces of transverse elements do not exceed 100 millimeter (mm) (4 inch (in)) in the direction parallel to the tray side rails.	See NEMA VE 2.
Cable Tray, Wire Mesh	A manufactured wire mesh tray consisting of steel wires welded at all intersections. Longitudinal wires located on the exterior of the tray are spaced at a maximum of 50 mm (2 in), and transverse wires are spaced at a maximum of 100 mm (4 in).	See NEMA VE 2.
Cartridge Fuses, Nonrenewable	This category covers nonrenewable cartridge-enclosed fuses, rated as follows: 250 V (0 - 600 A), 300 V (0 - 1200 A), 600 V (0 - 6000 A). The fuse classes are further categorized... These fuses are intended for use on ac circuits only, unless also marked with a dc voltage rating. These fuses are suitable for branch circuit, feeder and service overcurrent protection in accordance with ANSI/NFPA 70, "National Electrical Code". The term "current-limiting" indicates that a fuse, when tested on a circuit capable of delivering a specific short-circuit current (rms amps symmetrical) at rated voltage, will start to melt within 90 electrical degrees and will clear the circuit within 180 electrical degrees (1/2 cycle). Because the time required for a fuse to melt is dependent on the available current of the circuit, a fuse that may be current-limiting when subjected to a specific short-circuit current (rms amps symmetrical) may not be current-limiting on a circuit of lower maximum available current. Class K fuses incorporate dimensional features equivalent to, and are thus interchangeable with, Class H fuses. Class R fuses incorporate features that permit their insertion into Class H and K fuseholders. They are also provided with a feature that allows their insertion into rejection-type fuseholders designed to accept only Class RK1 or RK5 fuses. All classes covered under this category (with the exception of Class H) are further classified as to their maximum peak let-through current (IP) and maximum clearing ampere-squared seconds (I2t) as follows. These tables indicate the maximum permissible let-through values obtained when the fuse is connected to a circuit capable of providing the indicated available current.	
CEC	Canadian Electrical Code	Canadian Electrical Code reporting the installation standards
CFR	Code of Federal Regulation	American Civil Code

Abbreviation	Defintion	Remarks/description
cmil	Circular Mils	Circular Mil is the unit of area specifically used to define the circular section of a conductor or of a cable; it is the equivalent area of a circle with a diameter of 0,001 inches. To change the Circular Mils in square millimetres, multiply by $5{,}067 \cdot 10^{-4}$.
Conduit Body	A separate portion of a conduit or tubing system that provides access through a removable cover(s) to the interior of the system at a junction of two or more sections of the system or at a terminal point of the system.	See NEC.
Control circuit	A circuit that carries the electric signals directing the performance of a controller, and which does not carry the main power circuit. A control circuit is, in most cases, limited to 15 amperes (rif. UL 508a).	
CPR	Construction Product Regulation	
CSA	Canadian Standards Association	Canadian Standards Institute
EMT	Electrical Metallic Tubing. An unthreaded thinwall raceway of circular cross section designed for the physical protection and routing of conductors and cables and for use as an equipment grounding conductor when installed utilizing appropriate fittings. EMT is generally made of steel (ferrous) with protective coatings or aluminum (nonferrous).	See NEC.
Enclosure	The case or housing of apparatus, or the fence or walls surrounding an installation to prevent personnel from accidentally contacting energized parts or to protect the equipment from physical damage.	See NEC.
Field wiring	Conductors to be installed by others to connect the industrial control panel to source(s) of supply, remote control devices, and loads (rif. UL 508a).	
Flexible Metal Conduit, Liquid-tight	This category covers liquid-tight flexible metal conduit in trade sizes 3/8 to 4 (metric designators 16 to 103) inclusive, for installation in accordance with Article 350 of ANSI/NFPA 70, “National Electrical Code” (NEC). Liquid-tight flexible metal conduit is intended for use with conductors in circuits of 600 V nominal or less. This product may also be used for installation of conductors in motor circuits, and for electric signs and outline lighting in accordance with the NEC.	
Flexible Nonmetallic Conduit, Liquid-tight	This category covers liquid-tight flexible nonmetallic conduit, in trade sizes 3/8 in. to 4 (metric designators 16 to 103) inclusive, for installation in accordance with Article 356 of ANSI/NFPA 70, “National Electrical Code” (NEC), for conductors in circuits of 600 V, nominal, or less. This product may also be used for installation of conductors for electric signs and outline lighting in accordance with the NEC.	
FMC	Flexible Metal Conduit. A raceway of circular cross section made of helically wound, formed, interlocked metal strip.	See NEC.
FMT	Flexible Metallic Tubing. A raceway that is circular in cross section, flexible, metallic, and liquidtight without a nonmetallic jacket.	See NEC.
FNMC	Liquid-tight Flexible Nonmetallic Conduit	This is the alternative abbreviation of LFNC.
Fuseholders, Cartridge Fuse	This category covers fuseholders intended for use with Class CC, G, H, J, K, R and T cartridge fuses. A Class CTL (current-limiting) cartridge fuseholders has the physical size, configuration or other means which, in conjunction with the physical means provided in a Class CTL assembly, is designed to prevent the installation of more fuseholder poles than the number for which the assembly is designed and rated. An interrupting rating on a fuseholder included in a piece of equipment does not automatically qualify the equipment in which the fuseholder is installed for use on circuits with higher available currents than the rating of the equipment itself.	
GFCI	Ground-Fault Circuit Interrupter. A device intended for the protection of personnel that functions to de-energize a circuit or portion thereof within an established of time when a current to ground exceeds the values established for a Class A device.	See NEC.
HAR	Harmonized Cordage	
Industrial control panel for general use	A control panel intended to be installed in accordance with the general use requirements in Chapter 4 of the National Electrical Code, ANSI/NFPA 70 (rif. UL 508a).	
Industrial Control Panels - Component	This category covers the following component devices: - Incomplete electrical assemblies of industrial control equipment, including cabinet lighting accessories, cabinet heater accessories, ventilating fan accessories, controllers and interface connectors - Industrial control panel enclosures with standard equipment cutouts - Industrial control panel enclosure kits supplied as unassembled pieces Industrial control panel enclosure accessories, including louver kits, filter kits, observation window kits, hole seals, and gasket materials	
IMC	Intermediate Metal Conduit. A steel threadable raceway of circular cross section designed for the physical protection and routing of conductors and cables and for use as an equipment grounding conductor when installed with its integral or associated coupling and appropriate fittings.	See NEC.
ITC	Instrumentation Tray Cable	See NEC.
kcmil	Kilo Circular Mils	1 kcmil = 1000 cmil
LFMC	Liquidtight Flexible Metal Conduit. A raceway of circular cross section having an outer liquidtight, nonmetallic, sunlight-resistant jacket over an inner flexible metal core with associated couplings, connectors, and fittings for the installation of electric conductors.	See NEC.

Abbreviation	Defintion	Remarks/description
LFNC	Liquid-tight Flexible Nonmetallic Conduit. A raceway of circular cross section of various types.	See NEC.
LFNC-A	Liquid-tight Flexible Nonmetallic Conduit - Type A. A smooth seamless inner core and cover bonded together and having one or more reinforcement layers between the core and covers.	
LFNC-B	Liquid-tight Flexible Nonmetallic Conduit - Type B. A smooth inner surface with integral reinforcement within the conduit wall.	
LFNC-C	Liquid-tight Flexible Nonmetallic Conduit - Type C. A corrugated internal and external surface without integral reinforcement within the conduit wall.	
Location, Damp	Locations protected from weather and not subject to saturation with water or other liquids but subject to moderate degrees of moisture. Examples of such locations include partially protected locations under canopies, marquees, roofed open porches, and like locations, and interior locations subject to moderate degrees of moisture, such as some basements, some barns, and some cold-storage warehouses.	See NEC.
Location, Dry	A location not normally subject to dampness or wetness. A location classified as dry may be temporarily subject to dampness or wetness, as in the case of a building under construction.	See NEC.
Location, Wet	Installations underground or in concrete slabs or masonry in direct contact with the earth; in locations subject to saturation with water or other liquids, such as vehicle washing areas; and in unprotected locations exposed to weather.	See NEC.
MC	Metal Clad. Metal clad cable is a factory assembly of one or more insulated circuit conductors with or without optical fiber members enclosed in an armor of interlocking metal tape, or a smooth or corrugated metallic sheath	See NEC.
MC-HL	Metal Clad for Hazardous Locations	See NEC.
MCM	Thousands Circular Mils	MCM is an old abbreviation used to identify 1000 Circular Mils, today it is more used the abbreviation kcmil. So 300 MCM = 300 kcmil = 152 mm^2.
MTW	Machine Tool Wire, 90°C to 105°C, 600 volt rated thermoplastic insulated wire	
NEC	ANSI/NFPA 70 “National Electrical Code”	American Electrical Code reporting the installation standards
NEMA	National Electrical Manufactures Association	
NFPA	National Fire Protection Association	Firemen
NRTL	National Recognized Testing Laboratory	Certified laboratories for the issue of product standards
OSHA	Occupational Safety and Health Associetion	Federal inspection body for working safety
Overcurrent protection	A device designed to open a circuit when the current through it exceeds a predetermined value. The ampere rating of the device is selected for a circuit to terminate a condition where the current exceeds the rating of conductors and equipment due to overloads, short circuits and faults to ground (rif. UL 508a).	
Overload protection	Protection required for motor circuits that will operate to prohibit excessive heating due to running overloads and failure to start (rif. UL 508a).	
PLTC	Power-limited Tray Cable	See NEC.
Power circuit	Conductors and components of branch and feeder circuits (rif. UL 508a).	
Raceway	An enclosed channel of metallic or nonmetallic materials designed expressly for holding wires, cables, or busbars.	See NEC.
RMC	Rigid Metal Conduit. A threadable raceway of circular cross section designed for the physical protection and routing of conductors and cables and for use as an equipment grounding conductor when installed with its integral or associated coupling and appropriate fittings.	See NEC.
TC	Tray Cable. Power and control tray cable is a factory assembly of two or more insulated conductors, with or without associated bare or covered grounding conductors under a non-metallic sheath, for installation in cable tray, in raceways or where supported by a messenger wire.	See NEC.
TC-ER	Tray Cable – Exposed Run	TC cables in compliance with the necessary impact resistance requirements of Type MC cables. These cables can be employed for the connections between cable trays and equipment without using protective Metal Conduits or armored cables (Type MC). These cables can be used without protection.
THHN	Indicates a single conductor having flame-retardant and heat-resistant thermoplastic insulation with a jacket of extruded nylon or equivalent material. The wire is rated 90°C dry only.	
THWN	Indicates a single conductor having flame-retardant, moisture- and heat-resistant thermoplastic insulation with an outer covering of extruded nylon or equivalent material. The wire is rated 75°C wet and dry.	
Tubing, Mechanical Protection – Component	This category covers tubing that may be used for the support, routing and mechanical protection of insulated wire. The tubing is intended to be used to interconnect separate component assemblies or consoles of electrical devices, such as medical or X-ray equipment. The mechanical protection afforded the internal wiring contained within the tubing is considered equivalent to the protection provided by a type SJT flexible cord.	

Abbreviation	Defintion	Remarks/description
UL	Underwriters Laboratories	Certified Laboratory for the issue of product certifications
XHHW	Indicates a single conductor having flame-retardant and moisture-resistant thermoplastic insulation without outer covering. The wire is rated 75°C wet and 90°C dry.	
XHHW-2	Indicates a single conductor having flame-retardant and moisture-resistant thermoplastic insulation without outer covering. The wire is rated 90°C wet and dry.	

Appendix T. Symbols and marks

Symbol	Abbreviation	Description
	CANOPEN	CANopen is a communication protocol and device profile specification for embedded systems used in automation
	CSA	Listed product - Canadian Standards Association - Canada
	CSA	Recognized product - Canadian Standards Association - Canada
	DESINA	DistributEd and Standardised INstAllation technology for machine tools and manufacturing systems
	DEVICENET	DeviceNet is a network system used in the automation industry to interconnect control devices for data exchange
	ETHERNET	Ethernet is a family of computer networking technologies for local area networks (LANs)
	PROFIBUS	PROFIBUS (Process Field Bus) is a standard for field bus communication in automation technology
	PROFINET	PROFINET is the open industrial Ethernet standard of PROFIBUS & PROFINET International (PI) for automation.
	RoHS	Restriction of Hazardous Substances Directive - Europe
	UL	UL Listed - Underwriters Laboratories - USA
	UR	UL Recognized - Underwriters Laboratories - USA
	EAC	Eurasian Conformity Mark - Russia, Belarus, Kazakhstan
	EHEDG	European Hygienic Engineering & Design Group - Europe
	CPR	Construction Product Regulation - Europe
	CE	The letters CE mean that the manufacturer or importer affirms the goods' conformity with European health, safety, and environmental protection standards. It is not a quality indicator or a certification mark.
	UKCA	UK Conformity Assessed marking is a conformity mark that indicates conformity with the applicable requirements for products sold within Great Britain.
	ECOLAB	Ecolab Inc. is an American corporation headquartered in Saint Paul, Minnesota. It develops and offers services, technology and systems that specialize in treatment, purification, cleaning and hygiene of water in a wide variety of applications.

Appendix U. Measurement units

Table U.1. Lengths

meter	m	1 m = 0,001 km = 39,37 in = 3,28 ft = 1,09 yd
entimetre	cm	1 cm = 0,01 m = 0,3937 in = 0,0328 ft = 0,0109 yd
kilometre	km	1 km = 1000 m = 1093,61 yd = 0,5396 naut mi = 0,62137 mi
inch	1", in	1 in = 0,0833 ft = 0,0278 yd = 2,54 cm = 0,0254 m
foot	1', ft	1 ft = 12 in = 0,333 yd = 30,48 cm = 0,3048 m
yard	yd	1 yd = 3 ft = 36 in = 91,44 cm = 0,9144 m
nautical mile	naut mi	1 naut mi = 1,853 km = 1853,18 m = 2026,67 yd = 1,151 mi
mile	mi	1 mi = 1,609 km = 1609,35 m = 1760 yd = 0,868 naut mi
hand	hand	1 hand = 4 in = 0,3332 ft = 0,111 yd = 10,16 cm = 0,1016 m
span	span	1 span = 9 in = 0,7497 ft = 0,25 yd = 22,86 cm = 0,2286 m

Table U.2. Surface

square meter	m^2	1 m^2 = 10000 cm^2 = 0,0001 ha = 1550 in^2 = 10,76 ft^2 = 1,196 yd^2
square centimetre	cm^2	1 cm^2 = 0,0001 m^2 = 0,155 in^2 = 0,0011 ft^2 = 0,00012 yd^2
square kilometre	km^2	1 km^2 = 1000000 m^2 = 100 ha = 0,386 mi^2 = 247,105 ac
are	a	1 a = 100 m2 = 0,01 ha = 1076,39 ft2 = 119,599 yd2 = 0,0000386 mi^2 = 0,024 ac
hectare	ha	1 ha = 100 a = 10000 m^2 = 0,01 km^2 = 107639,1 ft^2 = 0,0039 mi^2 = 2,47 ac
square inch	in^2	1 in^2 = 0,00694 ft^2 = 6,4516 cm^2
square foot	ft^2	1 ft^2 = 0,092 m^2 = 144 in^2 = 0,111 yd^2
square yard	yd^2	1 yd^2 = 0,836 m^2 = 8361,27 cm^2 = 9 ft^2 = 1296 in^2 = 0,0002 ac
square mile	mi^2	1mi^2 = 2,59 km^2 = 259 ha = 640 ac
acre	ac	1 ac = 4046,86 m^2 = 0,0040 km^2 = 0,40 ha = 40,47 a = 43.560 ft^2 = 4840 yd^2 = 0,00156 mi^2

Table U.3. Volume

cubic meter	m^3	1 m^3 = 1000 dm^3 = 35,3146 ft^3 = 61023,744 in^3 = 1,308 yd^3 = 264,20 galUS = 219,97 galUK
cubic decimetre; litre	dm^3	1 dm^3 = 1 l = 0,001 m^3 = 61,024 in^3 = 0,0353 ft^3 = 0,00131 yd^3 = 0,26417 galUS = 0,21997 galUK
cubic centimetre	cm^3, cc	1 cm^3 = 0,001 dm^3 = 0,001 l = 0,061 in^3 = 0,000264 galUS = 0,00022 galUK
cubic inch	in^3	1 in^3 = 0,0000164 m^3 = 0,0164 dm^3 = 0,0005787 ft^3 = 0,0043 galUS = 0,0036 galUK
cubic foot	ft^3	1 ft^3 = 0,02832 m^3 = 28,32 dm^3 = 1728 in^3 = 0,037 yd^3 = 7,48 galUS = 6,23 galUK
cubic yard	yd^3	1 yd^3 = 0,764 m^3 = 764,55 dm^3 = 46656 in^3 = 27 ft^3 = 201,97 galUS = 168,18 galUK
gallon US	galUS	1 galUS = 0,00378 m^3 = 3,785 dm^3 = 231 in^3 = 0,134 ft^3 = 0,0049 yd^3 = 0,833 galUK
gallon UK	galUK	1 galUK = 0,00455 m^3 = 4,546 dm^3 = 277,42 in^3 = 0,16 ft^3 = 0,0059 yd^3 = 1,2 galUS

Table U.4. Pressure

pascal	Pa	1 Pa = 1 N/m^2, 1 kPa = 0,01 bar = 0,1 N/cm^2 = 0,10 mH_2O = 7,5 mmHg = 0,0099 atm =0,145 psi = 0,02088 lbf/ft^2 = 0,334 ftH_2O
bar	bar	1 bar = 100000 Pa = 100 kPa = 1,0197 kg/cm^2 = 10,198 mH_2O = 750 mmHg = 0,987 atm = 14,5 psi = 33,455 ftH_2O
millibar	mbar	1 mbar = 100 Pa = 0,010 mH_2O = 0,750 mmHg = 0,00102 kg/cm^2 = 0,0145 psi = 2,088 ldf/ft^2 = 0,033 ftH_2O
millimetres of mercury	mmHg	1 mmHg = 133,322 Pa = 0,133 kPa = 0,00133 bar = 0,0136 mH_2O = 0,00131 atm = 0,00136 kg/cm^2 = 0,01934 psi = 2,78 ldf/ft^2 = 0,045 ftH_2O
technical atmosphere=kgf/cm^2	at, kg/cm^2	1 at = 1 kg/cm^2 = 735,56 mmHg = 10 mH_2O = 98066,50 Pa = 98,067 kPa = 0,981 bar = 0,968 atm = 14,22 psi = 2048,16 lbf/ft^2 = 32,81 ftH_2O
metric atmosphere	atm	1 atm = 101325 Pa = 760 mmHg = 1,033 at = 10,33 mH_2O = 1,01 bar = 14,696 psi = 2116,22 lbf/ft^2 = 33,9 ftH_2O
meters column of water	mH2O	1 mH_2O = 9806 Pa = 0,09806 bar = 73,55 mmHg = 0,9806 N/cm^2 = 0,09678 atm = 0,0999 at = 1,4224 psi = 204,8 lbf/ft^2 = 3,28 ftH_2O
foot of water	ftH_2O	1 ftH_2O = 2988,87 Pa = 0,0299 bar = 0,3048 mH_2O = 22,419 mmHg = 0,0295 atm = 0,03048 kg/cm^2 = 0,4335 psi = 62,42 lbf/ft^2
pounds per square inch	psi	1 psi = 6894,76 Pa = 6,894 kPa = 0,069 bar = 0,703 mH_2O = 51,715 mmHg = 0,689 N/cm^2 = 0,068 atm = 0,0703 kg/cm^2 = 144 lbf/ft^2 = 2,31 ftH_2O
pounds per square foot	lbf/ft^2	1 lbf/ft^2 = 2988,87 Pa = 2,99 kPa = 0,0299 bar = 0,3048 mH_2O = 22,418 mmHg = 0,299 N/cm^2 = 0,0295 atm = 0,0305 at = 0,433 psi = 62,424 lbf/ft^2

Table U.5. Capacity and volume

cubic meters per second	m^3/s	1 m^3/s = 60 m^3/min = 3600 m^3/ora = 1000 l/s = 60000 l/min = 6102374,42 in^3/s = 2118,88 ft^3/min = 15850,32 gpm = 13198,13 l gpm
cubic meters per minute	m^3/min	1 m^3/min = 0,0167 m^3/s = 60 m^3/h = 16,67 l/s = 1000 l/min = 35,31 ft^3/min = 264,17 gpm = 219,97 l gpm
cubic meters per hour	m^3/h	1 m^3/h = 0,000278 m^3/s = 0,0167 m^3/min = 0,28 l/s = 16,67 l/min = 1017,06 in^3/min = 0,588 ft^3/min = 4,40 gpm = 3,66 l gpm
litres per second	l/s	1 l/s = 0,001 m^3/s = 0,06 m^3/min = 3,6 m^3/h = 60 l/min = 3661,42 in^3/min = 2,12 ft^3/min = 15,85 gpm = 13,198 l gpm

litres per minute	l/min	1 l/min = 0,001 m^3/min = 0,06 m^3/h = 0,0167 l/s = 61,024 in^3/min = 0,035 ft^3/min = 0,264 gpm = 0,22 lgpm
cubic inch per minute	in^3/min	1 in^3/min = 0,00027 l/s = 0,016 l/min = 0,00058 ft^3/min = 0,0043 gpm = 0,0036 l gpm
cubic foot per minute	ft^3/min	1 ft^3/min = 0,00047 m^3/s = 0,028 m^3/min = 1,7 m^3/h = 0,472 l/s = 28,32 l/min = 1728 in^3/min = 7,48 gpm = 6,23 l gpm
gallon per minute	gpm	1 gpm = 0,0038 m^3/min = 0,227 m^3/h = 0,063 l/s = 3,785 l/min = 231 in^3/min = 0,134 ft^3/min = 0,833 l gpm
imperial gallon per minute	l gpm	1 l gpm = 0,000076 m^3/s = 0,00454 m^3/min = 0,273 m^3/h = 0,076 l/s = 4,55 l/min = 277,42 in^3/min = 0,16 ft^3/min = 1,2 gpm

Table U.6. Speed

meters per second	m/s	1 m/s = 60 m/min = 3,6 km/h = 39,37 in/s = 2362,2 in/min = 3,28 ft/s = 196,85 ft/min = 2,237 mi/h = 1,94 kn
kilometres per hour	km/h	1 km/h = 0,278 m/s = 16,67 m/min = 10,963 in/s = 656,17 in/min = 0,91 ft/s = 54,68 ft/min = 0,62 mi/h = 0,54 kn
meters per minute	m/min	1 m/min = 0,0167 m/s = 0,06 km/h = 0,66 in/s =39,37 in/min = 0,0547 ft/s = 3,28 ft/min = 196,85 ft/h = 0,037 mi/h = 0,032 kn
inch per second	in/s	1 in/s = 0,0254 m/s = 1,524 m/min = 0,091 km/h = 60 in /min = 0,083 ft/s = 5 ft/min = 300 ft/h = 0,057 mi/h = 0,049 kn
inch per minute	in/min	1 in/min = 0,0254 m/min = 0,001524 km/h = 0,167 in/s = 0,0014 ft/s = 0,083 ft/min = 5 ft/h
foot per second	ft/s	1 ft/s = 0,305 m/s = 18,288 m/min = 1,097km/h = 12 in/s = 720 in/min = 60 ft/min = 0,68 mi/h = 0,59 kn
foot per minute	ft/min	1 ft/min = 0,00508 m/s = 0,3048 m/min = 0,0183 km/h = 0,2 in/s = 12 in/min = 0,0167 ft/s = 60 ft/h = 0,011 mi/h = 0,0099 kn
foot per hour	ft/h	1 ft/h = 0,005 m/min = 0,0033 in/s = 0,2 in/min = 0,0167 ft/min
mile per hour	mi/h	1 mi/h = 0,447 m/s = 26,82 m/min = 1,609 km/h = 17,6 in/s = 1056 in/min = 1,47 ft/s = 88 ft/min = 0,87 kn
nautical mile per hour = knot	kn	1 kn = 0,51 m/s = 30,89 m/min = 1,85 km/h = 20,27 in/s = 1216 in/min = 1,69 ft/s = 101,33 ft/min = 1,15 mi/h

Table U.7. Angular velocity

radiant per second	rad/s	1 rad/s = 60 rad/min = 0,159 giri/s = 9,55 giri/min
radiant per minute	rad/min	1 rad/min = 0,0167 rad/s = 0,0026 giri/s = 0,159 giri/min
revolutions per second	giri/s	1 giro/s = 60 giri/min = 6,283 rad/s = 376,99 rad/min
revolutions per minute	giri/min	1 giro/min = 0,0167 giri/s = 0,1047 rad/s = 6,283 rad/min

Table U.8. Acceleration

meter per square second	m/s^2	1 m/s^2 = 100 cm/s^2 = 0,001 km/s^2 = 3,28 ft/s^2 = 39,37 in/s^2 = 0,00062 mi/s^2
centimetre per square second	cm/s^2	1 cm/s^2 = 0,01 m/s^2 = 0,00001 km/s^2 = 0,0328 ft/s^2 = 0,394 in/s^2
kilometre per square second	km/s^2	1 km/s^2 = 1000 m/s^2 = 100000 cm/s^2 = 3280,84 ft/s^2 = 39370,08 in/s^2 = 0,621 mi/s^2
foot per square second	ft/s^2	1 ft/s^2 = 0,3048 m/s^2 = 30,48 cm/s^2 = 12 in/s^2
inch per square second	in/s^2	1 in/s^2 = 0,0254 m/s^2 = 2,54 cm/s^2 = 0,083 ft/s^2
mile per square second	mi/s^2	1 mi/s^2 = 1609,34 m/s^2 = 1,609 km/s^2 = 5280 ft/s^2 = 63360 in/s^2

Table U.9. Force - Weight

Newton	N	1 N = 0,102 kgf = 0,0001 t = 0,2248 lbf = 3,597 ozf
kilogram force; kilogram weight	kgf; kgp	1 kgf = 9,81 N = 0,001 t = 2,204 lbf = 35,27 ozf
ton weight	t	1 t = 9'806,65 N = 1'000 kgf = 2'204,62 lbf = 35'274 ozf
kilopound	kp	1 kp = 4'448 N = 453,59 kgf = 1'000 lbf = 16'000 ozf
pound force	lbf	1 lbf = 4,448 N = 0,454 kgf = 16 ozf
ounce force	ozf	1 ozf = 0,278 N = 0,028kgf = 0,0625 lbf
pound feet	lbf/ft	1 lbf/ft = 1,4881 kg/m

Table U.10. Power

kilowatt	kW	1 kW = 1,36 CV = 1,34 hp = 737,56 lbf·ft/s = 44253,7 lbf·ft/min = 859,84 kcal/h = 3412,14 btu/h = 101,97 kgf·m/s
horsepower	CV	1 CV = 0,735 kW = 0,986 hp = 75 kg·m/s = 542,47 lbf·ft/s = 632,41 kcal/h = 2509,62 btu/h = 75 kgf·m/s
kilogram force per meter per second	kgf ·m/s	1 kgf·m/s = 0,01 kW = 0,013 CV = 0,013 hp = 7,23 lbf·ft/s = 433,98 lbf·ft/min = 8,43 kcal/h = 33,46 btu/h
kilogram calorie per hour	kcal/h	1 kcal/h = 0,0012 kW = 0,0016 CV = 0,00156 hp = 0,8578 lbf·ft/s = 51,47 lbf·ft/min = 3,97 btu/h = 0,12 kgf·m/s
horsepower	HP	1 HP = 1,014 CV = 0,746 kW = 550 lbf·ft/s = 33000 lbf·ft/min = 641,19 kcal/h = 2544,43 btu/h = 76,04 kgf·m/s
foot pound force per second	lbf ·ft/s	1 lbf·ft/s = 0,0013 kW = 0,0018 CV = 0,0018 hp = 60 lbf·ft/min = 1,166 kcal/h = 4,63 btu/h = 0,138 kgf·m/s
foot pound force per minute	lbf ·ft/min	1 lbf·ft/min = 0,000023 kW = 0,0167 lbf·ft/s = 0,019 kcal/h = 0,077 btu/h = 0,0023 kgf·m/s
british termal unit per hour	BTU/h	1 btu/h = 0,00029 kW = 0,216 lbf·ft/s = 12,97 lbf·ft/min = 0,25 kcal/h = 0,030 kgf·m/s

Table U.11. Work - Energy - Moment – Torque - Heat

joule	J	1 J = 1N·m = 0,102 kgf·m = 0,00024 kcal = 8,85 lbf·in = 0,74 lbf·ft = 0,00095 BTU
kilogram force per meter	kgf·m	1 kgf·m = 9,807 J = 0,0023 kcal = 86,80 lbf·in = 7,233 lbf·ft = 0,0093 BTU
horsepower per hour	CV·h	1 CV·h = 270000 kgf·m = 0,736 kW·h = 632,41 kcal = 2509 BTU
kilogram calorie	kcal	1 kcal = 4,1868 kJ = 426,93 kgf·m = 0,0016 CV·h = 0,0012 kW·h = 37056,3 lbf·in = 3088 lbf·ft = 3,97 BTU
kilowatt per hour	kW·h	1 kW·h = 3600 kJ = 1,36 CV·h = 859,8 kcal = 3412,14 BTU
pound force inch	lbf·in	1 lbf·in = 0,113 J = 0,0115 kgf·m = 0,083 lbf·ft = 0,0001 BTU
pound force foot	lbf·ft	1 lbf·ft = 1,356 J = 0,138 kgf·m = 0,324 cal = 12 lbf·in = 0,0013 BTU
horse power hour	HP·h	1 HPh = 2,684 MJ = 641,19 kcal = 1,014 CV·h = 0,746 kW·h = 1980000 lbf·ft = 2544,43 BTU
british thermal unit	BTU	1 BTU = 1055,056 J = 107,58 kgf·m = 0,0004 CV·h = 0,252 kcal = 0,00029 kWh = 9338,03 lbf·in = 778,17 lbf·ft

Table U.12. Density

kilogram per cubic meter	kg/m^3	1 kg/m^3 = 0,001 kg/dm^3 = 0,001 t/m^3 = 0,001 g/cm^3 = 0,062 lb/ft^3 = 0,00075 tn/yd^3 = 0,00084 s tn/yd^3 = 0,133 oz/gal
kilogram per cubic decimetre	kg/dm^3	1 kg/dm^3 = 1000 kg/m^3 = 0,001 g/cm^3 =1 t/m^3 = 1 g/cm^3 = 62,42 lb/ft^3 = 0,036 lb/in^3 = 133,53 oz/gal
ton per cubic meter	t/m^3	1 t/m^3 = 1000 kg/m^3 = 1 kg/dm^3 = 0,001 kg/cm^3 = 1 g/cm^3 = 62,43 lb/ft^3 = 0,036 lb/in^3 = 0,752 tn/yd^3 = 0,843 s tn/yd^3 = 133,53 oz/gal
pound per cubic foot	lb/ft^3	1 lb/ft^3 = 16,018 kg/m^3 = 0,016 kg/dm^3 = 0,016 t/m^3 = 0,016 g/cm^3 = 0,00058 lb/in^3 = 0,012 tn/yd^3 = 0,0135 s tn/yd^3 = 2,14 oz/gal
pound per cubic inch	lb/in^3	1 lb/in^3 = 27,68 kg/dm^3 = 0,02768 kg/cm^3 = 27,68 t/m^3 = 27,68 g/cm^3 = 1728 lb/ft^3 = 20,83 tn/yd^3 = 23,33 s tn/yd^3 = 3696 oz/gal
ounce per gallon	oz/gal	1 oz/gal = 7,489 kg/m^3 = 0,00749 kg/dm^3 = 0,00749 t/m^3 = 0,00749 g/cm^3 = 0,467 lb/ft^3 = 0,00027 lb/in^3 = 0,00563 tn/yd^3 = 0,0063 oz/gal

Table U.13. Temperature

Kelvin	K	K = °C + 273,15, K = 1,8 . °R, K = (5/9) . °F + (459,67/1,8)
Centigrade degree	°C	°C = (°F - 32) . 5/9, °C = K - 273,15 °C = (5/9) . °F - (32/1,8)
Fahrenheit degree	°F	°F = 9/5 . °C + 32, °F = °R - 459,67 °F = (9/5). K - 459,67
Rankine degree	°R	°R = (5/9) K, °R = 491,67 + (9/5) . °C, °R = 459,67 + °F

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