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 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 mm^2 to 2.5 mm^2 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.

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)
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) Type CIC/TC-ER (18 AWG-4/0 AWG), Dir Bur, Sun Res, Oil Res I, 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 (grigio/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

* 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 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 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 [mm^2]	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)

Code	Number of conductors	Size [AWG/kcmil]	Size [mm²]	Diameter [mm (inch)]	Weight [kg/km (lb/mft)]
CV03GB35_811□0_□□	3	2	35	27,3 (1.075)	1594 (1071)
CV04G100_811□0_□□	4	18	1	9,1 (0.358)	125 (84)
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)
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

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

Color	To be inserted
Gray	GR
Black	NE