

TRAY & VFD CABLES

Applications

■ Application of flexible power and control tray cable, Type TC, MTW and WTTC

These special multi-conductor cables shall be permitted for use in power, lighting, control and signal circuits in accordance with the National Electrical Code (NEC), NFPA 70 Article 336. They are also approved for use in cable trays, in raceways and in outdoor locations supported by a messenger wire in accordance with Underwriters Laboratories Inc. (UL) Standard of Safety UL 1277 and for class I division 2 circuits as permitted in NEC article 501.10 (B) and for class II division 2 circuits as permitted in NEC article 502.10 (B) and in industrial establishments where the conditions of maintenance and supervision ensure that only qualified persons service the installation, and where the cables are continuously supported and protected against physical damage using mechanical protection, such as struts, angles or channels. These tray cables comply with the crush and impact requirements of Type TC and are identified for such use with the ER marking on the jacket.

Tray cables are for use as exposed runs between a cable tray and the utilization device where the cables are continuously supported and protected against physical damage and are secured at intervals not exceeding 1.8 m (6 feet). Grounding for the utilization equipment shall be provided by an equipment grounding conductor within the cables. These tray cables shall also be permitted to be used in wet locations and are resistant to moisture and corrosive agents. Cables that are surface marked "oil resistant I" have a jacket that is for exposure to mineral oil at temperature not in excess of 60°C (140°F). Marked with "oil resistant II" they have a jacket that is for exposure to mineral oil at temperatures not in excess of 75°C (167°F). The cables are flame retardant and self-extinguishing and sunlight resistant depending on the jacket color. The cables listed as MTW can be applied in the NFPA 79 machinery area. MTW cables are specified for use acc. to National Electrical Code (NFPA 70) and acc. to the National Fire Protection Association Electrical Standard for industrial machinery (NFPA 79). Wind turbine power and control cables are intended to be installed in cable trays or raceways within a wind turbine generator.

Exemplary applications:

DC 105 Type PLTC, ITC and CMG
DC 105 C Type PLTC, ITC and CMG
DC 105 C TP Type PLTC, ITC and CMG

Recommended for use with computers, data transmission, office equipment, process control equipment and instrumentation, and all other signal and data communications

TR 600 S Type TC-ER, MTW and WTTC
TR 600 S CY Type TC-ER, MTW and WTTC
TR 600 Type TC-ER, MTW and WTTC
TR 600 CY Type TC-ER, MTW, and WTTC
TR 850 S Type TC-ER and STOW

Recommended applications are machine tools, control systems assembly lines, CNC machining, grinding machines, bottling equipment, data processing equipment and connections between control panels and machines

TR HD TPE Type TC-ER
TR 600 HD Type TC-ER
TR 600 C HD Type TC-ER
TR 600 Auto HD Type TC-ER
TR 600 Auto C HD Type TC-ER
TR 600 Auto Combo C HD Type TC-ER and MTW

In hazardous (classified) areas Class I, Division 2 per NEC Article 501.4 (B), UL Type TC is in accordance with UL standard 1277 and NEC Article 336


VFD XLPE TR Type TC-ER
VFD XLPE TR D Type TC-ER
VFD Combo XLPE Type TC-ER
VFD XLPE Auto TR
VFD Symmetrical XLPE TR Type TC-ER
VFD XLPE 2KV TR Type TC-ER
VFD Lean TR Type TC-ER and MTW
VFD Combo DS Type TC-ER and MTW
VFD Dual TR Type TC-ER and MTW
VFD Lean Auto TR Type TC-ER and MTW
VFD Symmetrical Lean TR Type TC-ER and MTW

Can be used to connect alternating current variable frequency drives to alternating current variable frequency motors

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Selection index

		Cable type							
		DC 105	DC 105 C	DC 105 C TP	TR 600 S Black/Gray	TR 600 S CY Black/Gray	TR 600 Black	TR 600 CY Black	TR 850 S
Application	Numbered conductors				x	x	x	x	
	Color code chart 2, 4 and 6	x	x						
	Color code chart 3			x					
	Colored								x
	Screen		x	x		x		x	
	Inner jacket							x	
Temperature range static*	+ 105°C	■	■	■	■	■	■	■	■
	+ 90°C	■	■	■	■	■	■	■	■
	- 25°C	■	■	■	■	■	■	■	■
	- 40°C	■	■	■	■	■	■	■	■
Voltage	Voltage 300 V	x	x	x					
	Voltage 600 V				x	x	x	x	x
	Voltage 1000 V								x
	Voltage (UL) WTTC 1000 V				x	x	x	x	x
	Voltage (UL) 2000 V								
	Testing voltage 2000 V	x	x	x	x	x			x
	Testing voltage 3000 V								
	Testing voltage 4000 V						x	x	
	Testing voltage 7500 V								
Standards and approvals	Burning characteristics (UL) FT4 and CSA FT1, FT2, FT4				x	x		x	x
	(UL) FT4 and c(UL) FT1, FT2, FT4 and CSA FT1, FT2						x		
	(UL) FT4 and c(UL) FT1, FT2, FT4								
	(UL) Vertical Tray Flame and c(UL) FT1, FT2, FT4								
	(UL) / c(UL) FT1, FT2, FT4								
	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2								
Characteristics	(UL) FT4 / IEEE 1202								
	Cold bend test -40°C				x	x			
	Oil resistance								
	Oil resistance I						x	x	
	Oil resistance I + II				x	x			x
	Sunlight resistance				x	x	x	x	x
	Exposed runs				x	x	x	x	x
	Direct burial				x	x	x	x	x
	Machinery area				x	x	x	x	x
	Moisture resistance								


Temperature range:
 from
to

*The temperature range for flexing is mentioned on the particular catalog page

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		Cable type																
		TRAY HD TPE	TR 600 HD	TR 600 C HD	TR 600 Auto HD	TR 600 Auto C HD	TR 600 Auto Combo C HD	VFD XLPE TR/ TR D	VFD Combo XLPE	VFD XLPE Auto TR	VFD Symmetrical XLPE TR	VFD XLPE 2KV TR	VFD Lean TR	VFD Combo DS	VFD Dual TR	VFD Lean Auto TR	VFD Symmetrical Lean TR	
Application	Numbered conductors	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Color code chart 2, 4 and 6																	
	Color code chart 3																	
	Colored																	
	Screen			x		x	x	x	x	x	x	x	x	x	x	x	x	
Temperature range static*	Inner jacket			x											x			
	+ 105°C																	
	+ 90°C																	
	- 25°C																	
Voltage	- 40°C																	
	Voltage 300 V																	
	Voltage 600 V	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	
	Voltage 1000 V						x	x	x	x	x		x	x	x	x	x	
	Voltage (UL) WTTC 1000 V	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	
	Voltage (UL) 2000 V											x						
	Testing voltage 2000 V	x	x	x	x	x	x											
	Testing voltage 3000 V							x	x	x	x			x	x	x	x	x
	Testing voltage 4000 V																x	
	Testing voltage 7500 V											x	x	x	x			x
Standards and approvals	Burning characteristics (UL) FT4 and CSA FT1, FT2, FT4																	
	(UL) FT4 and c(UL) FT1, FT2, FT4 and CSA FT1, FT2																	
	(UL) FT4 and c(UL) FT1, FT2, FT4	x	x	x														
	(UL) Vertical Tray Flame and c(UL) FT1, FT2, FT4				x	x												
	(UL) / c(UL) FT1, FT2, FT4						x											
	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2							x	x	x	x		x	x	x	x	x	
Characteristics	(UL) FT4 / IEEE 1202											x						
	Cold bend test -40°C	x	x	x	x	x	x	x	x	x	x							
	Oil resistance						x	x	x	x	x		x	x	x	x	x	
	Oil resistance I																	
	Oil resistance I + II	x	x	x	x	x												
	Sunlight resistance		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Exposed runs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Direct burial	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Machinery area	x	x	x	x	x	x						x	x	x	x	x	
Moisture resistance											x							

Temperature range:

 from
 to

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