



SPECIFICATION CONTROL DRAWING

TECC0030C5-XL

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13-Apr-21
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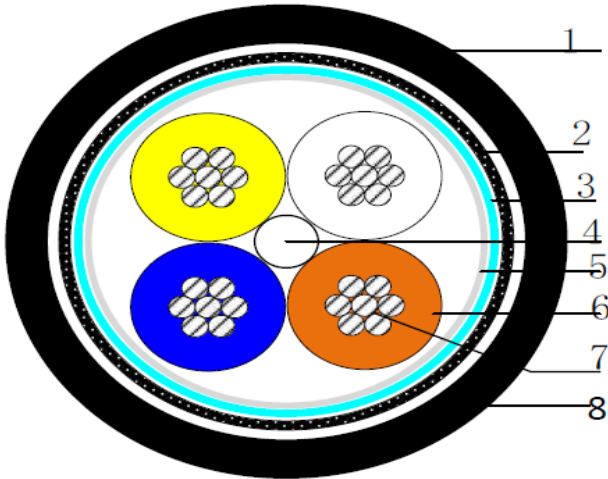
COMMUNICATION CABLE - 4 x 22AWG S/FTQ CABLE XL-LSZH - EM104

The complete requirements for procuring the wire described herein shall consist of this document and the issue in effect of the referenced specifications. This document takes precedence over documents referenced herein.

PRODUCT DETAILS

DESCRIPTION	PHYSICAL CHARACTERISTICS	
Application: Profinet, IEEE 802.3bt Type 1, Type 2	Structure	Construction S/FTQ / QUAD
Rated temperature: 80°C		Number of Conductors 4
Reference Standard: EN 50288-2-2, IEC 61156-5 & ISO/IEC 11801, EN 50264, EN 45545-2	Conductor	AWG / mm ² 22 AWG
Flammability Rating: IEC 60332-3-25, IEC 60332-1		Conductor material Stranded Tinned Copper
Stranded Tinned Copper Conductor		Conductor dimension(mm) (19/0.15) ±0.008 mm
Colour-coded PE Insulation	Insulation	Insulation material PE
XL-LSZH Jacket		Insulation dimension (mm) 1.60 ± 0.08 mm
Test Standard: EN 50264, EN 45545-2		Insulation Colour 1.White 2.Yellow 3.Blue 4.Orange
Packaging: Per customer request		(Pure Colour)

CROSS SECTION



1	Outer Jacket
2	Braid
3	AL/Polyester
4	Filler (Optional)
5	Separating Tape
6	Insulation
7	Conductor
8	Outer Tape

Cabling	Cabling Lay Length	≤ 100mm
Filler	Filler	Optional
Separating Tape	Separating Tape Material Wrap Overlap	PP Tape ≥ 25%
Shield	Primary shield & material Primary shield overlapping Secondary shield & material Shield nom. Coverage	AL/Polyester ≥ 15% Tinned Copper Wire ≥ 85%
Outer Tape	Outer Tape	Tape
Outer Jacket	Outer Jacket material Jacket Nominal Thickness Overall Nom Dimension (mm) Outer Jacket Colour	XL-LSZH 0.80 mm 7.10 ± 0.20 mm Blue
Mechanical Characteristics	Operating Temp Range Bulk Cable weight Max. Pulling Tension Min. Bend Radius (Install) Outer Jacket Tensile Strength Outer Jacket Elongation Outer Jacket Ageing Tensile Strength Variation Elongation Variation	-40°C to +80°C 66 kg/km 80N 6XOD(dynamic) 10xOD(static) ≥ 10 Mpa ≥ 125% 240h @ 120°C ± 30% of Unaging ± 30% of Unaging
Electrical Characteristics	Nom. Mutual Capacitance Pair-Ground Capacitance Unbalance Nominal Propagation Velocity Max. Delay Skew Max. DC Conductor Resistance Max Conductor Resistance unbalance Min. Insulation Resistance Max. Operating Voltage	≤ 5.6 nF/100m (@ 1kHz) ≤ 160 pF/100m 65% 45 ns/100m 54.4 Ω/km (@20°C) 2% (@20°C) 5000 MΩ.m 300 V

JACKET MARK

"TE CONNECTIVITY - TECC0030C5-XL - 4 X 22AWG S/FTQ CAT 5E CABLE EM104 - YEAR OF MANUFACTURE - BATCH NUMBER - METRE MARK"

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ELECTRICAL CHARACTERISTICS CONTINUED

Frequency	Input Impedance	ATT	RL	NEXT	ELFEXT	Delay
(MHz)	(Ω)	(dB/100m)	(dB Min)	(dB Min)	(dB Min)	(ns/100m Max.)
1	100 ± 15	2.0	20.0	65.3	63.8	570.0
4	100 ± 15	4.1	23.0	56.3	51.8	552.0
10	100 ± 15	6.5	25.0	50.3	43.8	545.4
16	100 ± 15	8.2	25.0	47.2	39.7	543.0
20	100 ± 15	9.3	25.0	45.8	37.8	542.0
31.25	100 ± 15	11.7	23.6	42.9	33.9	540.4
62.5	100 ± 15	17.0	21.5	38.4	27.9	538.6
100	100 ± 15	22.0	20.1	35.3	23.8	537.6

Note; Cable that meet the requirements of the template are not required to be measured for return loss; alternately cables that meet the return loss requirements are not required to be measured for characteristic impedance.

Mechanical performance Requirements for the tests for outer jacket.

Test	Type of compound		test method	
Hot set test	(200±3) °C/15Min/20N/cm ²	elongation under load ≤100%	EN 60811-2-1 9	
		elongation after unloading ≤25%		
Ozone resistance				
Method A	(0.025-0.03%)(25±2) °C/24h	No Crack	EN50305 7.4.2	
Method B	(0.00015-0.00025%)(40±2) °C/72h	No Crack		
Mineral oil resistance	IRM902/(100±2) °C/72h	Tensile strength Variation ≤±30%.	EN 60811-2-1 10	
		Elongation at break Variation ≤±40%.		
Fuel resistance	IRM903/(70±2) °C/168h	Tensile strength Variation ≤±30%.		
		Elongation at break Variation ≤±40%.		
Acid resistance	N oxalic acid solution/(23±2) °C /168h	Tensile strength Variation ≤±30%.		
		Elongation at break Variation ≥100%.		
alkaline resistance	N-sodium-hydroxide solution/(23±2) °C/168h	Tensile strength Variation ≤±30%.		
		Elongation at break Variation ≥100%.		
Hot pressure	(125 ± 2) °C/4h,	tear strength ≤50%	EN 60811--1-3 9.2	
Cold bend	- (40 ± 2) °C,8D	No Crack	EN 60811-1-4 8.1	
Impact test	- (25±2) °C	No Crack	EN 50305 5.1	
Assessment of halogens	HCl and HBr	≤0.5%	EN50267-2-1	
		HF	≤0.1%	EN 60684-2
		pH	≥4.3	EN50267-2-2
		Conductivity	≤10µS/mm	
Reaction to fire	Single vertical flame	IEC 60332-1-2	IEC 60332-1-2	
	Bunched cable flame	IEC 60332-3-25	IEC 60332-3-25	
	Smoke emission	≥70%	EN 61034-2	
	Toxicity index	ITC ≤3	EN 50305 9.2	
Water absorption	70±2 °C x 168hrs	Weight increase ≤15mg/cm ²	EN 60811-1-3	

Approval Electronic sign off - no signatures will appear.