



SPECIFICATION CONTROL DRAWING

TECC0052C5

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02-Aug-22  
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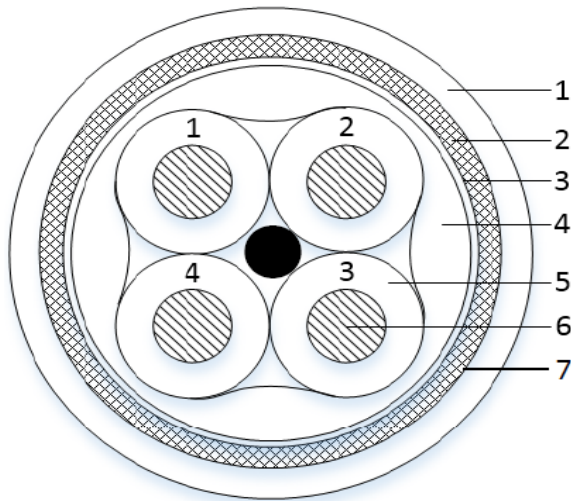
COMMUNICATION CABLE - 4 x 24AWG S/FTQ QUAD CABLE LSZH

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	<b>Structure</b>	Construction	QUAD
Rated temperature: 80°C		Number of Conductors	4
Reference Standard: IEC 61156-5 & ISO/IEC 11801, EN 45545-2	<b>Conductor</b>	AWG / mm <sup>2</sup>	24 AWG
Flammability Rating: IEC 60332-3-25, IEC 60332-1		Conductor material	Solid Bare Copper
Solid Bare Copper Conductor		Conductor dimension(mm)	0.52 ± 0.02 mm
Colour-coded PE Insulation	<b>Insulation</b>	Insulation material	PE
LSZH Jacket		Insulation dimension (mm)	1.10 ± 0.05 mm
Test Standard: EN 50264, EN 45545-2		Insulation Colour (Pure Colour)	1.White 2.Yellow 3.Blue 4.Orange
Packaging: Per customer request	<b>Cabling</b>	Cabling Lay Length	≤ 100mm
	<b>Filler</b>	Filler	Yes
	<b>Inner Jacket</b>	Inner Jacket Material	LSZH
		Colour	White
		Outer Diameter	3.10 ± 0.30mm
	<b>Shield</b>	Primary shield & material	AL/Polyester
		Secondary shield & material	Tinned Copper Wire
		Shield nom. Coverage	≥ 80%
		Tape	Yes
	<b>Outer Jacket</b>	Outer Jacket material	LSZH
		Jacket Nominal Thickness	0.70 mm
		Overall Nom Dimension (mm)	5.20 ± 0.30
		Outer Jacket Colour	Blue*
		*Other colours available on request	
	<b>Mechanical Characteristics</b>	Operating Temp Range	-25°C to +80°C
		Bulk Cable weight	N/A
		Max. Pulling Tension	80N
		Min. Bend Radius (Install)	8 x OD
		Outer Jacket Tensile Strength	≥ 9 Mpa
		Outer Jacket Elongation	≥ 100%
		Outer Jacket Ageing	168h @ 100°C
		Tensile Strength Variation	≥ 70% of Unaging
		Elongation Variation	≥ 50% of Unaging
		Cold Bend	No crack (-20°C - 4h)
	<b>Electrical Characteristics</b>	Nom. Mutual Capacitance	≤ 5.6 nF/100m (@ 1kHz)
		Pair-Ground Capacitance Unbalance	≤ 160 pF/100m
		Nominal Propagation Velocity	66%
		Max. Delay Skew	45 ns/100m
		Max. DC Conductor Resistance	93.8 Ω/km (@20°C)
		Max Conductor Resistance unbalance	2% (@20°C)
		Min. Insulation Resistance	5000 MΩ.km
		Max. Operating Voltage	300 V

CROSS SECTION



1	Outer Jacket
2	Braid
3	AL/Polyester
4	Inner Jacket
5	Insulation
6	Conductor
7	Tape

JACKET MARK

"TE CONNECTIVITY - TECC0052C5 - 4 X 24AWG 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	-	20.0	65.3	64.0	570.0
4	100 ± 15	4.1	23.0	56.3	52.0	552.0
8	100 ± 15	5.8	24.5	51.8	45.9	546.7
10	100 ± 15	6.5	25.0	50.3	44.0	545.4
16	100 ± 15	8.3	25.0	47.2	39.9	543.0
20	100 ± 15	9.3	25.0	45.8	38.0	542.0
25	100 ± 15	10.4	24.2	44.3	36.0	541.2
31.25	100 ± 15	11.7	23.3	42.9	34.1	540.4
62.5	100 ± 15	17.0	20.7	38.4	28.1	538.6
100	100 ± 15	22.0	19.0	35.3	24.0	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.**

EN 45545 R15&R16 HL3	T09.01 EN 60332-1-2	Single vertical flame	IEC 60332-1-2
	T09.03 EN50305 (for	Bunched cable flame	IEC 60332-3-25
	T13 EN 61034-2	Smoke emission	≥ 70%
	T15 EN 50305	Toxicity index	ITC ≤ 6
Ozone resista	(0.00015-0.00025%)(40±2) °C	No Crack	EN50305 7.4.2
Mineral oil resistance	IRM902/(25) °C X24h	Tensile strength Variation ≤ ±30%.	EN 60811-2-1 10
		Elongation at break Variation ≤ ±40%.	
Fuel resistance	IRM903/(25) °C X24h	Tensile strength Variation ≤ ±30%.	EN 60811-1-4 8.1
		Elongation at break Variation ≤ ±40%.	
Cold bend	- (20 ± 2) °C, 8D	No Crack	EN 60811-1-4 8.1
Assessment of halogens	HCl and HBr	≤ 0.5%	EN50267-2-1
	pH	≥ 4.3	EN50267-2-2
	Conductivity	≤ 10µS/mm	

Approval

Electronic sign off - no signatures will appear.