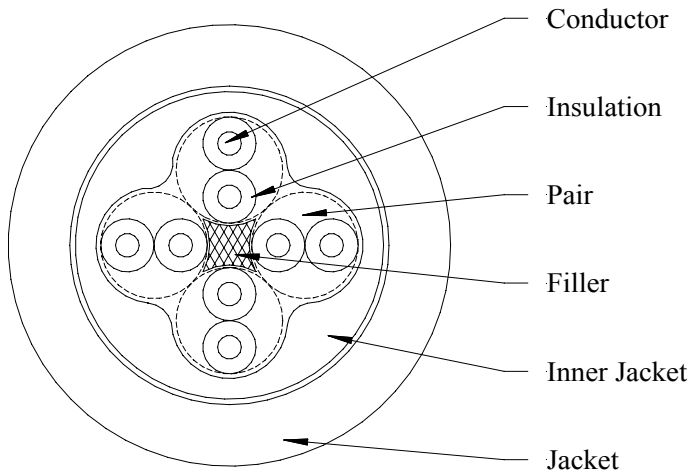


4 PAIR 24 AWG INDUSTRIAL ETHERNET CATEGORY 5E CABLE



CONSTRUCTION

Pair Component

Conductor: 24 AWG 19/36 Tin Plated Copper, 0.024 Inch Diameter
Insulation: 0.0095 Inches of High Density Polyethylene, 0.043 Inch Diameter
Pair: 2 Insulated Conductors Twisted Together, Lay Lengths Varied Between Pairs to Minimize Crosstalk

Final Assembly

Core: Cotton Filler
Layer 1: 4 Pairs (#1-4) Cabled Around Core
Inner Jacket: 0.016 Inches of Thermoplastic Elastomer, Color – Natural
Outer Jacket: 0.041 Inches of Thermoplastic Elastomer, Color – Teal Green
Diameter: 0.285 Inches Nominal
Print Legend (Black Ink): "MADISON CABLE 4PR/24 AWG Industrial Ethernet Category 5e 10151722 RoHS COMPLIANT {Date Code}"¹

¹ Date Code is a 4-digit code with the first two digits identifying the calendar week and the last two identifying the calendar year of manufacturing. Example – 0206 for cable manufactured in the second week of January 2006.

COLOR CODE

Pair #	Conductor #1	Conductor #2
1	White/Blue	Blue
2	White/Orange	Orange
3	White/Green	Green
4	White/Brown	Brown

ELECTRICAL CHARACTERISTICS

Frequency (MHz)	Attenuation ² dB/100m Nom.	NEXT ³ (dB/Min.)	PSNEXT ⁴ (dB/Min.)	ACR ⁵ (dB/M63.3in)
0.772	2.7	67.0	64.0	65.2
1	3.0	65.3	62.3	63.3
4	6.2	56.3	53.3	52.2
8	8.7	51.8	48.8	46.0
10	9.8	50.3	47.3	43.8
16	12.3	47.2	44.2	39.0
20	14.0	45.8	42.8	36.5
25	15.6	44.3	41.3	33.9
31.25	17.6	42.9	39.9	31.2
62.5	25.5	38.4	35.4	21.4
100	33.0	35.6	32.3	13.3

² Values shown are examples. Attenuation at any frequency between 0.772 and 100 MHz is $1.5(1.967\sqrt{f}+0.023+0.050/\sqrt{f})$ dB/100 meter Maximum, where f is frequency in MHz and measurement is on a length ≥ 100 meters.

³ Values shown are examples. NEXT at any frequency between 0.772 and 100 MHz is $35.3 - 15 \text{Log}_{10}(f/100)$ dB Minimum, where f is frequency in MHz and measurement is on a length ≥ 100 meters.

⁴ Values shown are examples. Power Sum NEXT at any frequency between 0.772 and 100 MHz is $32.3 - 15 \text{Log}_{10}(f/100)$ dB Minimum, where f is frequency in MHz and measurement is on a length ≥ 100 meters. Power Sum Crosstalk is defined as total energy that a pair receives when all other pairs are energized.

⁵ Attenuation Crosstalk Ratio. The difference between attenuation and crosstalk measured in dB at given frequency.

Frequency (MHz)	ELFEXT ⁴ (dB/Min.)	PSELFEXT ⁷ (dB/Min.)	RL ⁸ (dB/Min.)
1	63.8	60.8	20.0
4	51.8	48.8	23.0
8	45.7	42.7	24.5
10	43.8	40.8	25.0
16	39.7	36.7	25.0
20	37.8	34.8	25.0
25	35.8	32.8	24.2
31.25	33.9	30.9	23.3
62.5	27.9	24.9	20.7
100	23.8	20.8	19.0

⁶ Values shown are examples. ELFEXT at any frequency between 1 and 100 MHz is $23.8 - 20 \text{Log}_{10}(f/100)$ dB Minimum, where f is frequency in MHz and measurement is on a length ≥ 100 meters.

⁷ Values shown are examples. Power Sum ELFEXT at any frequency between 1 and 100 MHz is $20.8 - 20 \text{Log}_{10}(f/100)$ dB Minimum, where f is frequency in MHz and measurement is on a length ≥ 100 meters.

⁸ Values shown from 1-100 MHz are examples. Return Loss at any frequency between 1 and 10 MHz is $20 + 5 \text{Log}_{10}(f)$ dB Minimum, between 10 and 20 MHz is 25 Minimum, and between 20 and 100 MHz is $25 - 7 \text{Log}_{10}(f/20)$ dB Minimum, where f is frequency in MHz and measurement is on a length ≥ 100 meters.

REVISION HISTORY

1	11/06/08	DC	Initial Release
2	11/11/08	DC	Revised AWG Size, et. al.
3	11/24/08	DC	Revised print legend, removed Separator & UL
4	01/20/09	DC	Revised Ins wall/OD, Overall diameter, et. al.

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Spec Number: 101-8181
Part Number: 08QFILF023
Customer:
Customer #:

Prepared By: D.M. Card
Reviewed By: K. Arsenault M. Dupuis
Page: 1 of 2

Users should evaluate the suitability of this product for their application. Contact factory for latest revision of specification. Tyco Electronics reserves the right to make changes in materials or processing, which do not affect compliance with any specification, without notification to the Buyer.

4 PAIR 24 AWG INDUSTRIAL ETHERNET CATEGORY 5E CABLE

Impedance⁹: 100 ± 15 Ohms
Pair-to-Ground Capacitance Unbalance: 330 pF/100 m Maximum @ 1 kHz
Velocity of Propagation: 67% Nominal
Time Delay Skew: 45 ns/100 m Maximum from 1 – 100 MHz
Conductor DC Resistance: 24.0 Ohms/1000 ft Nominal @ 20°C
Conductor DC Resistance Unbalance: 5% Maximum

⁹ An Impedance-Like Function Fit to Data By Least Square Method.

MECHANICAL CHARACTERISTICS

Flex Life: 2 Million cycles Minimum. Tested on a C-track machine at @ 1 ½ inch minimum bend radius.

SAFETY CERTIFICATION

RoHS Compliance: In Accordance to European Directive 2002/95/EC, Issue 13.2.2003




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