

1) CONSTRUCTION:		NOM. DIA.
CONDUCTOR:	24 AWG 7/32 STRANDED TINNED COPPER	.0236"
INSULATION:	HIGH DENSITY POLYETHYLENE, .011" NOM. WALL THICKNESS	.046"
PAIRS:	COLOR CODED SINGLES TWISTED INTO PAIRS	.092"
CABLE:	(4) TWISTED PAIRS TWISTED TOGETHER AND WRAPPED WITH A FOAM POLYPROPYLENE TAPE TO FORM A CABLE CORE.	.197"
SHIELDS:	AN OVERALL SHIELD OF 38 AWG TINNED COPPER BRAID (75% MINIMUM COVERAGE), SHALL BE APPLIED OVER THE CABLE CORE. A SECOND SHIELD OF ALUMINIZED POLYESTER FOIL (FOIL IN, 100% COVERAGE) SHALL BE APPLIED OVER THE BRAID.	.216"
JACKET:	THERMOPLASTIC ELASTOMER, (COLOR, PER CHART 1), .037" NOM. WALL THICKNESS (PRESSURE) OVERALL CABLE DIAMETER	.290" ± .010" (BY CALIPER)

2) PHYSICAL PROPERTIES:	
TEMPERATURE RATING, MAX.	75°C & 80°C
TEMPERATURE RATING, MIN.	-40°C (MANUFACTURER'S RECOMMENDED)
WT./M', NOM., NET.	46.7 LBS.
JACKET IS WELD SPATTER RESISTANT	
JACKET IS SUNLIGHT RESISTANT	
FLEX LIFE (126 CYCLES/MIN, @ 20°C)	1 MILLION CYCLE TEST (10X CABLE O.D., MINIMUM RADIUS) 10 MILLION CYCLE TEST (20X CABLE O.D., MINIMUM RADIUS)
TORSION TEST (1 LB LOAD, 360°, 71 CYCLES/MIN, @ 20°C)	4.8 MILLION CYCLE TEST
PASSED ASSEMBLY TEST REQUIREMENTS	
JACKET CUTTING/MACHINING OIL RESISTANCE (6 MONTHS @ 20°C)	
TENSILE STRENGTH RETENTION, NOM.	80%
ELONGATION RETENTION, NOM.	100%

CHART 1:

QUABBIN P/N	JACKET COLOR
5089	BLACK
5090	TEAL
5091	BLUE
5092	RED
5093	VIOLET
5097	GRAY
5934	GREEN

3) ELECTRICAL CHARACTERISTICS:  
SEE PAGE 2

4) AGENCY APPROVALS:  
UL AWM STYLE 2463 (80C 600V)  
NEC (UL) TYPE CMX OUTDOOR - CM  
CEC C(UL) TYPE CMX OUTDOOR - CM  
EU CE MARK: MEETS EU DIRECTIVE 2011/65/EU (RoHS II)

5) APPLICATION:  
U.S. PATENT NO. US 8,487,184 B2

6) PRINT: (WHITE INK ON BLACK JACKET, ALL OTHERS BLACK INK)  
QUABBIN DATAMAX EXTREME HIGH FLEX  
INDUSTRIAL ETHERNET/IP PATCH CORD CAT 5e  
SF/UTP P/N (P/N PER CHART 1) -- U.S. PATENT NO. US 8,487,184 B2 -- C(UL)US TYPE CMX OUTDOOR - CM 4PR 24 AWG 75C SUN RES OR AWM 2463 80C 600V -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE)

7) COLOR CODE:  
1. BLUE X WHITE/BLUE  
2. ORANGE X WHITE/ORANGE  
3. GREEN X WHITE/GREEN  
4. BROWN X WHITE/BROWN

8) PACKAGING:  
TO BE PACKAGED AS PER QWC'S  
STANDARD PACKAGING

**PS1470**

Created 7/18/12	DRAWN: BMD 04/01/22	
REV. 13	CHECKED: ZRS 04/04/22	
TITLE 4PR. SF/UTP HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD -- CAT 5e		
DRAWING #		1 of 2

CUSTOMER APPROVAL:

DATE:

## 3) ELECTRICAL CHARACTERISTICS:

POE COMPLIANT TO 85 METERS WHEN INSTALLED PER RECOMMENDATIONS IN TIA TSB-184  
 CABLE WILL MEET CAT 5E CHANNEL REQUIREMENTS TO 85 METER LENGTH  
 CAPACITANCE, MUTUAL, NOM. 13.5 PF/FT. AT 1 MHz  
 DIELECTRIC WITHSTANDING, MIN. 2000V RMS  
 VOLTAGE RATING, MAX. 600V  
 D.C. RESISTANCE, MAX. 26.2  $\Omega$ /1,000' (14.0  $\Omega$ /100m)

**NOTE:** TESTING FOR THE FOLLOWING IS CONDUCTED OFF THE REEL. (FOR 100m OF CABLE)

IMPEDANCE	100 $\pm$ 15 $\Omega$ 1 - 100 MHz	
IMPEDANCE, SMOOTHED	100 $\pm$ 20 $\Omega$ TYPICAL 5 - 100 MHz	
RETURN LOSS	1 $\leq$ f < 10 MHz	20 + 6 LOG(f) dB MIN*
	10 $\leq$ f < 20 MHz	26 dB MIN*
	20 $\leq$ f $\leq$ 100 MHz	26 - 5 LOG(f/20) dB MIN*
NEXT	1 $\leq$ f $\leq$ 100 MHz	35.3 - 15 LOG(f/100) dB MIN
PSNEXT	1 $\leq$ f $\leq$ 100 MHz	32.3 - 15 LOG(f/100) dB MIN
ACRF	1 $\leq$ f $\leq$ 100 MHz	23.8 - 20 LOG(f/100) dB MIN
PSACRF	1 $\leq$ f $\leq$ 100 MHz	20.8 - 20 LOG(f/100) dB MIN
INSERTION LOSS	1 $\leq$ f $\leq$ 100 MHz	1.2[1.967 $\sqrt{f}$ + 0.023(f) + 0.050/ $\sqrt{f}$ ] dB MAX
DELAY	1 $\leq$ f $\leq$ 100 MHz	534 + 36/ $\sqrt{f}$ ns MAX
DELAY SKEW	1 $\leq$ f $\leq$ 100 MHz	<45 ns
COUPLING ATTENUATION TESTED PER IEC 62153-4-9	30 $\leq$ f $\leq$ 100 MHz	$\geq$ 60 dB E3* Segregation class d acc. EN 50174-2
VELOCITY OF PROPAGATION	68%	

\*PER ODVA VOLUME 2 ETHERNET/IP

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DRAWING #		QWC0038
		2 of 2

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