

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 WITH A CENTRAL SPLINE AND WRAPPED WITH A FOAM POLYPROPYLENE TAPE TO FORM A CABLE CORE.	.228"
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.	.247"
JACKET:	THERMOPLASTIC ELASTOMER, .039" NOM. WALL THICKNESS (PRESSURE)	.325" ± .010" (BY PI TAPE)
	OVERALL CABLE DIAMETER	

2) PHYSICAL PROPERTIES:	
TEMPERATURE RATING, MAX.	75°C & 80°C
TEMPERATURE RATING, MIN.	-20°C (PER UL 444 COLD BEND)
TEMPERATURE RATING, MIN.	-40°C (MANUFACTURER'S RECOMMENDED)
WT./M', NOM., NET.	51.2 LBS.
JACKET IS SUNLIGHT RESISTANT	
JACKET IS WELD SPATTER RESISTANT	
JACKET IS CUTTING/MACHINING OIL RESISTANT (PER QUABBIN TEST REPORT #TR 08-0001)	
(6 MONTHS @ 20°C)	
TENSILE STRENGTH RETENTION, NOM.	80%
ELONGATION RETENTION, NOM.	100%
FLEX LIFE (PENDING)	
(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 (PENDING)	
(1 LB LOAD, 360°, 71 CYCLES/MIN, @ 20°C)	3 MILLION CYCLE TEST

CHART 1:

QUABBIN P/N	JACKET COLOR
5925	BLACK

3) ELECTRICAL CHARACTERISTICS:  
SEE PAGE 2

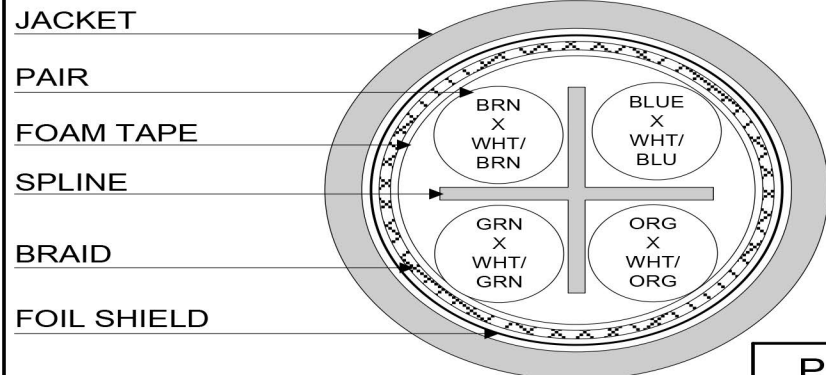
4) AGENCY APPROVALS:  
 NEC (UL) TYPE CMX OUTDOOR - CM  
 CEC C(UL) TYPE CMX OUTDOOR - CM  
 UL AWM STYLE 2463  
 EU CE MARK: MEETS EU DIRECTIVE 2011/65/EU (RoHS II)

5) APPLICATION:  
 SHIELDED FLEXIBLE PATCH/JUMPER CABLE TO SUPPORT SCREENED INDUSTRIAL ETHERNET/IP, TIA-568.2-D CATEGORY 6 AND 6a APPLICATIONS. U.S. PATENT NO. US 8,487,184 B2

6) PRINT: (WHITE INK ON BLACK JACKET)  
 QUABBIN DATAMAX EXTREME HIGH FLEX INDUSTRIAL ETHERNET/IP CAT 6/6a SF/UTP PATCH CORD P/N (QWC P/N PER CHART 1) -- U.S. PATENT NO. US 8,487,184 B2 -- C(UL)US TYPE CMX OUTDOOR - CM 24 AWG 75C SUN RES OR AWM 2463 80C 600V -- CAT 6a TIA-568.2-D -- CE RoHS -- (LOT DESIGNATOR) (SEQUENTIAL FOOTAGE)

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

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



PS1510

Created 02/17/14	DRAWN: SGH 04/05/19
REV. 03	CHECKED: ZRS 04/08/19



TITLE  
 4 PR 24 AWG SF/UTP HIGH FLEX INDUSTRIAL ETHERNET/IP PATCH CORD -- CAT 6/6a

DRAWING# QWC0071 1 of 2

CUSTOMER APPROVAL:

DATE:

3) ELECTRICAL CHARACTERISTICS:

POE COMPLIANT TO 88 METERS WHEN INSTALLED PER RECOMMENDATIONS IN TIA TSB-184  
 CABLE WILL MEET CAT 6a CHANNEL REQUIREMENTS TO 88 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 Ω/1,000'

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

IMPEDANCE, NOM.	100 ± 15 Ω 1 - 100 MHz 100 ± 20 Ω 100 - 500 MHz		
RETURN LOSS	1 ≤ f < 10 MHz 10 ≤ f < 20 MHz 20 ≤ f < 100 MHz 100 ≤ f ≤ 500 MHz	20 + 6 LOG(f) dB MIN* 26 dB MIN* 26 - 5 LOG(f/20) dB MIN* 25 - 8.6 LOG(f/20) dB MIN	
PS NEXT	1 ≤ f ≤ 500 MHz	42.3 - 15 LOG(f/100) dB MIN	
NEXT	1 ≤ f ≤ 500 MHz	44.3 - 15 LOG(f/100) dB MIN	
PSACRF	1 ≤ f ≤ 500 MHz	24.8 - 20 LOG(f/100) dB MIN	
ACRF	1 ≤ f ≤ 500 MHz	27.8 - 20 LOG(f/100) dB MIN	
INSERTION LOSS	1 ≤ f ≤ 500 MHz	1.2 [1.82√(f) + 0.0091(f) + 0.25/√(f)] dB MAX	
DELAY	1 ≤ f ≤ 500 MHz	534 + 36/√(f) ns MAX	
DELAY SKEW	1 ≤ f ≤ 500 MHz	<45 ns	
PS ANEXT LOSS (6 AROUND 1)	1 ≤ f ≤ 500 MHz	62.5 - 15 LOG(f/100) dB MIN 67 dB MIN	50 - 500 MHz 1 - 50 MHz
PSAACRF	1 ≤ f ≤ 500 MHz	38.2 - 20 LOG(f/100) dB MIN	
COUPLING ATTENUATION	30 ≤ f ≤ 250 MHz	100 - 20 LOG(f) (MAX 60 dB) E3*	
VELOCITY OF PROPAGATION	68%		

\*PER ODVA VOLUME 2 ETHERNET/IP

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 4 PR 24 AWG SF/UTP HIGH FLEX INDUSTRIAL  
 ETHERNET/IP PATCH CORD -- CAT 6/6a

CUSTOMER APPROVAL:

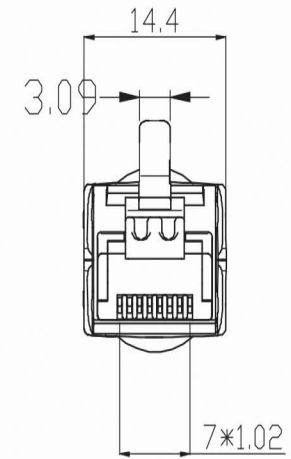
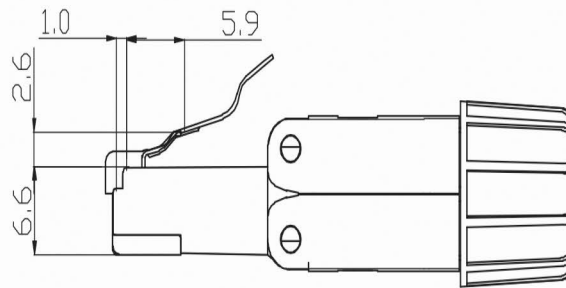
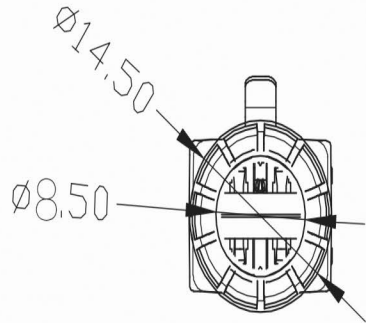
DATE:

DRAWING# QWC0071 2 of 2

C/NO:

Material No.:

MODIFICATION



**TYPE:**

- 1. RJ45 CAT6A UNSHIELDED TOOLLESS PLUG
- 2. COLOUR: WHITE

**CABLE MATCHED:**

- 1. SOILD AND STRANDED
- 2. 22AWG/23AWG/24AWG

**ELECTRICAL:**

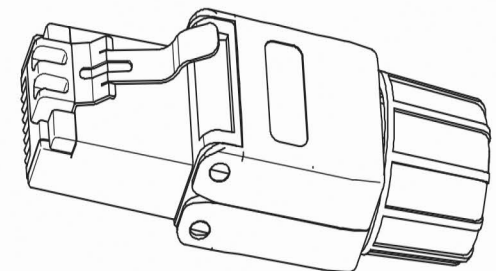
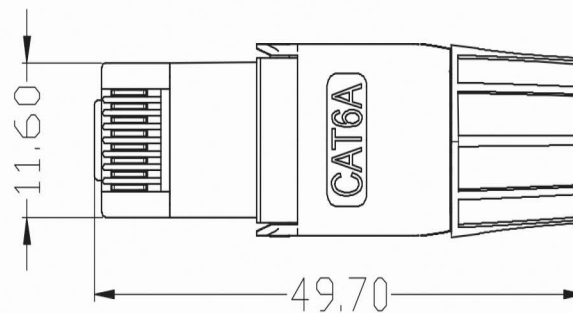
- 1. CONTACT RESISTANCE: 20m OHM
- 2. INSULATION RESISTANCE: <= 500M OHM @100 V DC
- 3. WITHSTAND VOLTAGE: DC1000V AC700V RMS 60HZ, IMIN
- 4. CAT6A PERMANENT LINK: CONFORM TO ANSI/TIA/EIA 568B. 2-10

**ENVIRONMENTAL:**

- 1. STORAGE: -40°/ +70°
- 2. OPERATION: -10°/ +60°

**MECHANICAL:**

- 1. PLASTIC MATERIAL: NEW PC
- 2. SHIELDED MATERIAL:ZINC ALLOY NICKEL PLATING
- 3. TERMINAL PINS: PHOSPHOR BRONZE, ZIN PLATING
- 4. RJ45 CONTACT LIFE: 750 TIMES MIN
- 5. IDC TERMINAL LIFE: 250 TIMES MIN



# Weltron®

Unit

SCALE

MATERIAL

DWG NO

SHEET

TITLE

44-751-8C6A-FTP