



# QMini Expanded Beam Connectors



**Military Aerospace Shipboard Industrial Mining Transportation Oil & Gas Broadcast Manufacturing Marine Energy Medical**



<b>Contents</b>	
<b>Product Introduction</b>	<b>Page 1</b>
<b>Specifications</b>	<b>Page 2</b>
<b>Part Number Builders</b>	<b>Page 3 - 6</b>
<b>Plug Line Drawings</b>	<b>Page 7 - 9</b>
<b>Receptacle Line Drawings</b>	<b>Page 10 - 18</b>
<b>Termini + Accessories</b>	<b>Page 19 - 20</b>

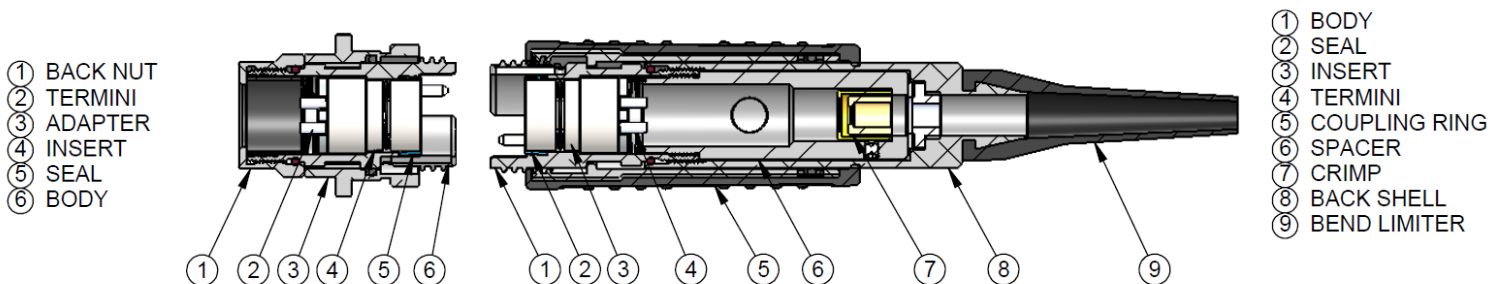


QPC's QMini Expanded Beam Fiber Optic Connectors are designed to meet the requirements of MIL-PRF-83526/20 & /21 Military Specifications. Expanded Beam fiber optic connectors are designed to operate in harsh environments, they use non-physical contact fiber optic termini that are fully sealed behind an anti-reflective coated ball lens. This lens expands the beam to many times its original size aiding optical alignment and minimizing the effects of dust, debris, vibration, and other environmental conditions. Because there is no wear on the optical surfaces / end faces of the termini during use, the QMini connector has excellent durability, in excess of 3,000 mating cycles, providing a long service life interconnect solution.

QMini is a hermaphroditic connector allowing multiple plug-to-plug cable assemblies to be combined to extend the length of the system. These connectors are available with two or four channels and with singlemode or multimode lenses. In addition to the standard plugs and receptacles, QPC offers a 90 Degree option for plugs and a Low Profile Backshell for receptacles for applications with space constraints. A QMini Receptacle to LC Adapter is also offered which provides a QMini interface on one end and LC Duplex on the other.

QMini Connectors are used in Oil & Gas, Mining, Factory Automation, Heavy Equipment, Marine, Broadcast, Medical, Military, Aerospace, and Defense for Communications, Audio / Video, and Sensing Applications.

- 2Ch / 4Ch Hermaphroditic Expanded Beam Connector System
- Plugs: With and without Rubber Grip, with Straight or 90 Degree Backshell
- Receptacles: Jam Nut, Flange Mount, and XLR Compatible Flange Mount, with or without Backshells, QMini to LC adapter
- Standard Cable OD up to 7.5mm, Extended Heat Shrink Strain Relief up to 10.5mm
- Designed to MIL-DTL-83526/20 (Plug) & MIL-DTL-83526/21 (Jam Nut Receptacle)
- Intermateability: Tyco Pro Beam Jr., Amphenol TACBeam, Glenair GMA, Stratos HMA, Fibreco Junior, DiGiCo Compatible
- Sealed to IP68



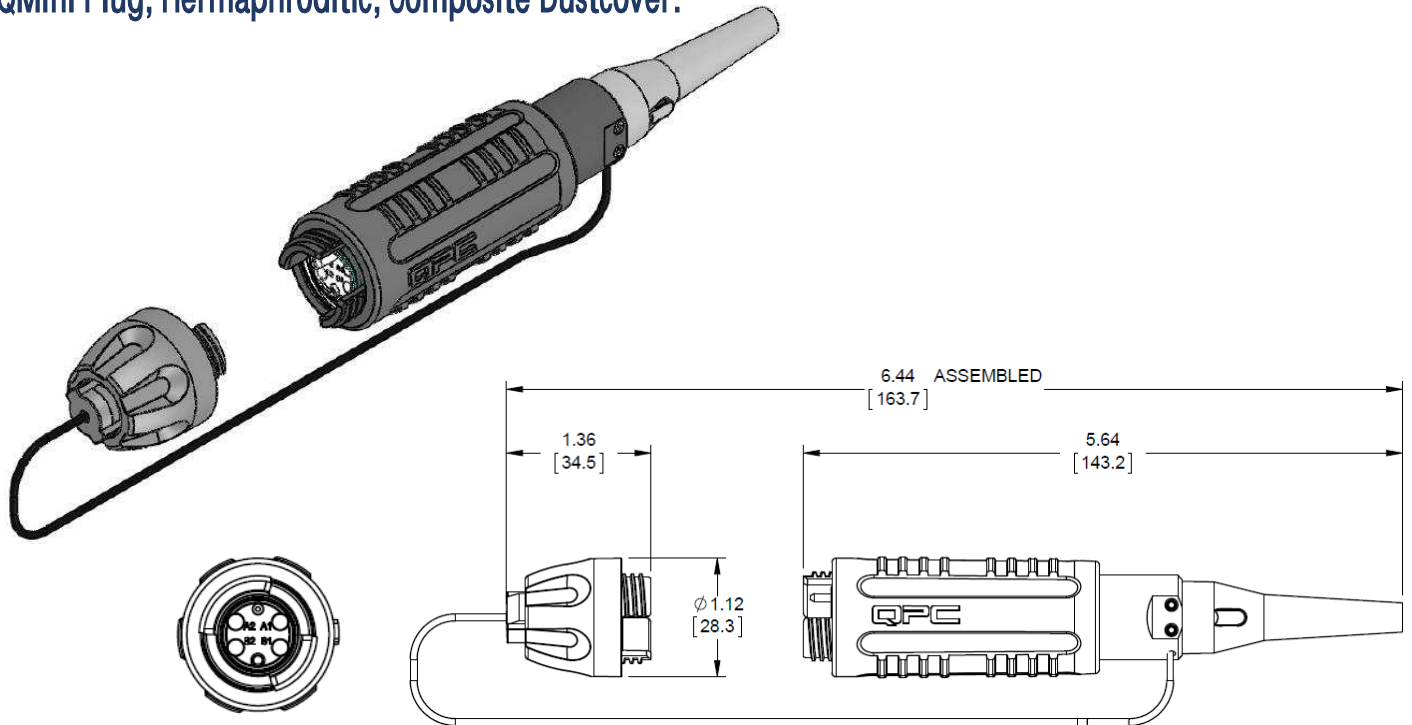
## Specifications:

<b>Insertion Loss:</b> SM (9/125µm)	0.75-2.0dB Max.
<b>MM (50/125µm)</b>	0.50-1.5dB Max.
<b>MM (62.5/125µm)</b>	0.50-1.5dB Max.
<b>Return Loss:</b> SM (9/125µm)	-34dB
<b>Operating Temperature:</b>	-46°C to +85°C
<b>Vibration:</b>	10 to 500Hz / 10g
<b>Mating Durability:</b>	3000 Cycles
<b>Impact:</b>	8 Impacts @ 8FT (2.5MT), EIA/TIA-455-2
<b>Shock:</b>	50g for 11ms, EIA/TIA-455-14, Condition A
<b>IP Rating:</b>	IP68 - Dust Tight, No ingress of dust; complete protection against contact, Water Immersion, 1m
<b>Material &amp; Plating Specification:</b>	<p>Black Hard Anodize: 6061-T6 Aluminum; Anodize per MIL-A-8625 TYPE III CLASS 2, .0022/.0018 Thick (50% Penetration), Black</p> <p>Stainless Steel: 303 Stainless Steel; PASSIVATE PER QQ-P-35</p> <p>Olive Drab Zinc-Nickel: 6061-T6 Aluminum; Zinc-Nickel Followed by Olive Drab Chromate per AMS-2417 Electroless Nickel Plate .0003 to .00035 thickness as per AMS-C-26074 Alkaline Zinc-Nickel Plate .0003 to .0004 <b>thickness as per AMS 2417 "H" TY 2 Zinc Strike - .00005 - .000150 Thickness per ASTM B 633 "11" Dark Green</b> Olive Drab Chromate</p> <p>Black Zinc-Nickel: 6061-T6 Aluminum; Zinc-Nickel Followed by Black Chromate per AMS-2417 Electroless Nickel Plate .0003 to .00035 thickness as per AMS-C-26074 Alkaline Zinc-Nickel Plate .0003 to .0004 thickness as per <b>AMS 2417 "H" TY 2 Zinc Strike - .00005 - .000150 Thickness per ASTM B 633 "11" Black Chromate</b></p>

## Part Number Builder, QMini Plugs and Receptacles:

<b>Sample Part Number:</b> QMINI-PHHN-02SM-S75	<b>QMINI</b>	<b>- PHH</b>	<b>N</b>	<b>- 02</b>	<b>SM</b>	<b>- S 75</b>
<b>1 Series</b> QMINI						
<b>2 Product Type (Page 7-18)</b> PHH - PLUG, W/ RUBBER GRIP, COMPOSITE DUSTCOVER PEE - PLUG, W/ METAL COUPLING RING, METAL DUSTCOVER RFH - RECP FLANGE MOUNT, COMPOSITE DUSTCOVER RFE - RECP FLANGE MOUNT, METAL DUSTCOVER RJH - RECP JAM NUT, COMPOSITE DUSTCOVER RJE - RECP JAM NUT, METAL DUSTCOVER RXH - RECP FLANGE MOUNT RX, COMPOSITE DUSTCOVER RXE - RECP FLANGE MOUNT RX, METAL DUSTCOVER						
<b>3 Material &amp; Finish Code</b> N - ALUMINUM, HARD ANODIZE, BLACK S - STAINLESS STEEL, PASSVATED Z - ALUMINUM, ZINC OVER NICKEL, OLIVE DRAB K - ALUMINUM, ZINC OVER NICKEL, BLACK (CONSULT QPC FOR OTHER OPTIONS)						
<b>4 Channel Count</b> 02 - 2 CHANNEL, 2x 126µm TERMINI 04 - 4 CHANNEL, 4x 126µm TERMINI 00 - NO INSERT OR TERMINI (MUST BE ORDERED WITH STRAIN RELIEF "SXX")						
<b>5 Fiber Type</b> SM - SINGLEMODE, 1310/1550nm MM - MULTIMODE, 850/1300nm XX - NO INSERT OR TERMINI (MUST BE ORDERED WITH STRAIN RELIEF "SXX")						
<b>6 Strain Relief</b> S00 - NO BACKSHELL, NO CRIMPS (FOR 900µm BUFFER FIBER) (RECEPTACLE ONLY) S02 - NO BACKSHELL, 2mm CRIMPS (FOR 2mm BUFFER JACKET) (RECEPTACLE ONLY) S45 - STRAIN RELIEF FOR 3.6mm TO 4.5mm O.D. CABLE S55 - STRAIN RELIEF FOR 4.6mm TO 5.5mm O.D. CABLE S65 - STRAIN RELIEF FOR 5.6mm TO 6.5mm O.D. CABLE S75 - STRAIN RELIEF FOR 6.6mm TO 7.5mm O.D. CABLE S105 - HEAT SHRINK STRAIN RELIEF FOR 7.6mm TO 10.5mm O.D. CABLE SXX - NO CABLE INTERFACE KIT (MUST BE ORDERED WITH CHANNEL COUNT "00" AND FIBER TYPE "XX")						
<i>*For Insert and Cable Interface Kit ordering information, see Pages 19-20</i>						

## QMini Plug, Hermaphroditic, Composite Dustcover:



## QMini Plug, Metal Coupling Ring, Metal Dustcover:

