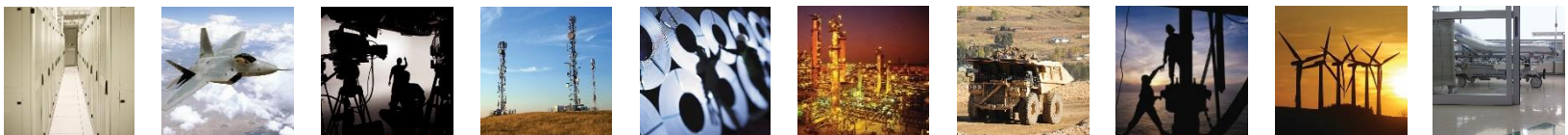


QMicro Expanded Beam Connectors



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



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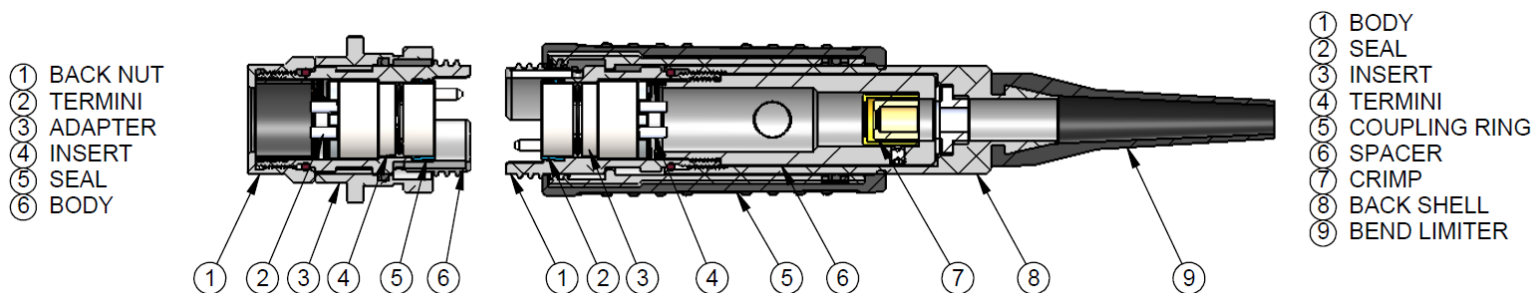


QPC's QMicro Expanded Beam Fiber Optic Connectors are smaller versions of QPC's QMini connectors which are designed to meet the requirements of MIL-PRF-83526/20 & /21 Military Specifications. Expanded Beam fiber optic connectors are designed to operate in harsh environments, they use non-physical contact 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 QMicro connector has excellent durability, in excess of 3,000 mating cycles, providing a long service life interconnect solution.

QMicro 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 QMicro Receptacle to LC Adapter is also offered which provides a QMini interface on one end and LC Duplex on the other.

QMicro 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, QMicro to LC adapter
- Standard Cable OD up to 7.5mm, Extended Heat Shrink Strain Relief up to 9.5mm
- Intermateability: Tyco Pro Beam Mini, Stratos HMC, Fibreco Mini 2, Telecast MX
- Low Profile Receptacle Backshell Available for 2mm Simplex Cables
- Sealed to IP68



Specifications:

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

Part Number Builder, QMicro Plugs and Receptacles:

Sample Part Number: QMICRO-PHHN-02SM-S75		QMICRO	-	PHH	N	-	02	SM	-	S 75
1 <u>Series</u> QMICRO										
2 <u>Product Type (Page 7-16)</u> 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										
3 <u>Material & Finish Code</u> N - ALUMINUM, HARD ANODIZE, BLACK S - STAINLESS STEEL, PASSIVATED Z - ALUMINUM, ZINC OVER NICKEL, OLIVE DRAB K - ALUMINUM, ZINC OVER NICKEL, BLACK (CONSULT QPC FOR OTHER OPTIONS)										
4 <u>Channel Count</u> 02 - 2 CHANNEL, 2x 126µm TERMINI 04 - 4 CHANNEL, 4x 126µm TERMINI 00 - NO INSERT OR TERMINI (MUST BE ORDERED WITH STRAIN RELIEF "SXX")										
5 <u>Fiber Type</u> SM - SINGLEMODE, 1310/1550nm MM - MULTIMODE, 850/1300nm XX - NO INSERT OR TERMINI (MUST BE ORDERED WITH STRAIN RELIEF "SXX")										
6 <u>Strain Relief</u> S00 - NO BACKSHELL, NO CRIMPS (FOR 900µm BUFFER FIBER) (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 S95 - HEAT SHRINK STRAIN RELIEF FOR 7.6mm TO 9.5mm 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 17-18</i>										

Part Number Builder, QMicro 90° Plugs:

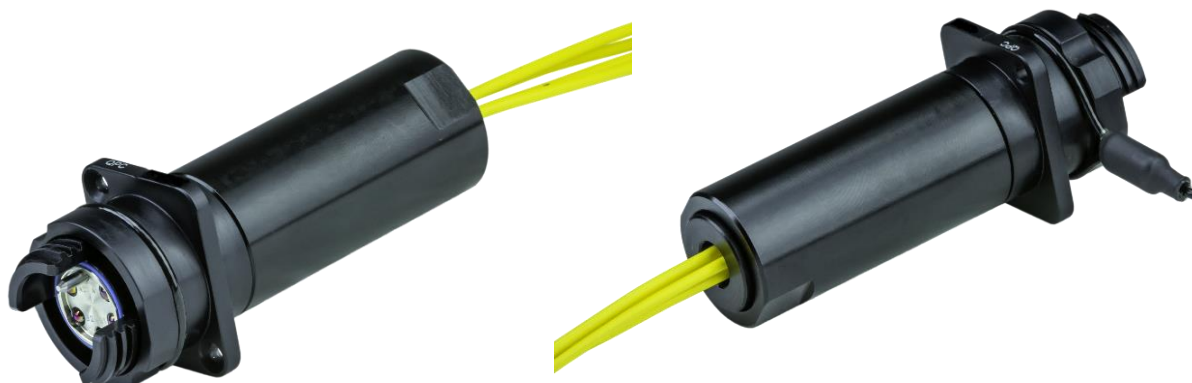
Sample Part Number: QMICRO90-PEHN-02SM-S75		QMICRO90	-	PEH	N	-	02	SM	-	S	75
1 <u>Series</u> QMICRO90											
2 <u>Product Type (Page 9)</u> PEH - PLUG, W/ METAL COUPLING RING, COMPOSITE DUSTCOVER PEE - PLUG, W/ METAL COUPLING RING, METAL DUSTCOVER											
3 <u>Material & Finish Code</u> N - ALUMINUM, HARD ANODIZE, BLACK S - STAINLESS STEEL, PASSIVATED Z - ALUMINUM, ZINC OVER NICKEL, OLIVE DRAB K - ALUMINUM, ZINC OVER NICKEL, BLACK (CONSULT QPC FOR OTHER OPTIONS)											
4 <u>Channel Count</u> 02 - 2 CHANNEL, 2x 126µm TERMINI 04 - 4 CHANNEL, 4x 126µm TERMINI 00 - NO INSERT OR TERMINI (MUST BE ORDERED WITH STRAIN RELIEF "SXX")											
5 <u>Fiber Type</u> SM - SINGLEMODE, 1310/1550nm MM - MULTIMODE, 850/1300nm XX - NO INSERT OR TERMINI (MUST BE ORDERED WITH STRAIN RELIEF "SXX")											
6 <u>Strain Relief</u> 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 SXX - NO CABLE INTERFACE KIT (MUST BE ORDERED WITH CHANNEL COUNT "00" AND FIBER TYPE "XX")											
*For Insert and Cable Interface Kit ordering information, see Pages 17-18											



Part Number Shown: QMICRO90-PEHN-04SM-S75

Part Number Builder QMicro Receptacle, Low Profile Backshell:

Sample Part Number: QMICRO-RFHN-02SM-L42		QMICRO	-	RFH		N	-	02		SM	-	L 42
1 Series QMICRO												
2 Product Type (Page 10, 12, & 15) 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												
3 Material & Finish Code N - ALUMINUM, HARD ANODIZE, BLACK S - STAINLESS STEEL, PASSIVATED Z - ALUMINUM, ZINC OVER NICKEL, OLIVE DRAB K - ALUMINUM, ZINC OVER NICKEL, BLACK (CONSULT QPC FOR OTHER OPTIONS)												
4 Channel Count 02 - 2 CHANNEL, 2x 126µm TERMINI 04 - 4 CHANNEL, 4x 126µm TERMINI 00 - NO INSERT OR TERMINI (MUST BE ORDERED WITH STRAIN RELIEF "LXX")												
5 Fiber Type SM - SINGLEMODE, 1310/1550nm MM - MULTIMODE, 850/1300nm XX - NO INSERT OR TERMINI (MUST BE ORDERED WITH STRAIN RELIEF "LXX")												
6 Strain Relief L42 - STRAIN RELIEF FOR 4X 2mm O.D. INDIVIDUAL JACKETED FIBERS L45 - STRAIN RELIEF FOR 3.6mm TO 4.5mm O.D. CABLE L55 - STRAIN RELIEF FOR 4.6mm TO 5.5mm O.D. CABLE L65 - STRAIN RELIEF FOR 5.6mm TO 6.5mm O.D. CABLE L75 - STRAIN RELIEF FOR 6.6mm TO 7.5mm O.D. CABLE LXX - NO CABLE INTERFACE KIT (MUST BE ORDERED WITH CHANNEL COUNT "00" AND FIBER TYPE "XX")												
<i>*For the Strain Relief option "LXX", crimps must be ordered separately, please contact QPC for ordering information</i>												

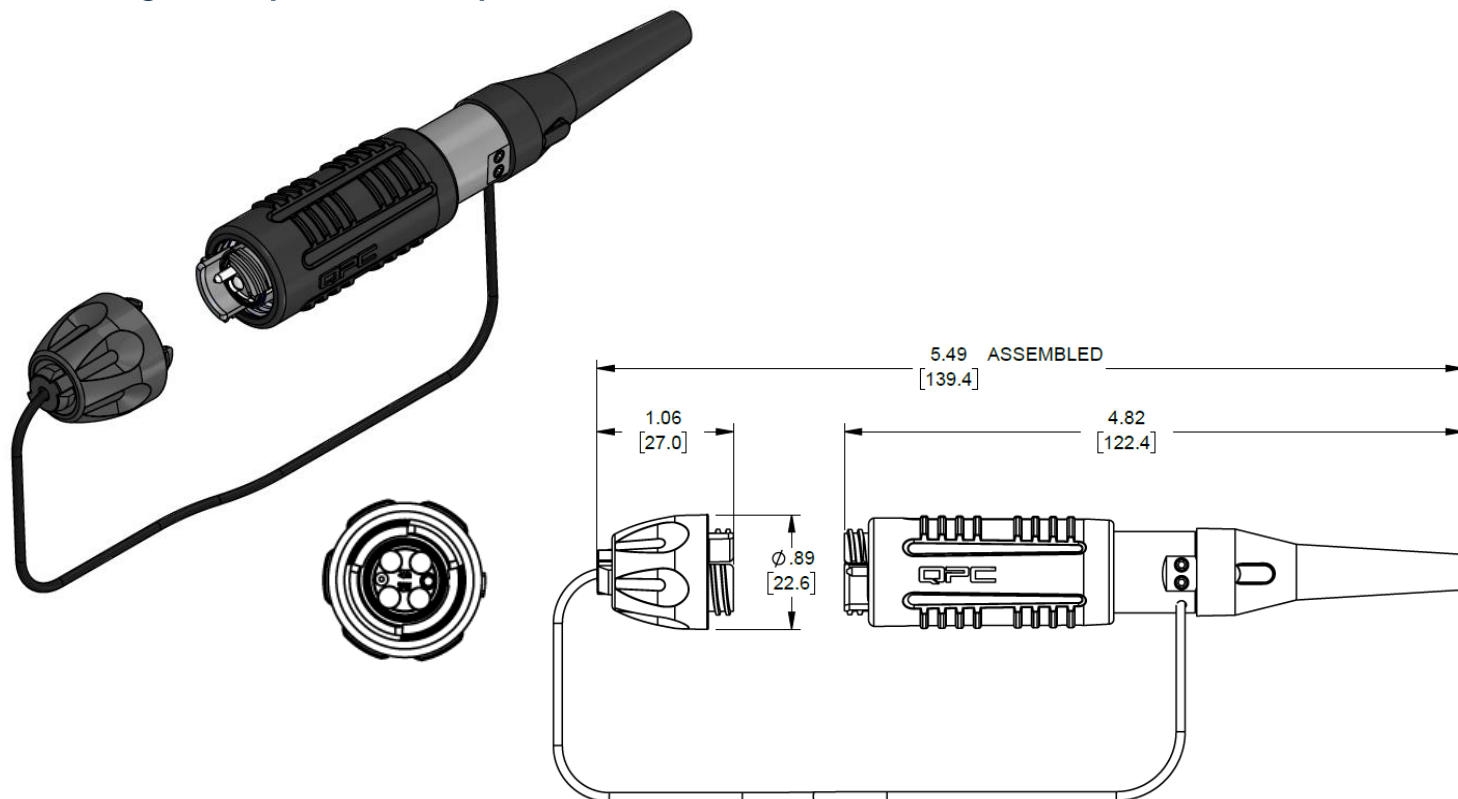


Part Number Shown: QMICRO-RXHN-04SM-L42

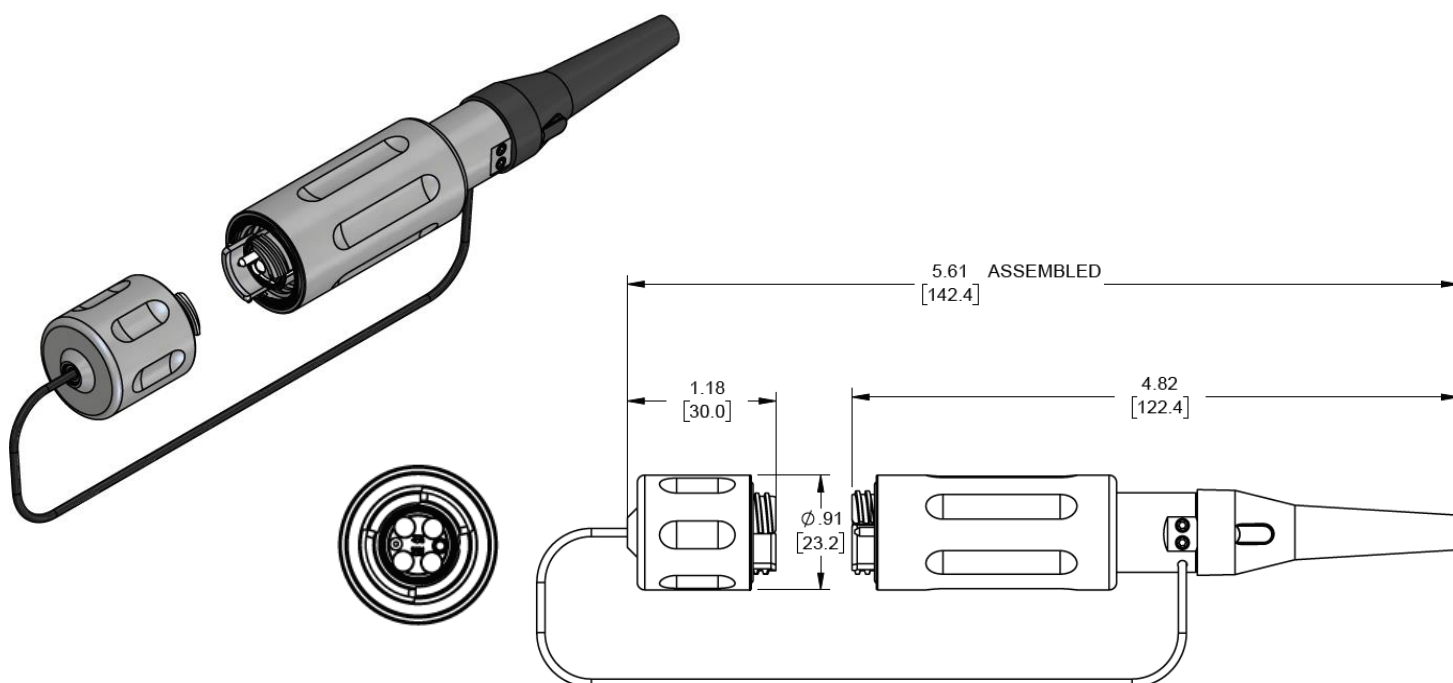
Part Number Builder, QMicro Jam Nut Receptacle to LC Adapter:

Sample Part Number: QMICROLC-RJHN-02SM-09		QMICROLC	-	RJH		N	-	02		SM	-	09
1	<u>Series</u> QMICROLC											
2	<u>Product Type (Page 14)</u> RJH - RECP JAM NUT, COMPOSITE HERM DUSTCOVER RJE - RECP JAM NUT, METAL HERM DUSTCOVER											
3	<u>Material & Finish Code</u> N - ALUMINUM, BLACK HARD ANODIZE S - STAINLESS STEEL, PASSIVATED Z - ALUMINUM, ZINC OVER NICKEL, OLIVE DRAB K - ALUMINUM, ZINC OVER NICKEL, BLACK (CONSULT QPC FOR OTHER OPTIONS)											
4	<u>Channel Count</u> 02 - 2 CHANNEL, 2x 126µm TERMINI 04 - 4 CHANNEL, 4x 126µm TERMINI											
5	<u>Fiber Type</u> SM - SINGLEMODE, 1310/1550nm MM - MULTIMODE, 850/1300nm											
6	<u>Fiber Size</u> 09 - 9/125µm SINGLEMODE 50 - 50/125µm MULTIMODE 62 - 62.5/125µm MULTIMODE											

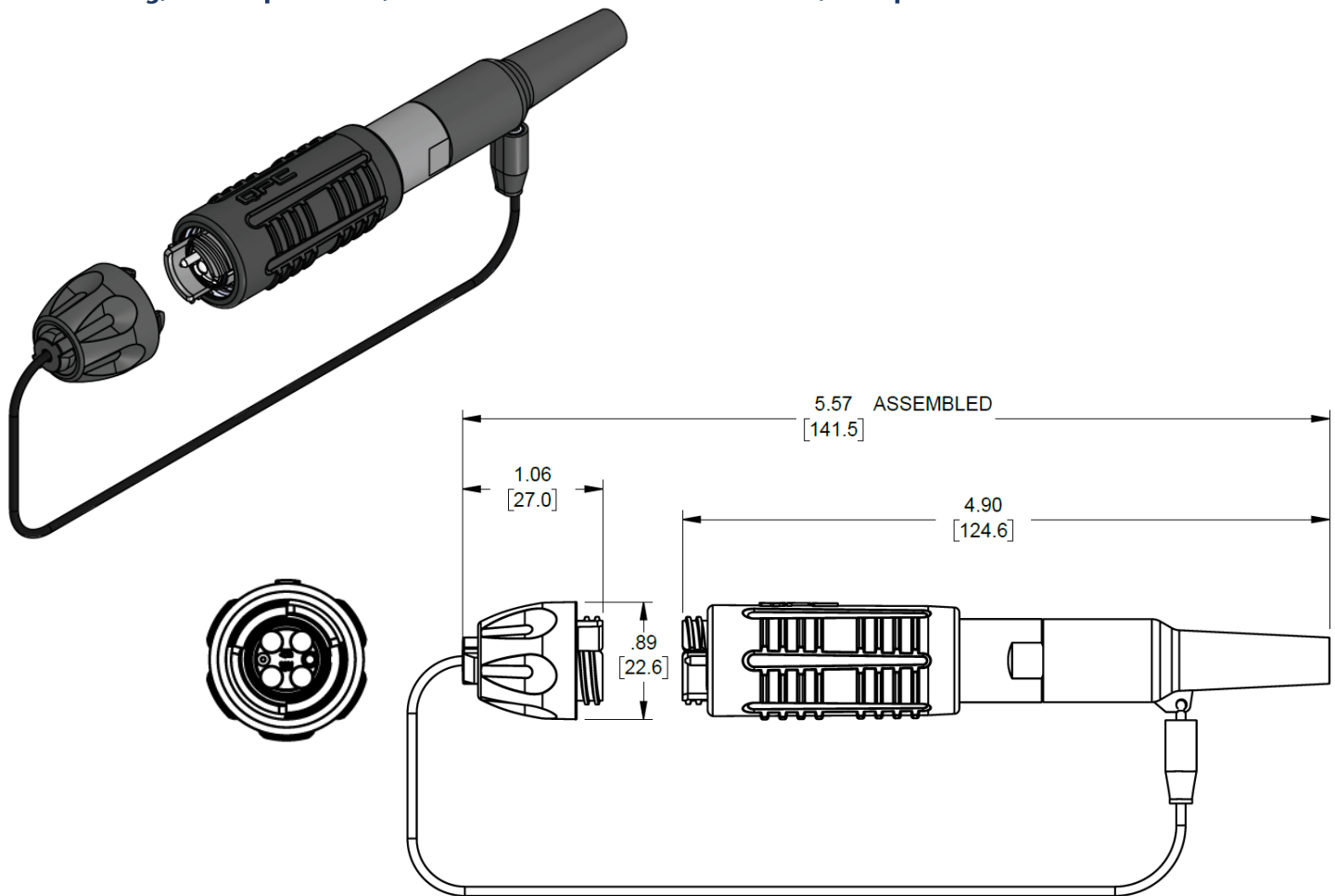
QMicro Plug, Hermaphroditic, Composite Dustcover:



QMicro Plug, Metal Coupling Ring, Metal Dustcover:



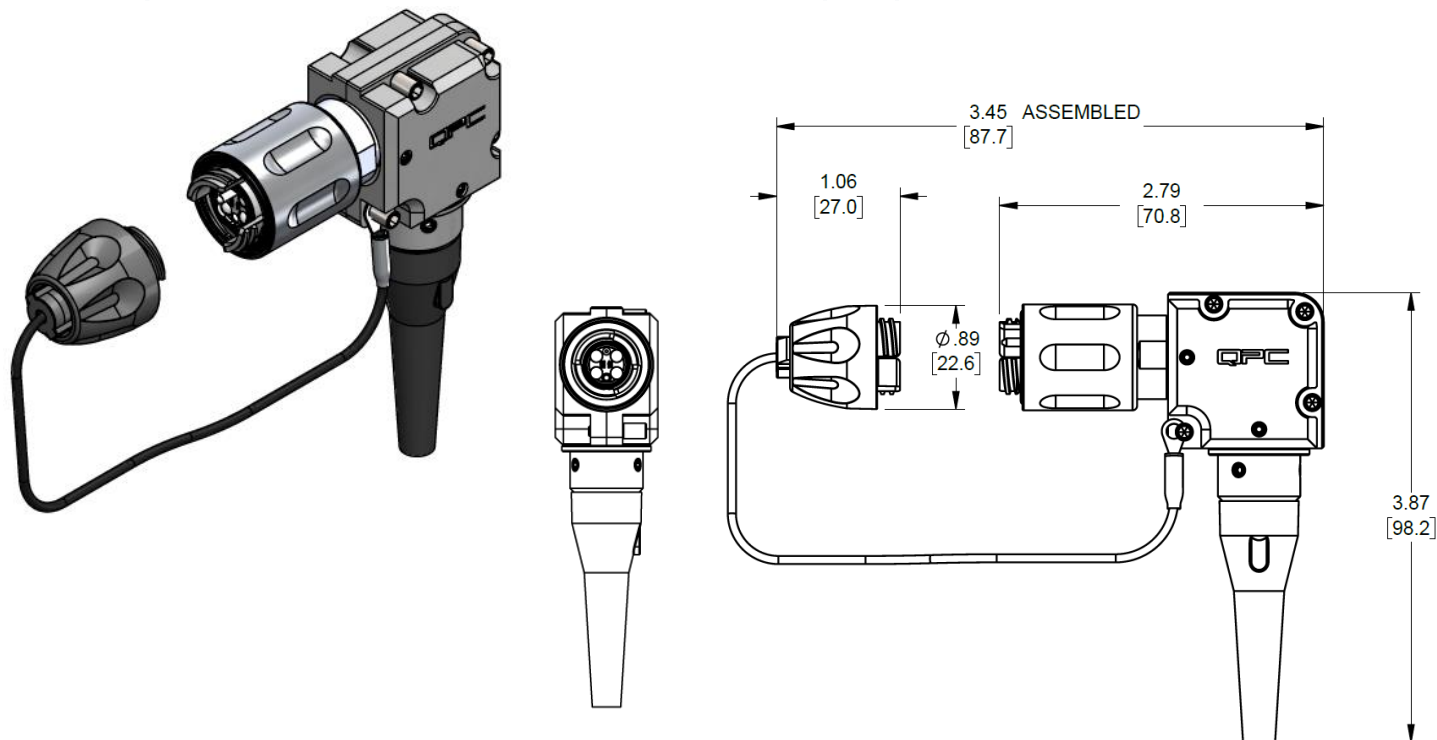
QMicro Plug, Hermaphroditic, 9.5mm Heat Shrink Strain Relief, Composite Dustcover:



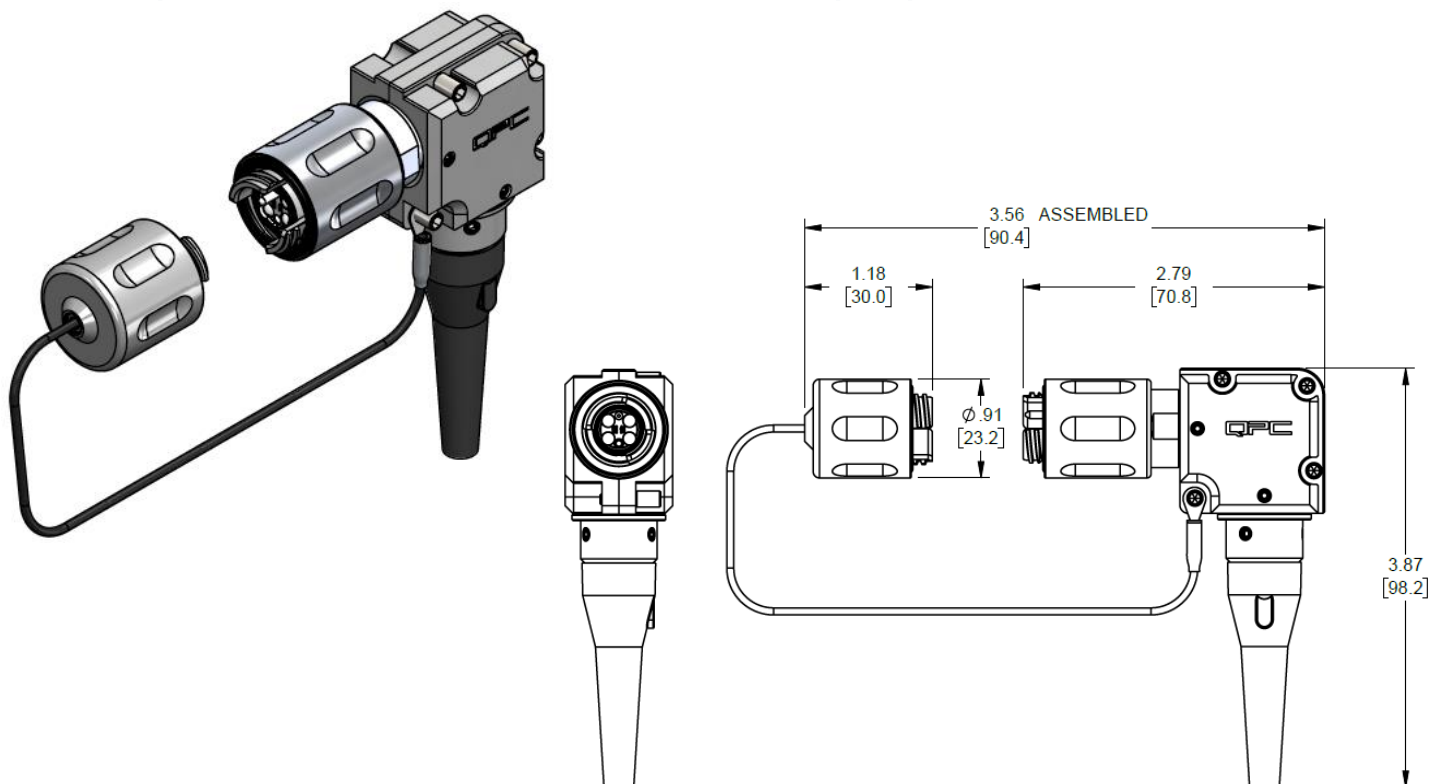
**Available with Metal Coupling Ring and Metal Dustcover (not shown)*

QMicro Expanded Beam Connectors

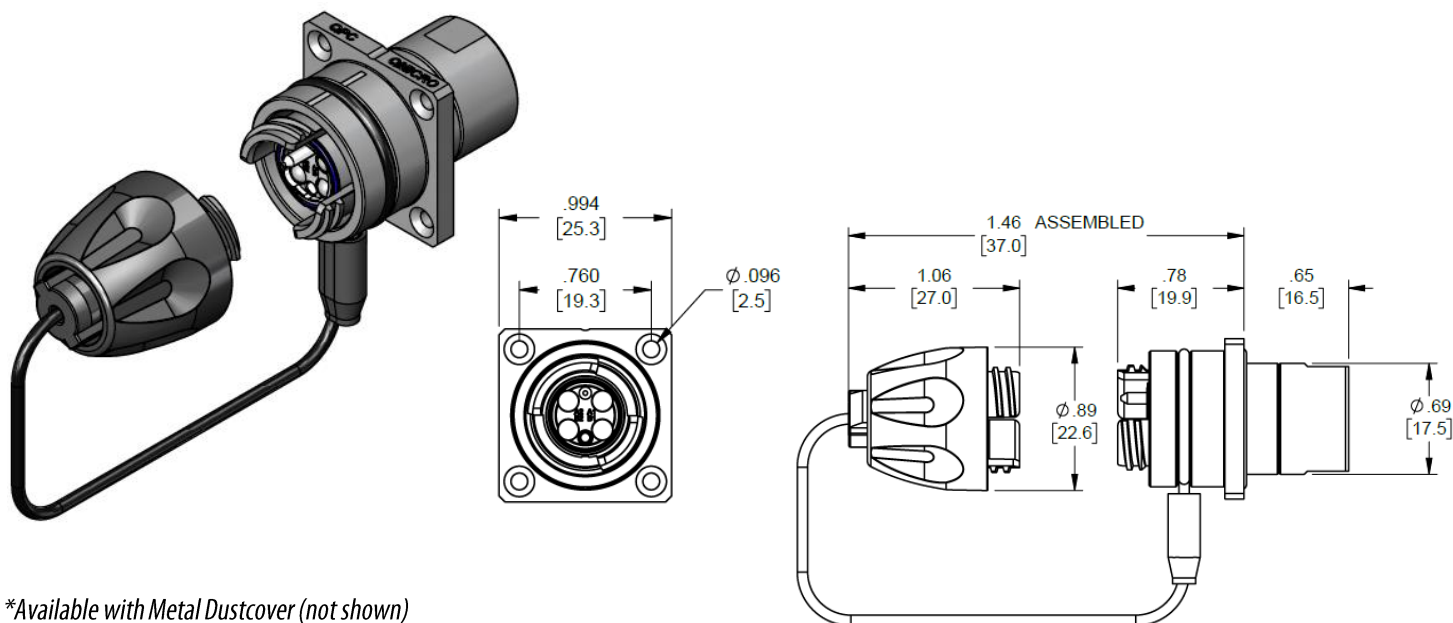
QMicro Plug, Hermaphroditic, 90° Backshell, Metal Coupling Ring, Composite Dustcover:



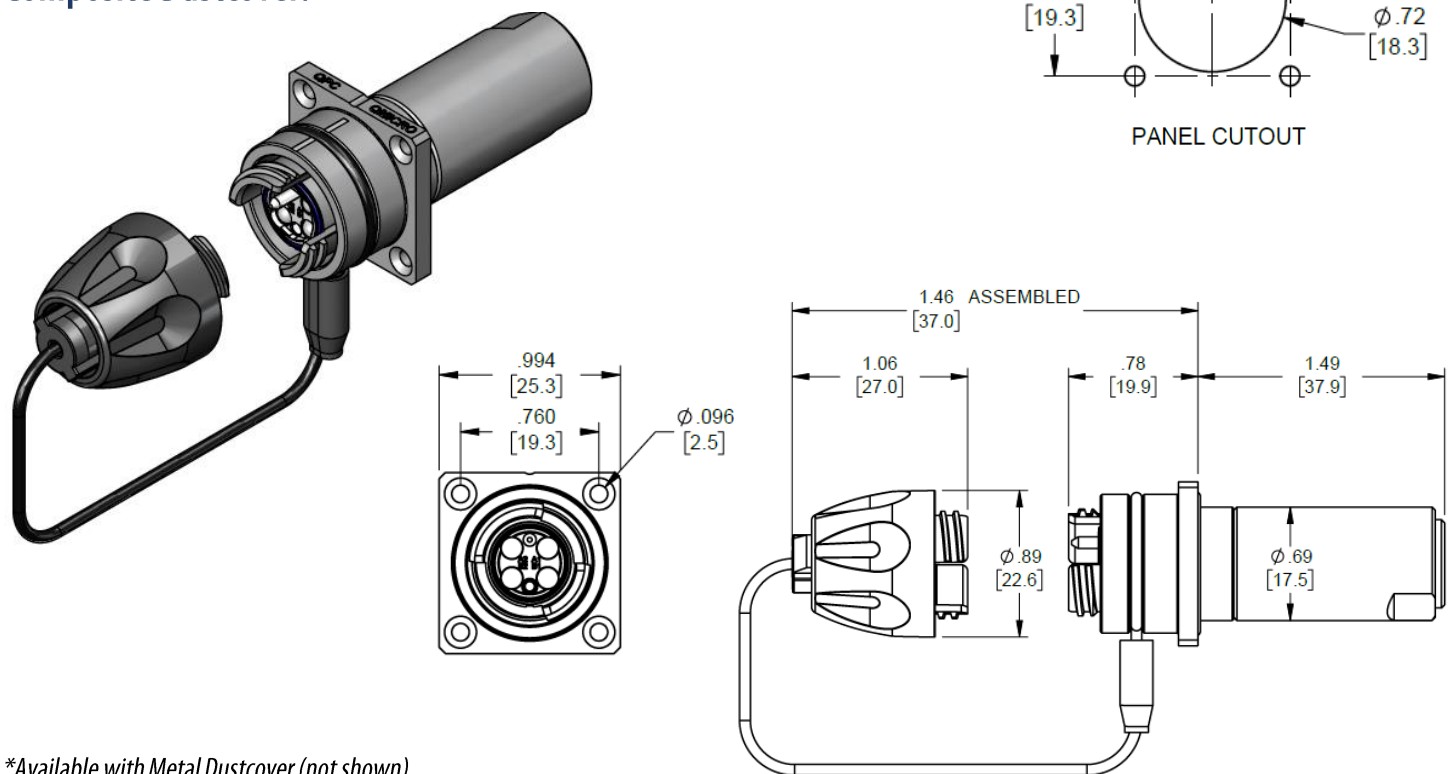
QMicro Plug, Hermaphroditic, 90° Backshell, Metal Coupling Ring, Metal Dustcover:



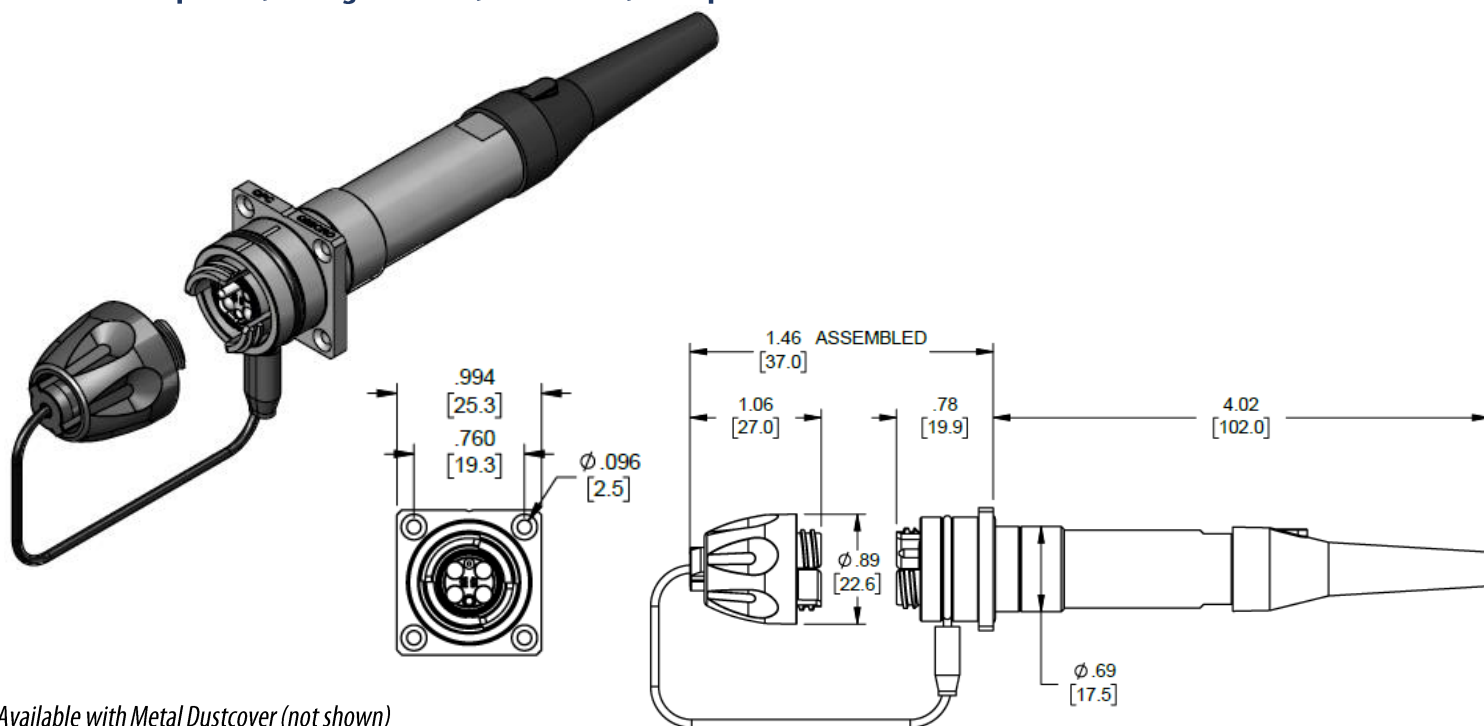
QMicro Receptacle, Flange Mount, Composite Dustcover:



QMicro Receptacle, Flange Mount, Low Profile Backshell, Composite Dustcover:

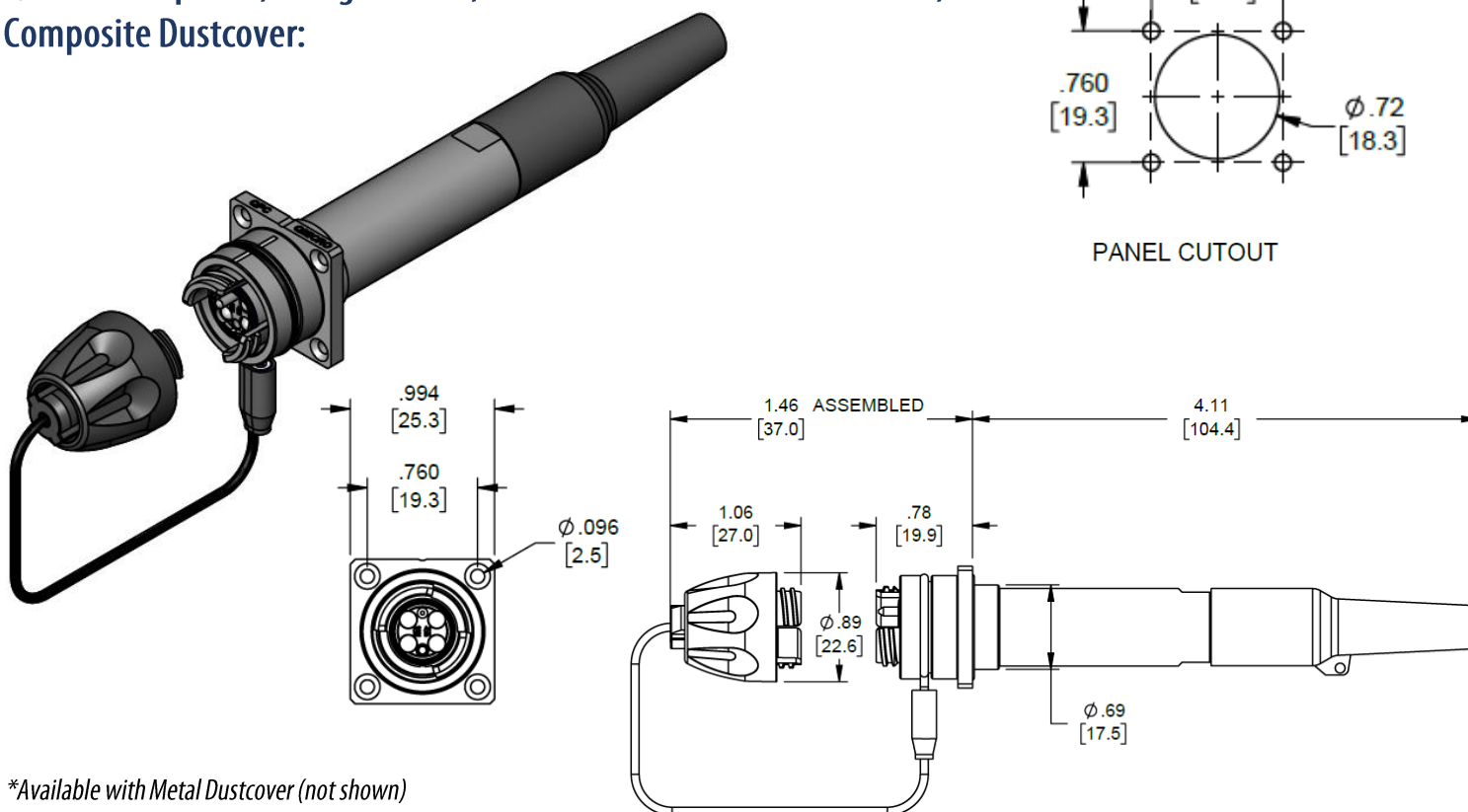


QMicro Receptacle, Flange Mount, Backshell, Composite Dustcover:



**Available with Metal Dustcover (not shown)*

QMicro Receptacle, Flange Mount, 9.5mm Heat Shrink Strain Relief, Composite Dustcover:



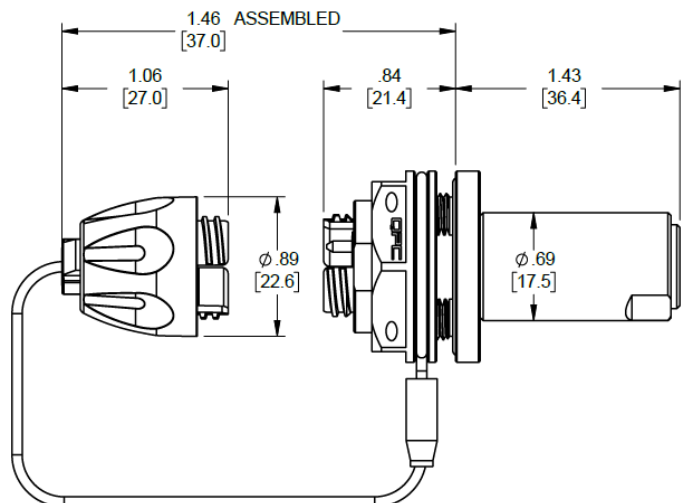
**Available with Metal Dustcover (not shown)*

Technical drawing of a cable gland assembly. The main view shows a cable gland with a cable passing through it, and a separate view shows the gland's internal structure with a dimension line indicating a diameter of 1.22 [31.0].

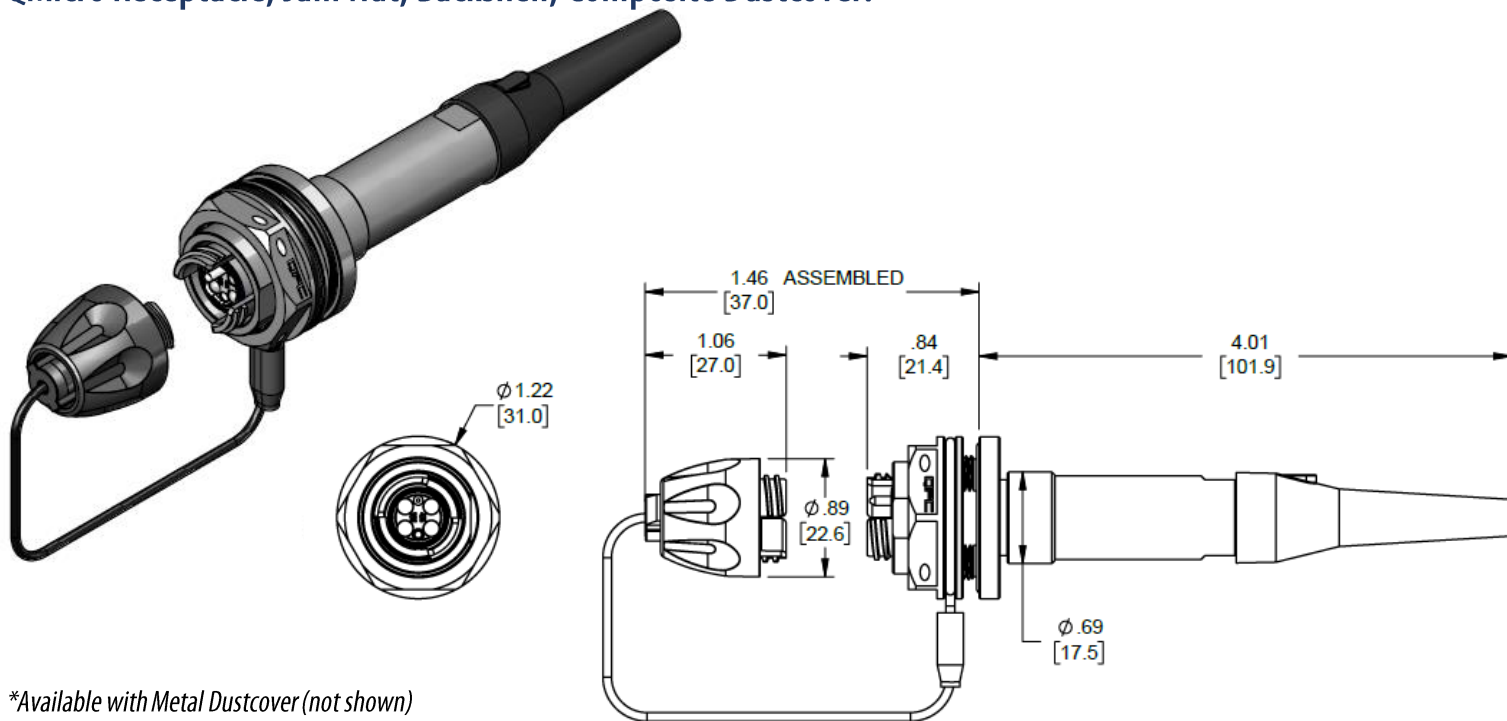
Technical drawing of the assembled device showing two views: a side view and a front view. The side view shows a total length of 1.46 [37.0] and a distance of 1.06 [27.0] from the left edge to the start of the threaded section. The threaded section has a diameter of Ø .89 [22.6]. The front view shows a total length of 1.46 [37.0] and a distance of .84 [21.4] from the left edge to the start of the threaded section. The threaded section has a diameter of Ø .69 [17.5]. The drawing is labeled "ASSEMBLED" at the top.

Technical drawing of a composite fastener with a cable. The main view shows the fastener with a cable attached. A detail view shows the internal structure of the fastener head, with dimensions $\varnothing 1.22$ and $[31.0]$ indicated.

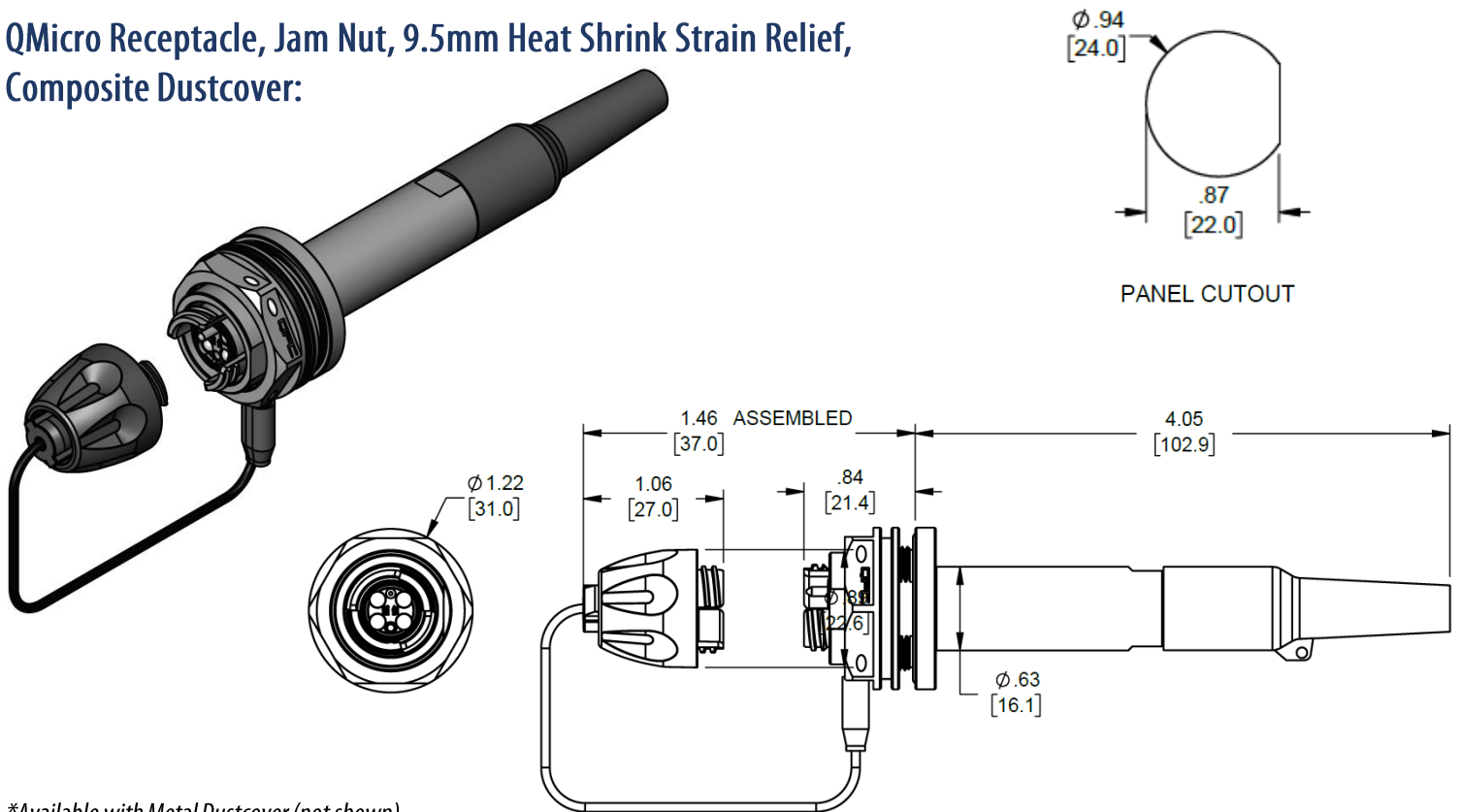
PANEL CUTOUT



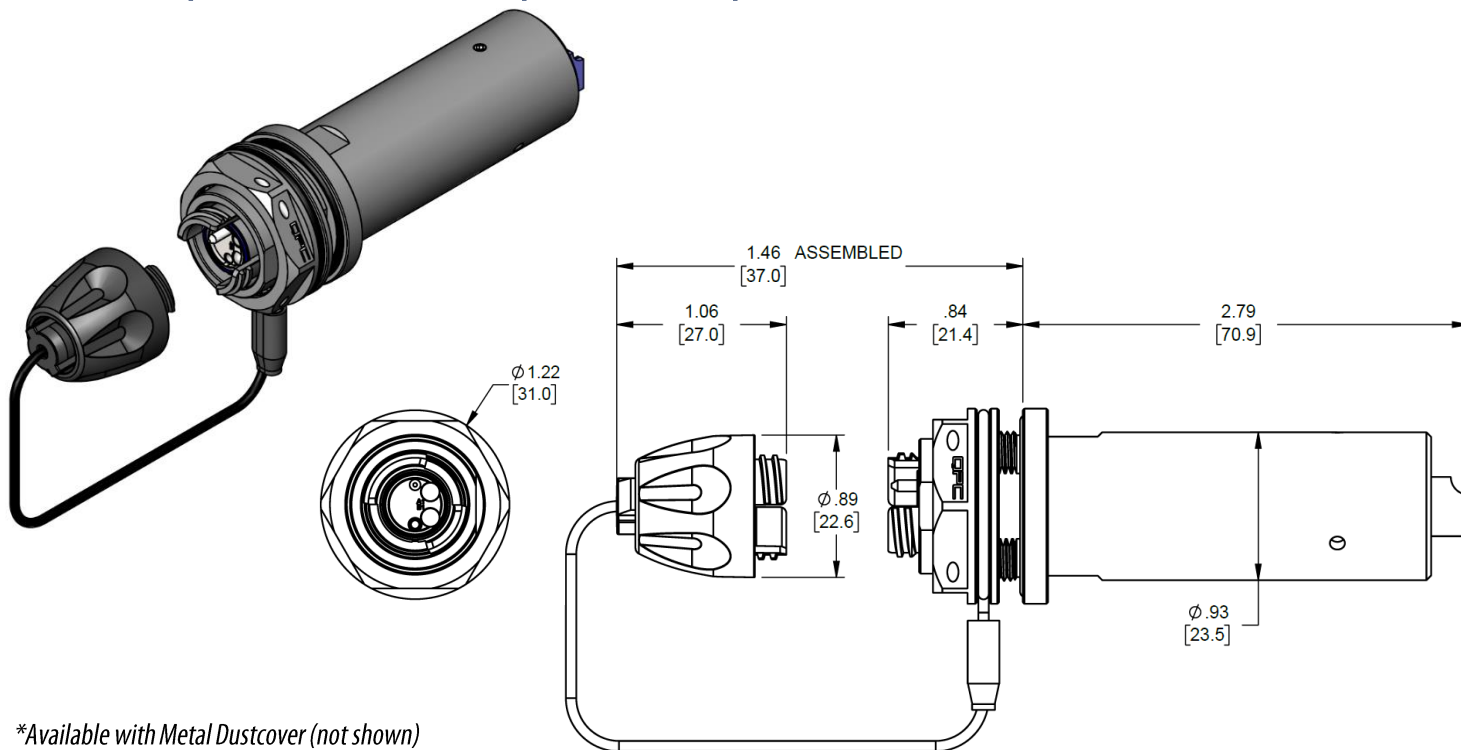
QMicro Receptacle, Jam Nut, Backshell, Composite Dustcover:



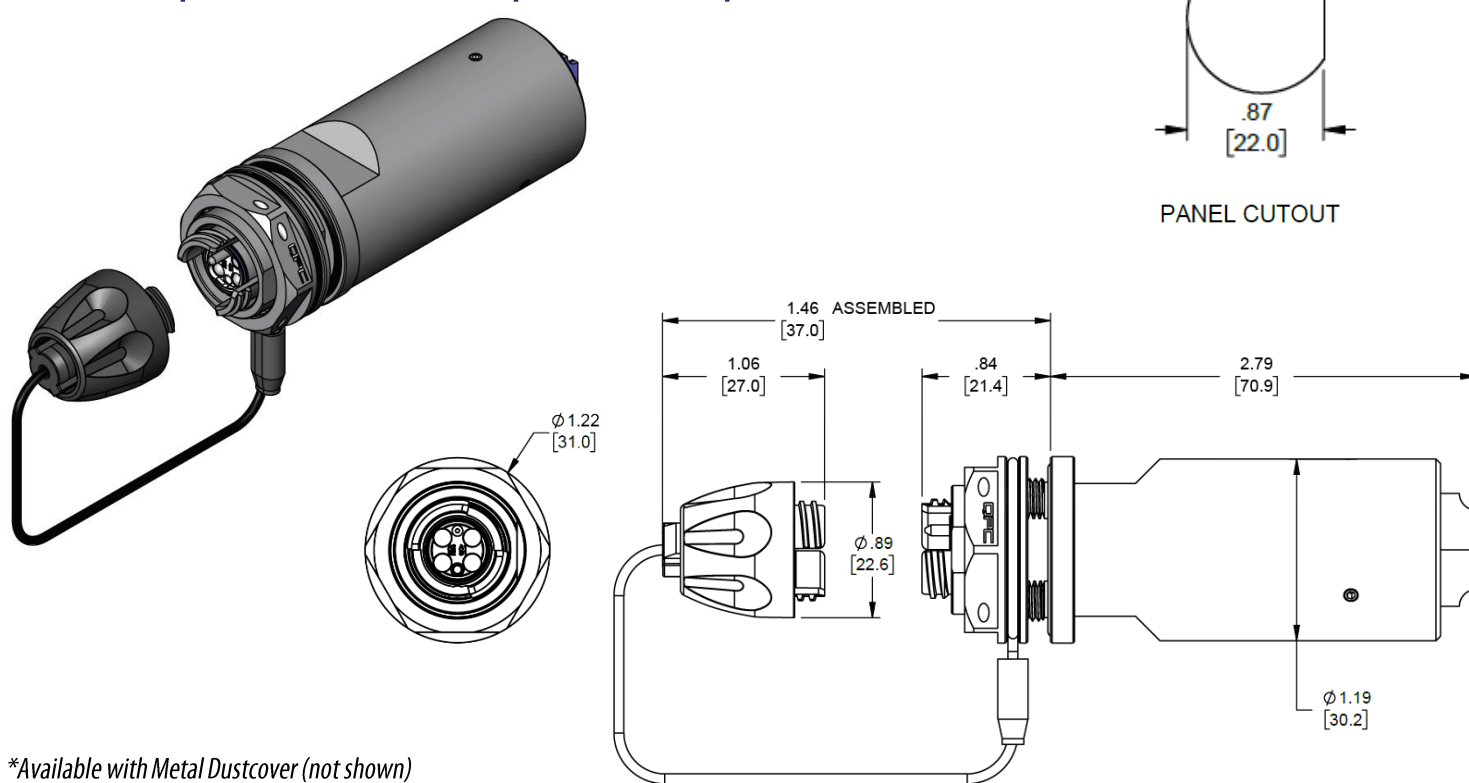
QMicro Receptacle, Jam Nut, 9.5mm Heat Shrink Strain Relief, Composite Dustcover:



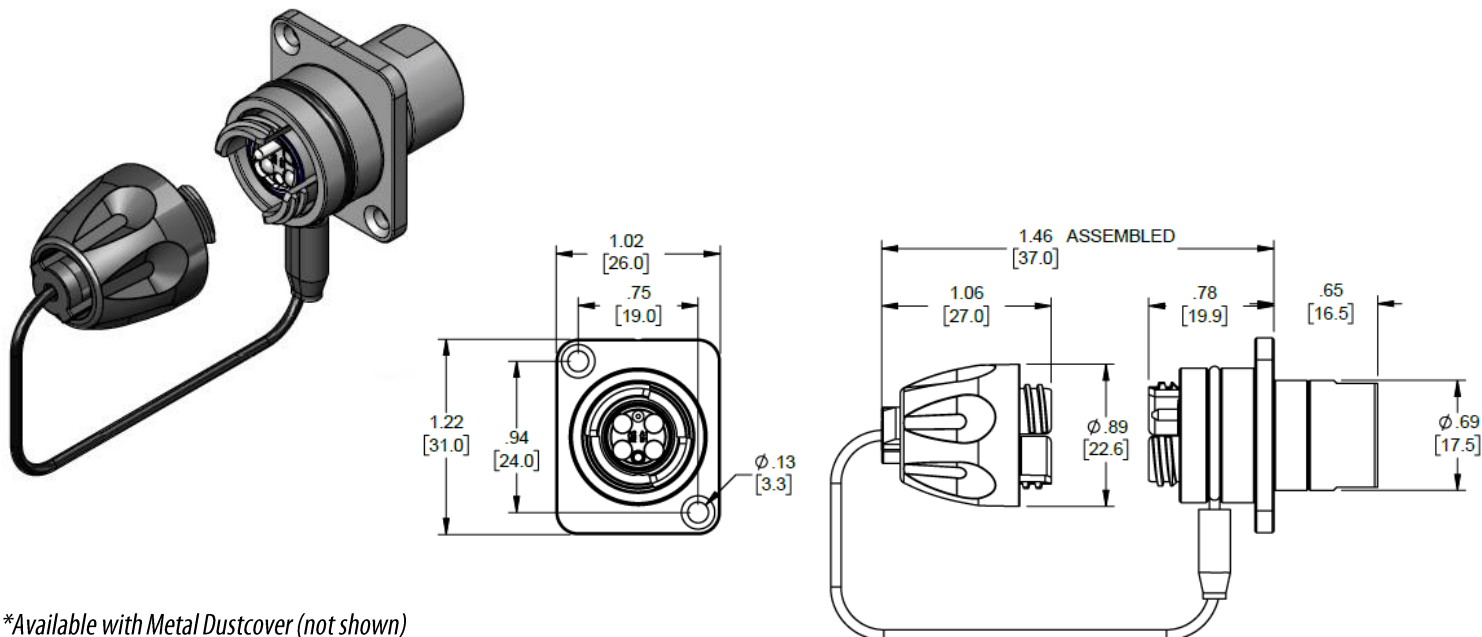
QMicro Receptacle, Jam Nut, LC Adapter, 2CH, Composite Dustcover:



QMicro Receptacle, Jam Nut, LC Adapter, 4CH, Composite Dustcover:

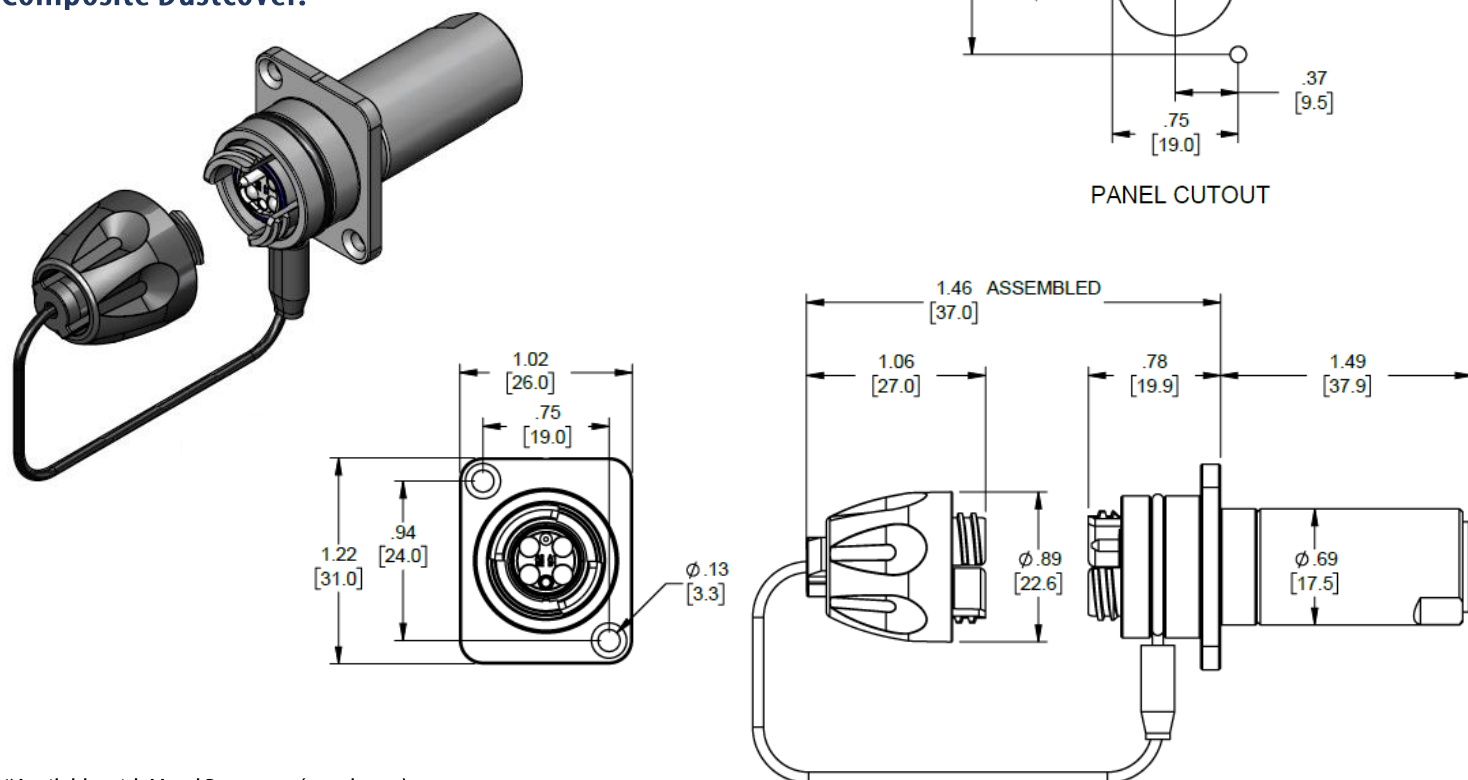


QMicro Receptacle, Flange Mount, Rx, Composite Dustcover:



**Available with Metal Dustcover (not shown)*

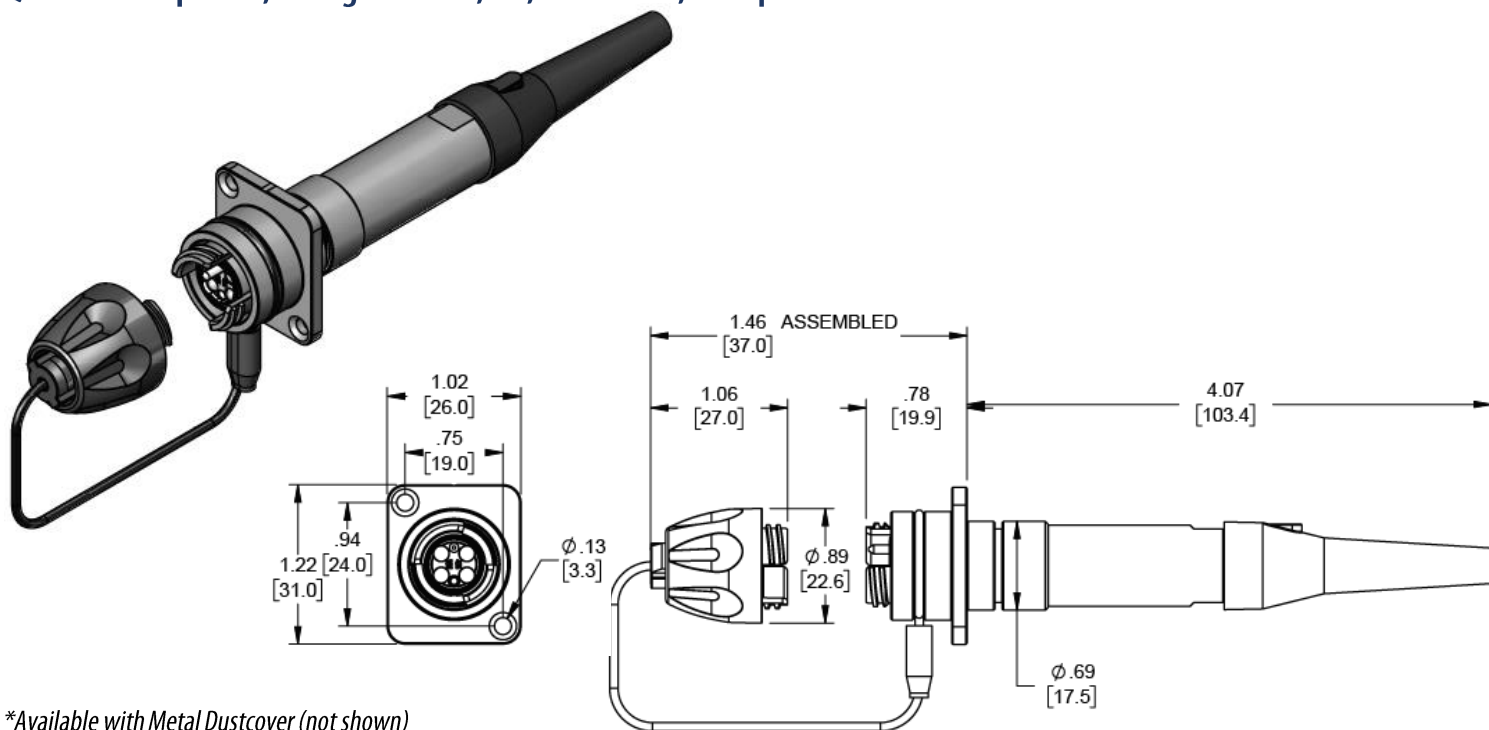
QMicro Receptacle, Flange Mount, Rx, Low Profile Backshell, Composite Dustcover:



**Available with Metal Dustcover (not shown)*

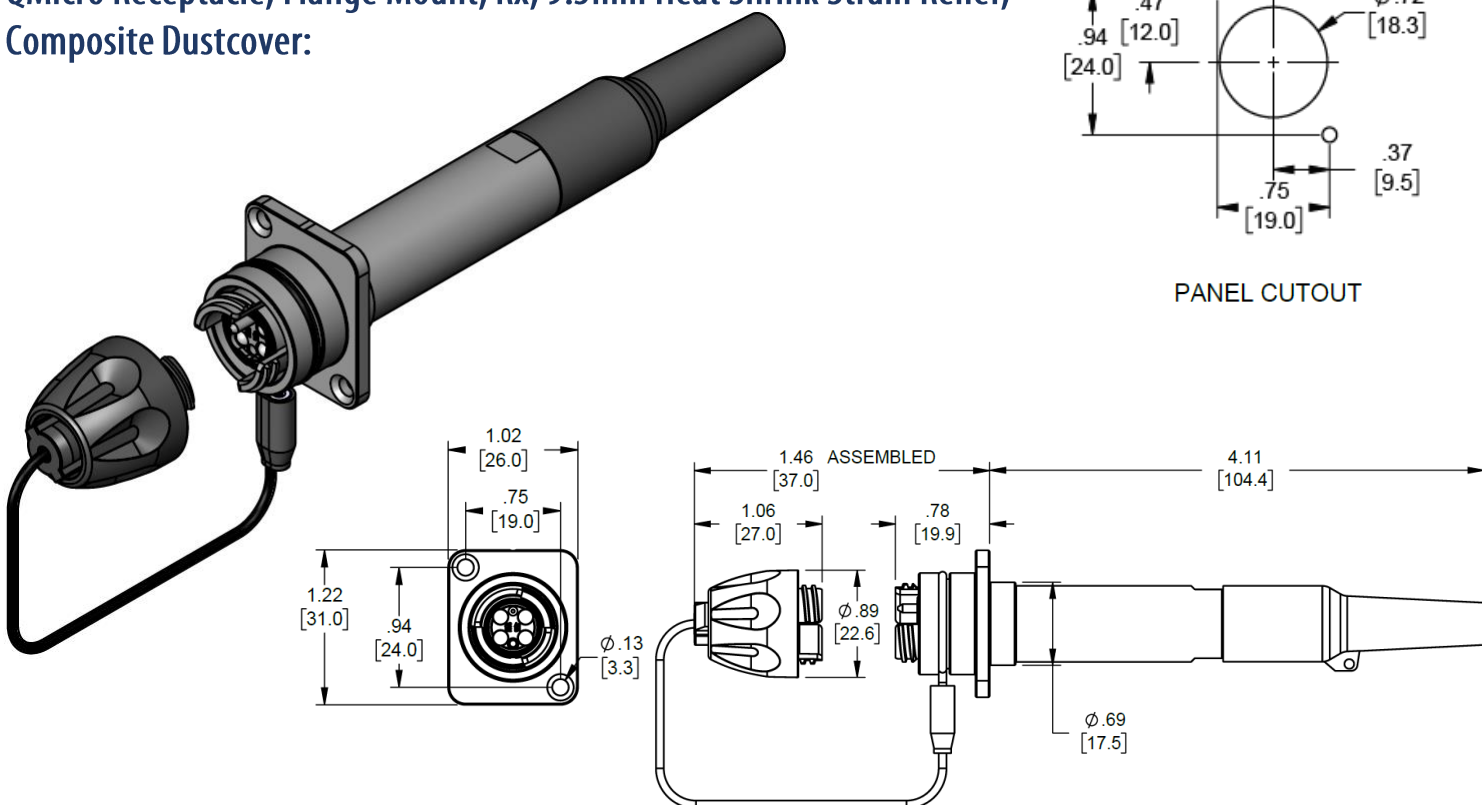
QMicro Expanded Beam Connectors

QMicro Receptacle, Flange Mount, Rx, Backshell, Composite Dustcover:



**Available with Metal Dustcover (not shown)*

QMicro Receptacle, Flange Mount, Rx, 9.5mm Heat Shrink Strain Relief, Composite Dustcover:



PANEL CUTOUT

**Available with Metal Dustcover (not shown)*

QMicro Termini:

PART NUMBER	DESCRIPTION
QM-TRM	Terminus Assembly; QMicro; 2.5mm Ferrule OD; 126µm Singlemode/Multimode

QMicro Dustcovers:

PART NUMBER	DESCRIPTION
QMICRO-DCHPP	Dust Cap; QMicro; Plug; Composite; Black
QMICRO-DCHPN	Dust Cap; QMicro; Plug; Metal; Hard Anodize; Black
QMICRO-DCHPS	Dust Cap; QMicro; Plug; Metal; Stainless Steel; Passivated
QMICRO-DCHPK	Dust Cap; QMicro; Plug; Metal; Zinc over Nickel; Black
QMICRO-DCHPZ	Dust Cap; QMicro; Plug; Metal; Zinc over Nickel; Olive Drab
QMICRO-DCHRP	Dust Cap; QMicro; Receptacle; Composite; Black
QMICRO-DCHRN	Dust Cap; QMicro; Receptacle; Metal; Hard Anodize; Black
QMICRO-DCHRS	Dust Cap; QMicro; Receptacle; Metal; Stainless Steel; Passivated
QMICRO-DCHRK	Dust Cap; QMicro; Receptacle; Metal; Zinc over Nickel; Black
QMICRO-DCHRZ	Dust Cap; QMicro; Receptacle; Metal; Zinc over Nickel; Olive Drab
QMICRO90-DCHPP	Dust Cap; QMicro; 90° Plug; Composite; Black
QMICRO90-DCHPN	Dust Cap; QMicro; 90° Plug; Metal; Hard Anodize; Black
QMICRO90-DCHPS	Dust Cap; QMicro; 90° Plug; Metal; Stainless Steel; Passivated
QMICRO90-DCHPK	Dust Cap; QMicro; 90° Plug; Metal; Zinc over Nickel; Black
QMICRO90-DCHPZ	Dust Cap; QMicro; 90° Plug; Metal; Zinc over Nickel; Olive Drab

QMicro Inserts:

PART NUMBER	DESCRIPTION
QMICRO-INS-02SM	QMicro Insert; 2 Channel; Singlemode (1310/1550nm); Includes Termini Retainer Plate and Screw
QMICRO-INS-02MM	QMicro Insert; 2 Channel; Multimode (850/1300nm); Includes Termini Retainer Plate and Screw
QMICRO-INS-04SM	QMicro Insert; 4 Channel; Singlemode (1310/1550nm); Includes Termini Retainer Plate and Screw
QMICRO-INS-04MM	QMicro Insert; 4 Channel; Multimode (850/1300nm); Includes Termini Retainer Plate and Screw

QMicro Strain Relief Kits:

PART NUMBER	DESCRIPTION
QMICRO-SRK-45	Cable Interface Kit; QMicro; Includes: Crimp, Crimp Support, Cable Seal, & Bend Limiter Boot; for Cable OD (3.6mm - 4.5mm)
QMICRO-SRK-55	Cable Interface Kit; QMicro; Includes: Crimp, Crimp Support, Cable Seal, & Bend Limiter Boot; for Cable OD (4.6mm - 5.5mm)
QMICRO-SRK-65	Cable Interface Kit; QMicro; Includes: Crimp, Crimp Support, Cable Seal, & Bend Limiter Boot; for Cable OD (5.6mm - 6.5mm)
QMICRO-SRK-75	Cable Interface Kit; QMicro; Includes: Crimp, Crimp Support, Cable Seal, & Bend Limiter Boot; for Cable OD (6.6mm - 7.5mm)
QMICRO-SRK-95	Cable Interface Kit; QMicro; Includes: Crimp, Crimp Support, Cable Seal, & Heat Shrink Boot; for Cable OD (7.6mm - 9.5mm)

QMicro Tools:

Tool PN	DESCRIPTION
TK-045	QMicro Tool Kit (Includes all items below)
PT-388	QMicro Torque Fixture
PT-540	Hydraulic Hand Crimper
PT-541	Die Set, 0.324 Hex
PT-005	Universal Crimp Tool - 2mm & 3mm (Hex Sizes: .131/.147/.171/.197)



QMicro Expanded Beam Connectors

Notes & Sketches:



Notes & Sketches:





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

