

QPlex Expanded Beam Connectors



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



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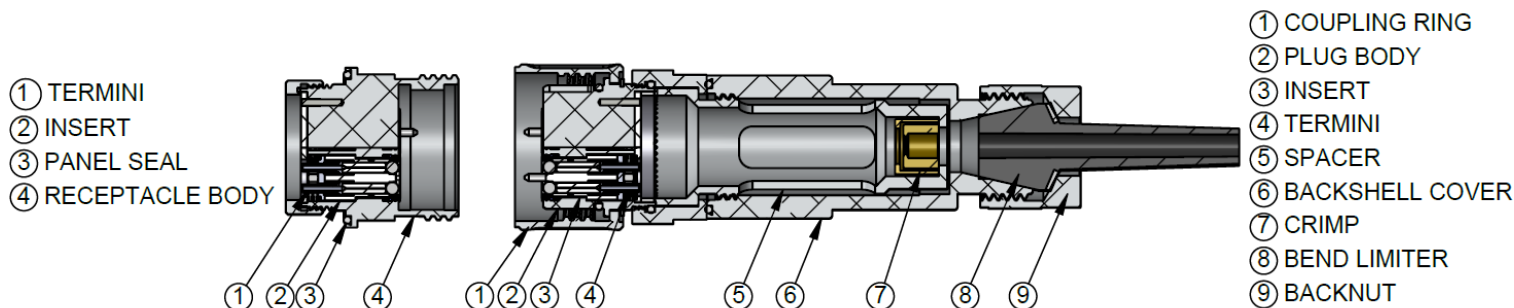


QPC's Q Plex Expanded Beam Fiber Optic Connectors are modular 2-24 Channel connectors featuring all the benefits of QPC's existing expanded beam connectors in a larger and more rugged shell. To achieve higher channel counts, Q Plex Connectors hold multiple QMicro optical inserts, the larger housings can hold 3, 4, or 6 of these inserts.

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 Q Plex connector has excellent durability, in excess of 3,000 mating cycles, providing a long service life interconnect solution.

Q Plex 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 - 24Ch Threaded Modular Expanded Beam Connector System
- Plugs: Three, Four, and Six Insert Positions with Straight Backshells
- Receptacles: Three, Four, and Six Insert Positions, Jam Nut and Flange Mount, with or without Backshells
- Standard Cable OD up to 12.5mm for Q Plex3 / Q Plex4
- Standard Cable OD up to 17.5mm for Q Plex6
- Sealed to IP68



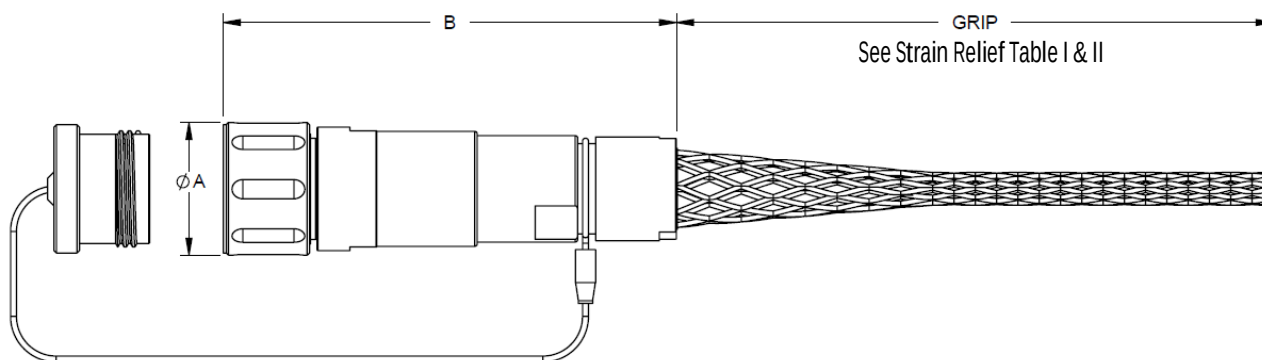
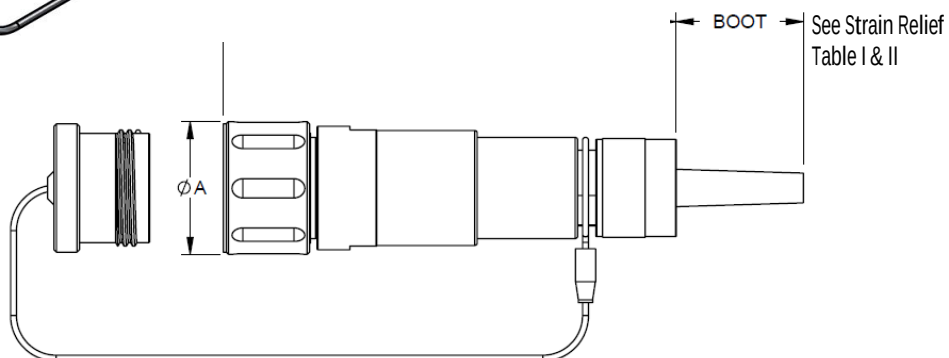
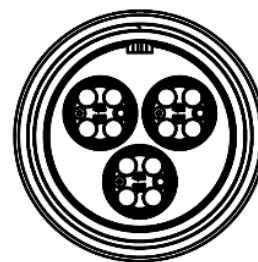
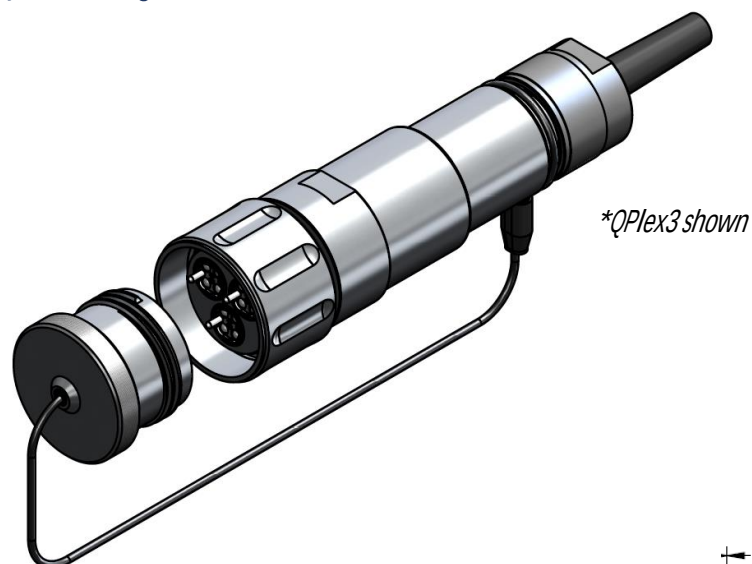
Specifications:

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 for 24 hours
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

Part Number Builder:

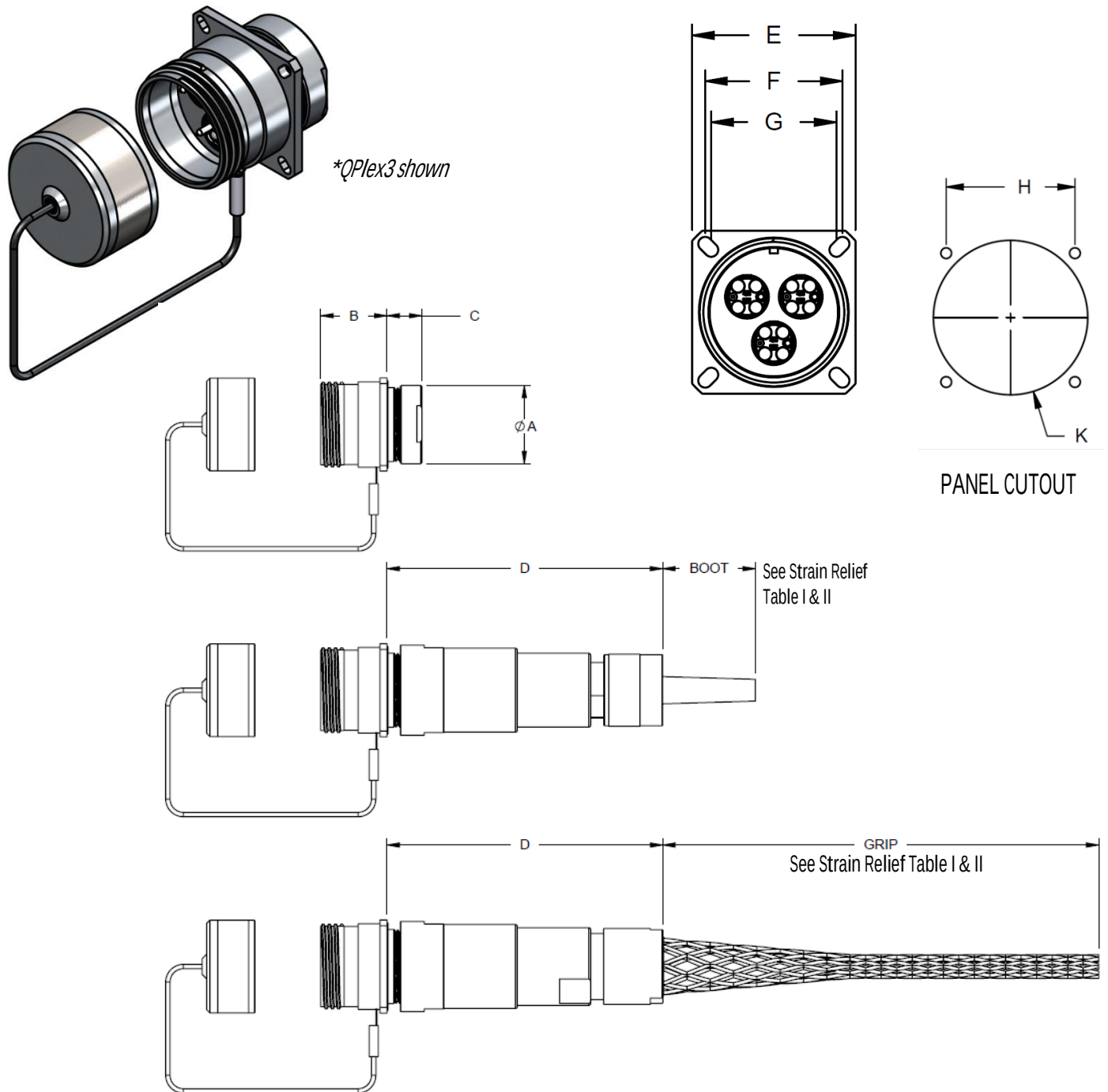
Sample Part Number: QPLEX3-PMN-12SM-S75		QPLEX3	-	PM		N	-	12		SM	-	S	75
1 Series QPLEX3 (3x Inserts, up to 12CH) QPLEX4 (4x Inserts, up to 16CH) QPLEX6 (6x Inserts, up to 24CH)													
2 Product Type PM - PLUG, MALE DUSTCOVER RFF - RECEPTACLE FLANGE MOUNT, FEMALE DUSTCOVER RJF - RECEPTACLE JAM NUT, FEMALE DUSTCOVER													
3 Material & Finish Code N - ALUMINUM, HARD ANODIZE, BLACK S - STAINLESS STEEL, PASSIVATED (CONSULT QPC FOR OTHER OPTIONS)													
4 Channel Count 02 - 2 CHANNEL, 2x 126µm TERMINI 04 - 4 CHANNEL, 4x 126µm TERMINI 06 - 6 CHANNEL, 6x 126µm TERMINI 08 - 8 CHANNEL, 8x 126µm TERMINI 10 - 10 CHANNEL, 10x 126µm TERMINI 12 - 12 CHANNEL, 12x 126µm TERMINI 14 - 14 CHANNEL, 14x 126µm TERMINI 16 - 16 CHANNEL, 16x 126µm TERMINI 18 - 18 CHANNEL, 18x 126µm TERMINI 20 - 20 CHANNEL, 20x 126µm TERMINI 22 - 22 CHANNEL, 22x 126µm TERMINI 24 - 24 CHANNEL, 24x 126µm TERMINI													
5 Fiber Type SM - SINGLEMODE, 1310/1550nm MM - MULTIMODE, 850/1300nm (CONSULT QPC FOR HYBRID SM/MM OPTIONS)													
6 Strain Relief Identifier See Table I, II, & III													

Q Plex, Plug, Male Dustcover:



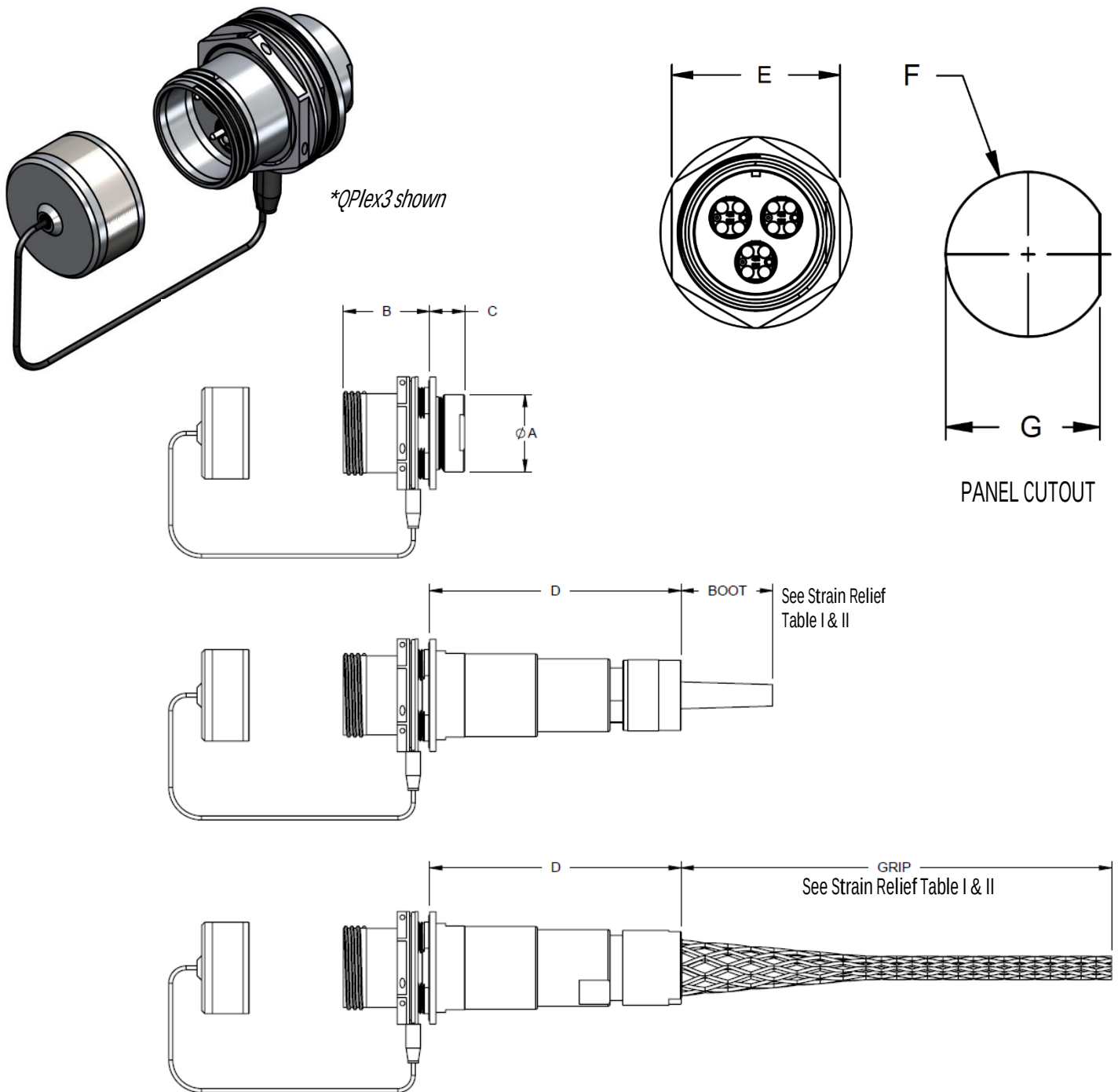
Dimensions (Nominal)		
Series	A in (mm)	B in (mm)
QPLEX3	1.260 (32.0)	5.320 (135.2)
QPLEX4	1.500 (38.1)	5.320 (135.2)
QPLEX6	2.000 (50.8)	5.320 (135.2)

Q Plex, Receptacle, Flange Mount, Female Dustcover:



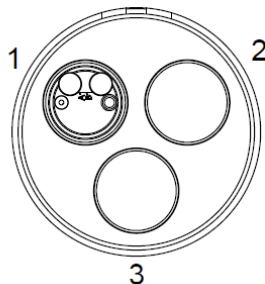
Dimensions (Nominal)										
Series	A in (mm)	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)	H in (mm)	K in (mm)	
									MIN	MAX
QPLEX3	1.260 (32.0)	1.060 (26.9)	0.560 (14.2)	4.430 (112.5)	1.500 (38.1)	1.260 (32.0)	1.150 (29.2)	1.27 (32.3)	1.250 (31.8)	1.160 (29.5)
QPLEX4	1.500 (38.1)	1.060 (26.9)	0.670 (17.0)	4.540 (115.3)	1.950 (49.5)	1.625 (41.3)	1.500 (38.1)	1.510 (38.4)	1.615 (41.0)	1.510 (38.4)
QPLEX6	1.800 (45.7)	1.060 (26.9)	0.910 (23.1)	4.870 (123.7)	2.000 (50.8)	1.625 (41.3)	1.500 (38.1)	1.810 (46.0)	1.615 (41.0)	1.510 (38.4)

Q Plex, Receptacle, Jam Nut, Female Dustcover:

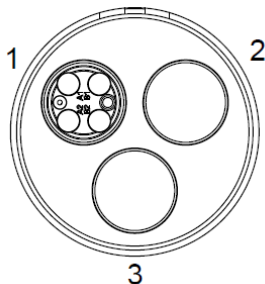


Dimensions (Nominal)							
Series	A in (mm)	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)
QPLEX3	1.260 (32.0)	1.410 (35.8)	0.570 (14.5)	4.440 (112.8)	1.620 (41.1)	1.420 (36.1)	1.510 (38.4)
QPLEX4	1.500 (38.1)	1.410 (35.8)	0.570 (14.5)	4.440 (112.8)	1.740 (44.2)	1.570 (39.9)	1.630 (41.4)
QPLEX6	0.910 (23.1)	1.410 (35.8)	0.570 (14.5)	4.440 (112.8)	2.120 (53.8)	2.000 (50.8)	1.900 (78.3)

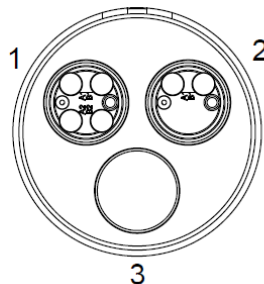
Q Plex3 Insert Layout Options:



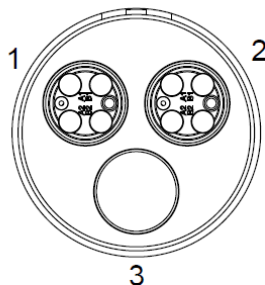
2 CHANNEL



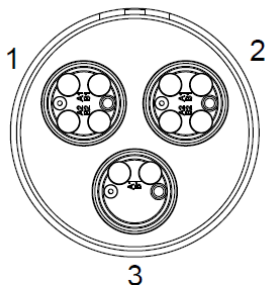
4 CHANNEL



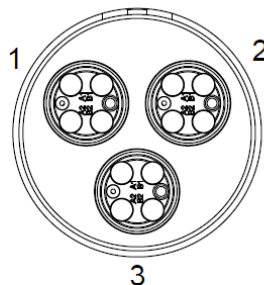
6 CHANNEL



8 CHANNEL

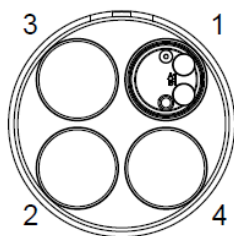


10 CHANNEL

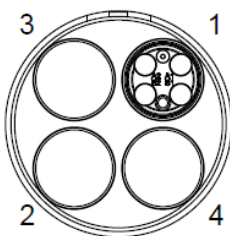


12 CHANNEL

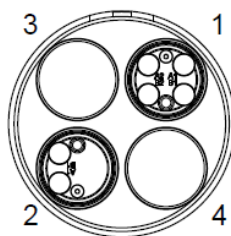
Q Plex4 Insert Layout Options:



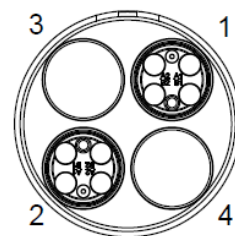
2 CHANNEL



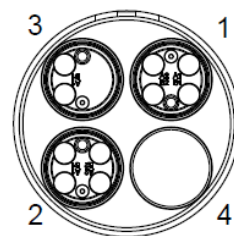
4 CHANNEL



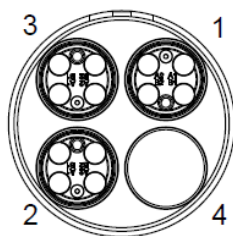
6 CHANNEL



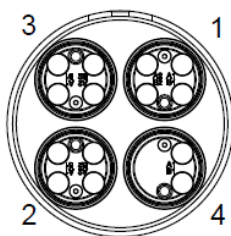
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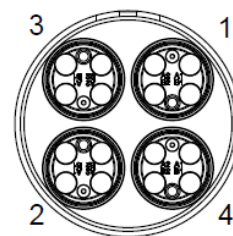
10 CHANNEL



12 CHANNEL

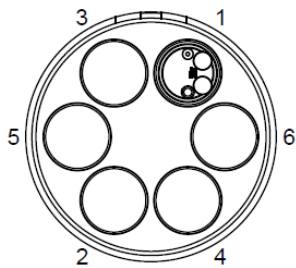


14 CHANNEL

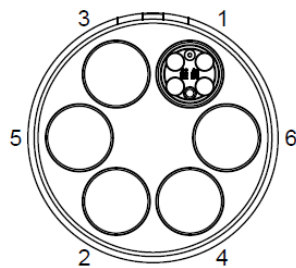


16 CHANNEL

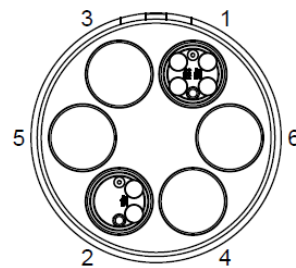
Q Plex6 Insert Layout Options:



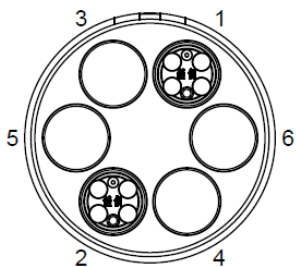
2 CHANNEL



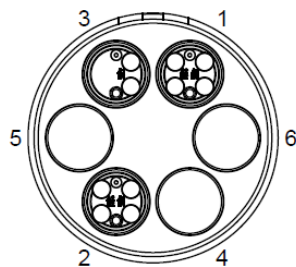
4 CHANNEL



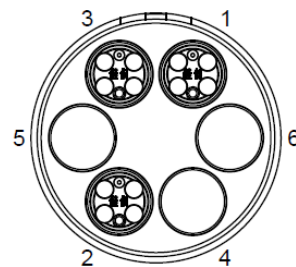
6 CHANNEL



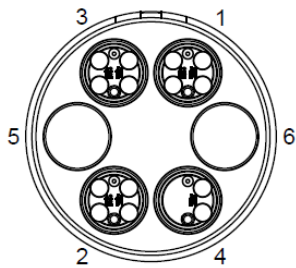
8 CHANNEL



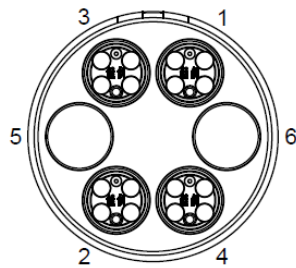
10 CHANNEL



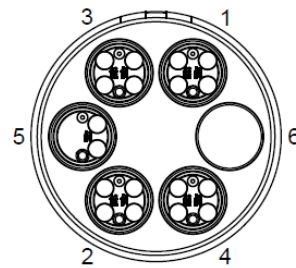
12 CHANNEL



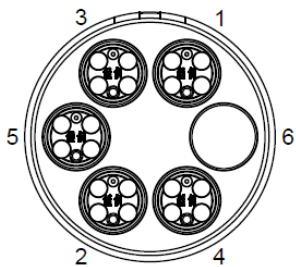
14 CHANNEL



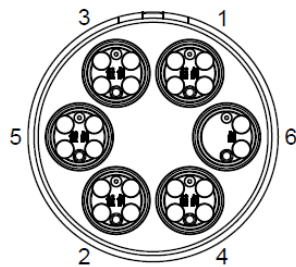
16 CHANNEL



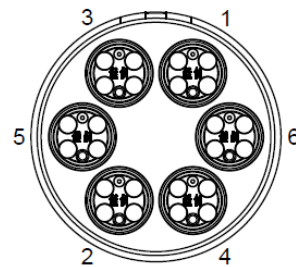
18 CHANNEL



20 CHANNEL



22 CHANNEL

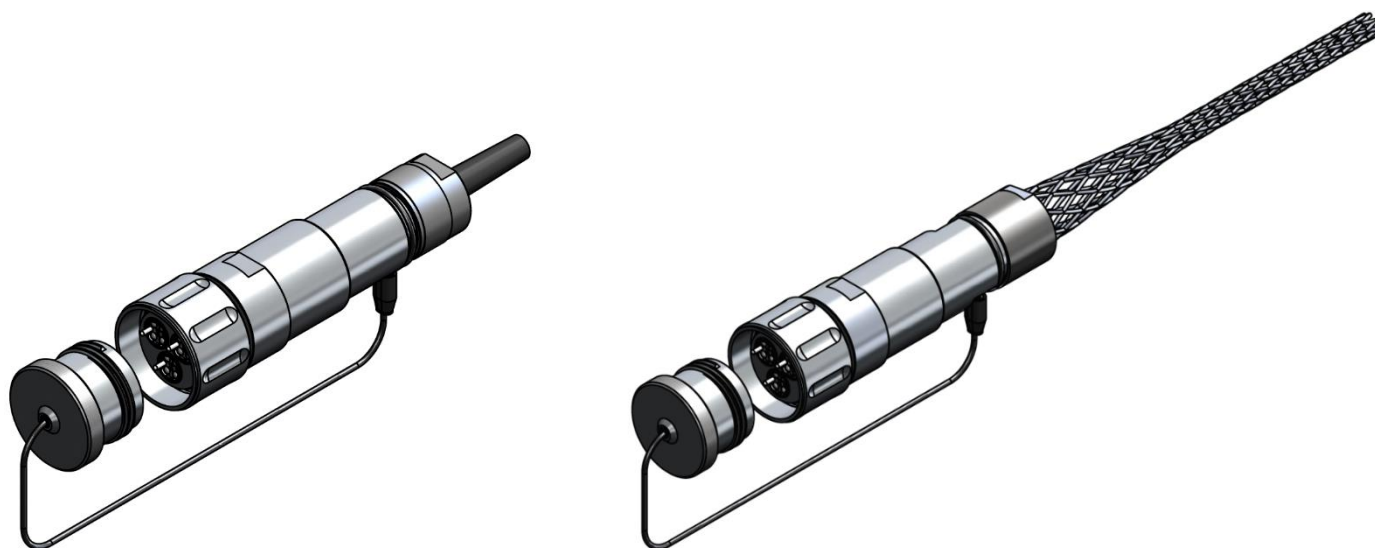


24 CHANNEL

Qplex3 / Qplex 4 Strain Relief:

Table I – Boot / Bend Limiter & Wire Mesh Grip Options (Plugs / Receptacles with Backshell):

QPLEX3 / QPLEX4				
Cable OD in (mm)	Boot/Bend Limiter		Wire Mesh Grip	
	Strain Relief Identifier	Strain Relief Length in (mm)	Strain Relief Identifier	Strain Relief Length in (mm)
0.142 - 0.177 (3.6 - 4.5)	S045	1.45 (36.8)	-	-
0.181 - 0.217 (4.6 - 5.5)	S055	1.45 (36.8)	-	-
0.220 - 0.256 (5.6 - 6.5)	S065	1.45 (36.8)	-	-
0.260 - 0.295 (6.6 - 7.5)	S075	0.97 (24.6)	G075	3.50 (88.9)
0.299 - 0.335 (7.6 - 8.5)	S085	0.38 (9.7)	G085	3.50 (88.9)
0.339 - 0.374 (8.6 - 9.5)	S095	0.38 (9.7)	G095	3.50 (88.9)
0.378 - 0.413 (9.6 - 10.5)	-	-	G105	4.50 (114.3)
0.417 - 0.453 (10.6 - 11.5)	-	-	G115	4.50 (114.3)
0.457 - 0.492 (11.6 - 12.5)	-	-	G125	4.50 (114.3)



Q Plex6 Strain Relief:

Table II – Boot / Bend Limiter & Wire Mesh Grip Options (Plugs / Receptacles with Backshell):

QPLEX6				
Cable OD in (mm)	Boot/Bend Limiter		Wire Mesh Grip	
	Strain Relief Identifier	Strain Relief Length in (mm)	Strain Relief Identifier	Strain Relief Length in (mm)
0.142 - 0.177 (3.6 - 4.5)	S045	1.45 (36.8)	-	-
0.181 - 0.217 (4.6 - 5.5)	S055	1.45 (36.8)	-	-
0.220 - 0.256 (5.6 - 6.5)	S065	1.45 (36.8)	-	-
0.260 - 0.295 (6.6 - 7.5)	S075	1.45 (36.8)	G075	3.50 (88.9)
0.299 - 0.335 (7.6 - 8.5)	S085	1.45 (36.8)	G085	3.50 (88.9)
0.339 - 0.374 (8.6 - 9.5)	S095	1.45 (36.8)	G095	3.50 (88.9)
0.378 - 0.413 (9.6 - 10.5)	S105	1.45 (36.8)	G105	3.50 (88.9)
0.417 - 0.453 (10.6 - 11.5)	S115	1.45 (36.8)	G115	3.50 (88.9)
0.457 - 0.492 (11.6 - 12.5)	S125	1.45 (36.8)	G125	3.50 (88.9)
0.496 - 0.531 (12.6 - 13.5)	-	-	G135	5.00 (127.0)
0.535 - 0.571 (13.6 - 14.5)	-	-	G145	5.00 (127.0)
0.575 - 0.610 (14.6 - 15.5)	-	-	G155	5.00 (127.0)
0.614 - 0.689 (15.6 - 17.5)	-	-	G175	6.25 (158.8)

Table III – For Receptacles without Backshell:

All Shell Sizes	
Cable OD	Strain Relief Identifier
900µm	S00

*Due to the close proximity of the termini on the back of the QMicro Inserts used in the Q Plex, crimp options are not available. The termini accepts 900um fiber only.

Q Plex Termini:

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

Q Plex 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-INS-00XX	QMicro Dummy Insert

*Q Plex uses the QMicro Insert

Q Plex Dustcovers:

PART NUMBER	DESCRIPTION
QPLEX3-DCPN	Dustcover; Q Plex3 Plug; Aluminum; Hard Anodize; Black
QPLEX3-DCPS	Dustcover; Q Plex3 Plug; Stainless Steel; Passivated
QPLEX3-DCRN	Dustcover; Q Plex3 Receptacle; Aluminum; Hard Anodize; Black
QPLEX3-DCRS	Dustcover; Q Plex3 Receptacle; Stainless Steel; Passivated
QPLEX4-DCPN	Dustcover; Q Plex4 Plug; Aluminum; Hard Anodize; Black
QPLEX4-DCPS	Dustcover; Q Plex4 Plug; Stainless Steel; Passivated
QPLEX4-DCRN	Dustcover; Q Plex4 Receptacle; Aluminum; Hard Anodize; Black
QPLEX4-DCRS	Dustcover; Q Plex4 Receptacle; Stainless Steel; Passivated
QPLEX6-DCPN	Dustcover; Q Plex6 Plug; Aluminum; Hard Anodize; Black
QPLEX6-DCPS	Dustcover; Q Plex6 Plug; Stainless Steel; Passivated
QPLEX6-DCRN	Dustcover; Q Plex6 Receptacle; Aluminum; Hard Anodize; Black
QPLEX6-DCRS	Dustcover; Q Plex6 Receptacle; Stainless Steel; Passivated

Q Plex3 Tools:

Tool PN	DESCRIPTION
TK-051	Q Plex3 Tool Kit (Includes all items below)
PT-389	Q Plex3 Torque Fixture
PT-540	Hydraulic Crimping Tool
PT-542	Die Set, 0.475 Hex, Hydraulic Hand Crimper

Q Plex4 Tools:

Tool PN	DESCRIPTION
TK-052	Q Plex4 Tool Kit (Includes all items below)
PT-390	Q Plex4 Torque Fixture
PT-540	Hydraulic Crimping Tool
PT-542	Die Set, 0.475 Hex, Hydraulic Hand Crimper

Q Plex6 Tools:

Tool PN	DESCRIPTION
TK-056	Q Plex6 Tool Kit (Includes all items below)
PT-554	Q Plex6 Torque Fixture





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