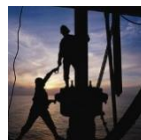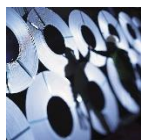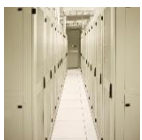# QSeal Push-Pull Connectors

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

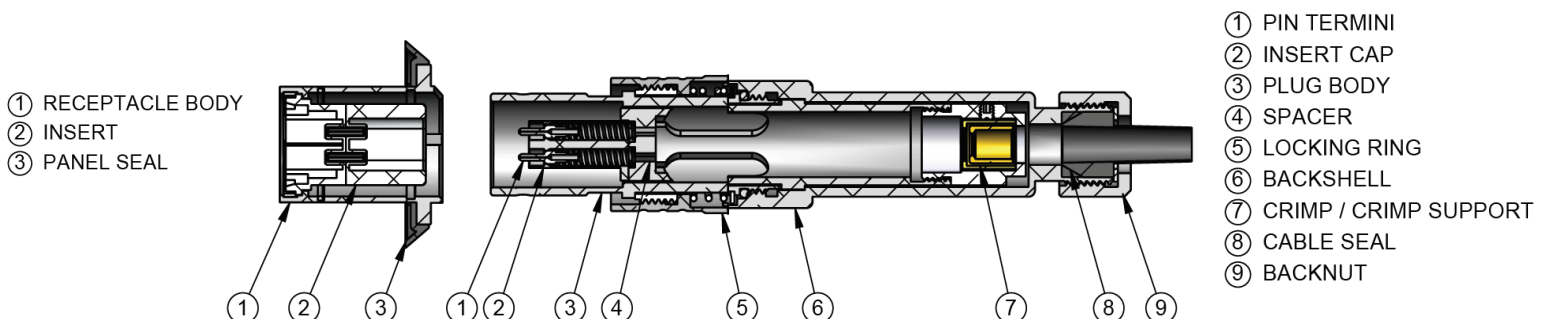| Contents	
Product Introduction	Page 1
Specifications	Page 2
Part Number Builders	Page 3 - 5
Plug Line Drawings	Page 6 - 7
Receptacle Line Drawings	Page 8
QLine Adapter Line Drawings	Page 9
Termini + Accessories	Page 10

The QPC QSeal Connector line features 2 and 4 Channel Push-Pull Plugs that are IP67 Sealed (Dust Tight & Water Immersion to 1 Meter), and direct LC-Duplex interface panel mount receptacles. This allows simple integration into SFP Module based systems, because standard off-the-shelf patch cables can be used. QSeal plugs are available with standard straight backshells as well as 90-degree backshells for applications with limited clearance. QSeal Receptacles can be ordered with five different color-coded sealing gaskets for network visibility. QSeal connectors are designed using industry standard 1.25mm ceramic ferrules which can be installed in a customer's facility or in the field using common fiber optic termination equipment. Based on user feedback, QPC's design does not include shutters enabling easy cleaning, inspection, and maintenance.

The QPC QLine Adapter is a stand-alone device that allows two QSeal plugs, or other plug types, to be connected. The QLine Adapter can also serve as a breakout from a plug to individual LC, ST, or SC connectors. Depending on system requirements, QLine Adapters can be configured in Straight or Crossed polarities.

The QPC QSeal Connector line is intermateable with Neutrik's opticalCON DUO and QUAD connectors, both ADVANCED and LITE versions.

The QPC QSeal Connectors are most commonly used in Broadcast, Pro-Audio, and Entertainment applications, but they are rugged enough for a variety of other systems / environments.

- 2Ch / 4Ch Pin & Socket Push-Pull Physical Contact Connector System
- Plugs: With and without Rubber Grip, with Straight or 90 Degree Backshell
- Receptacles: XLR Compatible Flange Mount with direct LC Duplex Connection on the back
- Cable OD up to 6.5mm (Consult QPC for other options)
- Intermateability: Neutrik opticalCON Duo (2Ch-Fiber connectivity only) and opticalCON Quad (4Ch)
- QLine Adapter allows Plug to Plug Connections in longer systems
- Sealed to IP67

① RECEPTACLE BODY
② INSERT
③ PANEL SEAL

① PIN TERMINI
② INSERT CAP
③ PLUG BODY
④ SPACER
⑤ LOCKING RING
⑥ BACKSHELL
⑦ CRIMP / CRIMP SUPPORT
⑧ CABLE SEAL
⑨ BACKNUT

Specifications:

Insertion Loss: **SM (9/125μm)**	0.15-0.45dB Max.
MM (50/125μm)	0.15-0.45dB Max.
MM (62.5/125μm)	0.15-0.45dB Max.
Return Loss: **SM (9/125μm)**	--55dB UPC
Operating Temperature:	-40°C to +75°C
Mating Durability:	> 500 Cycles
IP Rating:	IP67 – Dust Tight, No ingress of dust; complete protection against contact, Water Immersion, up to 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

Part Number Builder, QSeal Plug:

Sample Part Number: QSEAL-PEFN-02CH-S65	QSEAL	- PEF	N	- 02CH -	S65

1 Series
QSEAL

2 Product Type
PEF - PLUG, FEMALE DUSTCOVER
PGF - PLUG, RUBBER GRIP, FEMALE DUSTCOVER

3 Material & Finish Code
N - ALUMINUM, BLACK HARD ANODIZE
(CONSULT QPC FOR OTHER OPTIONS)

4 Channel Count
02CH - 2 CHANNEL, 2x 126µm TERMINI
04CH - 4 CHANNEL, 4x 126µm TERMINI

5 Strain Relief
45 - BACKSHELL, 3.6mm TO 4.5mm O.D. CABLE
55 - BACKSHELL, 4.6mm TO 5.5mm O.D. CABLE
65 - BACKSHELL, 5.6mm TO 6.5mm O.D. CABLE
(CONSULT QPC FOR OTHER OPTIONS)

Part Number Builder, QSeal 90° Plug:

Sample Part Number: QSEAL90-PEFN-02CH-S65	QSEAL90	- PEF	N	- 02CH -	S65

1 Series
QSEAL90

2 Product Type
PEF - PLUG, FEMALE DUSTCOVER
PGF - PLUG, FEMALE DUSTCOVER WITH RUBBER GRIP

3 Material & Finish Code
N - ALUMINUM, BLACK HARD ANODIZE
(CONSULT QPC FOR OTHER OPTIONS)

4 Channel Count
02CH - 2 CHANNEL, 2x 126µm TERMINI
04CH - 4 CHANNEL, 4x 126µm TERMINI

5 Strain Relief
45 - BACKSHELL, 3.6mm TO 4.5mm O.D. CABLE
55 - BACKSHELL, 4.6mm TO 5.5mm O.D. CABLE
65 - BACKSHELL, 5.6mm TO 6.5mm O.D. CABLE
(CONSULT QPC FOR OTHER OPTIONS)

Part Number Builder, QSeal Receptacle:

Sample Part Number: QSEAL-RMN-02CH-WH	QSEAL	- RM	N	- 02CH -	WH

1 Series
QSEAL

2 Product Type
RM - RECP FLANGE MOUNT, RUBBER SEAL / DUSTCOVER

3 Material & Finish Code
N - ALUMINUM, BLACK HARD ANODIZE
(CONSULT QPC FOR OTHER OPTIONS)

4 Channel Count
02CH - 2 CHANNEL
04CH - 4 CHANNEL

5 Seal / Dustcover
(OMIT FOR BLACK PANEL SEAL)
BL - BLUE PANEL SEAL
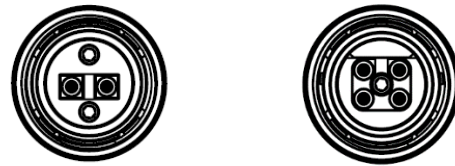GR - GREEN PANEL SEAL
RD - RED PANEL SEAL
WH - WHITE PANEL SEAL

Part Number Builder, QLine Adapter:

Sample Part Number: QLINE-QMINI-QMINI-N-02SM-09C	QLINE	-	QMINI	-	QMINI	-	N	-	02	SM	-	09	C

1 Series
QLINE

2 Adapter Side A
QSEAL - RECEPTACLE, QSEAL
QMINI - RECEPTACLE, QMINI Rx
QMICRO - RECEPTACLE, QMICRO Rx
LC - LC ADAPTER
ST - ST ADAPTER
SC - SC ADAPTER
(CONSULT QPC FOR OTHER OPTIONS)

3 Adapter Side B
QSEAL - RECEPTACLE, QSEAL
QMINI - RECEPTACLE, QMINI Rx
QMICRO - RECEPTACLE, QMICRO Rx
LC - LC ADAPTER
ST - ST ADAPTER
SC - SC ADAPTER
(CONSULT QPC FOR OTHER OPTIONS)

4 Material and Plating
N - ALUMINUM, BLACK HARD ANODIZE
(CONSULT QPC FOR OTHER OPTIONS)

5 Channel Count
02 - 2 CHANNEL
04 - 4 CHANNEL

6 Fiber Type
SM - SINGLEMODE, 1310/1550nm
MM - MULTIMODE, 850/1300nm

7 Fiber Size
09 - 9/125µm SINGLEMODE
50 - 50/125µm MULTIMODE
62 - 62.5/125µm MULTIMODE

8 Polarity
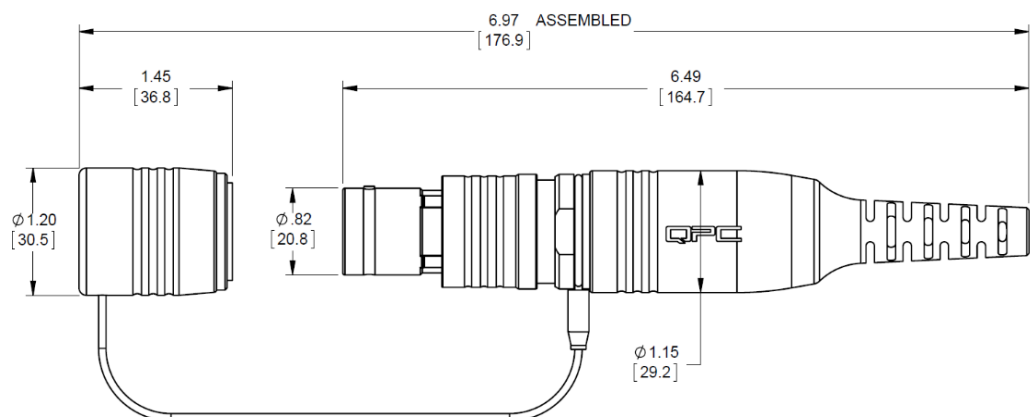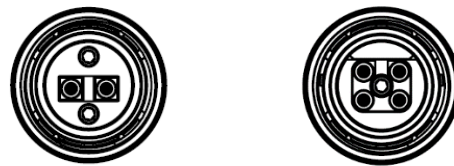C - Crossed
S - Straight
(CONSULT QPC FOR WIRING DIAGRAM)

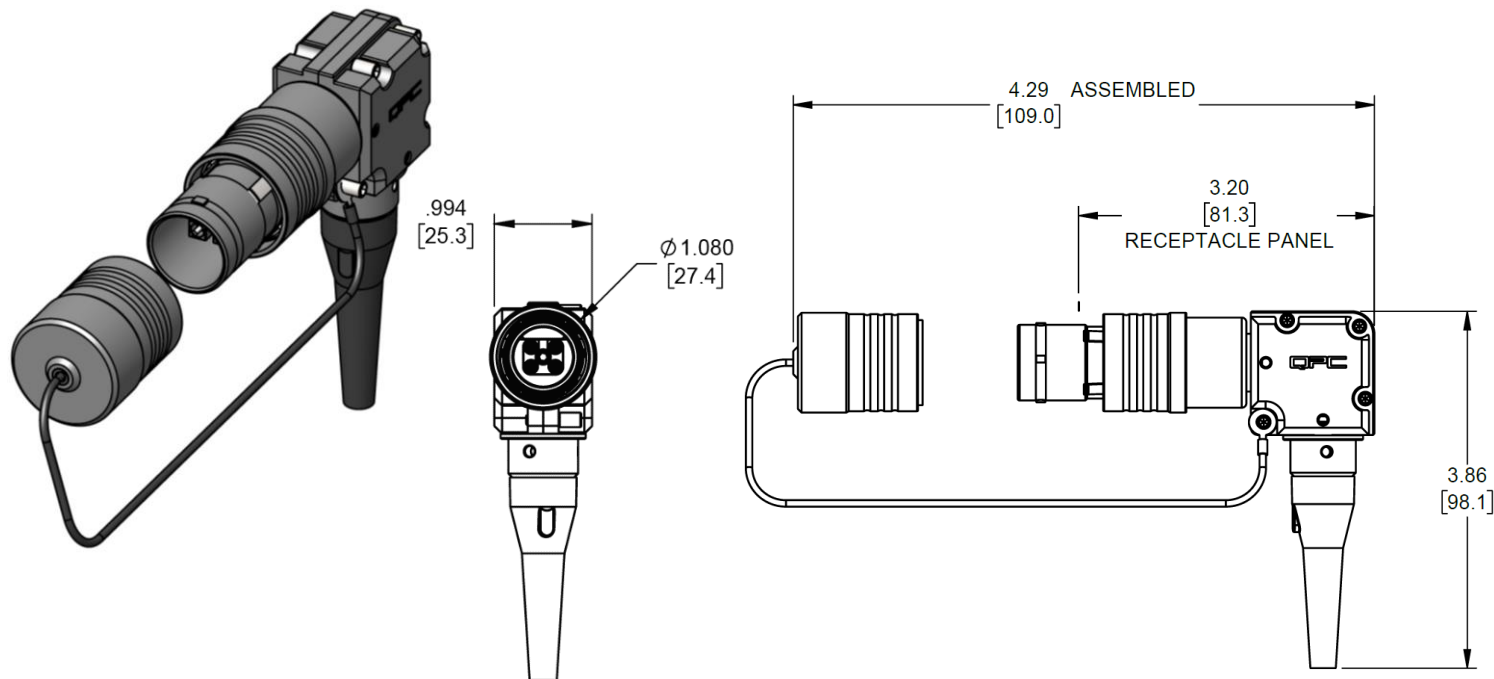Part Number Shown: QLINE-QSEAL-QSEAL-N-02MM-50C
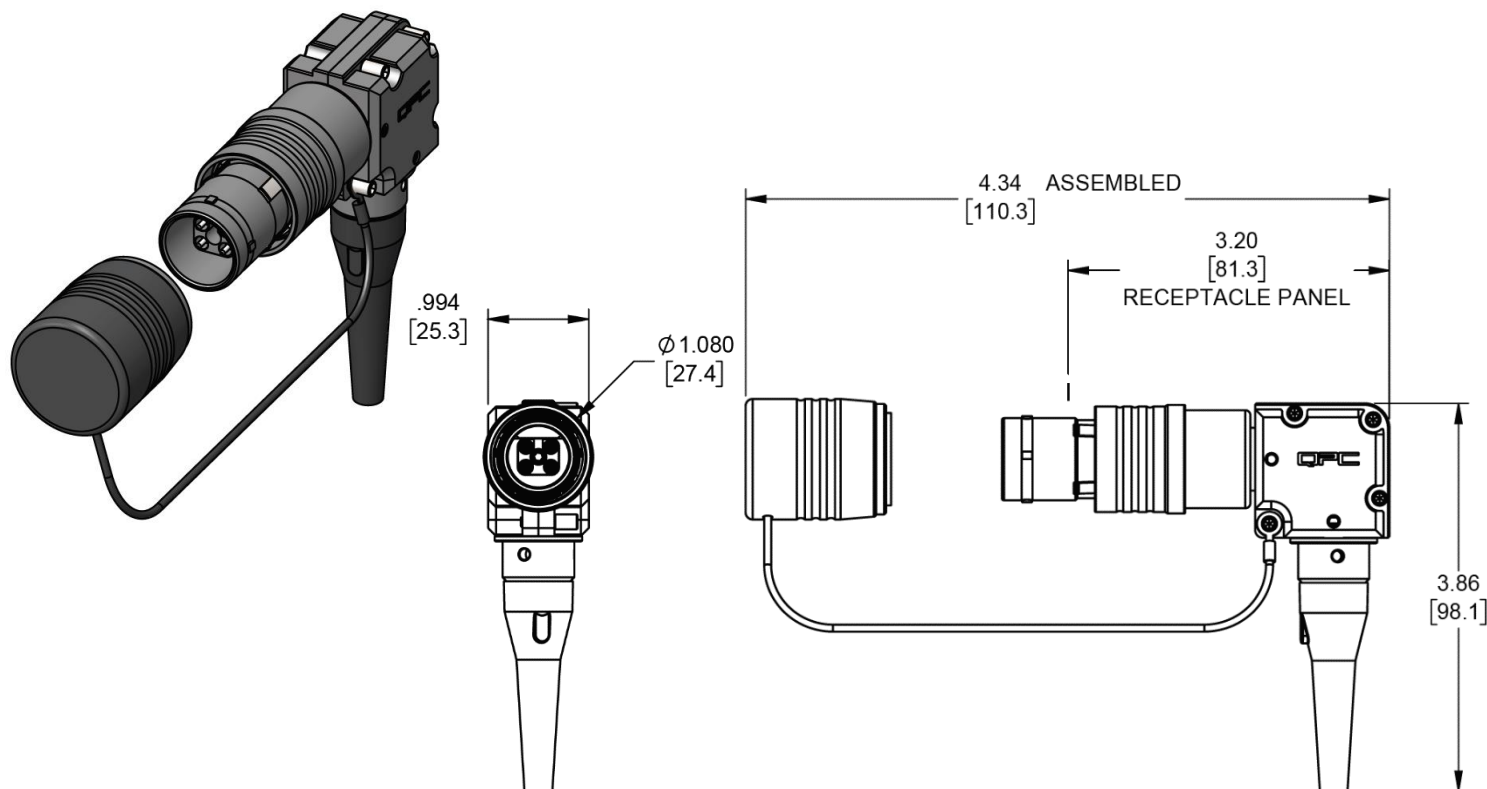
QSeal Plug, Female Dustcover:
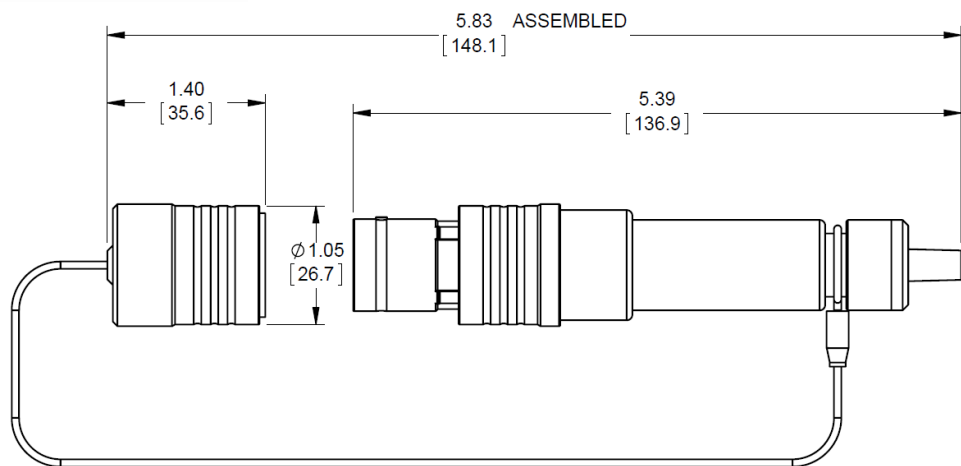
5.83   ASSEMBLED
[148.1]

1.40
[35.6]

5.39
[136.9]

Ø 1.05
[26.7]

QSeal Plug, Rubber Grip, Female Dustcover:

6.97   ASSEMBLED
[176.9]

1.45
[36.8]

6.49
[164.7]

Ø 1.20
[30.5]

Ø .82
[20.8]

Ø 1.15
[29.2]

QSeal Plug, 90° Backshell, Female Dustcover:

.994
[25.3]

Ø 1.080
[27.4]

4.29   ASSEMBLED
[109.0]

3.20
[81.3]
RECEPTACLE PANEL

3.86
[98.1]

QSeal Plug, 90° Backshell, Female Dustcover with Rubber Grip:

.994
[25.3]

Ø 1.080
[27.4]

4.34   ASSEMBLED
[110.3]

3.20
[81.3]
RECEPTACLE PANEL

3.86
[98.1]

QSeal Receptacle, 2 Channel, Seal / Dustcover:

1.03 [26.0]
.748 [19.0]
1.23 [31.1]
.945 [24.0]
.25 [6.2]
.93 [23.7]
Ø.92 [23.4]
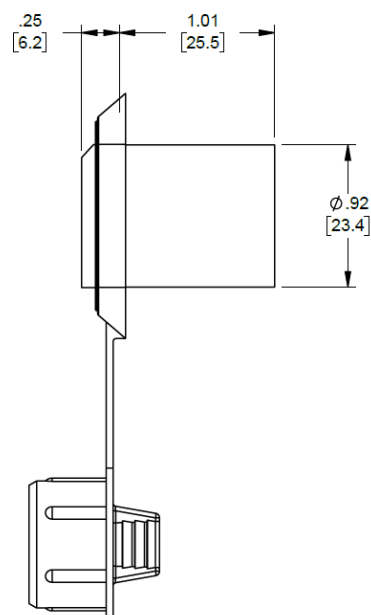
.748 [19.0]
.374 [9.5]
.473 [12.0]
.945 [24.0]
Ø.937 [23.8]
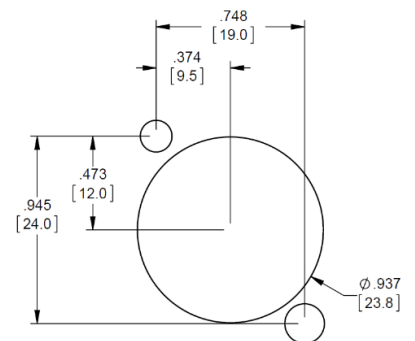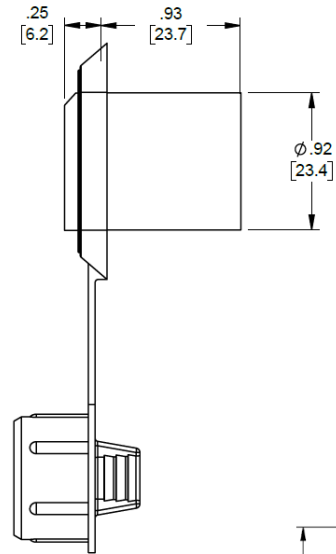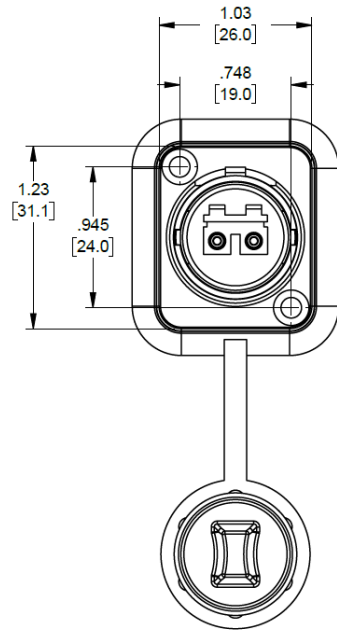
PANEL CUTOUT

QSeal Receptacle, 4 Channel, Seal / Dustcover:

1.03 [26.0]
.748 [19.0]
1.23 [31.1]
.945 [24.0]
.25 [6.2]
1.01 [25.5]
Ø.92 [23.4]
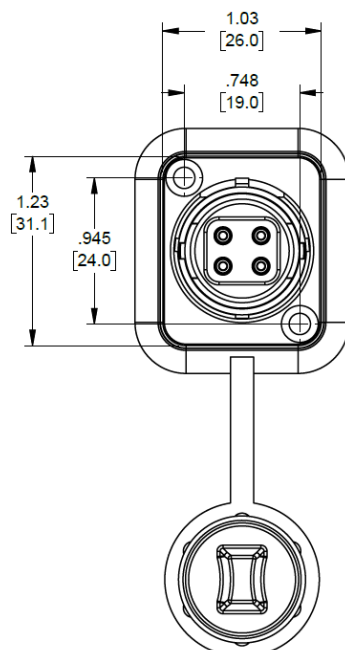
QLine Adapter:
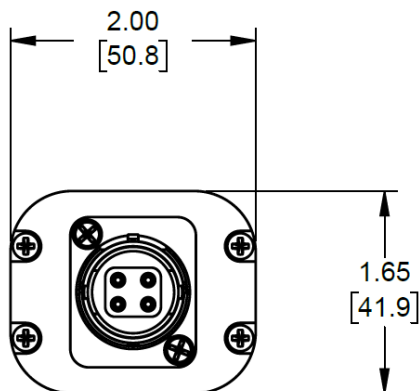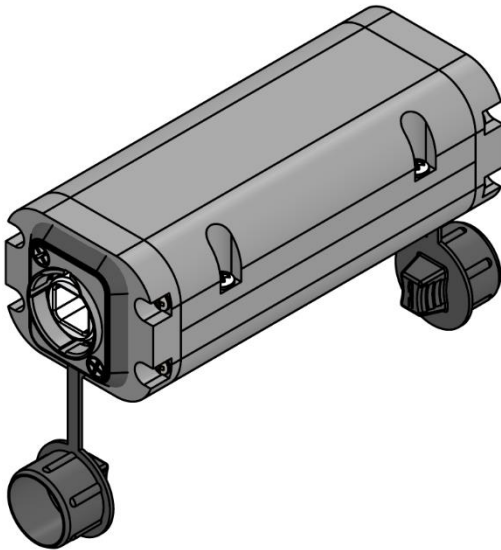
Length varies from 5.25 - 6.50 inches,
depending on the interface connectors chosen

2.00
[50.8]

1.65
[41.9]

LENGTH
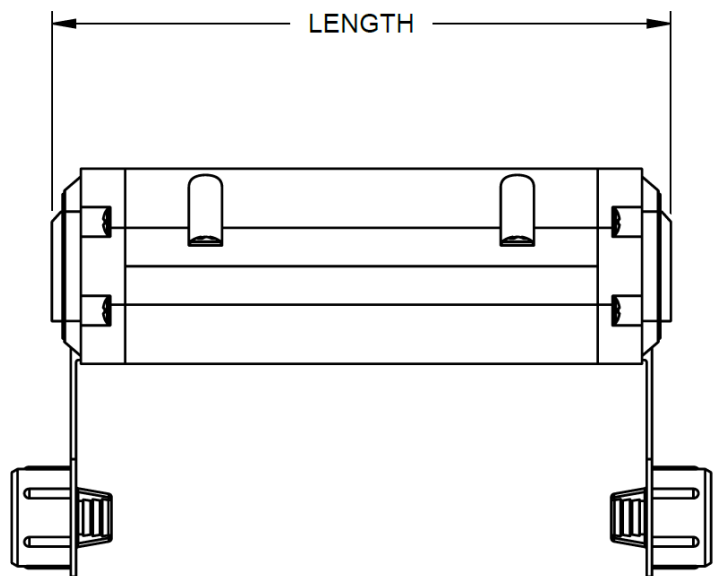
QSeal Termini:

PART NUMBER	DESCRIPTION
QSEAL-TRM	Terminus Assembly; QSeal; 1.25mm Ferrule OD; 126µm Singlemode/Multimode

QSeal Dustcovers:

PART NUMBER	DESCRIPTION
QSEAL-DCPEN	Dustcover; QSeal Plug; Female; Aluminum Black Hard Anodize
QSEAL-DCPGN	Dustcover; QSeal Plug; Female; Aluminum Black Hard Anodize with Rubber Grip
QSEAL-DCRG	Dustcover and Seal Kit; QSeal Receptacle; Rubber; Black
QSEAL-DCRGBL	Dustcover and Seal Kit; QSeal Receptacle; Rubber; Blue
QSEAL-DCRGGR	Dustcover and Seal Kit; QSeal Receptacle; Rubber; Green
QSEAL-DCRGRD	Dustcover and Seal Kit; QSeal Receptacle; Rubber; Red
QSEAL-DCRGWH	Dustcover and Seal Kit; QSeal Receptacle; Rubber; White
QSEAL-DCREN	Dustcover; QSeal Receptacle; Male; Aluminum Black Hard Anodize

QSeal Tools:

Tool PN	DESCRIPTION
TK-050	QSeal Tool Kit (Includes all items below)
PT-317	QSeal 2Ch and 4Ch Torque Fixture
PT-316	QSeal 2Ch Torque Fixture
PT-315	QSeal 4Ch Torque Fixture
PT-540	Hydraulic Hand Crimper
PT-541	Die Set, 0.324 Hex

Notes & Sketches:

Notes & Sketches:

Notes & Sketches:

QPC

ENGINEERED FIBER OPTIC SOLUTIONS

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