



Optical Industrial Cable Assemblies and Adapters

106059 LC Duplex

106059 SC Simplex

106059 MPO Multi-fiber

Easy optical connections are now possible in harsh industrial environments with Molex's optical industrial cable assemblies

Designed with rugged and compact housings, Molex's optical industrial assemblies incorporate the high-performance of a fiber optic connection with the versatility of a rugged industrial connector. The assemblies guarantee an environmentally sealed optical connection in one step, with the combined push-pull insertion and bayonet-style mechanical latch. The bulkhead adapter mounts directly in a panel cut-out, serving as a sealed feed-through. The removable connector provides sealing between both the adapter mating-surface, as well as the cable exiting the connector.

Molex's optical industrial assemblies are compatible with many fiber types and cable constructions and are ideal for both indoor and outdoor applications. This assembly is particularly well-suited for long distances or remote connections using either single mode or multimode fiber.

Available in a simplex SC, Duplex LC, and multi-fiber MPO version, these assemblies offer a sealed fiber optic connection to fit many applications from bi-directional single fiber up to 12 fiber ribbon connections. Assemblies are available in pigtailed (single-ended), jumpers (dual-ended) and breakout assemblies, to any Molex standard fiber optic connector. The assemblies can be manufactured in lengths from 1.0 meter to well over 1.0 kilometer.

The industrial duplex LC assembly has been ratified as a 'Standard Interface' in the ODVA (Open DeviceNet Vendors Association) as a next generation industrial interconnect.



(Left to right) Industrial MPO, Industrial SC, Industrial LC Cable Assemblies

Features and Benefits

- Provides moisture and dust protection for use in harsh industrial environments
- Sealed panel feed-through design for easy installation into enclosures
- 100% optically tested to ensure quality performance assemblies
- Available in single mode and multimode styles to work with any common fiber type
- Housing is NEMA 6P and IP67 rated which ensures dust and moisture protection
- Push-pull insertion with bayonet-style mechanical latch provides easy installation and removal
- Broad temperature range (-40 to +85°C) is ideal for indoor or outdoor applications

APPLICATIONS

Markets and Applications

- Industrial
 - System controls
 - Monitoring
 - High Electro Magnetic Interference (EMI) and Radio Frequency Interference (RFI) areas
- Medical equipment
- Telecommunication/CATV
 - FTTx
 - Outdoor system connections
- Other markets
 - Rugged test equipment
 - Mobile broadcasting or audio visual equipment
 - Food processing



Ball Park – outdoor system connections

SPECIFICATIONS



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Reference Information

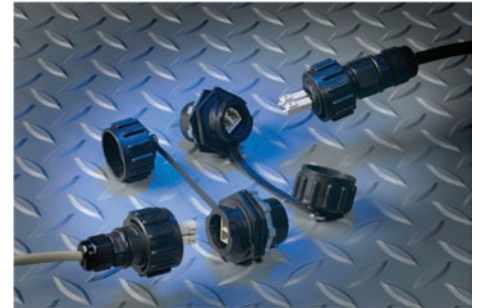
Packaging: Cable Assemblies: Individual bag or spool
 Adapters: Individual bag
 Mates With: Standard LC, SC, or MPO assemblies (respectively)
 Designed In: Inches

Physical

Housing: Polymer
 Ferrule: Zirconia Ceramic
 Operating Temperature: -40 to +85° C
 Cable Type: Indoor or outdoor
 Fiber Type: Single mode or multimode

Optical

Insertion Loss:
 Single mode <0.35dB max. (0.13dB typical)
 Multimode <0.50dB max. (0.10dB typical)
 Return Loss:
 Single mode 45 to 55dB
 Wavelength:
 Single mode 1310 or 1550nm
 Multimode 850 or 1300nm



Indoor and Outdoor Industrial LC Assemblies with Industrial LC Adapters

ORDERING INFORMATION

Cable Assemblies

| Order No. | Connector Type | Cable | Fiber Count | Fiber Type | |
|-------------|----------------|-------------|-------------|-------------|----|
| 106059-0100 | Industrial LC | Indoor | 2 | Multimode | |
| 106059-0110 | | | | Single mode | |
| 106059-1100 | | Outdoor | | Multimode | |
| 106059-1110 | | | | Single mode | |
| 106059-2020 | Industrial SC | | 1 | Multimode | |
| 106059-2025 | | | | Single mode | |
| 106059-6100 | Industrial MPO | Outdoor | 4 | Multimode | |
| 106059-6105 | | | | | 8 |
| 106059-6110 | | | | | 12 |
| 106059-6115 | | Single Mode | 4 | | |
| 106059-6120 | | | 8 | | |
| 106059-6125 | | | 12 | | |

Note: 1. Optical industrial assemblies are supplied in a cable assembly form only
 2. Above part numbers are for reference drawings only, all assemblies will be assigned custom part numbers

Cable Assembly Accessory

| Order Number | Description |
|--------------|----------------------|
| 106059-0020 | Dust Cap/Pulling cap |

Adapters

| Order No. | Alignment Sleeve | Type | Mode |
|-------------|------------------|--|-----------------------|
| 106059-0200 | Phosphor Bronze | Industrial LC to Duplex LC | Multimode |
| 106059-0210 | Zirconia | | Single mode |
| 106059-3110 | Phosphor Bronze | Industrial LC to Industrial LC (in-line) | Multimode |
| 106059-3100 | Zirconia | | Single mode |
| 106059-2030 | Phosphor Bronze | Industrial SC to Simplex SC | Multimode |
| 106059-2031 | Zirconia | | Single mode |
| 106059-4100 | Phosphor Bronze | Industrial SC to Industrial SC (in-line) | Multimode |
| 106059-4110 | Zirconia | | Single mode |
| 106059-6200 | None | Industrial MPO to MPO/MTP | Single mode/Multimode |



Indoor industrial LC Assemblies with In-line Industrial LC Adapter



Outdoor Industrial SC Assembly with Industrial SC Adapter and SC Cable Assembly



Outdoor Industrial MPO Assembly with Industrial MPO Adapter and MPO Cable Assembly



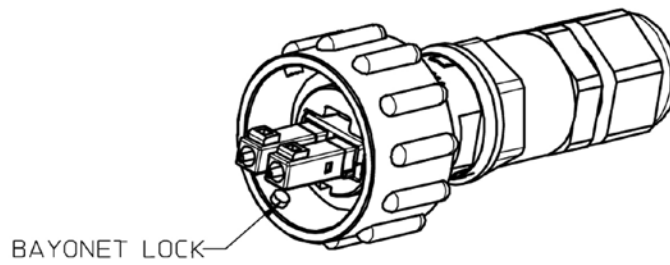
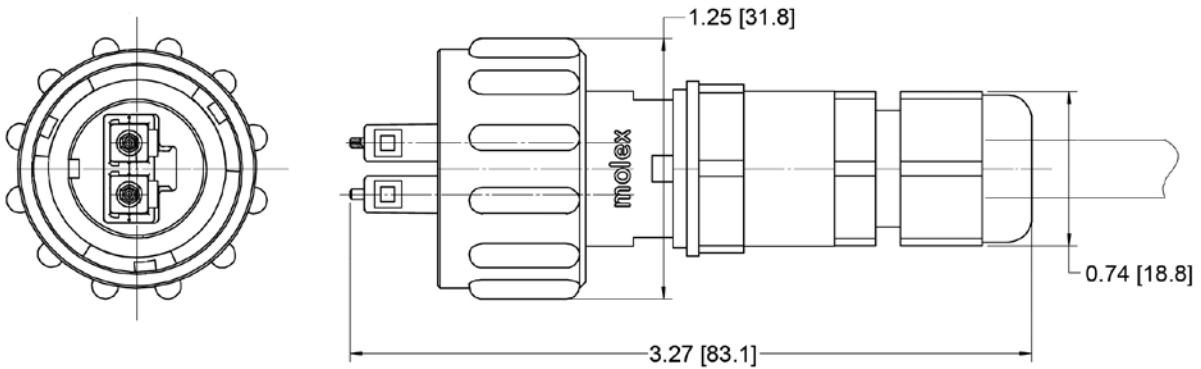
Optical Industrial Cable Assemblies and Adapters

106059 LC Duplex

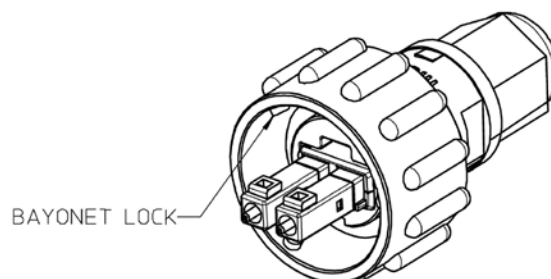
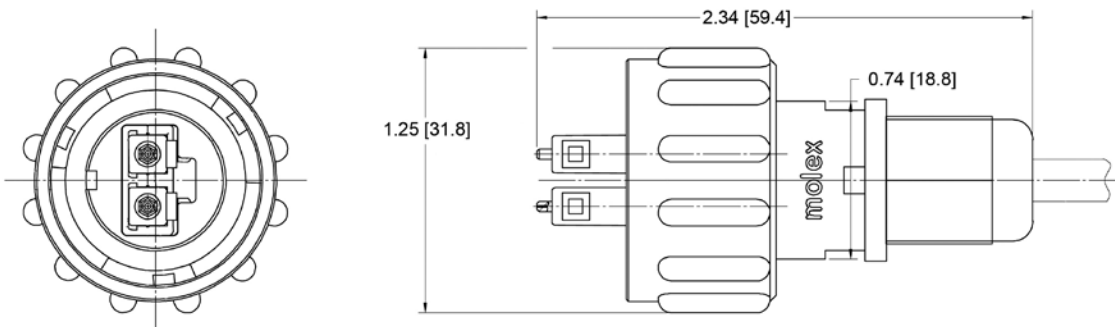
106059 SC Simplex

106059 MPO Multi-fiber

Industrial LC with Outside Plant Cable



Industrial LC with Indoor Cable



All dimensions are in INCHES
(MILLIMETERS)



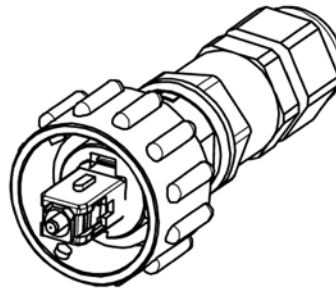
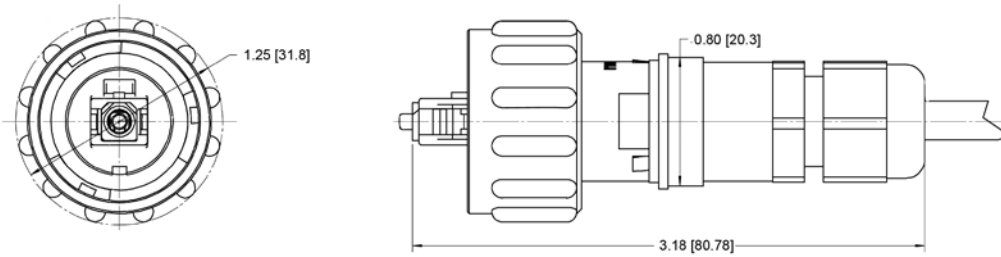
**Optical Industrial
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and Adapters**

106059 LC Duplex

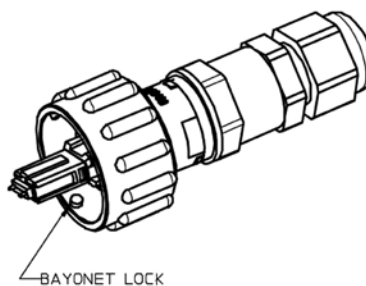
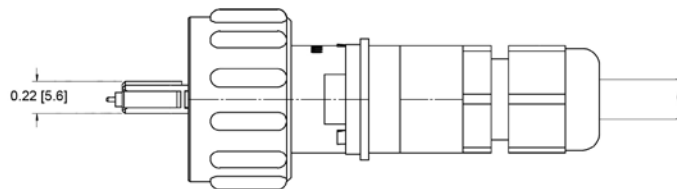
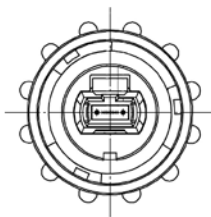
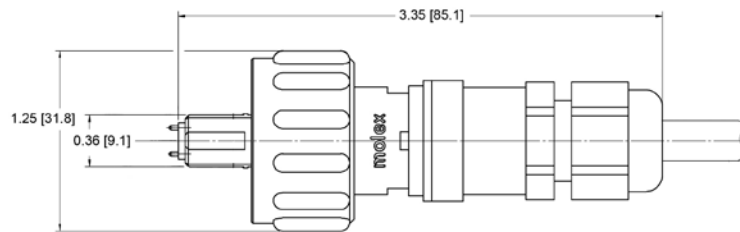
106059 SC Simplex

106059 MPO Multi-fiber

**Industrial SC
with Outdoor Plant Cable**



**Industrial MPO
with Outdoor Cable**



All dimensions are in INCHES (MILLIMETERS)

ORDERING INFORMATION



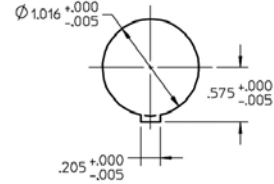
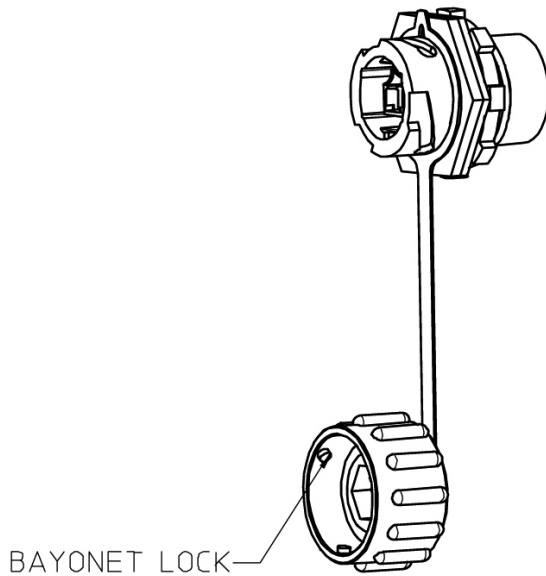
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and Adapters**

106059 LC Duplex

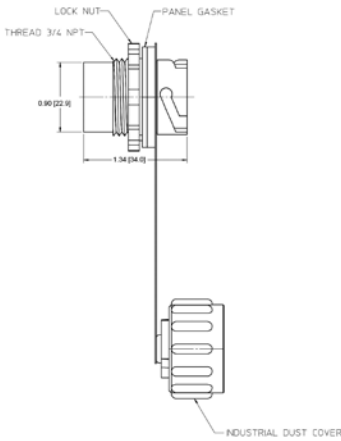
106059 SC Simplex

106059 MPO Multi-fiber

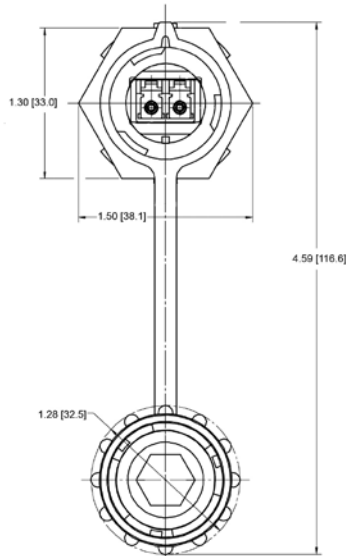
**Industrial Adapter
with Dust Cap**



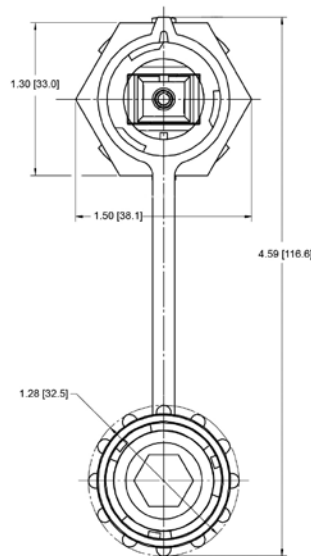
RECOMMENDED MOUNTING CUTOUT



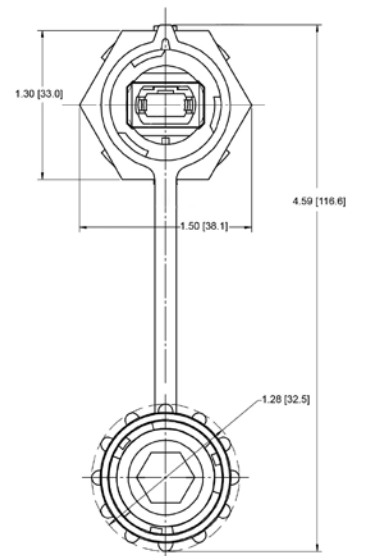
All Styles



LC
(Duplex)



SC
(Simplex)



MPO
(8 or 12 fiber)

All dimensions are in **INCHES**
(MILLIMETERS)

ORDERING INFORMATION



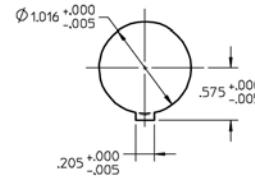
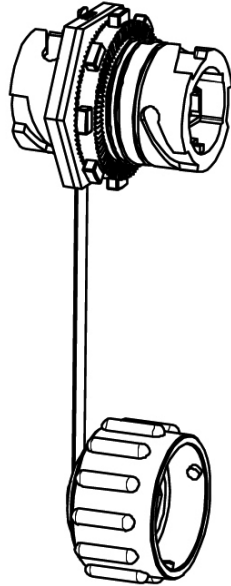
**Optical Industrial
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and Adapters**

106059 LC Duplex

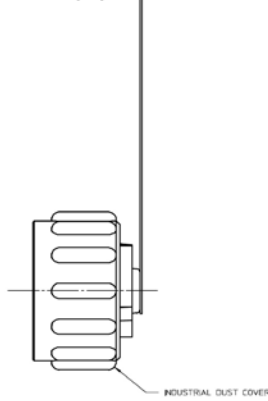
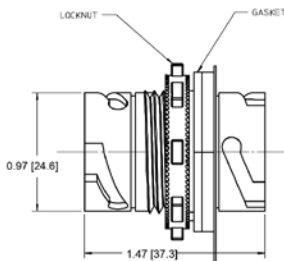
106059 SC Simplex

106059 MPO Multi-fiber

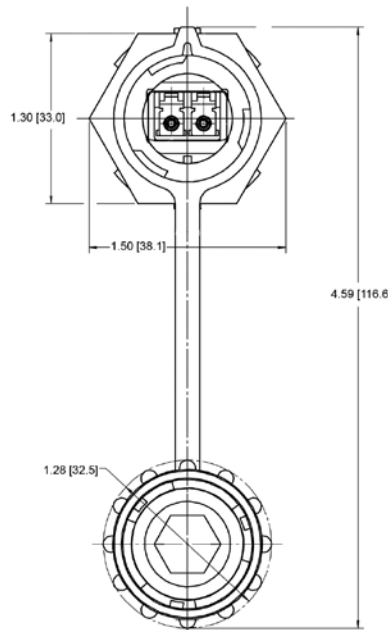
**Industrial In-Line
Adapter
with Dust Cap**



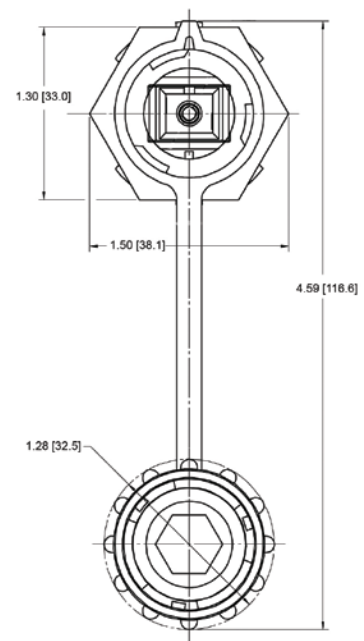
RECOMMENDED MOUNTING CUTOUT



All Styles



LC
(Duplex)



SC
(Simplex)

All dimensions are in INCHES (MILLIMETERS)

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Visit our website at www.molex.com/product/fiber/industrialcables.html

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