



## 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



## Optical Industrial Cable Assemblies and Adapters

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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



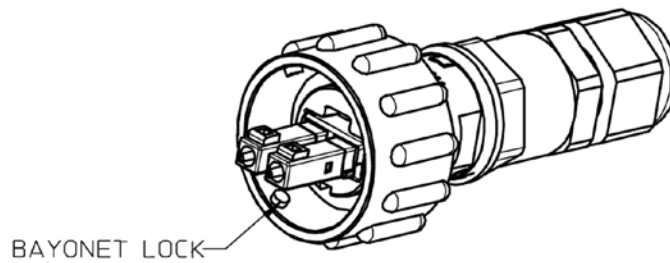
# Optical Industrial Cable Assemblies and Adapters

**106059 LC Duplex**

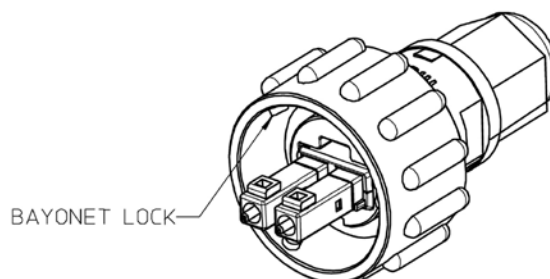
**106059 SC Simplex**

**106059 MPO Multi-fiber**

## Industrial LC with Outside Plant Cable



## Industrial LC with Indoor Cable



All dimensions are in INCHES  
(MILLIMETERS)



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**106059 LC Duplex**

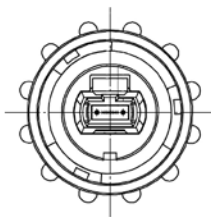
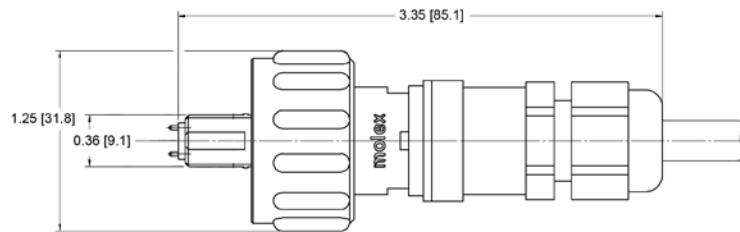
**106059 SC Simplex**

**106059 MPO Multi-fiber**

**Industrial SC  
with Outdoor Plant Cable**



**Industrial MPO  
with Outdoor Cable**



All dimensions are in INCHES (MILLIMETERS)

**ORDERING INFORMATION**



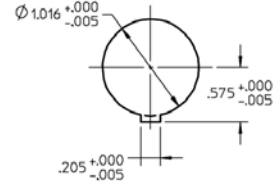
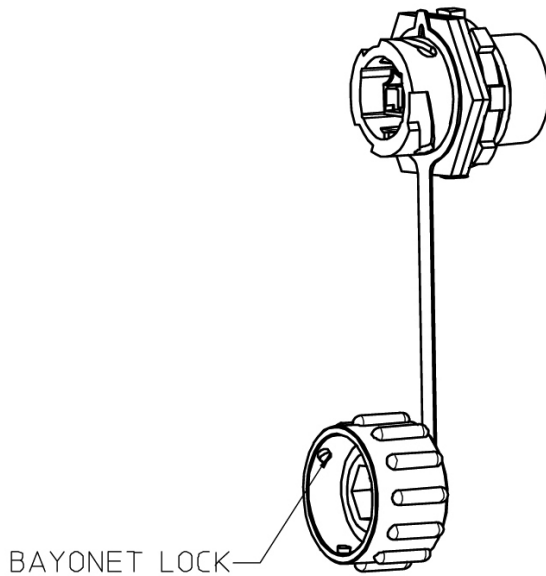
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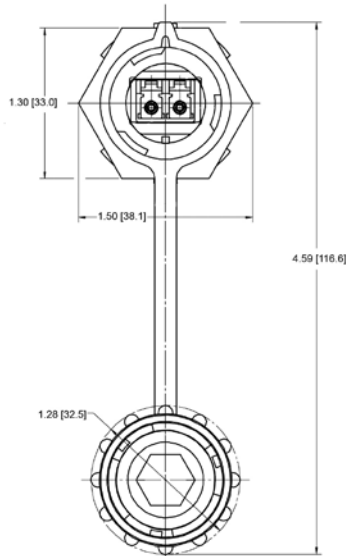
**Industrial Adapter  
with Dust Cap**



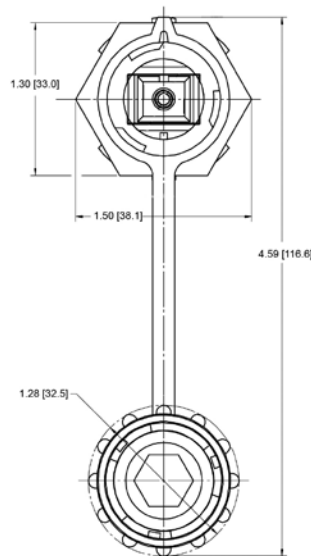
RECOMMENDED MOUNTING CUTOUT



All Styles



LC  
(Duplex)



SC  
(Simplex)



MPO  
(8 or 12 fiber)

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

**ORDERING INFORMATION**



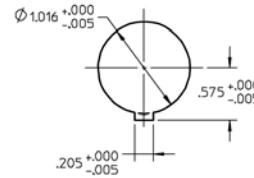
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**106059 LC Duplex**

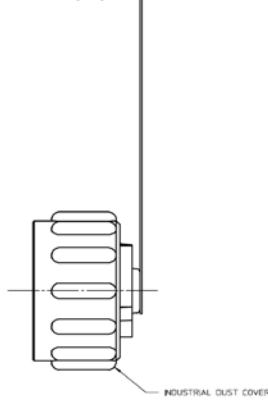
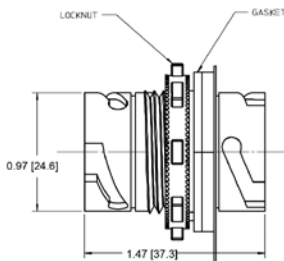
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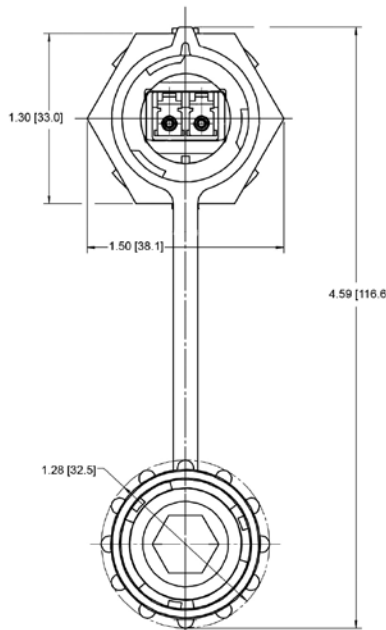
**Industrial In-Line  
Adapter  
with Dust Cap**



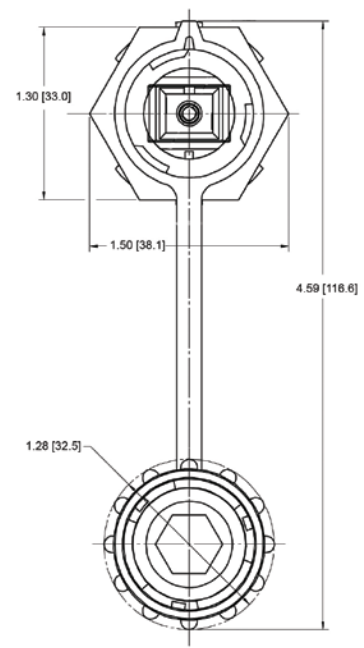
RECOMMENDED MOUNTING CUTOUT



All Styles



LC  
(Duplex)



SC  
(Simplex)

All dimensions are in INCHES  
(MILLIMETERS)

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