Mini Expanded Beam Connector
Fiber Optic Connectors

The Cinch Advantage

Mini expanded beam fiber optic connectors have been designed for use in the most demanding harsh environment applications including military tactical communications, outside broadcast, petrochemical plant, mining and offshore systems.

The Mini expanded beam plug connector has a diameter of just 21mm making it ideal for applications where size and space requirements are critical. The Mini bulkhead connector is available with D-hole, square flange and XLR mounting options. Low profile versions are also available.

The connectors are terminated using an epoxy-polish ferrule termination process with standard fiber optic termination tools and equipment. The terminated ferrules are simply inserted into the expanded beam housing and fixed in place via a spring and cover-plate. Ferrule alignment to the lenses is achieved automatically by the unique optical arrangement developed and patented by Cinch-Fibreco.

The Fibreco® Mini expanded beam connectors offer high performance, flexibility and cost effectiveness, combined with a simple termination process allowing rapid in-field termination and repair.

Features

• Mini 1 – Stratos HMC singlemode compatible
• Mini 2 – Tyco Pro-Beam Mini & Telecast MX compatible
• Mini 3 – Stratos HMC multimode compatible
• Singlemode and multimode options
• Field repairable: EB insert & shell components replaceable / re-useable
• Field terminable using standard termination tools & equipment
• 1, 2 & 4 channel plugs and bulkheads
• Variants: material, finish, blkd mount
• Options: XLR, low profile & reversed
• RoHS compliant

belfuse.com/cinch
## Outline Specification

### Insertion Loss
- 9/125 Fiber at 1310nm / 1550nm: -1.5dB maximum (typical <=-1.0dB)*
- 50/125 Fiber at 850nm / 1300nm: -1.0dB maximum (typical <=-0.7dB)*

### Return Loss
- > 32dB (typical 40dB) singlemode / >20dB multimode*

### Durability
- 3000 Matings minimum

### Operating Temperature
- High Temp: +85°C for 10 hours; Low Temp: -40°C for 10 hours

### Storage Temperature
- -55°C to +85°C

### Water Immersion
- 15m for 24 hours (Plug & Bulkhead, Mated & Open Face)

### Free Fall Resistance
- 500 Falls from 1.2m height

### Vibration
- 10-500Hz, 3 directions, 0.75mm amplitude@ 10g acceleration

### Bump
- 4000 bumps @ 40g acceleration

### Crush Resistance
- 6.7kN

### Corrosion Resistance
- 500 Hours Salt Spray

### Cable Retention
- 1500N (Cable Dependant)

### Weight (approx)
- Plug: 70g Bulkhead: 65g
- Black Anodised Aluminum, or Stainless Steel. Grip & boot: Black

### Connector Shell Material / Color

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#### Optical Insert Arrangements

<table>
<thead>
<tr>
<th>2086 - 1CH OPTICAL</th>
<th>1745 - 2CH OPTICAL</th>
<th>1746 - 4CH OPTICAL</th>
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#### Plug Connector

![Plug Connector Diagram](image)

#### Bulkhead Connector D-Hole Mount

![Bulkhead Connector D-Hole Mount Diagram](image)

#### Bulkhead Connector Square-Flange Mount

![Bulkhead Connector Square-Flange Mount Diagram](image)

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*Measurements against reference—random mate performance in line with MIL-DTL-83526/20 /21

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