Junior Expanded Beam Connector

The Junior Expanded Beam Fibre 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 connectors are terminated using an epoxy-polish ferrule termination process with standard fibre 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.

In the event of the connector suffering severe damage in use, the connector design enables replacement of the expanded beam insert, connector front body and grip ring without the need to re-terminate the fibres. Typically, an expanded beam insert can be replaced within 30 minutes in field conditions.

The Junior Expanded Beam connectors offer high performance, flexibility and cost effectiveness.

Features

- MIL-DTL-83526 specification
- Singlemode and multimode options
- Field terminable using standard termination
- Tools and equipment
- Field repairable: EB insert and shell parts replaceable/re-useable
- 1, 2 and 4 channel plugs and bulkheads
- Low insertion loss/high return loss
- 90º Backshell options for plug and bulkhead

Australia: 1300 232 476 New Zealand: 09 927 7140
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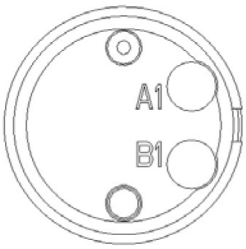
Junior Expanded Beam Connector

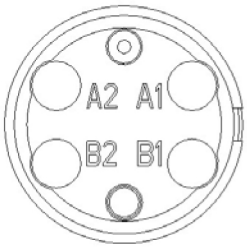
Connector Specifications

Insertion loss	9/125 Fibre at 1310 nm / 1550 nm: -1.5 dB maximum (typical - 1.0 dB) 50/125 Fibre at 850 nm / 1300 nm: -1.0 dB maximum (typical - 0.7 dB)
Return loss	> -32 dB (typical - 40 dB)
Durability	3000 Matings minimum
Operating temperature	-55°C to +85°C
Storage temperature	-55°C to +85°C
Water immersion	15 m for 24 hrs
Free fall resistance	500 falls from 1.2 height
Vibration	20-500 Hz, 3 directions, 0.75 mm amplitude at 10 g acceleration
Bump	4000 bumps at 40 g acceleration
Crush resistance	6.7kN
Corrosion resistance	500 hours salt spray
Cable retention	1500 N (Cable depenent)
Weight (approx)	Aluminium: Plug: 120 g bulkhead: 110 g / 316 grade stainless steel: Plug: 180 g bulkhead: 200 g
Connector shell material / colour	Black anodised aluminium or 316 grade stainless steel Grip and boot: black or olive green

Optical Insert Arrangement



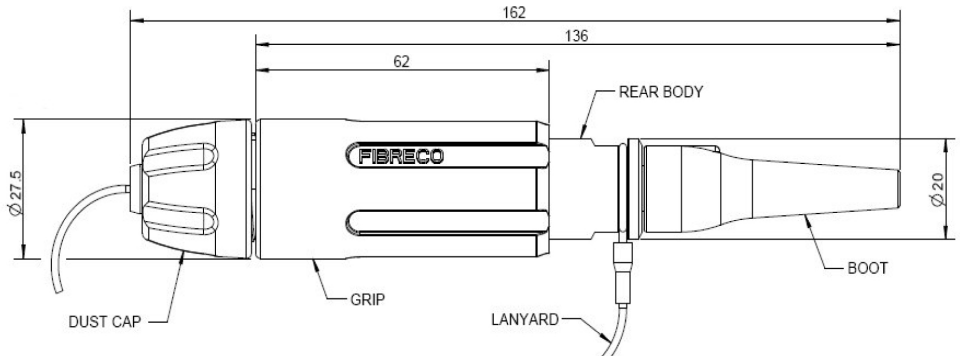
1736 - 2CH Optical



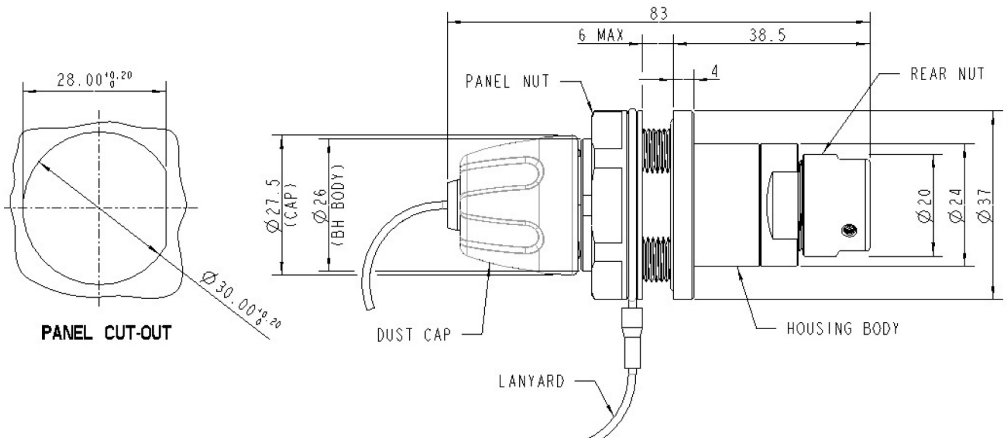
1702 - 4CH Optical

Junior Expanded Beam Connector

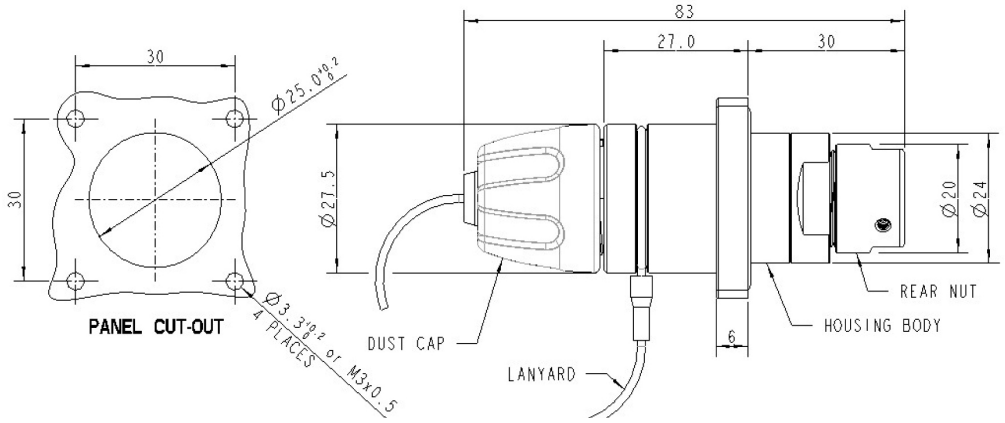
Plug Connector



Bulkhead Connector D-Hole Mount



Bulkhead Connector Square-Flange Mount



J-Lite™ Expanded Beam Connectors

J-Lite™ expanded beam fibre optic connectors have been designed as an affordable yet reliable solution for use in rugged and harsh environment applications, including outside broadcast, renewable energy and some military applications. Available in 2 or 4 channel options, the J-Lite™ is a fully hermaphroditic connector providing high performance at a low cost.

The connectors are simple to use. They are terminated using an epoxy polish ferrule termination process with standard fibre 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.

The J-Lite™ expanded beam connector is easy to clean, and in the event of the connector suffering damage in use, the design enables replacement of the expanded beam insert, connector front body and grip ring without the need to re-terminate the fibres.

J-Lite™ expanded beam connectors offer reliable performance and cost effectiveness, combined with a simple termination process allowing rapid in-field termination and repair.

Features

- Singlemode and multi-mode options
- Field terminable using standard termination tools & equipment
- Field repairable: EB insert & shell parts replaceable / re-useable
- 2 & 4 channel plugs and bulkheads
- Low profile and forward flange options for bulkhead
- Lightweight and cost effective
- Customised cable assemblies are supplied using tactical cable and optional deployment reels and stands
- Non-metallic shell for applications where sparking issues may be hazardous. Eg. underground mining

Specifications

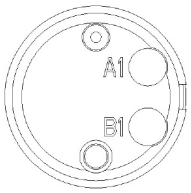
Insertion Loss	Singlemode: -1.5dB maximum (typical –1.0dB)* Multi-mode: -1.0dB maximum (typical –0.7dB)*
Return Loss	>32dB (typical 40dB) Singlemode / >20dB Multi-mode*
Durability	500 Matings minimum
High Temperature Storage	+75°C
Low Temperature Storage	-40°C
IP Rating	IP65
Free Fall Resistance	5 Falls from 1.2m height
Vibration	10-55Hz, 3 directions, 1.52mm amplitude @ 20g acceleration
Flexing	5000 cycles at 20N**
Cable Retention	200N (cable dependant)
Weight (approx)	90g
Connector Shell Material/Colour	Shell: Black Valox 420SEO; Insert Arcap AP1D
Thermal Shock	-55°C to 85°C

*Measurements against reference—random mate performance in line with MIL-DTL-83526
**Bulkhead Connector with Strain Relief only

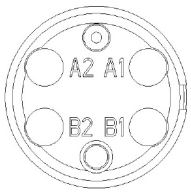
Australia: 1300 232 476 New Zealand: 09 927 7140
www.AFLglobal.com

Specifications

Optical Insert Arrangement

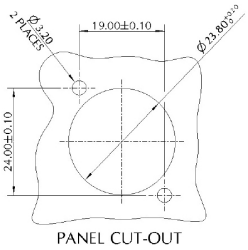


2410 - 2CH OPTICAL



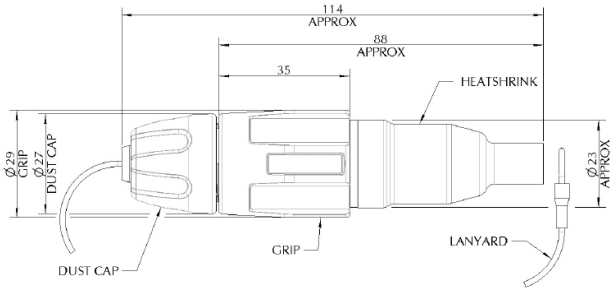
2411 - 4CH OPTICAL

Bulkhead Panel Cut-Out

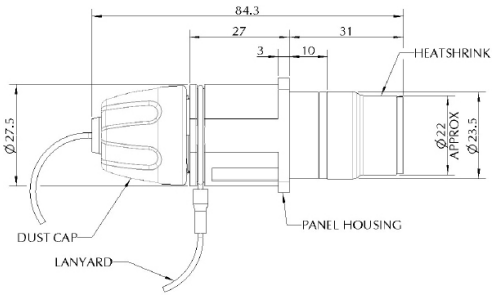


PANEL CUT-OUT

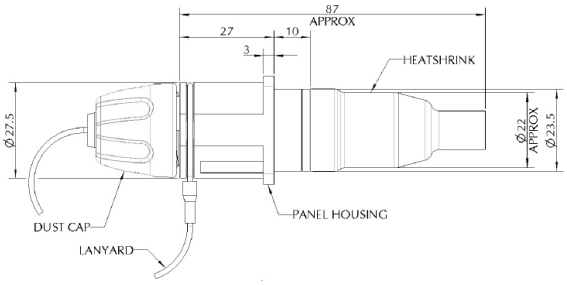
Plug Connector



Bulkhead Connector with Low Profile



Bulkhead Connector with Strain Relief



S-Lite™ Expanded Beam Connectors

The S-Lite™ Expanded Beam connector is designed as a cost effective, high performance and reliable expanded beam solution for use in the outdoor broadcast industry, as well as other rugged and harsh environments. Although it can be used in some military applications, as it is based on the M83526 expanded beam connector, it is designed to specifically target the outdoor broadcast market.
The S-Lite™ connectors versatility, also includes a hybrid version, combining electrical with optical to target SMPTE cable specific programs.

The connectors are terminated using an epoxy-polish ferrule termination process with standard fibre 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.

All of the S-Lite™ expanded beam connector series offer high performance, flexibility and cost effectiveness, combined with a simple termination process allowing rapid in-field termination and repair.

Features

- Singlemode and multi-mode options
- Field terminable using standard termination tools & equipment
- Field repairable: EB insert & shell parts replaceable / re-useable
- Hybrid contains 2 fibre, 2-16AWG contacts, 2-20AWG contacts
- Lightweight and cost effective
- XLR Bulkhead design for easy "drop-in" replacement
- Bulkhead sealing option available
- Customised cable assemblies are supplied using tactical cable and optional deployment reels and stands
- Non-metallic shell for applications where sparking issues may be hazardous. Eg. underground mining

Specifications

Insertion Loss	Singlemode: -1.5dB maximum (typical –1.0dB)* Multi-mode: -1.0dB maximum (typical –0.7dB)*
Return Loss	>32dB (typical 40dB) Singlemode / >20dB Multi-mode*
Electrical Power Contacts	Size 20 & Size 16, MIL-C-39029 Contact resistance <4mΩ Operating voltage 1000VAC Operating current 5A (short term 15A)
Electrical Test Voltage	Between contacts and contact / housing: 3000V / 50 Hz, 1 minute EN61984
Durability	500 Matings minimum
High Temperature Storage	+75°C
Low Temperature Storage	-40°C
IP Rating	IP65
Free Fall Resistance	5 Falls from 1.2m height
Vibration	10-55Hz, 3 directions, 1.52mm amplitude @ 20g acceleration
Flexing	5000 cycles at 20N**
Cable Retention	200N (cable dependant)
Weight (approx)	90g
Connector Shell Material/Colour	Shell: Black Valox 420SEO; Insert Arcap AP1D
Thermal Shock	-55°C to 85°C

*Measurements against reference—random mate performance in line with MIL-DTL-83526
**Bulkhead Connector with Strain Relief only

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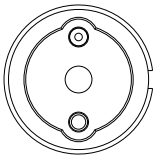
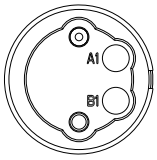
Specifications

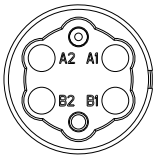
Optical Insert Arrangement



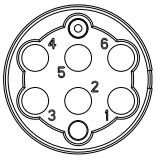
1416 - 1CH OPTICAL



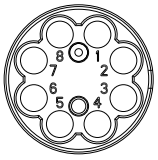
1423 - 2CH OPTICAL



1540 - 4CH OPTICAL

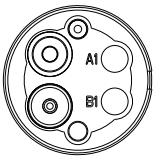


1490 - 6CH OPTICAL

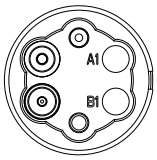


2042 - 8CH OPTICAL

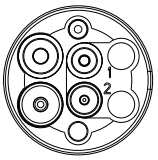
Hybrid Insert Arrangement



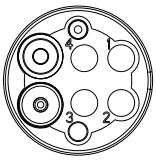
1621 - 2CH OPTICAL
2 POWER (#16)



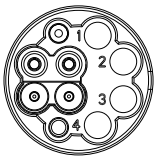
1594 - 2CH OPTICAL
2 SIGNAL (#20)



1432 - 2CH OPTICAL
2 POWER (#16)
2 SIGNAL (#20)

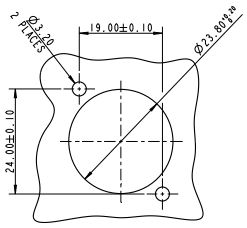


1519 - 4CH OPTICAL
2 POWER (#16)

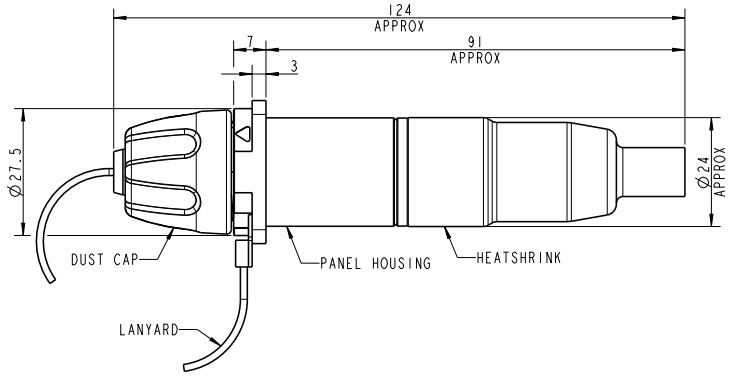


1596 - 4CH OPTICAL
4 ELECTRICAL (#20)

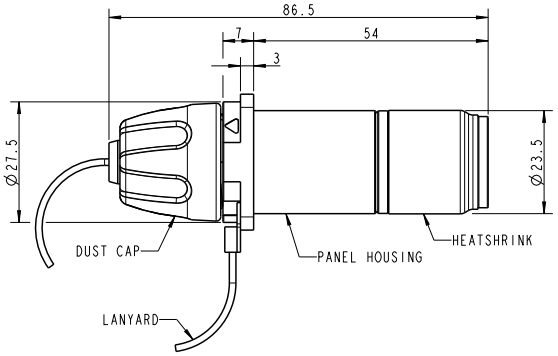
Bulkhead Cut-Out



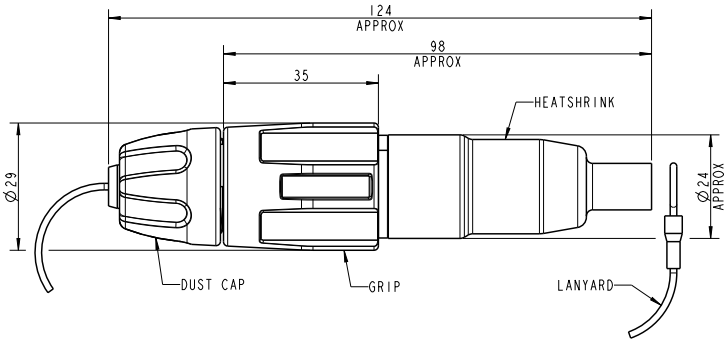
Bulkhead with Strain Relief Connector



Bulkhead Connector



Plug Connector



Maxi Expanded Beam Connector

The Maxi Expanded Beam Fibre 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 where fibre counts are critical.

The Maxi Connector features are a fully-sealed hermaphroditic coupling, high multimode and single-mode optical performance, and a plug shell diameter of just 40 mm.

The connectors are terminated using an epoxy-polish ferrule termination process with standard fibre 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.

In the event of the connector suffering severe damage in use, the connector design enables replacement of the expanded beam insert, connector front body and grip ring without the need to re-terminate the fibres.

The Maxi Expanded Beam connectors offer high performance, flexibility and cost effectiveness.

Features

- 12 or 16 Optical channels
- Single-mode or multimode
- Low insertion loss/high return loss
- Field terminable/repairable
- Hermaphroditic design
- Aluminium, nickel aluminium bronze or 316 grade stainless steel shell options
- Fully sealed (IP68)

Australia: 1300 232 476 New Zealand: 09 927 7140
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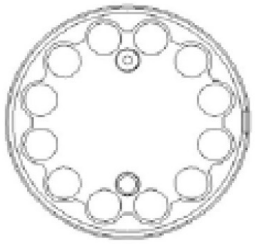
Maxi Expanded Beam Connector

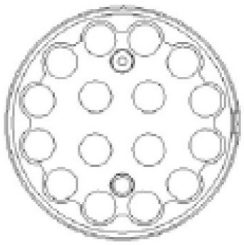
Connector Specifications

Insertion loss	9/125 Fibre at 1310 nm / 1550 nm: -2.0 dB maximum (typical < -1.5 dB) 50/125 Fibre at 850 nm / 1300 nm: -1.5 dB maximum (typical < -1.0 dB)			
Return loss	> -32 dB (typical - 40 dB)			
Durability	3000 Matings minimum			
Operating temperature	-40°C to +85°C			
Storage temperature	-55°C to +85°C			
Water immersion	15 m			
Free fall resistance	500 falls from 1.2 height			
Vibration	10-500 Hz, 3 directions, 0.75 mm amplitude at 10 g acceleration			
Bump	4000 bumps at 40 g acceleration			
Crush resistance	6.7kN			
Corrosion resistance	500 hours salt spray			
Cable retention	1500 N (Cable depenent)			
Weight (approx)		**Aluminium**	**316 Grade Stainless Steel**	**Nickel Aluminium Bronze**
	Plug:	310 g	575 g	575 g
	Bulkhead:	210 g	390 g	390 g
Connector shell material / colour	Black anodised aluminium, nickel aluminium bronze or 316 grade stainless steel. Grip and boot: Black or olive green			

Optical Insert Arrangement



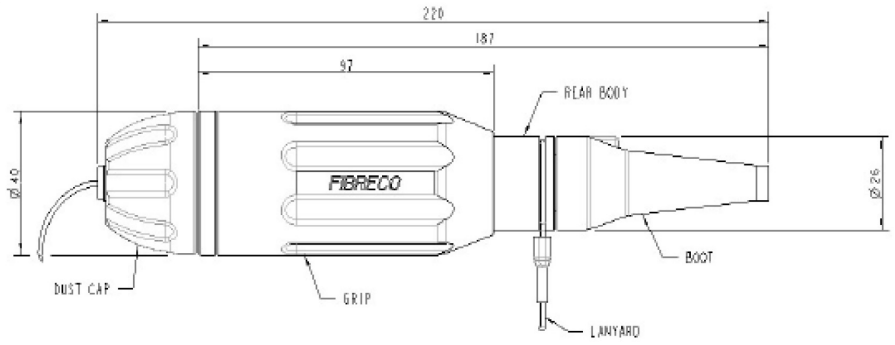
2161 - 12CH Optical



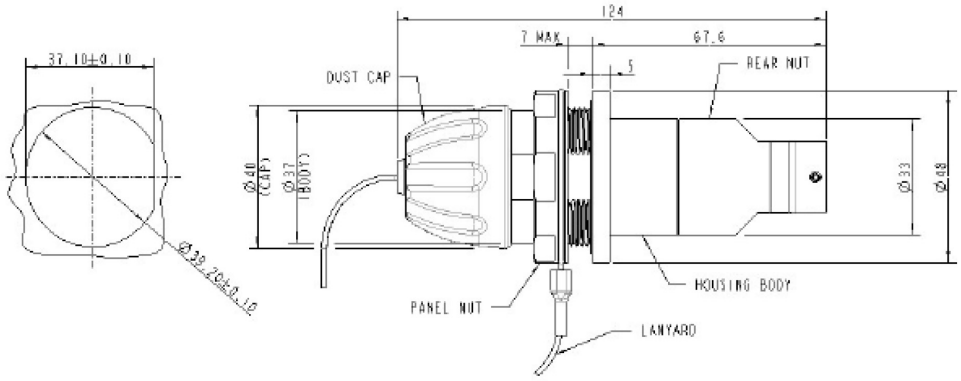
2162 - 16CH Optical

Maxi Expanded Beam Connector

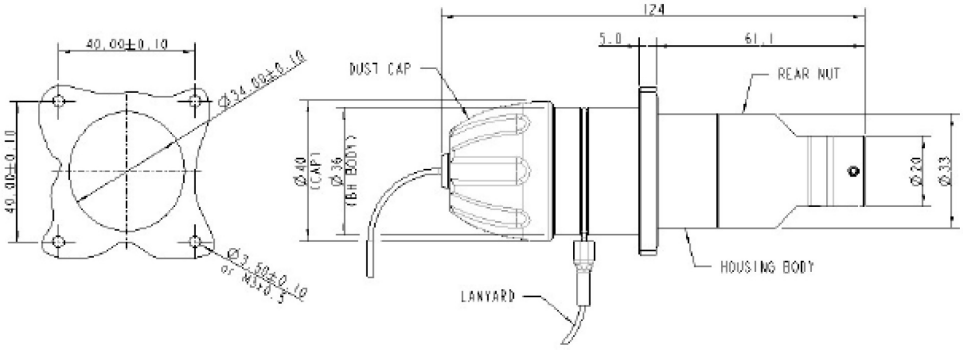
Plug Connector



Bulkhead Connector D-Hole Mount



Bulkhead Connector Square-Flange Mount



D38999 Series III Derived Expanded Beam Connector

AFL D38999 Series III derived expanded beam fibre optic connectors have been designed for use in the most demanding civil and military electronic equipment interface applications.

The connector features the generic MIL-DTL-38999 Series III tri-start thread and one-turn self locking anti-vibration coupling mechanism making it ideal for use in vehicle, aircraft and naval environments.

Plug and receptacle connectors are available with straight 90° back-shell and a choice of shell materials including aluminium alloy (zinc cobalt, olive drab), aluminium alloy (electroless nickel plated), nickel aluminium bronze (shot blast, non-reflective) and 316 grade stainless steel (passivated).

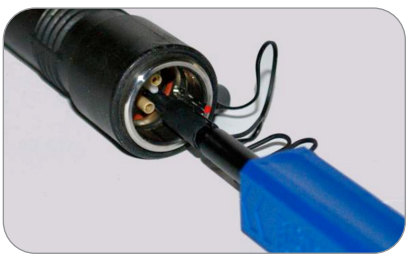
Receptacle connectors are available with jam-nut or square-flange mounting and strain relief for zip-cords or tactical cable.

The connectors are terminated using an epoxy-polish ferrule termination process with standard fibre 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.

AFL D38999 Series III expanded beam connectors offer high performance, flexibility and cost effectiveness, combined with a simple termination process allowing rapid in-field termination and repair.

Features

- Size 11 Shell: 1 to 4 Optical channels
- Size 13 Shell: 2 or 4 Optical channels
- Size 15 Shell: 2, 4, 6 or 8 Optical channels
- Size 17 Shell: 12 or 16 Optical channels
- Single-mode or multimode
- Straight 90° back-shell
- Low insertion loss/high return loss
- Aluminium, nickel aluminium bronze or 316 grade stainless steel shell options
- Fully sealed (IP67)



Connector Specifications

Insertion loss	9/125 Fibre at 1310 nm / 1550 nm: 1 to 4 channels: -1.5 dB max/6 to 16 channels: -2.0 dB max* 50/125 Fibre at 850 nm / 1300 nm: 1 to 4 channels: -1.0 dB max/6 to 16 channels: -1.5 dB max*						
Return loss	> 32 dB (typical 40 dB) single-mode / > 20 dB multimode*						
Durability	1000 Matings minimum						
Operating temperature	-40°C to +85°C						
Storage temperature	-55°C to +85°C						
Water immersion	IP67						
Free fall resistance	350 falls from 1.2 height						
Vibration	10-500 Hz, 3 directions, 0.75 mm amplitude at 10 g acceleration						
Bump	4000 bumps at 40 g acceleration						
Corrosion resistance	350 hours salt spray						
Cable retention	1000 N (Cable depenent)						
Weight (approx)		Aluminium		316 Grade Stainless Steel		Nickel Aluminium Bronze	
		Size 11	Size 15	Size 11	Size 15	Size 11	Size 15
	Plug:	50 g	90 g	95 g	170 g	95 g	170 g
	Bulkhead:	45 g	85 g	85 g	155 g	85 g	155 g
Connector shell material / colour	Aluminium alloy (zinc cobalt, olive drab), aluminium alloy (electroless nickel plated), nickel aluminium bronze (shot blast, non-reflective) or 316 grade stainless steel (passivated).						

* Measurements against reference - random mate performance in line with MIL83526

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