

F700-01 Series D38999 Series III Expanded Beam Connector

Designed for demanding civil and military electronic equipment interfaces, the D38999 Series III expanded beam fibre optic connectors offer high-performance, flexibility and cost effectiveness. These connectors use the same inserts as our F BEAM™ products.

Featuring the MIL-DTL-38999 Series III tri-start thread and a one-turn self-locking anti-vibration coupling mechanism, these connectors excel in armoured vehicles, aircraft, and naval systems.

Connectors are available as plugs or receptacles with straight or 90° back shell options. Receptacles are available with jam-nut or square-flange mounting and strain relief. These connectors are easy to clean, resistant to environmental contamination and less susceptible to variations in temperature and humidity.

Ridgemount D38999 connectors are available with either singlemode and multimode fibre.



Key Features

- **MIL-DTL-38999 Series III Tri-start Thread:** Ensures compatibility with industry standards
- **One-Turn Self-Locking Anti-Vibration Coupling Mechanism:** Provides secure connections in challenging conditions
- **Versatile Configurations:** Plug and receptacle connectors with straight or 90° back-shell options.
- **Shell Materials:** Aluminium alloy with Black Zinc Nickel plating as standard or Stainless Steel
- **Shell Sizes:** Size 11 for 2 & 4 channels using F Beam™ Mini 2 insert and Size 13 for 1, 2 & 4 channels using F Beam™ Junior insert
- **Receptacle Mounting Options:** Jam-nut or square-flange, with integrated strain relief for zip-cords or tactical cable
- **Ferrule Alignment:** Expanded Beam Technology ensures precise alignment with lenses
- **Termination Process:** Utilises an epoxy-polish ferrule termination method with standard fibre optic termination tools
- **Installation:** Terminated ferrules easily insert into the expanded beam housing, secured by a spring and cover-plate

Applications

- Civil aircraft communications equipment interfaces
- Military aircraft, and naval electronics equipment
- Petrochemical, mining and outside broadcast systems
- Armoured personnel carriers and tanks

Benefits

- Reliable performance in demanding environments.
- Multiple configurations & mounting options.
- Efficient design reduces total cost of ownership
- Simplified termination process for in-field termination and repairs.
- **Manufactured in the UK**

F700-01 Series
D38999 Series III
Expanded Beam Connector



Technical Specification

F700 Series	D38999 Expanded Beam Connector	Specification Performance
Optical Performance - <i>subject to termination method and fibre grade</i>		
Insertion Loss [Max]	IEC 61300-3-4	Mmode ≤1.5dB / Smode ≤2.0dB
Insertion Loss [Typical]	IEC 61300-3-4	Mmode ≤0.8dB / Smode ≤1.0dB
Return Loss	IEC 61300-3-6 [mated]	Mmode > 23dB / Smode >32dB
Mechanical Performance - <i>subject to termination method and fibre grade</i>		
Vibration	IEC 61300-2-1	10-500Hz 0.75 amplitude @10g acceleration
Durability	IEC 61300-2-2	x3000 matings
Impact	IEC 61300-2-12	8 Drops (0.9m)
Cable Retention	IEC 61300-2-2	2000N (Cable Dependent)
Environmental Performance - <i>subject to termination method and fibre grade</i>		
Bump	IEC 61300-2-8	4000 bumps @ 40g acceleration
Water Immersion	IEC 61300-2-23	IP67
Operating Temperature Range	IEC 61300-2-22	-40°C to +85°C

Connector Ordering Information

For the related Cable Assembly ordering information see next page

SAMPLE PART NUMBER	F7	22	13	4	2	4	55	0A
<i>F722 13 0424 550A</i>								
F700 D38999 Expanded Beam Connector								
Shell Type								
10: Plug								
21: Jam Nut Receptacle - Low Profile								
22: Jam Nut Receptacle - Strain Relief								
23: SQ Flange Receptacle - Low Profile								
24: SQ Flange Receptacle - Strain Relief								
Shell Size								
11								
13								
Number of Channels								
02: 2 Channels								
04: 4 Channels								
Fibre Type								
2: Singlemode								
4: Multimode								
Shell Material								
1: Stainless Steel								
4: Aluminium with black zinc nickel								
Cable Diameter								
09: 900µm Buffered Fibre (Low Profile Only)								
30: Standard Zip-Cord - 3.0mm								
55: Tactical Cable - 5.5mm								
Shell Colour								
0A: Black								
9A: Base Material (Stainless Steel Only)								

F700-01 Series
D38999 Series III
Expanded Beam Connector



Cable Assembly Ordering Information

SAMPLE PART NUMBER	F7	22	13	02	2	4	55	0A	LCD	45M
<i>F723 13 0224 550A LCD 45M</i>										
F700 D38999 Series III Expanded Beam Assemblies										
Shell Type for first end										
10: Plug										
21: Jam Nut Receptacle - Low Profile										
22: Jam Nut Receptacle - Strain Relief										
23: SQ Flange Receptacle - Low Profile										
24: SQ Flange Receptacle - Strain Relief										
Shell Size										
11										
13										
Number of Channels										
02: 2 Channels										
04: 4 Channels										
Fibre Type										
2: Singlemode 9/125										
4: Multimode 50/125										
Shell Material										
1: Stainless Steel										
4: Aluminium with black zinc nickel										
Cable Diameter										
09: 900µm Buffered Fibre (Low Profile Only)										
30: Standard Zip-Cord - 3.0mm										
55: Tactical Cable - 5.5mm										
Shell Colour										
0A: Black										
9A: Base Material (Stainless Steel Only)										
Connectors for other end										
P: Plug										
JRLP: Jam Nut Receptacle - Low Profile										
JRSR: Jam Nut Receptacle - Strain Relief										
SQLP: SQ Flange Receptacle - Low Profile										
SQSR: SQ Flange Receptacle - Strain Relief										
LCA/FCA/SCA: Telecom connector with angled physical contact 8° for SM only										
LC/LCD (duplex)/SC: Telecom connector available with MM & SM										
<i>For custom requirements please consult us</i>										
Cable Length										
xxxM: customer to specify length in metres, for example 45m										

PROVISIONAL