



HARSH ENVIRONMENT

Fibre Optic Solutions

Including Connectors, Cables,
and Secure Optical Fibre Systems.

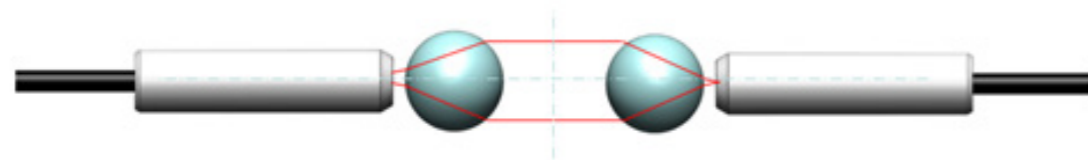
- Defence • Maritime
- Industrial • Avionics



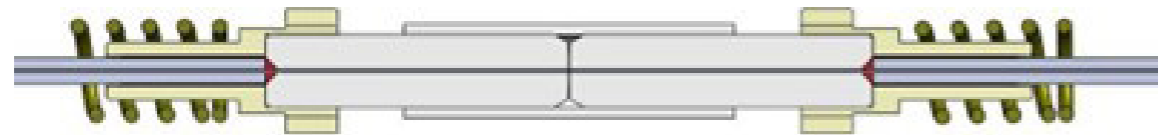
CONNECTOR TECHNOLOGY – FBEAM™ ALIGNMENT

Ridgemount's FBEAM™ alignment technology has set the standard in Expanded Beam (EB) connector performance. Whilst we design and manufacture both Physical Contact (PC) and Expanded Beam (EB) solutions, it is the latter that offers critical benefits for Harsh Environment applications.

EXPANDED BEAM Alignment



PC (Physical Contact) Alignment



Expanded Beam connectors incorporate a lens arrangement in front of the optical ferrule to provide additional protection to the optical fibre end face. The lens expands the beam of light from ~ 9µm to >250µm, reducing the impact of contamination on the optical performance and allowing robust field utilisation.”

The Ridgemount Expanded Beam Inserts are available in several robust connector interfaces designed to offer mechanical security in a variety of tactical and harsh applications. Our connectors have some common characteristics making them an ideal choice.



FxBEAM™



FBEAM™



FBEAM™ Test

Characteristic	Physical Contact	Expanded Beam
Transmission	Glass to Glass	Glass – Air – Glass
Connectorisation Loss	<0.15dB	<1.5dB
Return Loss Typical	50dB [APC 60dB]	32dB [APC 45dB]
Environment	Managed Networks	Harsh Environments
Key Advantage	Transmission Performance	Robust in dirty conditions
Prime Applications	Telecom / Datacom	Defence / Broadcast / Industrial
Examples	SC / LC / ST / MPO [APC]	HMA Junior Mini2



Scan QR Code for
FBEAM™ Assembly

Enhanced Optical Protection with
Ridgemount's FBEAM™ Alignment



FBEAM™ JUNIOR – F310 PLUG

Hermaphroditic Design - Plug to Plug Daisy Chain / HMA Compatible

Interface Compliant to MIL-DTL-83526/20

Channel Count Options: 1, 2, 4, 6 & 12

Low Insertion Loss: <01.5dB Return Loss: 32dB+

Cable Options: 3.8mm, 5mm, 5.5mm, 6mm

Ideal Deployable Interface for Multimode and Singlemode Applications



FBEAM™ JUNIOR – F310 RIGHT ANGLED PLUG

A Right Angled / Adjustable Plug for Restricted Access

Compliant to MIL-DTL-83526/20

Channel Count Options: 2 & 4

Multimode & Singlemode Options

Low Insertion Loss: <1.5dB Return Loss: 32dB+

Ideal Equipment Interface for Multimode and Singlemode Applications



FBEAM™ JUNIOR – F320 LOW PROFILE

Low Profile Receptacle for Restricted Spaces

Interface Compliant to MIL-DTL-83526/21

Channel Count Options: 1, 2, 4, 6 & 12

Low Insertion Loss: <01.5dB Return Loss: 32dB+

Cable Options: 0.9mm, 1.6mm

Ideal Equipment Interface for Multimode and Singlemode Applications



FBEAM™ JUNIOR – F316 LOOP BACK

Loop Back Connector for Field Testing

Compliant to MIL-DTL-83526/20 & 21

Channel Count Options: 2 & 4

Multimode & Singlemode Options

Low Insertion Loss: <1.5dB Return Loss: 32dB+

Ideal Accessory in Test Kits for Single End Link Testing



FBEAM™ JUNIOR – F320 STRAIN RELIEF

Strain Relief Receptacle for Ruggedised Cables

Interface Compliant to MIL-DTL-83526/21

Channel Count Options: 1, 2, 4, 6 & 12

Low Insertion Loss: <01.5dB Return Loss: 32dB+

Cable Options: 1.6mm, 2.8mm

Ideal Equipment Interface for Multimode and Singlemode Applications



FBEAM™ JUNIOR – LC CONVERSION ADAPTORS

Hybrid Adaptors FBEAM™ - LC Interfaces

Compliant to MIL-DTL-83526/20 & 21

Channel Count Options: 2 & 4

Multimode & Singlemode Options

Low Insertion Loss: <1.5dB Return Loss: 32dB+

Ideal Accessory for Test Kits



FBEAM™ JUNIOR – F320 SQUARE FLANGE

Square Flange Receptacle

Interface Compliant to MIL-DTL-83526/21

Channel Count Options: 1, 2, 4, 6 & 12

Low Insertion Loss: <01.5dB Return Loss: 32dB+

Cable Options: Low profile and strain relief options available

Ideal Equipment Interface for Multimode and Singlemode Applications



FBEAM™ JUNIOR – INSERTS

Range of Singlemode and Multimode Hybrid Inserts

Interface Compliant to MIL-DTL-83526/20-21

Channel Count Options: 1, 2, 4, 6 & 12

Low Insertion Loss: <01.5dB Return Loss: 32dB+

Custom Inserts Available Upon Request



FBEAM™ JUNIOR – F300 SERIES

Hermaphroditic Design - Plug to Plug Daisy Chain

Interface Compliant to MIL-DTL-83526/20 & 21

Channel Count Options: 1, 2, 4, 6 & 12

Low Insertion Loss: <01.5dB Return Loss: 32dB+

Plugs / Bulkheads and a variety of Cable Options

The Industry Standard Interface for Expanded Beam Connectors



FxBEAM JUNIOR – F600 SERIES

Hermaphroditic Design - Plug to Plug Daisy Chain

Optically Superior to MIL-DTL-83526/20 & 21

Channel Count Options: 2 & 4

Low Insertion Loss: <1.5dB High Return Loss: 45dB+

Plugs / Bulkheads and a variety of cable options

Ideal High Performance – Low Reflectance Applications



FBEAM™ MINI2 – F200 SERIES

A Miniature Version of the F300 Series at 21mm OD

Junior Hermaphroditic Design - Plug to Plug Daisy Chain

Optically & Compliant to MIL-DTL-83526/20 & 21

Low Insertion Loss: <1.5dB Return Loss: 32dB+

Channel Count Options: 2 & 4

Ideal for Portable Equipment Interconnects



FBEAM™ D38999 – F700 SERIES

A blend of D38999 Shell and the FBEAM™ optical insert

Interface Compliant to MIL-DTL-83526/20 & 21

Channel Count Options: 2 & 4

Multimode & Singlemode Options

Low Insertion Loss: <1.5dB Return Loss: 32dB+

High Vibration Applications – Industrial, Avionics and Maritime



FBEAM™ – DUST CAPS & PULLING SOCKS

Dust Cap Options: Low Profile, Moulded Round, IP68 Rubber

Interface Compliant to MIL-DTL-83526/20 & 21

Range of Dust Caps and Pulling Socks Available

Ideal Interface for Multimode and Singlemode Applications



BOMAN LC – 140 SERIES

IP68 Harsh Environment Physical Contact Connector Interface

Bayonet locking 4 Point Design for easy mating

Channel Count options: 2 Fibre [LC UPC & APC Duplex Interface]

Low Insertion Loss: <0.15dB Return Loss: 65dB+

Plugs to Plug Options / Plug to Bulkheads

Ideal Interface for Low Loss / High Reflectance Links



BOMAN MT – 140 SERIES

IP68 Harsh Environment Physical Contact Connector Interface

Bayonet locking 4 Point Design for easy mating

Channel Count Options: 12 Fibre [MPO Interface]

Low Insertion Loss: <0.35dB Return Loss: 65dB+

Plugs to Plug Options / Plug to Bulkheads

Ideal Interface for Low Loss / High Reflectance Links



HARSH ENVIRONMENT ASSEMBLIES

Industry Leading Test Leads

Custom Assemblies & Harnesses

Manufactured to Drawing

Singlemode / Multimode Options

Wide Range of Connector and Cable Choices

Customs Cables & Harness Solutions



DEPLOYABLE NETWORKS - REELS & CABLES

Rapid Deployment / Rapid Disconnect / Restricted Space

We offer a comprehensive range of products for the rapid deployment of temporary or permanent network infrastructure. Our reels and cables are engineered to withstand the harshest environments, ensuring reliable connectivity in both Broadcast and Tactical applications. At the core of our design is Emtelle's patented FibreFast technology, featuring a robust 900µm element that is easy to strip and terminate, making it the perfect fit for our FBEAM™ and BOMAN connector ranges.

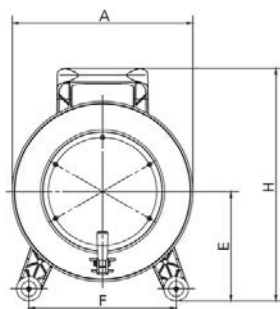
DEPLOYABLE REELS

Applications

Rapid deployment of Tactical **Defence** Communication Systems in field operations.
 Ideal for temporary **Telecom** fibre optic installations requiring frequent redeployment.
Harsh Environment Oil & Gas Monitoring with our stackable metal frame versions.
 Effective **Emergency Response** solution - Disaster Relief and Mobile Command Centres.
 Mobile **Broadcast** units, outdoor events, and temporary data transmission infrastructure.

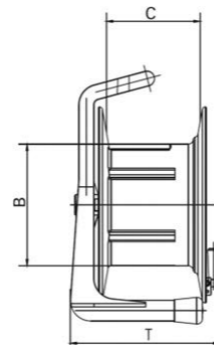
Features & Benefits

Multi-fibre **Expanded Beam & Physical Contact** Connector options.
Tactical Cable - High Flexibility, Strength, Crush & Abrasion Resistant.
 Water Proof Designs with high Resistance to Oils, Chemical & Solvents.
 High Visibility Colour options for outside sport and Event Installations.
 Halogen Free cable sheath options for Internal / External solutions.
 Low Loss & Low Back Reflection Optical Performance.



Code	A	B	C	Capacity	Material
FL03	310mm	170mm	132mm	150m	Plastic
FL08	380mm	236mm	182mm	300m	Plastic
FL23	380mm	176mm	210mm	500m	Metal
FL42	460mm	281mm	350mm	1000m	Metal

Other options available. Capacity based on 5.5mm Tactical Cable.



FIELDLITE™ DEPLOYABLE CABLE

FieldLite™ Cable for Tactical Field Applications

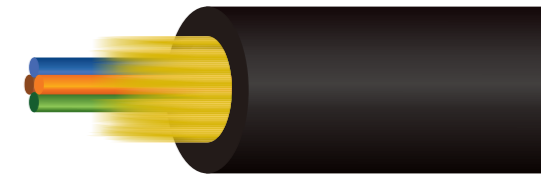
Robust & Lightweight – Universal deployable design

Command & Control Links - Inside Vehicles and Shelters

Variety of Jacket Options colours & Materials.

Compatible with FBEAM™ & BOMAN Connectors

Defence – Broadcast – Industrial – Field Telecom Applications



Mechanical & Environmental Performance

Tensile Strain / Long Term IEC 60794-1-21 / Method E1 600N [130 lbs]

Minimum Bend Radius / IEC 60794-1-21 / Method E11A 55mm [2.2 in]

Crush Resistance / IEC 60794-1-21 / Method E3A 5000N/100mm

Impact Resistance / IEC 60794-1-21 / Method E4 20J [20Nm] [3x 500mm]

Operational Temperature / IEC 61300-2-22 / -40°C to +85°C (21 cycles)

FIBREFAST™ MICROCABLES

Ultra-Compact Fibre Cable

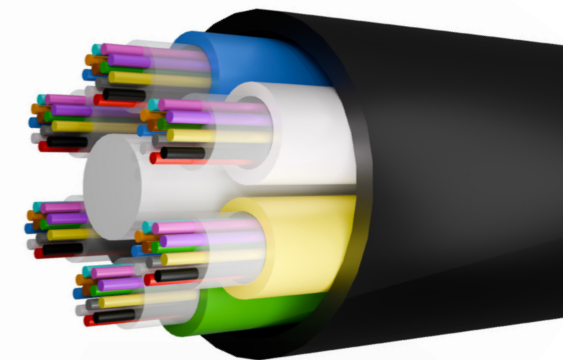
Fibre Counts: 2–576 Fibre Options

Ultra-Small Profile: from 1.05mm Outer Diameter

Various Patented Low-Friction Designs

Used for Fixed Network Infrastructure

Ideal for Cable Blowing Applications



FIBREFLOW™ MICRODUCT

High-Performance Fibre Pathways for Evolving Network Demands

Tube Bundles with 3mm–16mm Microduct Outer Diameters

Supports Up to 26 Individual Microducts per Bundle

Low-Friction Inner Liner for Enhanced Blowing Distances

Available Types: Direct Bury, Direct Install, Low Fire Hazard

Ideal for Future Proofing and Optical Network Distribution



NETWORK MONITORING

Harsh Environment Network Protection & Access Security
Intrusion & Emergency Shut Down Solutions
Easy to Install on existing Cabinets and Chambers
Long Distance Remote Alarm on Singlemode Fibre
Supplied with Network Monitoring Equipment
Passive Optical Alarm System

EM-FINITY CLOSURE

IP68 rated Enclosures for Harsh Environments
Designed for splicing and pre-connectorised deployment
4 Sizes: S, M, L, Lite
1056+ splices / 96 LC Pre-connectorised customers
Modular internal design for flexible configuration
Intuitive Colour Coded Splicing Closure

EXTERNAL TERMINATION BOX - ETB

Versatile Fibre Storage for Fibre Deployments
Transition Point from Outdoor to Indoor Environments
Ideal for Slack Storage of Pre-Terminated Drop Cables or Fibre Modules
Rugged Enclosure for Harsh Outdoor Conditions
Compact Design for Easy Installation in Tight Spaces
Safe Storage for Optical Fibres and Cables

DROPDRIVE™ PUSHING MACHINE

Engineered for Speed, Distance, and Reliability
Pushing Distance: Achieves up to 300m – 3x further than standard solutions
Ideal for Long-Haul, High-Density Fibre Deployments
Optimised for Use in Microduct Environments
Used with Emtelle's REVOLink3 Cable
Rapid Installation of Emtelle's Fibre Solutions



RIDGEMOUNT PHYSICAL CONTACT CONNECTOR SOLUTIONS

Rapid Deployment / Rapid Disconnect / Restricted Space

Sometimes the environment just deserves a better performance from an LC or SC connector. Designed for use with Emtelle's optical Fibre Bundle and Microducts the Ridgemount LC and SC connectors offer a real advantage in rapid deployment

Solution Tip: The LCv Field is an ideal light weight, high performance connector, designed to be used with high strength optical fibres in tactical environments. Available with standard or Quick Release latches it offers a sacrificial solution for expensive field equipment.

VENTURI™ CONNECTORS

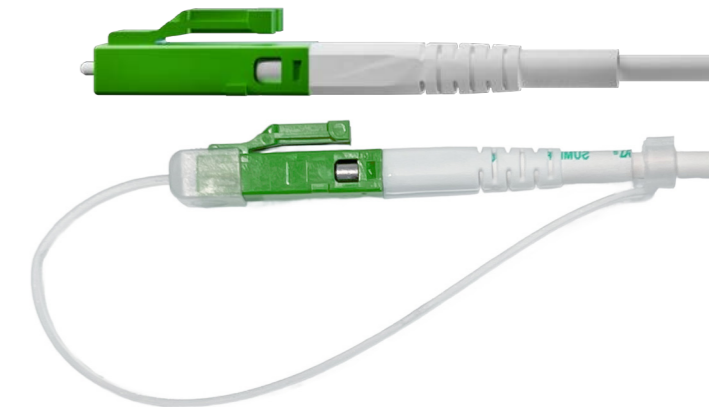
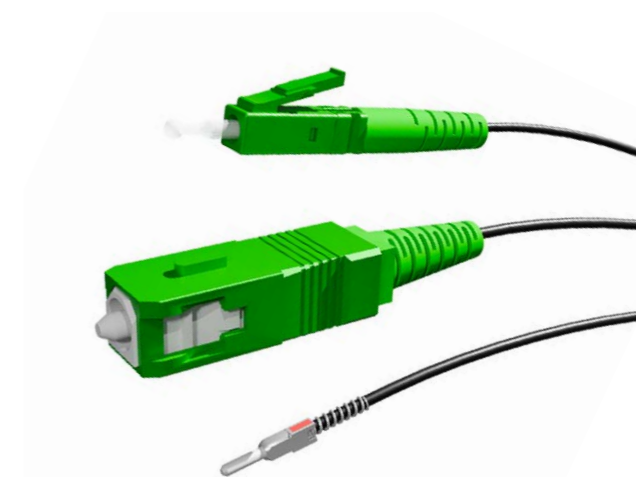
Compliant to IEC Standard Interface Dimensions
LC and SC Interface Options / UPC & APC Performance Choice
Can deploy down a 3.5mm Microduct
Blowable up to 1000m. Pushable up to 300m
Compatible with Emtelle Microduct / FibreFast™ / REVOLink3™
Ideal Interface for Outdoor Network Applications

QUICK RELEASE CONNECTORS

Compliant to IEC Standard Interface Dimensions
LC and SC Interface Options / UPC & APC Performance Choice
Disconnects Adaptor at 25N
Low Insertion Loss: <0.2dB Return Loss: 65dB+
LC-QR™ – Quick Release – High Density
Ideal Interface for Equipment Protection

TWIST ON / OFF CONNECTORS

Compliant to IEC Standard Interface Dimensions
LC-TT™ Interface Options / UPC & APC Performance Choice
Designed to pass through 5mm hole
Low Insertion Loss: <0.2dB Return Loss: 65dB+
LC-TT™ Metallic Body LC
Ideal Interface for Cabling in Restricted Spaces





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