

# Expanded Beam Fibre Optic Connectors

Rugged fibre optic connectors up to 24 channels

TechOptics

Tech Optics offers a wide range of rugged military fibre optic expanded beam connectors suitable for deployable and fixed communication systems.

Solutions are available from 2-24 channels and include highly ruggedised windowed fibre optic interconnects for areas where stable and repeatable optical interconnection in harsh environments is critical.

The windowed expanded beam range allows quick and easy hermaphroditic coupling and easy cleaning / maintenance to ensure secure optical connection in the harshest of environments.



## Features and Benefits

- Extremely rugged
- Easy to clean / maintain
- Up to 24 channels
- Single and Multimode Variants
- Hermaphroditic mating
- Expanded beam with protective window
- Hybrid capability
- Low loss

## Applications

- Ship to shore links
- Mobile tactical shelters
- Electronic battlefield networks
- Mobile emergency telecommunications stations
- Deployable outdoor, harsh environment



## Typical Environmental Performance Specifications

Specification	Measurement Requirements
Insertion Loss (per mating pair of plugs)	Singlemode 9/125 $\mu\text{m}$ @ 1310nm <0.7dB typical, 1.0dB max Multimode 50/125 $\mu\text{m}$ @ 850nm <0.4dB typical, 0.7dB max
Durability	2,000 matings minimum (TIA/EIA-455-21)
Operating Temperature	-40°C to +85°C (cable dependent)
Storage Temperature	-50°C to +85°C (cable dependent)
IP Rating	IP68 (BS EN 60529)
Cable Retention	~2,000N (cable dependent)
Drop Resistance	200 drops from 1.2m (IEC 68-2-32-proc 2)
Crush Resistance	6000N (DOD-STD-1678, method 2040 procedure II and III)
Corrosion Resistance	1,300 hours salt spray (IEC 62-2-11-ka)
Water Pressure	300 psi for 24 hours
Impact Resistance	25 impacts, 1.5kg (DOD-STD-1678, method 2030, procedure II)
Vibration	1g pea, 5-500Hz in 3 axes, swept @ 1 octave / min
Mud Resistance	Per MIL C 832526/13
Sand	90 minutes (MIL-STD-810E method 510)
Dust	6 hours @ 23°C, 6 hours @ 85°C (MIL-STD-810E method 510)

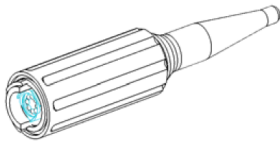
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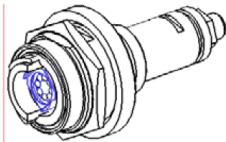
**TechOptics**

## Connector Styles

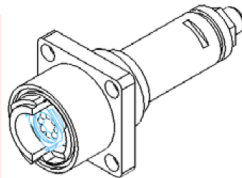
**Free Plug**  
for tactical deployment



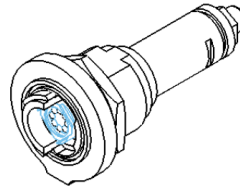
**D-mount Receptacle**  
External for minimum  
internal protrusion



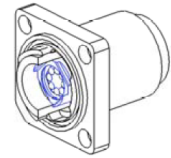
**Square Flange Receptacle**  
External for minimum  
internal protrusion



**D Mount Receptacle**  
Internal for minimum  
external protrusion



**Square Flange Recept.**  
Internal for minimum  
external protrusion



Custom connector configurations are available on request.

## Standard Planforms

24 way



18 way



12 way



8 way



4 way



Note other planforms and hybrid electrical /optical options are available on request.

8 way plug with  
protective cap



For further information and to discuss your application please contact:-

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**TechOptics**

THE FIBRE OPTICS EXPERTS

**ISO9001:2015**  
for the distribution  
of fibre optic  
products and the  
manufacture of fibre  
optic assemblies.



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Specifications subject to change without notice.

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