

MFM Simplex Fibre Optic Connector

Amphenol Ruggedised Single Channel Fibre Optic Connector

TechOptics



The Simplex MFM Fibre Optic range has been specifically designed to operate in Harsh Environments. The rugged, anti-vibration, corrosion resistant design ensures high environmental and optical performance in a variety of applications in the air, on land, and above / below sea.

The MFM series connector is designed for both singlemode and multimode applications and offers a range of variants to suit different types of ruggedised cabling.

The connector is widely deployed and field proven in naval systems, military communications, submarine applications, IED disposal robots, renewable energy devices, radar systems and many other environments..

Tech Optics has unrivalled experience in the MFM range and can provide components, assemblies, termination tooling and training.

Features and Benefits

- Anti-vibration coupling mechanism
- Silicon 'O' ring environmental sealing
- Keyway polarisation
- Butt joint ceramic ferrules for optimum optical performance
- 7 different key-way options: A, B, C, D, E, N and U.
- Key U is Universal and mates with any other key style.
- Jam nut or flange mount receptacles.
- Insertion loss typically 0.25dB using 62.5/125µm fibre
- Standard 2.5mm ferrule
- Sealed to IP68
- 9/125µm, 50/125µm, 62.5/125µm, 100/140µm, 200/280µm fibre sizes supported
- Available as pre-terminated assemblies



Environmental Performance Specifications

Specification	Measurement Requirements
Insertion Loss (typical)	0.25dB with 62.5/125µm fibre (cable and termination dependent)
Repeatability	0.1dB
Durability	>500 matings
Temperature Range	-65°C to +155°C
Temperature Endurance	1,000 hours @ 150°C as per EN2591 Test C1 Method B
Gunfire Vibration	As per EN2591 Test D3 Method A
Shock	As per EN2591 Test D2 Method A
Salt Mist	500 hours as per EN2591 Test C7
Sand and Dust	As per EN2591 Test C8
Humidity	95% RH for 6 hours as per EN2591 C21

Materials

Specification	Material
Shell	ARCAP
Ferrule	Zirconia (PC)
Alignment Sleeve	Zirconia
O ring seals	Silicone
Boot	Silicone

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Connector Part Numbering Scheme

MFM XX E X – XXX

Connector Style

- 00 Square Flange Receptacle
- 01 Free Receptacle
- 06 Plug
- 07 Jamnut Receptacle
- 20 Two hole fixing

Keyway Orientation

- N Normal
- A, B, C, D, E
- U Universal

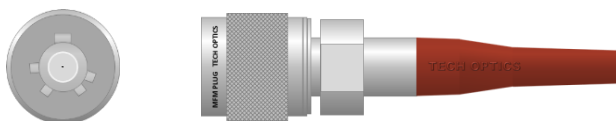
Cable Variant

- 001 Multimode 50/125µm or 62.5/125µm, tight buffered, 2.75mm Ø cable
- 002 Multimode 50/125µm or 62.5/125µm, tight buffered 6.2mm Ø cable
- 003 Multimode 50/125µm or 62.5/125µm, loose tube, 2.75mm Ø cable
- 004 Multimode 200/280µm Eurofighter cable JN1008, 2.5mm Ø cable
- 005 Multimode 100/140µm, tight buffered, 1.6mm Ø cable
- 006 Singlemode 9/125µm, tight buffered, 2.75mm Ø cable
- 007 Singlemode 9/125µm, tight buffered, 6.2mm Ø cable
- 008 Multimode 50/125µm or 62.5/125µm, tight buffered, 2.75mm Ø cable, santaprene boot
- 017 Multimode 50/125µm or 62.5/125µm, tight buffered 5.4mm Ø cable, 007 crimp sleeve and heatshrink
- 039 Multimode 50/125µm or 62.5/125µm, tight buffered, 1.6mm Ø cable
- 054 Multimode 50/125µm or 62.5/125µm, tight buffered, 1.8mm Ø cable
- XXX Many other cable configurations are available – contact Tech Optics to discuss your application

Example Part Code

MFM-06EN-001 MFM plug, keyed N, for multimode fibre (e.g. 50/125µm or 62.5/125µm) cable 2.75mm diameter

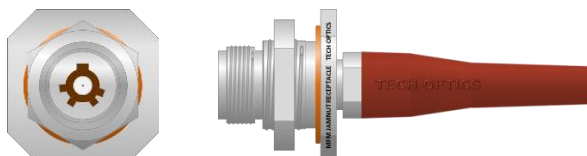
Plug (06)



Receptacle (00) Square Flange



Receptacle (07) Jamnut



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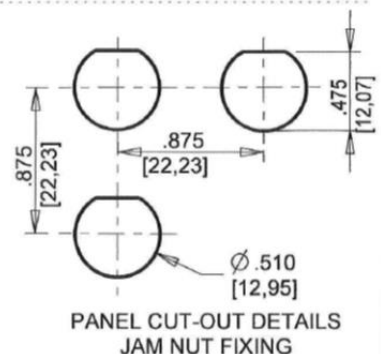
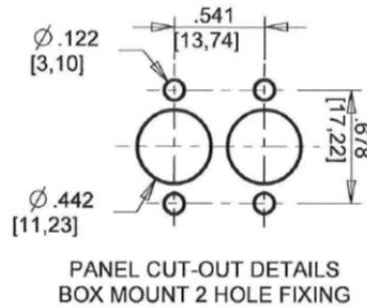
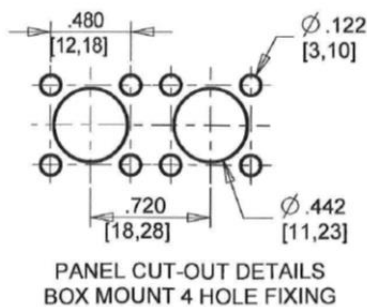
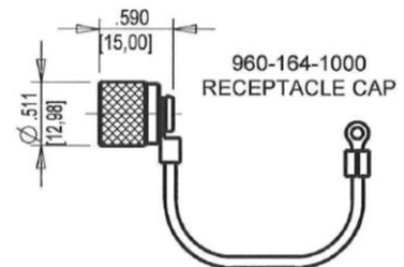
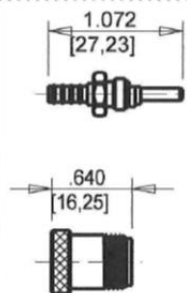
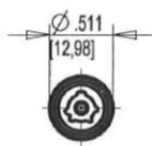
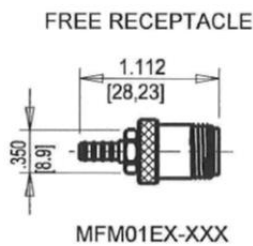
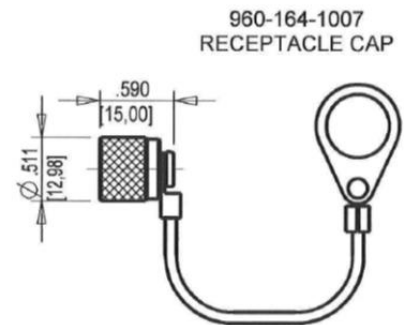
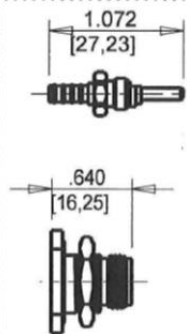
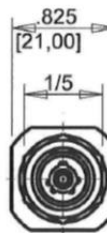
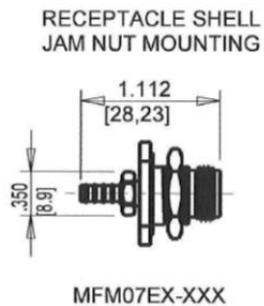
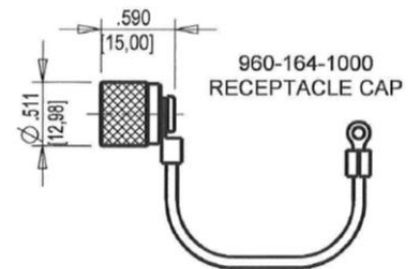
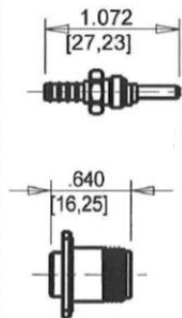
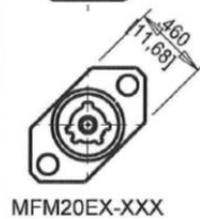
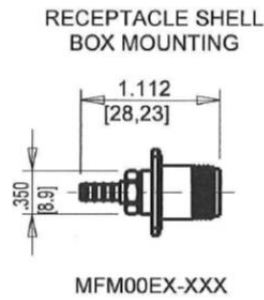
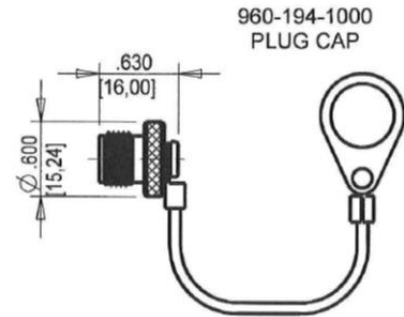
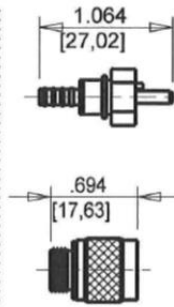
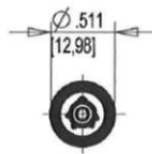
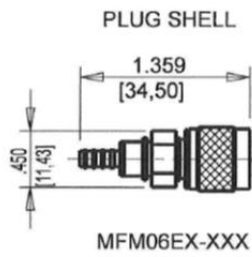
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Protective Caps

Part Number	Connector Type	Attachment
960-164-1000	Receptacle	Small 3.7mm eyelet
960-164-1007	Receptacle	Large 14.8mm eyelet
960-194-1000	Plug	Large 11.5mm eyelet

Recommended Torque Settings

Connector	Component	Torque to
MFM Plug	Rear Nut	15 lbf.in / 1.7 N.m
MFM Receptacle	Ferrule Assembly	15 lbf.in / 1.7 N.m
MFM Jamnut	Panel Nut	33 lbf.in / 3.7 N.m

Termination Tool Kits

Tech Optics supplies a variety of termination kits for the MFM connector connector range. Kits can be configured to suit customer requirements for various cable / fibre types, connector types plus test and inspection requirements.

Tech Optics can also provide partial kits and/or individual tools to complement customers existing equipment.



Termination Consumables

Tech Optics stocks a full range of fibre optic termination consumables including:-

- Polishing Films
- Polishing Pads
- Epoxy
- Cleaning Materials



Test & Inspection Systems

Once terminated it is critical to be able to inspect and test fibre optic assemblies. Multiple options are available depending on customer requirements such as location (lab / field), volume and system performance requirements.



Tech Optics supply inspection probes, microscopes, insertion loss and return loss equipment for testing MFM connector assemblies.

Training

Bespoke MFM training courses are available at Tech Optics dedicated training facility in Tonbridge or customers sites ensuring staff are confident and qualified in the termination, installation, test, inspection and maintenance of the MFM connector range.



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.

MFM Simplex – 2018

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