

About Amphenol Fiber Systems International

Amphenol Fiber Systems International (AFSI) designs, manufactures, markets and supports reliable and innovative fiber optic interconnect solutions that withstand the harsh environments of military, oil & gas, mining and broadcast applications. After more than a decade in business, AFSI continues to uphold its position as a global leader in fiber optic interconnect components and systems such as termini, M28876, MIL-ST, TFOCA and the TFOCA-II® connector, which AFSI developed and patented. Altogether, AFSI has delivered millions of fiber optic connectors in more than 22 countries. Whenever there is a need for superior cost-effective fiber optic systems and products that will stand up to demanding operating environments, you can rely on AFSI for engineering know-how, top-quality products and expert technical support.

For more information about AFSI, please visit our web site at www.fibersystems.com

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TFOCA-II® Jam Nut Receptacle



TFOCA-II® Plug



About the TFOCA-II® Connector

In 1999, Amphenol Fiber Systems International, in conjunction with the United States Army Communications-Electronics Command (CECOM), designed the “next generation” deployable fiber optic connector for the emerging “knowledge-centric warfare communication” requirements of the future battlefield. By combining the effective technology of both Amphenol Fiber Systems International’s FS3H hermaphroditic and AT&T’s TFOCA deployable fiber optic connector, the family of TFOCA-II® connectors was born, becoming an enabling technology for the digital battlefield.

The heart of the TFOCA-II® family of deployable fiber optic connectors centers on the TFOCA-II® sealed free floating termini. The unique termini design enables TFOCA-II® connectors to seal against high humidity and moisture conditions while allowing full axial and orbital movement of the mated termini, providing low insertion loss and minimal back reflection.

This unique connector series was designed and patented by Amphenol Fiber Systems International for use in environmentally harsh conditions. The U.S. Army has standardized on the 4-channel TFOCA-II® connector as the next generation fiber optic connector for military tactical deployable network applications.

Features and Benefits

- **Hermaphroditic Design for Versatility** - Enables multiple TFOCA-II® plug assemblies to be concatenated.
- **Removable End Cap** - Allows for easy field maintenance and cleaning.
- **4-Channel Connector Design** - Two fold improvement over TFOCA with better optical performance.
- **Improved Cable Retention Strength** - Designed to meet 400lb. pull strength while protecting fibers from stress.
- **Zn-Ni Plating** - Provides substantial longevity to corrosive environments. Meets new mandate set by Environmental Protection Agency for elimination of heavy metal plating.
- **Commercial Ceramic Ferrule Technology** - Enables TFOCA-II® connector to provision multimode and single mode interconnect with a variety of polishes including SPC and UPC.
- **Solid Core Alignment Sleeves** - More robust than split alignment sleeves.
- **Hermaphroditic Dust Cap** - Plug and/or receptacle dust caps connect together to prevent dust and moisture penetration during deployable conditions.
- **Optional Key Positions** - Four key positions (1,2,3, universal) available, enabling segregation of mated plug/receptacles or plug/plug, through mechanical interface.
- **Field Repairable Using Existing Parts** - Additional connector components (other than termini) are not required to perform field repair.
- **Also Available in Stainless Steel and Brass** - Allows the connector to be used in a variety of applications.

Applications

- U.S. Army, Navy, and Marine Corp military tactical deployments
- Oil, Gas and Geoscience industries
- Industrial
- Broadcast

TFOCA-II is a registered trademark of Amphenol Fiber Systems International. TFOCA-II is covered by U.S. Patents 6,305,849; 6,371,660 and 6,357,929

TFOCA-II® 4-Channel Connector Specifications

Parameter	Typical	Maximum
Insertion loss (multimode)	0.30dB	0.75dB
Insertion loss (single mode)	0.40dB	0.75dB
Back reflection (single mode-UPC polish)	-50dB	-40dB
Operating temperature	-46° C to + 71° C	
Storage temperature	-55° C to + 85° C	
Mud	5 minute immersion, clean with water (per MIL-C-83526/12 /13 requirements)	
Water pressure	MIL-STD-810, Method 512.4, 1m, 48hr	
Ice crush	DOD-STD-1678, Method 4050	
Humidity	DOD-STD-1678, Method 4030, 10 Cycles	
Flammability	MIL-STD-1344, Method 1012	
Vibration (operational)	MIL-STD-1344, Method 2500.1	
Shock	EIA/TIA-455-14, Condition A	
Mating durability	2,000 cycles per EIA/TIA-455-21	
Cable seal flexing	100 cycles per MIL-STD-1344, Method 2017, Procedure 1	
Twist	1,000 cycles per EIA/TIA-455-36	
Cable retention	400 pounds minimum per EIA/TIA-455-6, 1hr (applies to plug and strain relief receptacles)	
Impact	EIA/TIA-455-2	
Crush resistance	450 pounds minimum per EIA/TIA-455-26	
EMI shielding effectiveness (receptacle only)	> 60dB PER IEEE-299, 15KHz to 10GHz	
Corrosion resistance	MIL-STD-1344, Method 1001, Cond A	

TFOCA-II® 4-Channel Connector Part Numbers

Product Number

FS4H1000-X-Y

FS4H6200-X-Y

FS4H8200-X-Y

Product Name

TFOCA-II® Plug

TFOCA-II® Flange Mount Receptacle with Integrated Strain Relief

TFOCA-II® Jam Nut Receptacle with Integrated Strain Relief

X=H Cable Diameter Range .190 - .239	Y=1 Key Option 1
X=F Cable Diameter Range .240 - .279	Y=2 Key Option 2
X=A Cable Diameter Range .280 - .315	Y=3 Key Option 3
X=B Cable Diameter Range .316 - .346	Y=U Universal Key Option
X=G Cable Diameter Range .347 - .379	

FS4H8000-X-Y

FS4H6000-X-Y

TFOCA-II® Jam Nut Receptacle

TFOCA-II® Flange Mount Receptacle

X=1 EMI Shielded Panel Seal	Y=1 Key Option 1
	Y=2 Key Option 2
	Y=3 Key Option 3
	Y=U Universal Key Option

MTFP1X00Y

TFOCA-II® Terminus

Product Number	X=Ferrule Type	Y=Crimp
MTFP1000	0=Multimode	Blank=W/O Crimp
MTFP1000C	0=Multimode	C=With Crimp
MTFP1100	1=Single mode	Blank=W/O Crimp
MTFP1100C	1=Single mode	C=With Crimp

MTFP1150

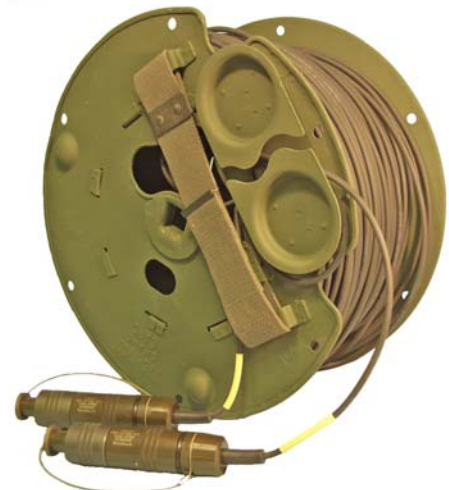
MTFP1175

MTFP0000

TFOCA-II® Alignment Sleeve, Multimode

TFOCA-II® Alignment Sleeve, Single mode

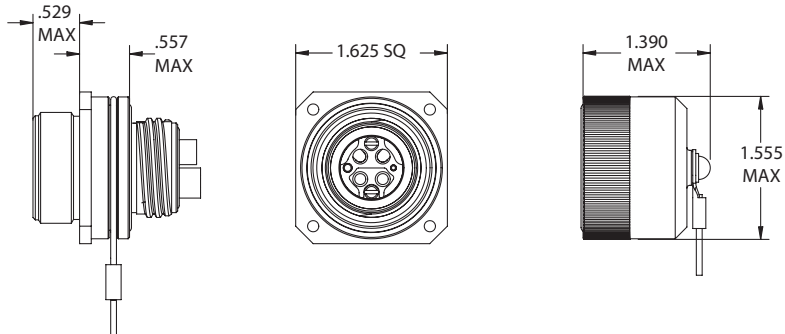
TFOCA-II® Dummy Terminus



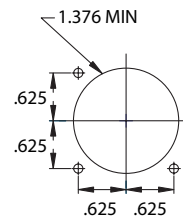
TFOCA-II® Plug to Plug Cable Assembly on Military Reel

For fully warranted and qualified custom military cable assemblies utilizing the TFOCA-II® product line, please contact Amphenol Fiber Systems International at 800.472.4225 or email us at info@fibersystems.com

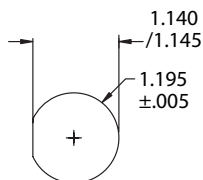
TFOCA-II® 4-Channel Flange Mount Receptacle



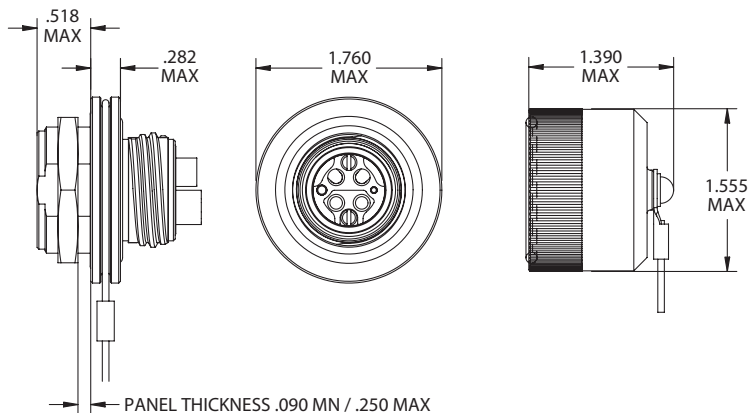
TFOCA-II® 4-Channel Flange Mount Receptacle Panel Cut-out



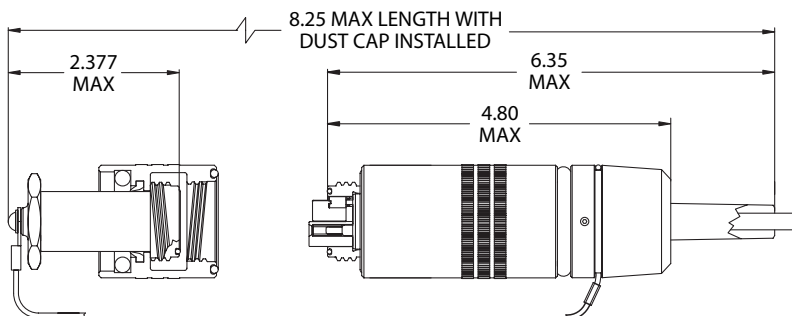
TFOCA-II® 4-Channel Jam Nut Receptacle Panel Cut-out



TFOCA-II® 4-Channel Jam Nut Receptacle



TFOCA-II® 4-Channel Plug



Drawings are not to scale. Measurements are in inches.