

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® Brass Plug



*TFOCA-II® Brass Panel
Mount Receptacle*



*TFOCA-II® Brass Gland
Receptacle*

About GoldRush TFOCA-II®

Amphenol Fiber Systems International (AFSI) has designed the next generation “longwall communications” deployable fiber optic connector. By responding to specific customer needs and leveraging the family of AFSI TFOCA-II® connectors, the Gold Rush series of fiber-optic connectors was born. These innovative interconnect solutions have become an enabling technology for “digital mining.” AFSI’s Gold Rush connectors address specific mining requirements for the future of intelligent mining.

This revolutionary design enables TFOCA-II® connectors to seal against high humidity and moisture conditions while allowing full axial and orbital movement of the mated ferrule, providing the lowest possible insertion loss and back reflection of any military style connector.

The heart of the TFOCA-II® family of deployable fiber optic connectors is the TFOCA-II® termini, featuring “sealed” free floating termini.

The patented Gold Rush TFOCA-II® connector series has been designed by AFSI for environmentally harsh conditions of mining. Available in both brass and stainless steel, the Gold Rush TFOCA-II® and the Gold Rush TFOCA-III® connectors are in the final approval and certification stages at the Mine Safety Health Administration.

The Gold Rush TFOCA-II® and the Gold Rush TFOCA-III® connector series makes it easier to retrieve data from the face of the longwall. The Gold Rush TFOCA-III® connector series utilizes 1.25mm termini to increase channel density while retaining reliable Gold Rush TFOCA-II® housings. Gold Rush TFOCA-III® incorporates 6 channels into the existing 4-channel shell size, and 24 channels into the current 12 channel TFOCA-II® housings. Leveraging the original connector form factor allows users to upgrade their systems easily while maintaining the AFSI performance and reliability, and quality.

Features and Benefits

- **Hermaphroditic Design for Versatility** - Enables the TFOCA-II® plug to be daisy chained or unreeled from either end of a reel.
- **Field Repairable Using Existing Parts** - Additional connector components (other than termini) are not required to perform field repair.
- **4-Channel Connector Design** - Two fold improvement over TFOCA with better optical performance.
- **Optional Key Positions** - Four key positions (1,2,3,universal) available, enabling segregation of mated plug/receptacles or plug/plug, through mechanical interface.
- **Improved Cable Retention Strength** - Designed to meet 400lb. pull strength while protecting fibers from stress.
- **Solid Core Alignment Sleeves** - More robust than split alignment sleeves
- **Removable End Cap** - Allows for easy field repair and cleaning.
- **Commercial Ceramic Ferrule Technology** - Enables TFOCA-II® connector to provision multimode and single mode interconnect with a variety of polishes including SPC and UPC.
- **Available in Stainless Steel and Brass** - Allows the connector to be used in a variety of applications.

Applications

- Oil, Gas and Geoscience industries
- Industrial
- Mining

TFOCA-II and TFOCA-III are registered trademark of Amphenol 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 Specifications¹

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
Back reflection (single mode-APC polish)	-60dB	-50dB
Operating temperature	-46° C to + 71° C	
Storage temperature	-52° C to + 85° C	
Mud	5 minute immersion, clean with water (per MIL-C-83526/12 /13 requirements)	
Water pressure	1 meter for 24 hours (Per MIL-C-83526 /12 /13 requirements)	
Ice crush/freezing water	Immersed and frozen in water for 7 hours (Per MIL-C-83526 /12 /13 requirements)	
Humidity immersion	MIL-STD-1344, Method 2010, 5 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 (applies to plug and strain relief receptacles)	
Impact	EIA/TIA-455-2	
Crush resistance	450 pounds minimum per EIA/TIA-455-26	
EMI shielding (receptacle only)	> 60dB average H-field effectiveness 15kHz to 15MHz, > 67dB average E-field effectiveness 15kHz to 10GHz	

TFOCA-II® 4-Channel Part Numbers

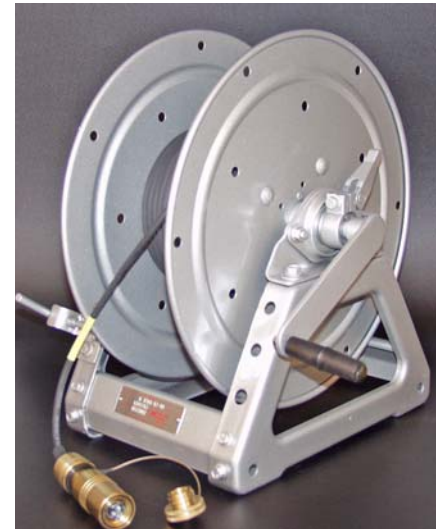
Product Number	Product Name
FS4H5000-X-Y	TFOCA-II® Brass Plug
FS4H5001-X-Y	TFOCA-II® Brass Panel Mount Receptacle
FS4H5002-X-Y	TFOCA-II® Brass Gland Receptacle

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	

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	TFOCA-II® Alignment Sleeve, Multimode
MTFP1175	TFOCA-II® Alignment Sleeve, Single mode
MTFP0000	TFOCA-II® Dummy Terminus

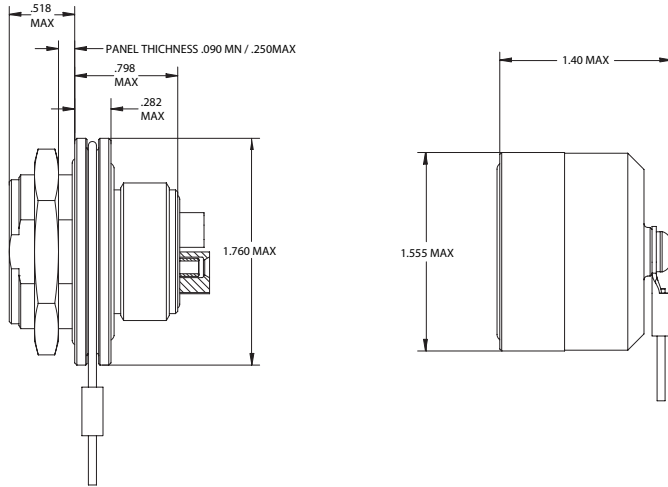


TFOCA-II® GoldRush Plug to Plug Cable Assembly on Hannay Reel

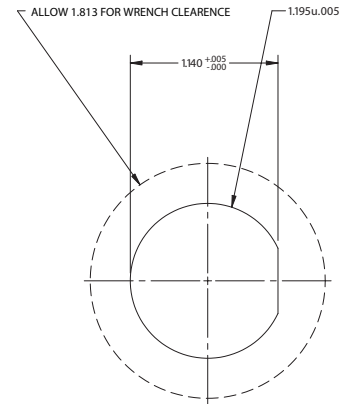
For fully warranted and qualified custom cable assemblies utilizing the TFOCA-II® product line, please contact Amphenol Fiber Systems International at 800-472-4225 or email us at info@fibersystems.com

1. Some parameters qualified to existing TFOCA-II® design

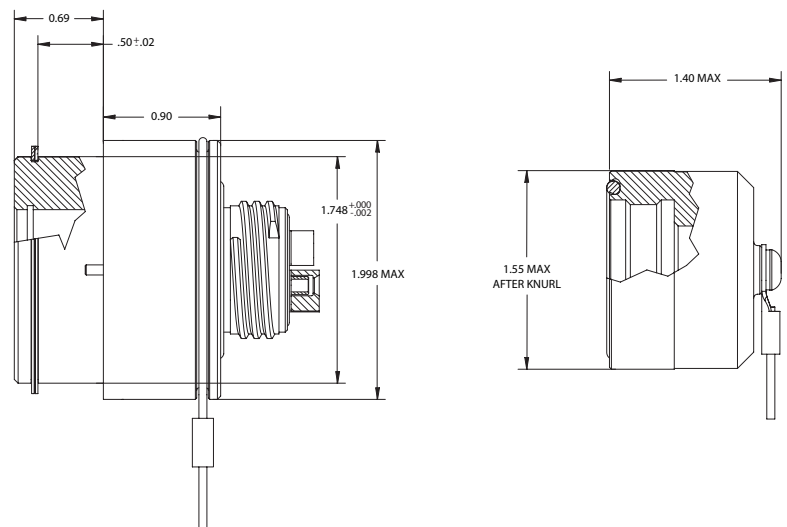
TFOCA-II® Brass Panel Mount Receptacle



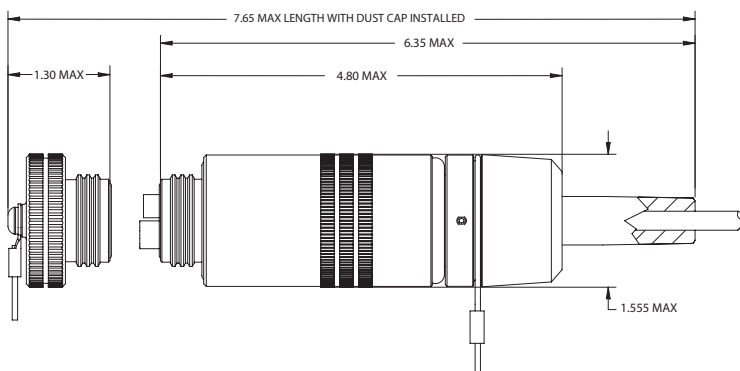
TFOCA-II® Brass Mount Receptacle Panel Cut-out



TFOCA-II® Brass Gland Receptacle



TFOCA-II® Brass Plug



Drawings are not to scale. Measurements are in inches.