Fiber Optic Support
for Military Ground Systems
Tools, Training & Termination Kits

Amphenol
Fiber Systems International

Contents

Since 1993, Amphenol Fiber Systems International (AFSI) has designed, developed and manufactured rugged fiber optic connectors and cable assemblies for myriad military ground systems including:

- Patriot
- JNN
- GEMS
- THAAD
- WIN-T
- TOC
- COC
- JLENS
- GMT

As the industry leader in harsh environment fiber optic interconnect solutions, AFSI supplies not only the components and assemblies, but also the training, tools and kits necessary to support and maintain these products.

AFSI has developed a suite of support products specifically designed to assist in the installation, maintenance and repair of tactical fiber optic networks. As the patent-holder of the TFOCA-II® connector and a manufacturer of the TFOCA connector, AFSI is uniquely qualified to supply these support products to the U.S. military.

Our Fiber Optic Repair Center Equipment (FORCE) suite is a complete mobile repair center containing all the equipment necessary to clean, repair, terminate and test tactical fiber optic assemblies in the field or depot.

FORCE001

FORCE001 (Fiber Optic Repair Center Equipment)

Working closely with the U.S. Army's 1st Infantry Division and the 82nd Airborne, AFSI has developed the FORCE001, a complete field-deployable fiber optic repair suite. The FORCE001 has been used in both Iraq and Afghanistan to meet the needs of warfighters in the field assigned the task of maintaining fiber optic communication networks. The FORCE001 equipment suite will take any unit from zero fiber optic capacity to 100% field deployable fiber optic support readiness, providing all the necessary equipment to test, troubleshoot, fault isolate and repair fiber optic based systems. AFSI also provides a five-day training course on the use of this tool kit, arc fusion splicing and diagnostic test equipment ensuring service personnel can troubleshoot, isolate and repair equipment in the field or at the depot.

Tactical Fiber Optic Support in the Field

Specifically designed to support the field repair of JNN, WIN-T, Patriot and other tactical fiber optic based systems, AFSI worked closely with CECOM and other elements of the U.S. Army to develop and field the optimal fiber optic cable repair solution to the tactical end users of TFOCA and TFOCA-II® products. Our suite of termination and support kits are the ideal field connector and fusion splicing solutions for tactical fiber optic systems in the field or depot.

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Termination Kits

About the FKIT006

AFSI worked closely with the U.S. Army to develop and field the optimal cable repair solution to the tactical end users of TFOCA and TFOCA-II® products. With the increasing application of TFOCA-II® from legacy systems still utilizing the TFOCA connector, the FKIT006 was developed to offer the best maintenance solution specifically designed to support the field repair of the TFOCA and TFOCA-II® connectors and cables. The FKIT006-FSP (FKIT006 with the D900 Fusion Splicer) has been selected by CECOM for field splicing and repair of tactical fiber optic systems. When used with the MSPKIT-001, Splice Enclosure Protection Assembly Kit, a damaged fiber can be restored for battlefield use with a minimum of down-time while maintaining the maximum cable strength integrity. This kit offers the best value and all-around capability for field repair, support and system operation restoration.
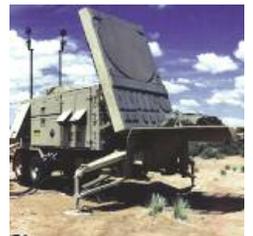
D900 Fusion Splicer

AFSI's D900 Fusion Splicer is available as a stand-alone unit or bundled with the FKIT006 or FKIT005 (part numbers FKIT006-FSP or FKIT005-FSP). The D900 is ideally suited for tactical fiber optic cable assembly repairs due to its lightweight (<2 lbs.) and small size (4" x 3" footprint). In addition, the unit comes equipped with a 30 mph wind protector, electronic jacket stripper, automatic arc calibration and dual camera inspection, which helps minimize splice loss.

About the FKIT005

The FKIT005 is similar to the FKIT006 but includes the necessary tools, supplies and equipment to maintain, terminate and clean TFOCA-II® connectors and cable assemblies. By removing the tools to service the legacy TFOCA connectors, AFSI can offer a more cost-effective solution. The FKIT005 is also available with a bundled D900 (part number FKIT005-FSP), which allows field repair of the optical cable using the MSPKIT-001 Splice Enclosure Protection Assembly Kit.

Testing

MTCK-003 - Measure Insertion Loss & Optical Power

The MTCK-003 includes all the equipment necessary to perform insertion loss testing on fiber optic systems. The MTCK-003 comes equipped with a single mode and a multimode source, power meter, measurement test cables, adapters and cleaning supplies. The small size of the MTCK-003 makes it easy to carry yet provides powerful results. The optical power meter is the perfect tool for installing and testing fiber optic cabling. The MTCK-003 measures optical power at 850, 1300, 1310 and 1550nm. It can store reference levels for faster, more efficient testing. The MTCK-003 uses Snap On Connector Interface (SOC) to connect FC, SC and ST connectors.

FSPP-180 Testing Kit

The AFSI FSPP-180 Testing Kit offers unmatched OTDR capabilities in a handheld package weighing less than 1kg (2lbs). Multimode, single mode and 'quad' wavelength models are offered. With short dead zone and intermediate range specifications, the FSPP-180 is ideal for Tier 2 testing of premise (building and campus) networks or troubleshooting tactical fiber optic networks. Its bright, transflective display makes it suitable for both indoor and outdoor operation.

FSPP-130 Laser Rangefinder

When used with the FSPP-180 Testing Kit, the FSPP-130 Laser Rangefinder unit allows users to locate a possible trouble spot on a tactical cable run. The FSPP-130 is a low-cost, 7.6-oz, compact laser rangefinder. It incorporates advanced laser technology, which delivers outstanding range performance on targets from 5 to 999 yards away. The unit features 5x magnification, multi-coated optics and through the lens distance display. The unit is powered by a standard 9-volt battery and comes with a popular scan mode and +/- 1 yard accuracy.

Measurement Test Cables (MTC)

AFSI's Measurement Test Cable (MTC) product suite has been specifically designed by AFSI to support TFOCA and TFOCA-II® connectors. As part of our process of developing a qualified TFOCA connector for CECOM, AFSI developed the MTC product line to support testing and repair of our products in both lab and field. We have also expanded the MTC line to support our patented TFOCA-II® connector series.

Cleaning, Inspection & Consumables

JDA1100

The JDA1100 Cleaning and Inspection Kit is designed to allow the user to quickly inspect and identify the quality of a polished connector or identify a dirty or damaged terminus. The inspection probe comes with a variety of tips for easy adaptation for direct termini inspection or inspection of a connector termini in a backshell without having to disassemble the connector or patch panel. The kit also includes the software necessary to plug the inspection probe into a laptop for greater image magnification or storage as part of a post assembly inspection or failure analysis process. Inspection magnification ranges from 160X to 400X.

CKIT001

The CKIT001 is designed to provide the consumables for the polishing of approximately 200 epoxy style termini or connectors. This kit will restock nearly all of the AFSI FKIT tool kit series products. It includes a convenient carrying case, allowing the technician to take it directly to the job site. This kit is ideal for job planners to incorporate into a work project because it makes it easy to compare the job requirements with the number of connectors each kit will build.

This product is available off-the-shelf from AFSI's authorized distributors.

Training

TFOCA-II® 5-Day Training

AFSI's TFOCA-II® tactical fiber optic training course is designed for personnel involved in the installation, testing, troubleshooting or maintenance of fiber optic, deployable, land tactical interconnect systems. Focusing on the AFSI developed 4-channel hermaphroditic TFOCA-II® connectors, this class is ideal for military and civilian field personnel responsible for the maintenance and installation of tactical fiber optic networks.

Designed, developed and delivered by fiber optic and TFOCA-II® specialists, AFSI offers multiple types of TFOCA-II® training, which can be customized to meet customer requirements.

On-site Training: AFSI offers training at our location in Allen, Texas, according to your schedule. Our expert trainers provide classroom instruction in a well equipped, modern training facility. Hands-on lab activities support the classroom instruction and allow one-on-one interaction and guidance from the instructor.

Mobile Training: AFSI also provides this training at customer-specified locations for up to ten students. We can customize our training for larger classes. Mobile training minimizes student travel, thereby reducing costs. In addition, students learn in their own environment, allowing them to apply their training more quickly. AFSI also offers flexible scheduling outside of normal business hours.

Train-the-Trainer: For those customers that have internal training groups, AFSI offers "Train-the-Trainer." AFSI trains your instructors in the delivery of the course material and can also license the material. AFSI's TFOCA-II® Train-the-Trainer class is a cost-effective, long-term approach for those customers who must provide training regularly. This class also allows customers to minimize course development time and cost while ensuring that training is available according to their own schedule.

Day One: Fiber Optics 101
• Introduction and Welcome
• Introduction to Fiber Optics
• Fiber Optic Advantages
• Fiber Optic Essentials
• Light Guiding Principles
• Fiber Optic Cables
• Fiber Optic Connectors
• Fiber Optic Safety
• Demonstration of ST Assembly
• Student ST-ST Cable Assembly

Day Two: Hands-On Lab
• Continuation of Student
  ST-ST Cable Assembly
• Demonstration of TFOCA-II®
  Receptacle Assembly
• Student Assembly of TFOCA-II® Receptacle

Day Three: Hands-On Lab
• Continuation Student ST-ST Cable Assembly
• Continuation of Student Assembly
  of TFOCA-II® Receptacle
• Demonstration of TFOCA-II® Plug Assembly
• Student Assembly of TFOCA-II® Plug

Day Four: Hands-On Lab
• Continuation of Student Assembly of TFOCA-II® Plug
• Troubleshooting and Testing Methodologies
  of all Assemblies

Day Five: Hands-On Lab
• Test Equipment Utilization
  and Trouble Shooting Techniques
• Troubleshooting and Testing Methodologies
  of all Assemblies
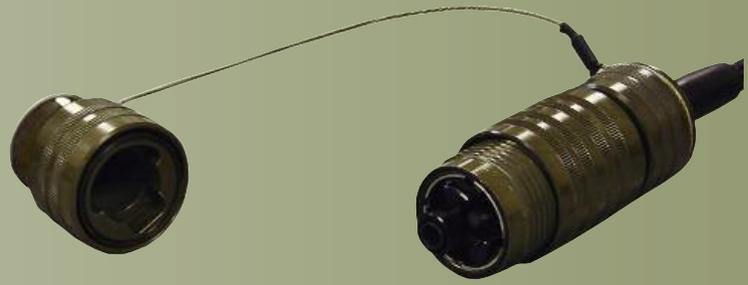• Mechanical and Fusion Splicing
  and Splice Enclosures

Certifications

Successful completion of the five-day course and test qualifies the student to receive a certification from Amphenol Fiber Systems International on the TFOCA-II® connector.

For an additional cost, we offer the ETA Fiber Optic Installer (FOI) and the Fiber Optic Technician (FOT) certifications.

About AFSI

Amphenol Fiber Systems International (AFSI) designs, manufactures, markets and supports rugged, reliable, and innovative fiber optic interconnect solutions that withstand the harsh environments of military, oil & gas, mining and broadcast applications. With more than a decade of experience, AFSI has emerged as a global leader in fiber optic interconnect components and systems, including termini, M28876, MIL-ST, TFOCA and the AFSI designed and patented TFOCA-II® connector. Today, millions of AFSI fiber optic connectors are in use in more than 22 countries. When there is a need for superior, cost-effective fiber optic systems and products capable of withstanding demanding operating environments, you can rely on AFSI for superior engineering, top-quality products and expert technical support. For more information about AFSI, visit www.fibersystems.com.

About Amphenol

Amphenol Corporation is one of the world's leading producers of electronic and fiber optic connectors, cable and interconnect systems. Amphenol products are engineered and manufactured in the Americas, Europe and Asia and sold by a worldwide sales and marketing organization. The primary end markets for the company's products are communication systems for the converging technologies of voice, video and data communications, industrial, automotive, military and aerospace applications. For more information about Amphenol, visit www.amphenol.com.

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