

FOCIS PRO Fiber Optic Connector Inspection System

U.S. Patents Pending



Features

- Automatic Analysis of fiber end-face
- Built-in IEC 61300-3-35, AT&T-TP-76461 and user-defined limits
- 1.3 μm /pixel analysis resolution
- 0.5 μm visual detection capability
- 1.0 μm optical system resolution
- 400 μm x 350 μm field of view
- Paired fiber images for comparing before/after, input/output, etc.
- Integrated focus and snapshot controls
- Capture, save, review and share images

Applications

- Automatic Analysis of PC/UPC and APC connectors
- Analyze-Clean-Analyze-Document workflow
- Manual Inspection of MPO connectors
- Document "as-built" or "as found" condition of connectors

The AFL family of FOCIS PRO automatic fiber inspection solutions provides network personnel with the capability to analyze and document fiber connector cleanliness and integrity. FOCIS PRO combines a palm-sized DFD1 Touchscreen Tablet, a DFS1 Digital FiberScope and AFL SimpleView PRO analysis and inspection software to provide the advanced analysis capabilities of current laptop and probe solutions and the ergonomics, ease of use, ruggedness and ownership costs of basic "live only" viewers. FOCIS PRO solutions are future-proof because their optical resolution and detection specifications exceed current international standards and their software-based analysis and inspection applications can be upgraded as market requirements evolve.

The DFD1 Touchscreen Tablet is a purpose-built Windows® computer equipped with AFL's powerful SimpleView PRO analysis software. Capable of centering a fiber image, identifying critical core, cladding, adhesive and contact zones and detecting and tallying the types of defects found, this software analyzes a typical fiber in under 5 seconds. The bright, crisp display provides detailed images and a Zoom/Pan feature allows the user to identify the smallest particles, scratches and imperfections. Portrait orientation makes it easy to hold and operate with just one hand. Unique to FOCIS PRO/FOCIS products is an image pairing feature, which simplifies before/after, jumper/bulkhead, input/output, near/far and other common fiber cleanliness comparisons. Additional features include image capture and store/recall. Up to 1000 fiber images may be stored in on-board memory and images may be transferred via any off-the-shelf USB memory stick or SD flash card. The DFD1 incorporates a proven shock-absorbing rubber boot that doubles as a tilt stand and hanger.

The DFS1 Digital FiberScope is a high resolution video inspection probe. It is equipped with a focusing knob and an image capture button. An extensive assortment of DFS1 adapter tips allow it to be used with all types of fiber connector ferrules and bulkhead connectors. Bulkhead tips are available in multiple lengths as well as straight and 60° angle. Connector adapters are available in PC/UPC, APC polished ferrule in 1.25 mm, 2.5 mm and MPO connectors.

* User Interface is now available in English and Japanese.

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Available Product Configurations

FOCIS PRO analysis and inspection systems are available in 6 different configurations to provide fiber installers, network activation crews and maintenance personnel with the essential tools needed to analyze, clean and document proper fiber end-face integrity. These kits combine analysis and cleaning products and are available in a standard hard carry case. All kits include AFL SimpleView PRO application software and FOCIS PRO printed user's guide.

FOCIS PRO TroubleFinder Kit

This kit includes an OPM5-5D Optical Power Meter, a HiLite Visible Fiber Identifier, a DFD1 Touchscreen Tablet, a DFS1 Digital FiberScope, APC and PC/UPC probe tip adapters, and One-Click Mini cleaners for SC/FC/ST and LC/MU connectors packed in a hard carry case.

FOCIS PRO PC/UPC Analysis and Cleaning Kit

This kit includes a DFD1 Touchscreen Tablet, a DFS1 Digital FiberScope, PC/UPC probe tip adapters, and One-Click Mini cleaners for SC/FC/ST connectors in a hard carry case.

FOCIS PRO APC Analysis and Cleaning Kit

This kit includes a DFD1 Touchscreen Tablet, a DFS1 Digital FiberScope, APC and PC/UPC probe tip adapters, and One-Click Mini cleaners for SC/FC/ST and LC/MU connectors packed in a hard carry case.

FOCIS PRO Data Center Analysis and Cleaning Kit

This kit includes a DFD1 Touchscreen Tablet, a DFS1 Digital FiberScope, APC and PC/UPC MPO probe tip adapters, LC probe tip adapters, MPO One-Click cleaner and One-Click Mini LC cleaner packed in a hard carry case.

FOCIS PRO Analysis Kit (No Probe Tips or Cleaners)

This kit includes a DFD1 Touchscreen Tablet, a DFS1 Digital FiberScope and a hard carry case.

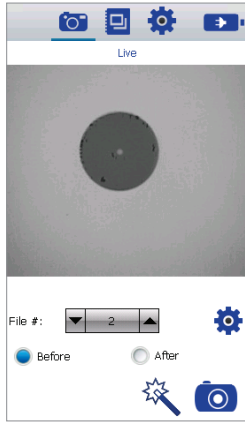
FOCIS PRO Upgrade Kit for DFS1 Owners

This kit is designed to allow an existing DFS1 Digital FiberScope owner to upgrade to the FOCIS PRO system. This kit includes only a DFD1 Touchscreen Tablet and a hard carry case.

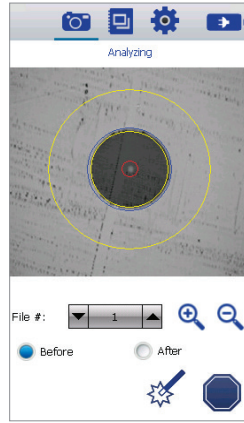
FOCIS PRO Upgrade Kit for FOCIS Owners

This kit is designed to upgrade any FOCIS system to its FOCIS PRO equivalent. The FOCIS PRO Upgrade kit includes a "single install" copy of AFL SimpleView PRO and a FOCIS PRO printed user's guide.

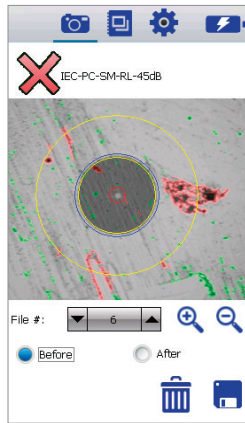
FOCIS PRO Powerful Inspection and Image Management Features *



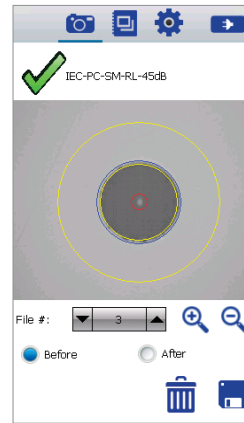
Live Image



Analysis



Failing Fiber



Passing Fiber

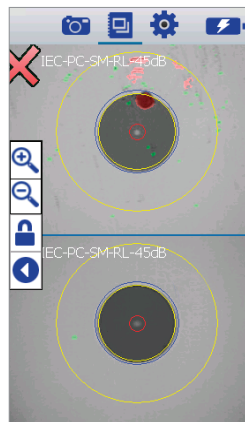


Image Review - Pair Image



File Manager

Live Image Mode

The FOCIS PRO system includes a Live Image viewing mode that works just like any legacy fiber inspection scope. Images transmitted by the DFS1 FiberScope are presented on the hand-held DFD1 Touchscreen Tablet that provides a high resolution display with a field of view of approximately 350 x 400 μm .

Analysis Mode

FOCIS PRO is equipped with powerful automatic inspection capabilities that provide objective measurement of fiber end-face integrity. Using artificial intelligence-based machine vision algorithms, FOCIS PRO centers the end-face image, identifies core, cladding, adhesive and contact zones, finds, measures and tallies scratches and particles and provides a pass/fail decision based on IEC 61300-3-35, AT&T TP 76461 or user defined fiber end-face criteria.

Capture Mode with Zoom and Pan

FOCIS PRO enables users to capture live images for the purpose of subsequent inspection and documentation of fiber end-face conditions. Once captured, the user has the option of Zooming and Panning the image, deleting the image or saving it to a folder. The FOCIS PRO system can store more than 1000 fiber images in memory.

Review Mode with Image Pairing

FOCIS PRO features the capability to pair images as before/after, input/output, Cleaning, mating and other common fiber cleanliness comparisons. Easy-to-use Zoom and Pan touchscreen controls provide users with the capability to closely inspect any portion of the fiber image.

File Manager with Image Browser

FOCIS PRO enables users to store fiber images in internal memory and to transfer images to an external memory stick. File management features include folder hierarchy and file naming capabilities.

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Specifications ^a

SYSTEM PERFORMANCE	
Manual Detection Capability	0.5 µm
System Optical Resolution	1.0 µm
Field of View	400 µm x 350 µm
Analysis Resolution	1.3 µm
Operating Temperature	0 to +50°C
Storage Temperature	-10 to +70°C
Relative Humidity	0 to 95 % RH (non-condensing)
DFD1	
Display Type	TFT LCD
Display Size	127 mm (5 in), 9:16 aspect ratio
Display Resolution	WQVGA, 480 x 272 pixels
Unit Size without boot (L x W x H)	144 x 88 x 20 mm (5.7 x 3.5 x 0.8 in)
Weight	220 g (7.7 oz)
Power	Li-Ion battery or AC power adapter, 100 – 240 VAC input
Battery Life	120 minutes
Battery Recharge Time ^b	5.5 hours
DFS1 DIGITAL FIBERSCOPE	
Focus Range	2 mm travel
Probe Size (without tip)	35 x 175 mm (1.4 x 6.9 in)
Weight	200 g (7.1 oz)
Light Source	Blue LED
Power Source	USB host port

Notes:

- a. All specifications valid at 23°C ±2°C (73.4°F ±3.6°F) unless otherwise specified.
- b. Typical, from fully discharged to fully charged state, unit may be operating.

Ordering Information

MODEL AND DESCRIPTION	AFL NO.
FOCIS AND FOCIS PRO KITS WITHOUT ADAPTER TIPS AND CLEANERS	
FOCIS PRO kit. Includes DFD1 Touchscreen Tablet, SimpleView PRO software, DFS1 Digital FiberScope, AC adapter, reference guides, hard carry case.	FOCIS-00-P4XN
FOCIS PRO Upgrade for DFS1 Owners. Includes DFD1 Touchscreen Tablet, SimpleView PRO software, AC adapter, reference guides, hard carry case.	FOCIS-00-P4NN
FOCIS PRO Upgrade kit for FOCIS Owners. Includes AFL SimpleView PRO software, reference guide.	FOCIS-00-P0XX
FOCIS AND FOCIS PRO KITS WITH ADAPTER TIPS AND CLEANERS	
FOCIS PRO UPC kit. Includes DFD1 Touchscreen Tablet, SimpleView PRO software, DFS1 Digital FiberScope, adapter tips (1.25 & 2.5 mm, SC/FC, LC), adapter tip box, One-Click Mini-100 SC/ST/FC, One-Click Mini-100 LC/MU, AC adapter, reference guides, hard carry case.	FOCIS-00-P4XU
FOCIS PRO APC kit. Includes DFD1 Touchscreen Tablet, SimpleView PRO software, DFS1 Digital FiberScope, adapter tips (2.5 mm, SC/APC, FC/APC), adapter tip box, One-Click Mini-100 SC/ST/FC, AC adapter, reference guides, hard carry case.	FOCIS-00-P4XA
FOCIS PRO Data Center kit. Includes DFD1 Touchscreen Tablet, SimpleView PRO software, DFS1 Digital FiberScope, adapter tips (MTP/PC, MTP/APC, 1.25 mm, LC/PC), One-Click MPO, One-Click Mini-100 LC/MU, AC adapter, reference guides, hard carry case.	FOCIS-00-P4XM
FOCIS PRO TroubFinder kit with OPM and VFL. Includes DFD1 Touchscreen Tablet, SimpleView PRO software, DFS1 Digital FiberScope, OPM5-4D power meter, HiLite visible fiber identifier, APC & UPC adapter tips, One-Click Mini-100 SC/ST/FC, One-Click Mini-100 LC/MU, AC adapter, reference guides, hard carry case.	FOCIS-00-PTFK



International Sales and Service Contact Information

 Available at www.AFLglobal.com/Test/Contacts