

FOCIS Flex Fiber Optic Connector Inspection System

U.S. Patent 9,217,688



Features

- Auto-focus and auto-centering for fast, easy inspection
- Untethered operation simplifies access at patch panels
- IEC, IPC and user-defined pass/fail analysis
- Self-contained, compact, hand-held inspection solution
- Use independently, or pair with FlexScan or FlexTester OTDR
- Configure and access results from Android or Apple App
- Save results internally and upload via Bluetooth or USB
- Ergonomic design fits in the palm of your hand
- Generate inspection reports using aeROS or TRM® 2.0

Applications

- Inspect connectors on patch cords or in bulkhead adapters
- Optical network installation, troubleshooting and maintenance
- Inspect MPO/MTP multi-fiber connectors
- Assure critical fiber infrastructure performs properly
- Keep fiber connections working at optimal performance levels
- Verify proper connector cleaning practices are being used

Pass/fail results in seconds: With the press of a single button, FOCIS Flex auto-focuses, captures and centers the end-face image, applies pass/fail rules, displays image and pass/fail results, and wirelessly transfers image and results to a paired FlexScan or FlexTester OTDR. All in a matter of seconds!

Independent, untethered operation: With rechargeable battery supply and integrated display, FOCIS Flex can be used independently – without requiring an external OTDR or display unit.

Pair with FlexScan or FlexTester OTDR: Still prefer to view and save images and pass/fail results on your FlexTester OTDR? No problem! Captured images and pass/fail results are immediately displayed and easily saved on the paired device along with associated OTDR and/or insertion loss test results.

Pair with Android or iOS device: Display images on your Android or iOS device using AFL's FOCIS Flex mobile App. Save results to AFL's aeROS cloud-based workflow management system.

Save results internally or externally: FOCIS Flex internally stores thousands of results using file-naming capabilities similar to FlexScan and FlexTester OTDRs. A micro-USB port supports fast upload of internally stored results to PC, and ensures your FOCIS Flex software can be updated to the latest features and supported languages.

Wide range of adapter tips: Interchangeable adapter tips support connector inspection for a wide range of both single-fiber and multi-fiber patchcords and bulkhead-mounted connectors having either PC or APC polished end-faces.

FOCIS Flex is available in standalone kit configurations including soft carry case / holster and user-selected adapter tips. Available FlexScan and FlexTester PRO and Complete Kits bundle FOCIS Flex with the selected OTDR, fiber ring and cleaning supplies.



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Specifications ^a

OPTICAL PERFORMANCE	
Field of View (viewed on FOCIS Flex)	Live: 710 x 860 µm; Captured, Zoomed Out: 560 x 600 µm; Captured, Partially Zoomed In: 360 x 390 µm; Captured, Fully Zoomed In: 180 x 195 µm
Field of View (Viewed on a PC)	Stored, Zoomed Out: 700 x 525 µm; Stored, Fully Zoomed In: 240 x 180 µm
Manual Detection Capability (minimum)	0.25 µm
Auto Analysis Resolution	<1.0 µm
Captured Image Size (Pixels)	648 x 480 VGA; Images stored internally in three .JPG files, one at each FOV
OPERATING FEATURES	
Focus	Auto-focus and manual focus
Centering	Auto-centering after capture
Pass/Fail Analysis	IEC 61300-3-35 (2015), IPC and user-defined criteria
Image Capture and File Storage Capacity	10,000 files
File Format (Image and Pass/Fail Results)	jpg, gif
Bluetooth Characteristics	SPP to FlexScan and FlexTester OTDRs; IAP to iOS devices
USB Characteristics	USB 1.1 mass storage device
Supported Languages	English, Chinese Simplified, Chinese Traditional, Finnish, French, German, Italian, Japanese, Korean, Polish, Russian, Spanish, Turkish
PHYSICAL AND POWER CHARACTERISTICS	
Display size, type, resolution	2.4", TFT, 240 x 320 with brightness control
Battery Type	NiMH, user replaceable
Battery Operating Time (typical)	8 hours (60 tests in 20 minutes each hour; auto-off enabled)
Recharge Time	<4.5 hours
Power Save Features	Auto-off (disabled, 2, 5, 10 minutes)
AC Charger voltage, frequency, current	100-240 V, 50/60 Hz, 5VDC, 2A
Size	47 x 37 x 183 mm (1.8 x 1.5 x 7.2 in)
Weight	240 g (0.5 lb)
ENVIRONMENTAL CHARACTERISTICS	
Operating Temperature	0 to +50 °C
Storage Temperature	-40 to +70 °C
Relative Humidity	95%, non-condensing
Transit and shock	2G vibration, 30G shock

Notes:

a. All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).

Ordering Information

DESCRIPTION	AFL NO.
FOCIS Flex Kit, soft carry case / holster, USB cable, AC charger, TRM 2.0 reporting software, reference guide, no tips	FOCIS-FLX-P4XN
FOCIS Flex Kit, soft carry case / holster, USB cable, AC charger, TRM 2.0 reporting software, reference guide, 2 user-selected UPC adapter tips (ferrule and bulkhead), user-selected One-Click cleaner	FOCIS-FLX-P4XU
FOCIS Flex Kit, soft carry case / holster, USB cable, AC charger, TRM 2.0 reporting software, reference guide, 2 user-selected APC adapter tips (ferrule and bulkhead), user-selected One-Click cleaner	FOCIS-FLX-P4XA

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FlexScan OTDR PRO and Complete Kits with FOCIS Flex

PRO Kits include the following items:

- FlexScan with accessories (AC charger, carry strap, SC/2.5 mm connector adapters, TRM® 2.0 Advanced Test Results Manager, carry case)
- FOCIS Flex Fiber Optic Connector Inspection System with accessories (AC charger, USB cable, soft carry case/holster)
- Two user-selected adapter tips and one user-selected One-Click Cleaner
- 150 m Fiber Ring (launch cable) with user-specified connectors

Complete kits expand on PRO Kits by adding bend insensitive fiber identifier with optional power meter (OFI-BI or OFI-BIPM).

See FlexScan data sheet for FlexScan PRO and Complete Kit ordering information.

FlexTester PRO2 and Complete2 Kits with FOCIS Flex

PRO2 Kits include the following items:

- User-selected FLX380-3xx or OFL280-1xx FlexTester with accessories (AC charger, USB cable, TRM® 2.0 Advanced Test Results Manager)
- FOCIS Flex Fiber Optic Connector Inspection System with accessories (AC charger, USB cable, soft carry case/holster)
- Two user-selected adapter tips and one user-selected One-Click Cleaner
- 150 m Fiber Ring (launch cable) with user-specified connectors
- Rugged, waterproof carry case

Complete2 Kits include everything in the FlexTester PRO2 kit plus choice of OFI optical fiber identifier.

See FLX380 or OFL280 data sheet for FlexTester PRO2 and Complete2 Kit ordering information.

FOCIS Flex Adapter Tips (Contact AFL for adapter tips for other connector types)

DESCRIPTION	AFL NO.
SC-UPC bulkhead adapter tip	FFLX-01-SC
FC-UPC bulkhead adapter tip	FFLX-01-FC
ST-UPC bulkhead adapter tip	FFLX-01-ST
LC-UPC bulkhead adapter tip	FFLX-01-LC
Universal 2.5 mm, UPC ferrule adapter tip	FFLX-01-U25
Universal 1.25 mm, UPC ferrule adapter tip	FFLX-01-U125
SC-APC bulkhead adapter tip	FFLX-01-ASC
FC-APC bulkhead adapter tip	FFLX-01-AFC
LC-APC bulkhead adapter tip	FFLX-01-ALC
Universal 2.5 mm, APC ferrule adapter tip	FFLX-01-A25
Universal 1.25 mm, APC ferrule adapter tip	FFLX-01-A125
FOCIS Flex adapter extension tube, straight, 46 mm	FFLX-01-EXTS46
FOCIS Flex adapter extension tube, straight, 80 mm:	FFLX-01-EXTS80

DESCRIPTION	AFL NO.
E2000 PC/UPC bulkhead adapter tip	DFS1-00-0023MR
E2000 APC bulkhead adapter tip	DFS1-01-0008MR
Tip for SC/APC (OptiTap®) bulkhead adapter	DFS1-01-0007MR
Tip for OptiTip® APC ferrule and bulkhead adapter	DFS1-01-0013MR
Multi-row MTP/PC ferrule & bulkhead adapter extended tip kit (base plus multi-row MTP/PC front end tip)	DFS1-00-0050MR
MTP/PC ferrule & bulkhead adapter extended tip kit (base plus MTP/PC front end tip)	DFS1-00-0037MR
MTP/PC and MTP/APC ferrule & bulkhead adapter extended tip kit (base, MTP/PC, MTP/APC front end tips)	DFS1-00-0042MR
MTP/APC ferrule and bulkhead adapter extended tip kit (base plus MTP/APC front end tip)	DFS1-01-0010MR