

## FOCIS Lightning Multi-Fiber Optic Connector Inspection System



### Features

- Extremely fast multi-fiber auto-analysis for datacom and telecom inspection applications
- Auto-focus and auto-centering for fast, easy inspection
- USB plus optional Bluetooth/WiFi connectivity
- IEC, IPC, AT&T, and user-defined auto-analysis
- Self-contained, tether-free, compact, hand-held inspection solution
- Keyless UPC & APC adapter tips work with both MPO-12 & MPO-16 connectors
- Available with adapter tips supporting all commonly used multi-fiber connector types
- Snout and adapter tip keys and slots eliminate loosening during normal operation
- Single fiber adapter tips for LC connectors and bulkheads (UPC & APC) also available
- Field replaceable NiMH battery lasts over six hours
- AFL's TRM PC software package enables MPO results reporting for desktop users
- Available in a 'No Wireless' [NW] variant, which removes the Bluetooth and WiFi functionality for use in RF restricted facilities.

### Applications

- Inspect multi-fiber connectors on bulkhead adapters and patch cords
- Optimal tool for data center optical network installation, turn-up, troubleshooting
- MPO/MTP multi-fiber multi-row connector inspection
- Critical fiber infrastructure performance assurance
- Maintenance of fiber connections at highest optical performance levels
- Verification that proper connector cleaning practices are being used

FOCIS Lightning is a self-contained multi-fiber connector inspection probe with integrated screen. It is intended specifically for the inspection of multi-fiber connectors and bulkheads such as MPO and MTP® including multi-row varieties. The FOCIS Lightning can perform industry standard and user-defined end-face cleanliness analysis at a rate of about 1 second per fiber. Lightning stores connector level and individual fiber images, analysis, overlays, and zones tables locally and provides optional WiFi and Bluetooth wireless links. The AFL FOCIS app (iOS and Android) provides a comprehensive and user-friendly feature set as well as connectivity with AFL's cloud-based aeRos® workflow automation platform.

**Pass / fail results in seconds:** With the press of a single button, the FOCIS Lightning auto-focuses, captures, centers and analyzes the multi-fiber end-face image to industry standard and user-defined criteria.

**Untethered operation:** With rechargeable battery and integrated 2.4" TFT color LCD screen, FOCIS Lightning can be used independently.

**Multi-fiber front-end adapter tips:** Multi-fiber front-end adapter tips support single row and multi-row MT connector inspection for a wide range of patch cords and bulkhead-mounted connectors having either PC/UPC or APC polished end-faces. The probe snout includes a key which in combination with a slot on the adapter tips ensures that adapter tips never loosen during use, under any circumstances.



## FOCIS Lightning Multi-Fiber Optic Connector Inspection System

### Specifications<sup>a</sup>

OPTICAL PORT PARAMETERS	SPECIFICATION
Field of View (FOV; viewed on FOCIS Lightning)	Multi-fibers Live: 1960 x 4670 μm and 980 x 2335 μm Multi-fibers Captured, Overview: 1960 x 4338 μm Multi-fibers Captured, Details: 130 x 130 μm Single fiber Live: 890 x 1075 μm and 445 x 537 μm Single fiber Captured Zoomed Out: 684 x 742 μm Single fiber Captured, Partially Zoomed In: 456 x 492 μm Single fiber Captured, Fully Zoomed In: 228 x 246 μm
Field of View (FOV; viewed on a PC)	Multi-fibers Captured, Overview: 1960 x 4670 μm Multi-fibers Captured, Details: 130 x 130 μm Single fiber Captured, Zoomed Out: 525 x 700 μm Single fiber Captured, Partially Zoomed In: 355 x 475 μm Single fiber Captured, Zoomed In: 175 x 235 μm
Manual Detection Capability (minimum)	0.25 μm
Auto Analysis Resolution	<1.0 μm
Internally Stored Image Size (pixels)	Multi-fibers: 640 x 480 VGA; images stored internally in N+1.JPG files, one in Overview screen and N each in Fiber Details screen Single fiber: 640 x 480 VGA; images stored internally in three .JPG files, one at each FOV
Bluetooth Image and Overlay	2 x QVGA (320 x 240; image + overlay) to AFL test instruments (SPP) 1 x VGA (640 x 480) file to Apple iOS devices (IAP / MFi)
Maximum No Damage Live Fiber Power Level	+20 dBm; image cannot be viewed if fiber is live
Focus Methods and Speeds	Auto-focus (≤3 sec) and manual focus
Centering	Auto-centering (<1 sec)
Zoom in Live Mode	1x and 2x modes
Image Capture with Pass/Fail Analysis	IEC 61300-3-35 (2015), AT&T TP-76461, IPC-8497-1, user-set criteria Capture SF <1 sec, MF <2 sec; Analysis <0.15 sec per fiber
Results Storage (Image and Pass/Fail Results)	Yes
File Format	JPG, GIF
File Storage Capacity	10,000 files
<b>OPERATING FEATURES</b>	
WiFi Characteristics (Wireless Models Only!)	IEEE 802.11bng
Bluetooth Characteristics (Wireless Models Only!)	IAP (iPod accessory protocol), SPP 0 x 1101
USB Characteristics	USB 2.0 mass storage device
Supported Languages	English, Chinese Simplified, Chinese Traditional, Finnish, French, German, Italian, Japanese, Korean, Polish, Russian, Spanish, Turkish
<b>ENVIRONMENT PARAMETERS</b>	
Storage Temperature	-40 °C to +70 °C
Operating Temperature	0 °C to +50 °C
Relative Humidity	0 to 95% RH
Vibration Limits	2G (transportation)
Transit Drop (without soft case)	300 mm (12 inches, all sides, dust cover installed)
Transit Drop (with soft case)	460 mm (18 inches, all sides, dust cover installed)

#### Notes:

- All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).
- Operating conditions: 60 tests in 20 minutes, then auto-off; repeat each hour.
- Trademarks are the property of their respective owners.

Continued >>

## FOCIS Lightning Multi-Fiber Optic Connector Inspection System

### Specifications<sup>a</sup>

PHYSICAL AND POWER CHARACTERISTICS	
Display Size, Type, Resolution	2.4", color TFT, backlit, 240 x 320 with brightness control
Battery Type	NiMH, user replaceable
Operating Time (typical)	6 hours <sup>b</sup> ; 3 hours continuous
Power Save Features	Auto-off (disabled, 2, 5, 10 min)
Recharge Time	≤4 hours
Low-Battery Warning	Alerts when ≤15 minutes battery operation remains
AC Charger Voltage, Frequency, Current	100-240VAC, 50/60Hz, 5VDC, 2A
Charger Jack	3.2 mm, center positive
Size	47 x 37 x 190 mm (1.8 x 1.5 x 7.7 in)
Weight	280 g (0.62 lb)
Safety & Compliance Certifications	UL, CE, FCC

### Ordering Information

DESCRIPTION	AFL NO.
FOCIS Lightning Kit, soft carry case, AC charger, with no tips or One-Click <sup>®</sup> cleaner	FOCIS-LTNG-N
FOCIS Lightning Kit, soft carry case, AC charger, (1) UPC ferrule & bulkhead adapter tip, (2) One-Click MPO cleaners	FOCIS-LTNG-U
FOCIS Lightning Kit, soft carry case, AC charger, (1) APC ferrule & bulkhead adapter tip, (2) One-Click MPO cleaners	FOCIS-LTNG-A
FOCIS Lightning Kit, soft carry case, AC charger, (1) UPC and (1) APC ferrule & bulkhead adapter tips, (2) One-Click MPO cleaners	FOCIS-LTNG-UA
FOCIS Lightning No Wireless Kit, soft carry case, AC charger, with no tips or One-Click <sup>®</sup> cleaner	FOCIS-LTNG-NW-N
FOCIS Lightning No Wireless Kit, soft carry case, AC charger, (1) UPC ferrule & bulkhead adapter tip, (2) One-Click MPO cleaners	FOCIS-LTNG-NW-U
FOCIS Lightning No Wireless Kit, soft carry case, AC charger, (1) APC ferrule & bulkhead adapter tip, (2) One-Click MPO cleaners	FOCIS-LTNG-NW-A
FOCIS Lightning No Wireless Kit, soft carry case, AC charger, (1) UPC and (1) APC ferrule & bulkhead adapter tips, (2) One-Click MPO cleaners	FOCIS-LTNG-NW-UA

### FOCIS Lightning Adapter Tips and Accessories

DESCRIPTION	TIP ID	AFL NO.
Adapter tip for MPO-12/24 APC bulkhead (with key)	M12A	FLTNG-01-M12A
Adapter tip for MPO-12/24 UPC bulkhead (with key)	M12U	FLTNG-01-M12U
Adapter tip for MPO-16/32 UPC bulkhead (with key)	M16U	FLTNG-01-M16U
Universal adapter tip for MPO-12/16/24/32 APC bulkhead (partial key)	MPA	FLTNG-01-MPA
Universal adapter tip for MPO-12/16/24/32 UPC bulkhead (partial key)	MPU	FLTNG-01-MPU
Adapter tip for MPO-12/24/16/32 APC bulkhead (no key)	MPOA	FLTNG-01-MPOA
Adapter tip for MPO-12/16/24/32 UPC bulkhead (no key)	MPOU	FLTNG-01-MPOU
Adapter Tip for MPO-12/16/24/32 APC connector (with key)	MAC	FLTNG-01-MAC
Adapter Tip for MPO-12/16/24/32 UPC connector (with key)	MUC	FLTNG-01-MUC
Coupler for most 'FFLX' single fiber connector adapter tips	SFA	FLTNG-01-SFA
Extended adapter tip for LC-APC bulkhead	ALCM	FLTNG-01-ALCM
Extended adapter tip for LC-UPC bulkhead	ULCM	FLTNG-01-ULCM
MPO extender barrel	MPE	FLTNG-01-MPE

#### Notes:

- All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).
- Operating conditions: 60 tests in 20 minutes, then auto-off; repeat each hour.



### International Sales and Service Contact Information

Available at [www.AFLglobal.com/Test/Contacts](http://www.AFLglobal.com/Test/Contacts)