

Test & Inspection

FOCIS Lightning® Multi-Fiber Optic Connector Inspection System



Features

- Self-contained, tether-free, compact, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- Stores 10k images or easily shares data via USB or optional WiFi connectivity
- IEC, IPC, AT&T, and user-defined auto-analysis
- Wide variety of adapter tips for MPO and single-fiber connector types

Applications

- Inspect multi-fiber and single-fiber connectors and adapters
- Data center optical network installation, turn-up, and troubleshooting
- Verification proper connector cleaning practices
- Pairs with OTDR for comprehensive reporting

FOCIS Lightning is a compact self-contained inspection probe that captures and displays the entire MPO end-face image in less than two seconds. One button provides auto-focusing, centering, and pass/fail analysis at the connector and individual fiber level. It can complete a 24-fiber MPO inspection task in less than 15 seconds. Results can be easily shared via USB, WiFi, and Bluetooth®.

Pass/Fail results in seconds: FOCIS Lightning was designed to quickly inspect multi-fiber connectors and bulkheads, such as MPO and MTP®, including multi-row varieties. It can perform industry standard and user-defined end-face cleanliness analysis at a rate of about 1 second per fiber - the fastest in the Industry.

Internal storage and multiple export options: FOCIS Lightning can store 10,000 connector level and individual fiber images, analysis, overlays, and zones locally and provides optional WiFi and Bluetooth wireless links for archiving and reporting. 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.

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.



©2020, AFL, all rights reserved. FOCIS-LING-2000 Revision AE, 2020-05-14
Specifications are subject to change without notice.

800.235.3423

Test & Inspection

FOCIS Lightning® Multi-Fiber Optic Connector Inspection System

Fiber Inspection

Specifications*

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
OPERATING FEATURES	
WiFi Characteristics (Wireless Models Only!)	IEEE 802.11 bng
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
ENVIRONMENT PARAMETERS	
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.

800.235.3423

©2020, AFL, all rights reserved. FOCIS-LTNG-2000 Revision AE, 2020-05-14
Specifications are subject to change without notice.

Test & Inspection

FOCIS Lightning® Multi-Fiber Optic Connector Inspection System

Specifications*

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 [†] ; 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® cleaner	FOCIS-LTNG-N
FOCIS Lightning Kit, soft carry case, AC charger, (1) UPC ferrule and bulkhead adapter tip, (2) One-Click MPO cleaners	FOCIS-LTNG-U
FOCIS Lightning Kit, soft carry case, AC charger, (1) APC ferrule and 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 and bulkhead adapter tips, (2) One-Click MPO cleaners	FOCIS-LTNG-UA
FOCIS Lightning Kit, soft carry case, AC charger, (1) UPC and (1) APC ferrule and bulkhead adapter tips, (2) One-Click MPO cleaners, single fiber adapter	FOCIS-LTNG-UAS
FOCIS Lightning No Wireless Kit, soft carry case, AC charger, with no tips or One-Click cleaner	FOCIS-LTNG-NW-N
FOCIS Lightning No Wireless Kit, soft carry case, AC charger, (1) UPC ferrule and 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 and 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 and 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-12/16/24/32 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
Adapter Tip for OptiTip male (pinned) connector	OPTM	FLTNG-01-OPTM
Adapter Tip for OptiTip female (unpinned) connector	OPTF	FLTNG-01-OPTF
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.

©2020, AFL, all rights reserved. FOCIS-LTNG-2000 Revision AE, 2020-05-14
Specifications are subject to change without notice.

800.235.3423

Test & Inspection

Fiber Inspection

FOCIS Lightning® Multi-Fiber Optic Connector Inspection System

Test Management and Reporting Software

DESCRIPTION	AFL NO.
TRM 3.0 with Basic License, USB delivery (included with all FOCIS Flex kits)	TRM3-BASIC
TRM 3.0 upgrade from Basic to Advanced License, USB delivery	TRM3-UPGRADE
TRM 3.0 upgrade from Basic to Advanced License, email delivery	TRM3-UP-EMAIL
FOCIS Flex App (Google play or App Store)	Free Download

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- Flexpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



One-Click® Cleaner MPO / MPO-16

- Ideal for Data Centers and high density optical networks
- Designed to work on MTP®/MPO multi-fiber connectors
- Cleans connectors on jumpers and in adapters

Qualifications

CATEGORY	REGULATION/STANDARD	QUALIFICATION
CE Marking	EU	Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking
Safety /EMC /EMI	IEC	Compliant to IEC 61010-1 for safety requirements for electrical equipment
	EN	Compliant to EN 61010-1 for safety requirements for electrical equipment
	IEC	Compliant to IEC 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment
RoHS	FCC	Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions
	EU	Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3)
Test Method	IEC	Compliant to IEC 61300-3-35 for visual inspection of fiber optic connectors and fiber-stub transceivers
	IPC	Compliant to IPC-8497-1 for cleaning methods and contamination assessment for optical assembly

800.235.3423

©2020, AFL, all rights reserved. FOCIS-LTNG-2000 Revision AE, 2020-05-14
Specifications are subject to change without notice.