

MultiFiber™ Pro

Optical Power Meter and Fiber Test Kits

Data centers are growing, fueled by the proliferation of media, virtualization and the need for more security and storage. This creates a high demand for 40 Gbps+ fiber links. Whether it is using 10 Gbps pre-terminated fiber trunks or planning for next-generation 40/100 Gbps performance, data centers are standardizing on Multi-fiber Push-on (MPO) connector solutions.

Pre-terminated fiber cables are manufactured and tested to comply with ANSI/TIA and international standards. When these cables are installed many factors can potentially impact performance. Field testing is the only way to ensure that pre-terminated fiber is installed to meet the application performance requirements. With single and duplex testers this verification testing is a time-consuming, manual and imprecise process. To ensure installation is done to standards, test with the MultiFiber Pro.

MultiFiber Pro takes the complexity out of testing MPO trunks for loss and polarity. With an on-board MPO connector, it is the first tester to automate the MPO fiber-trunk testing process without using a fan-out cord. The power meter/light source boasts industry-first functions such as automatic scanning of all twelve fibers and display of test results in an easy-to-read bar graph. These innovative features allow MultiFiber Pro kits to eliminate the complexity of testing MPO trunks, making it 90 percent faster than the traditional simplex test methods.



MultiFiber Pro Power Meter and Light Source feature the following:

- Automatic scanning and testing of all fibers in MPO connectors with "Scan All" function
- Ensures correct end-to-end connectivity of MPO fiber trunks with built-in polarity verification
- On-board MPO connector eliminates the need for fan-out cords when testing fiber trunks
- Easy to interpret test results with minimal navigation – the user interface displays all 12 fibers
- Troubleshoot MPO links and drill down to single fiber test results
- No dust caps to manage or lose with a shuttered MPO connector

The first tester to automate MPO fiber testing

MultiFiber Pro Unique Capabilities

"SCAN ALL" Function

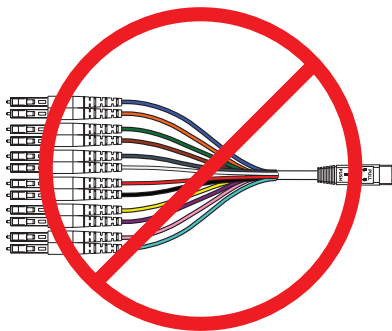
Scan All function in the MultiFiber Pro Power Meter automatically scans and tests all 12 fibers in MPO connectors – taking just 6 seconds to complete all loss or power measurements. This feature automates the testing of MPO terminated fibers and eliminates the time consuming and manual process of moving the tester from fiber to fiber while using fan-out cords.

Built-in Polarity Verification

The simple purpose of any polarity scheme is to provide a continuous connection from the link's transmitter to the link's receiver. For array connectors, TIA-568-C.0 defines three methods to accomplish this. Deployment mistakes are common because these methods require a combination of patch cords with different polarity types. The polarity measurement of MultiFiber Pro allows the user to test individual patch cords, permanent links, and channels for correct polarity.

On-board MPO connector

The MPO connector on both the Optical Power Meter and Light Source eliminates the use of costly and complicated fan-out cords to test MPO fiber trunks.



Simple User Interface

The MultiFiber Pro simplifies the task of simultaneously presenting polarity, power, and loss results for 12 fibers. The power meter enables the users to easily comprehend the measurement results of 12 fibers simultaneously. The light source identifies each fiber within the MPO connector being tested. Any individual measurements that fail the test limit is identified to allow root-cause analysis. This powerful yet straightforward test set enables everyone to become a fiber testing expert increasing efficiency in testing data center projects.

Select an Individual Fiber

Drilling down to a single fiber during testing and troubleshooting is always a challenge in data centers. MultiFiber Pro can troubleshoot a single fiber within an MPO trunk to provide a single fiber test result. This increases MPO connector verification and troubleshooting flexibility with more precise, per-fiber data and reporting.

On-board Shuttered MPO Connector

Uncovered ports can put cabling, equipment and testers at risk for contamination and affect performance. Ensuring a covered connection on your tester can protect it from dirt and dust. MultiFiber Pro makes it easy by shuttering the MPO connector for greater test reliability and peace of mind.

Easy Reporting

The MultiFiber Pro Power Meter stores up to 3,000 test results internally which can be uploaded to a PC using the LinkWare™ 7 Cable Test Management Software. LinkWare 7 allows you to manage test results, edit cable ID's, print professional reports and even export the data into spreadsheet formats.



Kits for Every Need

MultiFiber Pro is available in several convenient kit configurations to meet all your cleaning, inspection and verification testing needs. Some kits include:

- **Fiber Inspection – FiberInspector™ Pro**

The FiberInspector Pro is the ultimate inspection tool. Its 3.5" screen provides a larger image from its dual magnification probe. The small probe fits in the palm of your hand and can be switched between 250x and 400x magnification with the turn of a dial. The FiberInspector Pro and optional MPO tip complement the MultiFiber Pro test set, provide a comprehensive kit for cleaning, inspection and testing of MPO connected fibers and cassettes.



- **Fiber Cleaning – IBC™ OneClick Cleaners**

Cleaning is critical. Fluke Networks' OneClick Cleaners instantly clean fiber optic bulkhead connectors and end-faces. Just push the tool tip to engage cleaning action and pull back on the wheel – it's that simple. The MPO OneClick Cleaner is bundled with the MultiFiber Pro kits to ensure that you have the best cleaning tool from the beginning.



General Specifications

Environmental	
Operating temperature	-10°C to +50°C
Storage temperature	-20°C to +50°C
Operating humidity	95% (10°C to +35°C) non-condensing
	75% (35°C to +45°C) non-condensing
	Uncontrolled <10°C
Operating altitude	4,000 m
Storage altitude	12,000 m
Vibration	Random 2 G, 5 Hz to 500 Hz

Optical Power Meter (Specifications apply at 23°C (73°F), unless otherwise noted.)	
Detector type	InGaAs
Calibrated wavelengths	850 nm, 1300 nm, 1310 nm, 1550 nm
Measurement range	0 dBm to -50 dBm
Power measurement linearity	±0.1 dB ¹
Power measurement uncertainty	±0.35 dB
Power measurement repeatability	< 0.10 dB
Display resolution, dB or dBm	0.01
Power display units	dBm, mW, μ W
User-selectable limit for loss	0.05 dB to 50.0 dB, in increments of 0.05 dB up to 10.0 dB and 0.1 dB up to 50.0 dB
Auto wavelength detection	Yes
Polarity detection	Detects A, B, C, and Corning Plug & Play™ Universal Systems polarities
2 kHz detection	Yes
Record storage	3000 records, one fiber per record (250 12-fiber cables)
External interface	USB 2.0, full speed
Optical connector	MPO interface for 12-fiber, unpinned plugs. Compatible with 62.5 μ m, 50 μ m, and singlemode fibers. Connector has a self-closing, protective cover.
Power requirement	2 AA alkaline batteries
Battery life ²	>30 hours (typical)
Automatic power-off	10, 20, 30, or 60 minutes (can be disabled by the user)
Low battery warning	Low battery icon blinks
Size	5.7 in x 3.2 in x 1.5 in (14.5 cm x 8.0 cm x 3.9 cm)
Weight	10.9 oz (309 g)

1. For 850 nm, 0 dBm to -50 dBm. For 1300, 1310, 1550 nm, -5 dBm to -50 dBm

2. Measured power levels $\leq$ 0 dBm. Backlight on. Battery life depends on the condition and type of batteries used. Fluke Networks recommends alkaline batteries

3. 23°C $\pm$ 2°C, after 10 minutes of warm-up time.

4. Auto wavelength, SCAN ALL, and backlight on. Battery life depends on the condition and type of batteries used. Fluke Networks recommends alkaline batteries.

General Specifications

850nm Source (Specifications apply at 23°C (73°F), unless otherwise noted)	
Emitter type	LED: 850 nm
Wavelength	850 nm: $\pm$ 30 nm
Spectral width (FWHM)	850 nm: $\pm$ 50 nm (typical)
Output power	850 nm: $\geq$ 24 dBm. Max difference between channels $\pm$ 1dB
Power output stability ³	$\leq$ $\pm$ 0.1 dB over 8 hours
Encircled flux	Meets ANSI/TIA-526-14-B, ISO/IEC 14763-3, and IEC 61280-4-1 for 50/125 μ m at the source's optical connector.
Optical connector	MPO interface for 12-fiber, unpinned plugs. Compatible with 62.5 μ m and 50 μ m.
Modes	2 kHz modulated, auto wavelength
Power requirement	2 AA alkaline batteries
Battery life ⁴	>30 hours (typical)
Automatic power-off	10, 20, 30, or 60 minutes (can be disabled by the user)
Low battery warning	Low battery icon blinks
Size	5.6 in x 3.2 in x 1.6 in (14.2 cm x 8.1 cm x 4.1 cm)
Weight	10.9 oz (309 g)



MultiFiber™ Pro Ordering Information

Model	Description
MFTK1200	MultiFiber Pro Testing Base Kit includes MultiFiber Pro Power Meter, 850 light source, test cords, MPO adapters, MPO OneClick Cleaner, and carrying case
MFTK1400	MultiFiber Pro Testing and Inspection Kit includes MFTK1200, FT600 FiberInspector Pro with NF370 MPO tip
MFPOWERMETER	MultiFiber Pro Optical Power Meter
MFMULTIMODESOURCE	MultiFiber Pro Multimode 850 nm LED light source
FT600	FiberInspector Pro
NF370	MPO Fiber Inspection Adapter Tip for FT600
TRC-MPO-PP-B	1 m test cord with MPO/MPO, Pinned/Pinned, Type B polarity
TRC-MPO-UP-B	1 m test cord with MPO/MPO, Unpinned/Pinned, Type B polarity
TRC-MPO-UU-B	0.3 m test cord with MPO/MPO, Unpinned/Unpinned, Type B polarity
BKC-MPO-ULC	1 m breakout cord for MPO Unpinned LC connector
BKC-MPO-USC	1 m breakout cord for MPO Unpinned SC connector
ADP-MPO-B	Type B polarity MPO adapter
GLD-MF	1 YR GOLD for MFPOWERMETER/MFMULTIMODESOURCE
GLD-MFTK	1 YR GOLD for MFTK1200, MFTK1400
NFC-IBC-1.25mm	OneClick cleaners for 1.25 mm LC and MU connector and patch cord (5 qty)
NFC-IBC-2.5mm	OneClick cleaners for 2.5 mm SC, ST, FC connectors and patch cord (5 qty)
NFC-IBC-MPO	OneClick cleaners for MPO connector (5 qty)
NFC-KIT-CASE-E	Enhanced Fiber Optic Cleaning Kit – includes (1) OneClick cleaner for 1.25mm connectors, (1) OneClick cleaner for 2.5mm connectors, (1) OneClick cleaner for MPO connectors, a solvent pen, a cleaning cube and a soft case

Model Kit Contents

Model	Description
OFPMI-MFP	Data Center Fiber (MM/SM) Troubleshooting Kit - OptiFiber Pro + Quad, MultiFiber Pro and MPO Inspection Tip
OFPMI-MFP	Data Center Fiber (MM) Troubleshooting Kit - OptiFiber Pro + MM, MultiFiber Pro and MPO Inspection Tip
OFPMI-MFP-CER	Enterprise Fiber Cabling Kit Certification and Troubleshooting Kit - OptiFiber Pro + Quad, DTX-CertiFiber, MultiFiber Pro + MPO Inspection Kit



Fluke Networks' Gold Support

Gold Support is a comprehensive maintenance and support membership program for those that cannot afford downtime and are most committed to maintaining their equipment to the highest standards. Gold members are entitled to a free annual calibration and factory refresh with free shipping and loaner unit, priority first-in-queue 24/7 technical assistance via members-only hotline, free firmware/software up-upgrades with priority notification, free accessory replacement, first-on-bench priority repair with free next-day shipping and loaner unit, plus member-only training, promotional discounts and resources.

See www.flukenetworks.com/goldsupport for more information.

Visit www.flukenetworks.com/MultiFiberPro for a complete listing of models, options and accessories

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Fluke Networks operates in more than 50 countries worldwide. To find your local office contact details, go to www.flukenetworks.com/contact.

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