FLUKE *networks*®

Fiber OneShot™ PRO
Service Provider Fiber Troubleshooter

Don't Let Fiber Cabling Problems Take Down Your Network

Fiber optics is steadily replacing copper wire for signal transmissions. Whether you are troubleshooting FTTx, Hybrid Fiber Coax (HFC) or fiber links between Central Offices or working on regional or rural access networks, Fiber OneShot PRO is your first line of defense — a quick and simple fiber diagnostic tool. Singlemode fiber provides a higher transmission rate and up to 50 times more distance than multimode, so for a service provider, it's important to protect this key investment.

Key Customers:

- Regional Bell Operating Companies & Service Providers
- Cable Television Operators/MSOs
- Independent, Regional & Rural Telcos
- Singlemode Network Technicians
- Contractors
- Network Installers
- Metropolitan Networks

Fiber OneShot PRO Highlights:

- Analyzes your fiber link in less than five seconds* with the push of one button
- No training required or confusing data to interpret
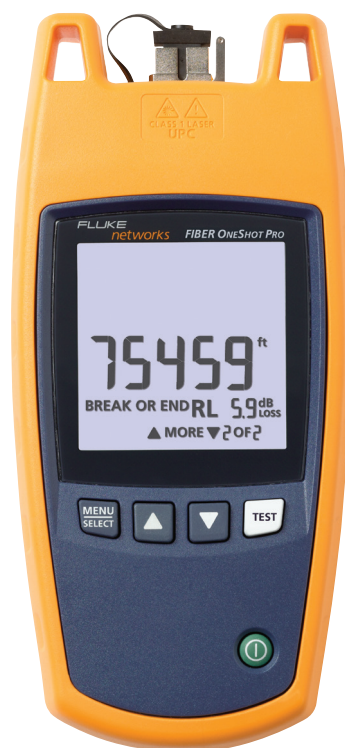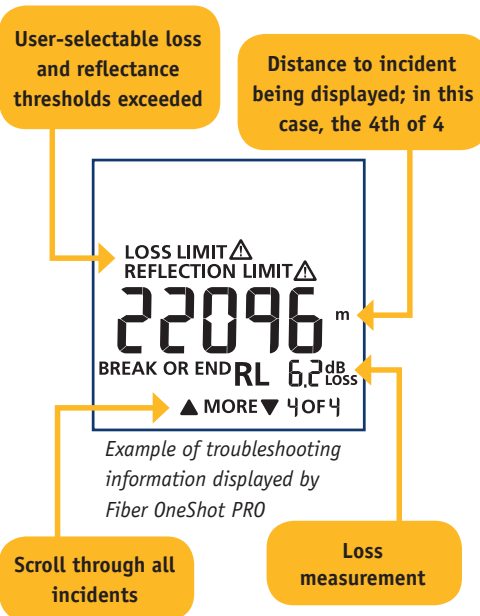- Handheld and ruggedly built for the outdoor environment

What customers are saying:

- "No running between the fault and hub"
- "Cut our average job time by up to 30%"
- "Gives me a quick snapshot of the fiber's status"
- "33% of our testing is in no-light situations. This is great for measuring in those situations"

*Typical test time

Fiber OneShot™ PRO is your first response, singlemode fiber troubleshooter that locates severe bends, high-loss splices, breaks and dirty connectors in singlemode fiber—up to 15 miles of fiber (more than 23,000 metres) diagnosed in less than five seconds.

Most troubleshooting solutions for today's fiber network are inefficient and take too much time. Simple tools like lasers (VFLs) are easy to operate but extremely repetitive and tiresome; most VFLs have distance limitations of 2 or 3 miles (3,218 or 4,828 metres). At the high end, Optical Time Domain Reflectors (OTDRs) can work as troubleshooters but their advanced analysis and trace capabilities are better suited for certifying and documenting cable installation quality. What field technicians really need is a first-line diagnostic tool that locates fiber cabling problems accurately, the first time. Fiber OneShot PRO's simple, one-button test feature, its speed and its distance capability make it your perfect frontline fiber troubleshooter.

User-selectable loss and reflectance thresholds exceeded

Distance to incident being displayed; in this case, the 4th of 4

LOSS LIMIT ⚠
REFLECTION LIMIT ⚠
22096 m
BREAK OR END RL 6.2 dB LOSS
▲ MORE ▼ 4 OF 4

Example of troubleshooting information displayed by Fiber OneShot PRO

Scroll through all incidents

Loss measurement

Fiber OneShot PRO

Fiber OneShot PRO is available as a stand-alone product or as part of a comprehensive fiber testing kit. With Fluke Networks' convenient kits, you can easily add power measurement and link loss capabilities with power meters and VFLs:
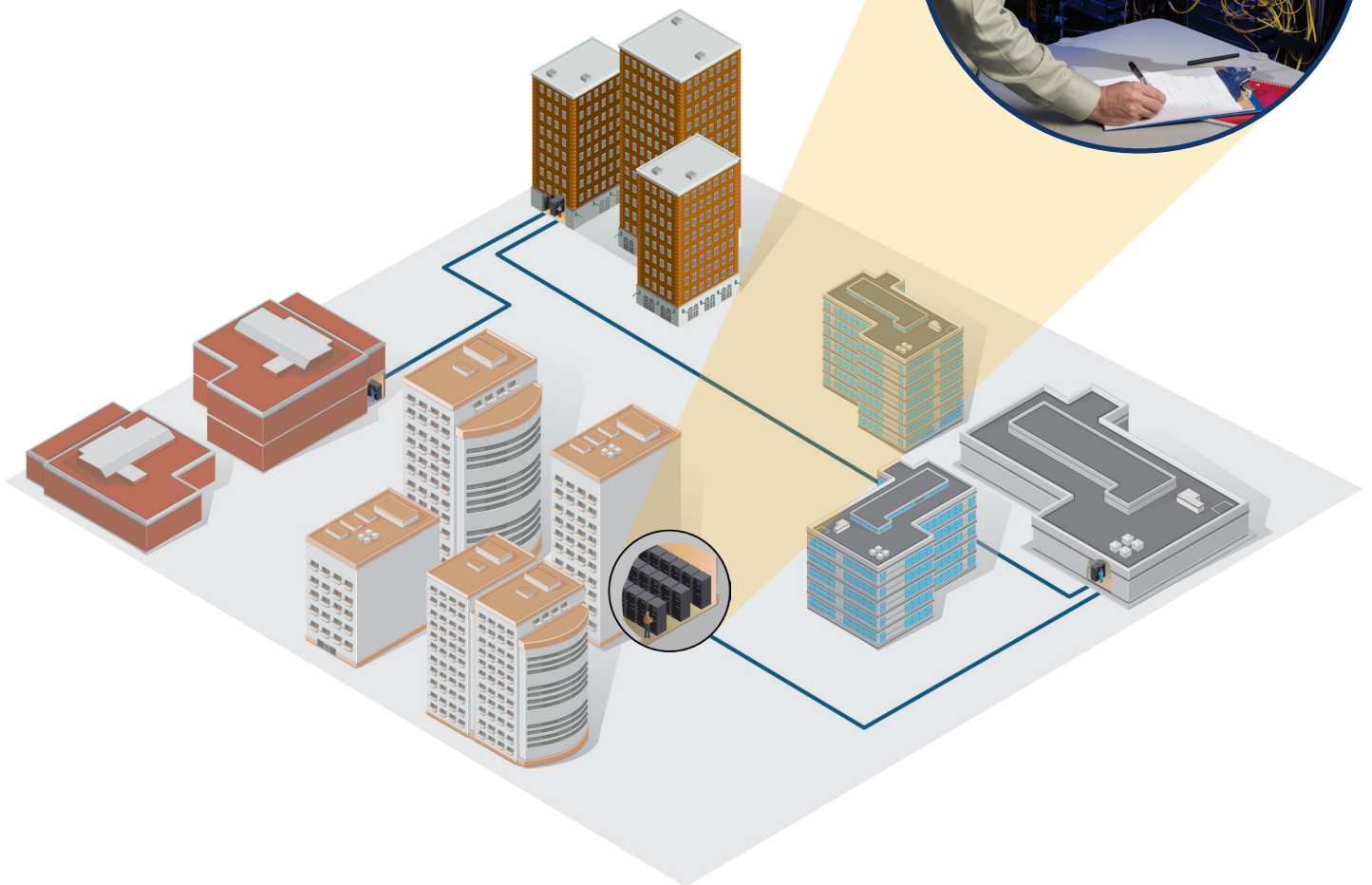
- SimpliFiber® Pro power meter measures optical power for both singlemode and multimode cable. The SimpliFiber Pro meter features the ability to save a reference power level, enabling a direct display of fiber loss.

- VisiFault® Visual Fault Locator (VFL) locates fibers, verifies continuity and polarity and helps find singlemode and multimode cable breaks, connectors and splices. Compatible with 2.5 mm and 1.25 mm connectors for an easy connection.

Technical Data

Fiber OneShot PRO — One-button Fiber Troubleshooting for Carrier Networks

When and Where to Use Fiber OneShot PRO

Fiber OneShot PRO provides immediate and in-depth visibility into a carrier network's singlemode fiber cabling:

- Troubleshooting—video service to fiber customers down? Need to diagnose fiber troubles with inexperienced technicians or technicians who don't normally work with fiber? Fiber no-light situations? Degraded network performance on longer fiber runs? Fiber OneShot PRO helps you locate the source of the problem or eliminate cabling as the culprit. No need to blindly waste time manipulating lasers or flashlights and walking between central offices, hubs and customer premises.

- Locating breaks or potentially weak network cabling areas—severe bends, high-loss splices and dirty connectors can diminish fiber network performance or cause network failure. Fiber OneShot PRO locates high-loss incidents based on default or user-defined settings, so you can deliver high network performance to your customers.

- Locating potential sources of bit error rates—reflectance caused by end-face contamination or poor connections leads to bit errors. Fiber OneShot PRO locates these problem areas quickly and easily.

- Analyzing the channel—quickly confirm connectivity by verifying all the links and connections in your channel.

- Long range—Fiber OneShot PRO is perfect for large service provider networks, MSOs, metropolitan areas, rural areas, regional carriers and campus environments up to 75,459 feet (23,000 metres).

- Compatible with all PON wavelengths— Fiber OneShot PRO can troubleshoot fibers using any standard PON wavelength: 1310 nm, 1490 nm, 1550 nm and 1625 nm.

Fiber OneShot PRO is ideal for troubleshooting singlemode fiber networks by locating severe bends, high-loss splices and other causes of fiber failure, diagnosing network degradation and analyzing out-link connectivity.

Specifications

Dimensions	17.5 cm H, 7.8 cm W, 3.8 cm D, .35 kg weight including batteries
Operating temperature with the battery	0ºC to 50ºC
Non-operating temperature	-20ºC to 60ºC
Operating relative humidity (without condensation)	95% (10ºC to 35ºC) 75% (35ºC to 40ºC) uncontrolled < 10ºC
Vibration	Random, 5 Hz to 500 Hz, MIL-PRF-28800F CLASS 2
Shock	1-meter drop test
Altitude	9,842 feet/3,000 metres
EMC	EN 61326-1:2004
Battery type	2 AA alkaline batteries (no battery charger)
Battery life	More than 1,500 tests (typical)
Laser safety	Class 1 CDRH Complies to EN 60825-2
LCD type	Backlit black and white (segments)
Index of refraction range	1.45 to 1.5 (factory default is 1.468)
Auto turnoff	Automatically turns off after 5 minutes if no keys are pressed. Backlight turns off first.
Factory calibration interval	None
Output wavelengths	1550 nm ± 20 nm at 25˚C
Laser classification	Class 1 CDRH Complies to EN 60825-2
Maximum distance	75,459 feet or 23,000 metres

Maximum number of incidents shown	9
Distance accuracy	± (1 m + 0.1% x length) for reflective incidents[1] ± (3 m + 0.1% x length) for non-reflective incidents[2]
Testing speed	5 seconds typical testing time
Connector	Removable/cleanable SC adapter, UPC polish
Fiber types tested	9/125 µm singlemode
Detection of reflective incidents[3]	-45 dB default threshold (user-selectable: -24 dB to -62 dB in 1 dB increments)
Maximum reflectance measurement	-24 dB
Loss Threshold Setting	1.5 dB default warning threshold (user-configurable from 0.5 dB to 6.1 dB in 0.1 dB increments)
Bulkhead quality	If no fiber is attached or if the connector is dirty, the troubleshooter displays 0 m or 0 ft.
Live fiber detection	Detects optical signals from 1250 nm to 1625 nm and shows ACTIVE LINE if a signal is there. Looks for a signal every 3 seconds after the first detection. +7 dB maximum input power.
Certifications and compliance	CE Conforms to relevant European Union directives
	Conforms to relevant Australian standards
	Listed by the Canadian Standards Association CSA C22.2 No. 61010.1.04
	FC Conforms to FCC Rules, Part A, Class A

1. ± user-configurable Index of Refraction (IOR) error ± the incident location error.
2. ± user-configurable Index of Refraction (IOR) error ± the incident location error.
3. Detects the location of an incident that has a reflectance larger than -62 dB. Detects incidents >2 m after the bulkhead connector when the bulkhead reflectance is <35 dB. Detects incidents >3 m after an incident when the incident reflectance is <35 dB.

Fiber OneShot PRO Ordering Information

Model	Description
FIBR-1-SHOTPRO	Fiber OneShot PRO only—includes meter, SC adapter, 22-language Quick Reference Guide on CD, manual and batteries
FIBR-1-KITPRO	Fiber OneShot PRO-SC-Kit—includes meter, SC adapter, UPC-UPC 2-metre patch cord, holster, case, 22-language Quick Reference Guide on CD, manual and batteries
FIBR-1-KITPRO-VF	Fiber OneShot PRO-SC-Kit with VisiFault—includes meter, SC adapter, UPC-UPC 2-metre patch cord, holster, case, 22-language Quick Reference Guide on CD, manual and batteries plus the VisiFault Visual Fault Locator with 2.5 mm universal adapter
FIBR-1-KITPRO-PM	Fiber OneShot PRO-SC-Kit with SimpliFiber Pro—includes meter, SC adapter, UPC-UPC 2-metre patch cord, holster, case, 22-language Quick Reference Guide on CD, manual and batteries plus SimpliFiber Pro optical power meter and SC adapter
FIBR-1-KITPRO-VFPM	Fiber OneShot PRO-SC-Kit with VisiFault and SimpliFiber Pro—includes meter, SC adapter, UPC-UPC 2-metre patch cord, holster, case, 22-language Quick Reference Guide on CD, manual and batteries plus the VisiFault Visual Fault Locator with 2.5 mm universal adapter and SimpliFiber Pro optical power meter and SC adapter
FQM-KIT	Fiber QuickMap Kit—includes Fiber QuickMap, SC/SC and SC/LC (50 and 62.5 µm) hybrid test reference cords, and carrying pouch

Accessories

Model	Description
FIBR-UPC-CORD-2M	2-metre UPC-UPC patch cord
FIBR-AC-UAPC	1-metre UPC-APC launch cord
NFK3-LAUNCH	Launch/receive fiber, 9/125 µm, SC/UPC to SC/UPC, 130 m
NFK3-LAUNCH-ST	Launch/receive fiber, 9/125 µm, SC/UPC to ST/UPC, 130 m
NFK3-LAUNCH-LC	Launch/receive fiber, 9/125 µm, SC/UPC to LC/UPC, 130 m
NFK3-LAUNCH-FC	Launch/receive fiber, 9/125 µm, SC/UPC to FC/UPC, 130 m