FlexScan OTDR with SmartAuto™ and LinkMap®

Pocket-sized, Performance-packed, User-friendly, *and* Affordable

Features

- Fast, accurate SmartAuto OTDR network characterization or fault location
- Easy to understand LinkMap results with pass/fail indications
- 1550 nm only version for cost-effective troubleshooting
- 1310/1550 nm version for complete network characterization
- Alerts users to live fibers and poor launch conditions
- Integrated Source, Power Meter, VFL (visual fault locator)
- Bluetooth and WiFi communications
- Compatible with FOCIS Flex connector inspection system
- Rugged, lightweight, hand-held for field use
- Large, bright touchscreen display easily viewed indoors and out
- Internal / external data storage via USB, Bluetooth, or WiFi
- 12-hour Telcordia battery operation

Applications

- Optical network installation, troubleshooting and maintenance
- OTDR testing plus Insertion Loss and Power measurements
- Locate faults exceeding industry or user pass/fail thresholds
- Visually pinpoint location of macro-bends or breaks inside cabinets and splice closures

FlexScan OTDRs enable both novice and expert technicians to quickly and reliably troubleshoot optical networks or fully characterize newly installed or repaired networks. Using FlexScan's innovative SmartAuto mode, multiple OTDR scans quickly and accurately detect, locate, identify and measure network components and faults. After applying industry-standard or user-set pass/fail criteria, the characterized network is displayed using FlexScan's intuitive, icon-based LinkMap view.

FlexScan automates test setup, shortens test time and simplifies results interpretation, improving efficiency and reducing the cost of test. Acquired results may be stored internally or externally. Internally stored results are easily accessed via USB, Bluetooth or WiFi.

With optional connector inspection, integrated source, power meter and VFL, FlexScan offers an all-in one solution, ensuring technicians have everything they need to locate and resolve optical network issues. Uploaded results may be viewed and reports may be generated using the included Windows-compatible TRM® 2.0 Test Results Manager software.

Available in Convenient, Cost-saving Installation and Troubleshooting Kits

Convenient FlexScan Installation and Troubleshooting kits bundle FlexScan with your choice of launch cable, FOCIS Flex auto-focusing, tether-free connector inspection probe and tips, and/or AFL's universal optical fiber identifier (OFI). The universal OFI works with all fiber types – including bend-insensitive fiber – and is available with or without integrated power meter (OFI-BIPM or OFI-BI).

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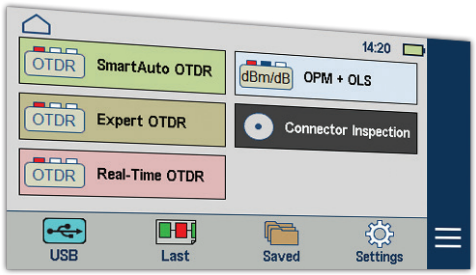
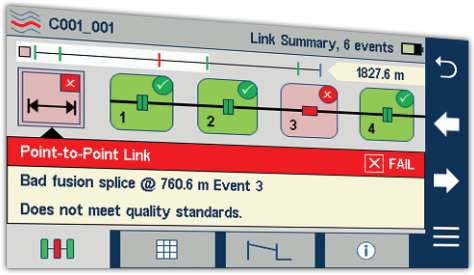


SmartAuto Provides Network-optimized Test Settings

In SmartAuto mode, a FlexScan OTDR automatically determines the characteristics of the network under test and rapidly completes multiple scans using a variety of network-optimized acquisition settings. It precisely locates and identifies network events, as well as measures loss and reflectance for each detected event. SmartAuto supports two test modes: Locate End & Faults (for fast network troubleshooting) and Characterize Fiber (for more complete installation verification). For even greater ease-of-use, FlexScan checks for live fiber and verifies the OTDR launch connection before initiating a test. Dual wavelength FlexScan OTDRs also provide automatic macro-bend detection.



LinkMap Simplifies Network Troubleshooting

LinkMap with Pass/Fail enables even novice users to easily and accurately troubleshoot optical networks. LinkMap presents an icon-based view of the tested network clearly identifying fiber start, end, connectors, splices and macro-bends.

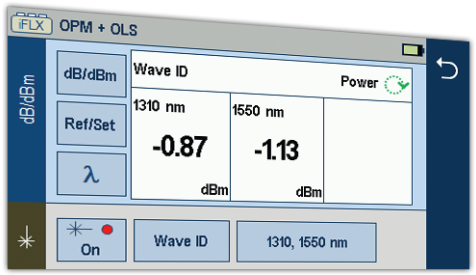
A LinkMap Summary provides end-to-end link length, loss, loss per distance and ORL. Loss and reflectance of detected events is compared to industry-standard or user-settable pass/fail thresholds and displayed with clear pass/fail indications. Users can instantly toggle between LinkMap and Trace views.

Bluetooth and WiFi for Faster Connectivity

Pair FlexScan with AFL's FOCIS Flex connector inspection probe for fast, easy connector end-face inspection.

FOCIS Flex provides auto-focus, auto-centering, integrated IEC pass/fail analysis, and automatic Bluetooth transfer of images and pass/fail results to FlexScan for display and archiving.

FlexScan's built-in WiFi also supports wireless remote control and file transfer to/from Windows PCs, Android and iOS mobile devices.



Multi-Functionality Ensures Complete Testing Accuracy

FlexScan integrates a Visual Fault Locator (VFL) plus an optional optical laser source (OLS) and optical power meter (OPM) supporting AFL's unique Wave ID capability. With Wave ID, the power meter automatically synchronizes to a single or multi-wavelength Wave ID optical signal sent by an AFL light source. The power meter automatically identifies received wavelengths and measures power and loss at each wavelength, saving significant test time and eliminating setup errors. The VFL's eye-safe red laser enables users to visually pinpoint the location of macro-bends and fiber breaks often found in splice closures and fiber cabinets.

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FlexScan OTDRs are available with 1310/1550 nm or 1550 nm only wavelengths. Both versions are available with integrated Optical Light Source (OLS), Optical Power Meter (OPM), Visual Fault Locator (VFL) and Bluetooth/WiFi.

Specifications[a]

OTDR	
Emitter Type	Laser
Safety Class	Class 1 FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03
Fiber Type	Single-mode
Available Wavelengths	FS200-50: 1550 ±20 nm FS200-100: 1310/1550 ±20 nm
Wavelength Tolerance	±20 nm
Dynamic Range (SNR=1)[b]	32/30 dB @1310/1550 nm
Event Dead Zone[c]	0.8 m
Attenuation Dead Zone[d]	3.6 m
Pulse Widths	3, 5, 10, 20, 30, 50, 100, 200, 300, 500 ns; 1, 2, 3, 10 µs
Range Settings	250 m to 240 km
Data Points	Up to 300,000 (Expert mode .SOR file)
Data Spacing	5 cm to 16 m
Group Index of Refraction	1.4000 to 1.7000
Distance Uncertainty (m)	±(1 + 0.005% x distance + data point spacing)
Linearity	±0.05 dB/dB
Trace File Format	Telcordia SR-4731 Issue 2
Trace File Storage Medium	4 GB internal memory (>1000 traces); External USB memory stick
Data Transfer to PC	USB cable or Bluetooth® or WiFi (option)
Standard OTDR Modes	SmartAuto, Expert, Real Time
Display Modes	LinkMap Summary, LinkMap Events, Trace
Real-time Refresh Rate	Up to 4 Hz
Live Fiber Protection	No OTDR damage with input power ≤ +3 dBm for wavelength(s) in range 1260 to 1675 nm
Live Fiber Detection:	Reports live fiber with input signal ≥ -35 dBm for wavelength(s) in range 1260 to 1675 nm

VISUAL FAULT LOCATOR (VFL)	
Emitter Type	Visible red laser, 650 ±20 nm
Safety Class	Class II FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03
Output Power (nominal)	0.8 mW into single-mode fiber
Modes	CW, 2 Hz flashing

OPTICAL LASER SOURCE - OLS (Optional)	
Emitter Type	Laser
Safety Class	Class I, FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03
Fiber Type	Single-mode
Available Wavelengths	FS200-50: 1550 ±20 nm FS200-100: 1310/1550 ±20 nm
Spectral Width (FWHM)	5 nm (maximum)
Internal Modulation	270 Hz, 330 Hz, 1 kHz, 2 kHz, CW, Wave ID
Wave ID (1-3 wavelengths)	Compatible with AFL OPM/OLS
Output Power Stability	≤ ±0.1 dB (15 minutes); ≤ ±0.15 dB (8 hours)
Output Power	-3 dBm ±1.5 dB

OPTICAL POWER METER -OPM (Optional)	
Calibrated Wavelengths	1310, 1490, 1550, 1625, 1650 nm
Detector Type	InGaAs, 2 mm diameter
Measurement Range	+23 to -50 dBm
Tone Detect Range	+3 to -35 dBm
Wavelength ID Range	+3 to -35 dBm
Accuracy[e]	±0.25 dB
Resolution	0.01 dB
Measurement Units	dB, dBm or Watts (nW, µW, mW)

GENERAL	
Size (in boot)	86 x 160 x 43 mm
Weight	0.4 kg
Operational Temperature	-10 °C to +50 °C, 0 to 95 % RH (non-condensing)
Storage Temperature	-40 °C to +70 °C, 0 to 95 % RH (non-condensing)
Power	Rechargeable Li-polymer or AC adapter
Battery Life	>12 hours, Telcordia test conditions
Display	Color touchscreen 4.3 in LCD, 480x272, backlit
USB Ports	1 host; 1 micro-USB function
Bluetooth (optional)	Compatible with Windows PC, Android
WiFi (optional)	IEEE 802.11 / WLAN

Notes:

a. All specifications valid at 25 °C unless otherwise specified.

b. Measured using 240 km range, 10 µs pulse and 3 minutes averaging.

c. Typical distance between the two points 1.5 dB down each side of a reflective spike caused by a -45 dB event using 5 ns pulse width.

d. Typical distance from the location of a -45 dB reflective event to the point where the trace falls and stays within 0.5 dB of backscatter, using a 5 ns pulse width.

e. At calibration wavelengths and power levels of approximately -10 dBm.

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FlexScan Kit Configurations

FlexScan is available in four kit configurations: Basic, Plus, PRO, and Complete. All kits include FlexScan with AC charger, battery, carry strap, SC/2.5 mm connector adapters, TRM® 2.0 and carry case. Plus kits add a 150 m fiber ring and One-click cleaner. PRO kits additionally include a FOCIS Flex auto-focusing connector inspection probe with IEC pass/fail analysis and two adapter tips. Complete kits expand on PRO Kits by adding bend insensitive fiber identifier with optional power meter (OFI-BI or OFI-BIPM).

Ordering Information

FS200-[MOD]-[KIT]-[PW]-[C]-[LNG]-[AC]-[FR]-[TIP]* where:

[MOD]	FS200 FlexScan OTDR Configuration
50	1550 nm only Troubleshooting OTDR
100	1310/1550 nm Verification & Troubleshooting OTDR

[KIT]	FS200 FlexScan Kit Configuration
BAS	Basic kit with soft case, TRM 2.0 Basic, USB cable
PLUS	PLUS kit adds 150 m SMF Fiber Ring and One-Click cleaner
PRO	PRO kit adds Fiber Ring, One-Click cleaner, FOCIS Flex
BI	BI Complete kit adds OFI-BI to PRO kit
BIPM	BIPM Complete kit adds OFI-BIPM to PRO kit

[PW]	Power Meter / Wireless option
P0-W0	No Source, Power Meter, or Bluetooth/WiFi
P1-W1	Includes Source, Power Meter, and Bluetooth/WiFi

[C]	OTDR / Source Connector Type
A	APC
U	UPC

[LNG]	Language Option
ENG	English
CHS	Simplified Chinese
DEU	German
FIN	Finnish
FRA	French
ITA	Italian
POL	Polish
SPA	Spanish

[AC]	Destination Country	AC Plugs
US	USA	2-pin, US
EU	European Union	2-pin, EU
UK	United Kingdom	2-pin, UK
CN	China, Australia	2-pin, SAA

[FR]	150 m SMF Fiber Ring
Blank	N/A in Basic kits
SC/SC	FR1-SM-150-SC-SC
SC/FC	FR1-SM-150-SC-FC
SC/LC	FR1-SM-150-SC-LC
SC/ST	FR1-SM-150-SC-ST
SC/ASC	FR1-SM-150-SC-ASC
SC/AFC	FR1-SM-150-SC-AFC
SC/ALC	FR1-SM-150-SC-ALC
LC/LC	FR1-SM-150-LC-LC
LC/ASC	FR1-SM-150-LC-ASC
LC/ALC	FR1-SM-150-LC-ALC

[FR]	150 m SMF Fiber Ring
ASC/FC	FR1-SM-150-ASC-FC
ASC/ST	FR1-SM-150-ASC-ST
ASC/ASC	FR1-SM-150-ASC-ASC
ASC/AFC	FR1-SM-150-ASC-AFC
ASC/ALC	FR1-SM-150-ASC-ALC
ALC/ALC	FR1-SM-150-ALC-ALC
FC/FC	FR1-SM-150-FC-FC
FC/ST	FR1-SM-150-FC-ST
FC/LC	FR1-SM-150-FC-LC
FC/AFC	FR1-SM-150-FC-AFC
AFC/AFC	FR1-SM-150-AFC-AFC

[TIP]*	FOCIS Flex Tips & Cleaning (PRO only)
Blank	Option not available in Basic & PLUS kits
SC	SC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm cleaning
FC	FC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm cleaning
LC	LC-UPC bulkhead tip, 1.25 mm UPC ferrule tip, 1.25 mm cleaning
ASC	SC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm cleaning
AFC	FC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm cleaning
ALC	LC-APC bulkhead tip, 1.25 mm APC ferrule tip, 1.25 mm cleaning

*For FOCIS Flex adapter tips, see FOCIS Flex data sheet or Buyer's Guide.

International Sales and Service Contact Information

Available at www.AFLglobal.com/Test/Contacts