FTB-730 PON FTTx/MDU OTDR

OPTIMIZED FOR ACCESS FIBER DEPLOYMENTS AND TROUBLESHOOTING

iOLM READY

EXFO Connect Compatible

FROST & SULLIVAN
2014 BEST PRACTICES AWARD
GLOBAL
PORTABLE FIBER OPTIC TEST EQUIPMENT
MARKET LEADERSHIP AWARD

The perfect tool for field technicians who need to seamlessly characterize splitters in PON FTTx and MDU applications.

KEY FEATURES

Test through high-port-count splitters (up to 1x128)

Singlemode port for in-service troubleshooting with standard in-line OPM

Dynamic range of up to 39 dB

Short acquisition time to speed up deployment process

EXFO Connect-compatible: automated asset management; data goes through the cloud and into a dynamic database

iOLM-ready: one-touch multiple acquisitions, with clear go/no-go results presented in a straightforward visual format

APPLICATIONS

FTTx/MDU test challenges within PON networks

Access network testing (P2P)

Passive Optical LAN (POL)

COMPLEMENTARY PRODUCTS AND OPTIONS

FastReporter 2
EFFICIENT POST-PROCESSING SOFTWARE

Platform
FTB-1

Fiber Inspection Probe
FIP-400B

Data Post-Processing Software
FastReporter 2

EXFO

LOADED WITH FEATURES TO BOOST YOUR EFFICIENCY

REAL-TIME AVERAGING

Activates the OTDR laser in continuous shooting mode, the trace refreshes in real time and allows to monitor the fiber for a sudden change. Perfect for a quick overview of the fiber under test.

AUTOMODE

Used as a discovery mode, this feature automatically adjusts the distance range and the pulse width in function of the link under test. It is recommended to adjust the parameters to perform additional measurements to locate other events.

ZOOM TOOLS

Zoom and center to facilitate the analysis of your fibers. Draw a window around the area of interest and center in the screen quicker.

SET PARAMETERS ON THE FLY

Dynamically change OTDR settings for the ongoing acquisition without stopping or returning to submenus.

MACROBEND FINDER

This built-in feature enables the unit to automatically locate and identify macrobends, no need to spend further time analyzing the traces.

BIDIRECTIONAL ANALYSIS (VIA FastReporter 2 DATA POST-PROCESSING SOFTWARE)

Recommended to ensure true splice characterization, bidirectional analysis combines results from both directions to provide an average loss for each event. For a more complete event characterization, use iOLM and benefit from maximum resolution on both directions (multiple pulse widths at multiple wavelengths) as well as a consolidated view.

LOOKING FOR ICON-BASED MAPPING?

Linear View (Included on All EXFO OTDRs)

Available on our OTDRs since 2006, the linear view simplifies the reading of an OTDR trace by displaying icons in a linear way for each wavelength. This view converts the graph data points obtained from a traditional single pulse trace into reflective or non-reflective icons. With applied pass/fail thresholds, it becomes easier to pinpoint faults on your link.

This improved version of linear view provides the flexibility to display both the OTDR graph and its linear view without having to toggle to analyze your fiber link.

Although this linear view simplifies the OTDR reading of a single pulse width's trace, the user will still need to set the OTDR parameters. In addition, multiple traces must often be performed in order to fully characterize the fiber links. See the section below to learn how the iOLM can perform this automatically and with more accurate results.

EXFO
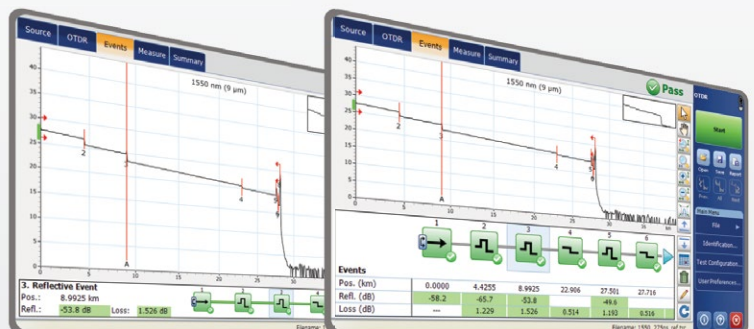
REMOVING COMPLEXITY FROM THE OTDR

OTDR TESTING COMES WITH ITS LOAD OF CHALLENGES...

WRONG OTDR TRACES

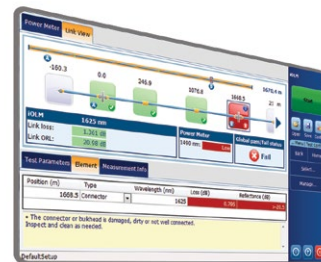COUNTLESS TRACES TO ANALYZE

REPEATING THE SAME JOB TWICE

COMPLEX INSTRUMENT TRAINING/SUPPORT

iOLM | intelligent Optical Link Mapper

In response to these challenges, EXFO developed a better way to test fiber optics: The iOLM is an OTDR-based application designed to simplify OTDR testing by eliminating the need to configure parameters, and/or analyze and interpret multiple complex OTDR traces. Its advanced algorithms dynamically define the testing parameters, as well as the number of acquisitions that best fit the network under test. By correlating multipulse widths on multiple wavelengths, the iOLM locates and identifies faults with maximum resolution—all at the push of a single button.

HOW DOES IT WORK?

Dynamic multipulse acquisition → Intelligent trace analysis → Combines all results into a single link view → Comprehensive diagnosis →

Turning traditional OTDR testing into clear, automated, first-time-right results for technicians of any skill level.

Patent protection applies to the intelligent Optical Link Mapper, including its proprietary measurement software. EXFO's Universal Interface is protected by US patent 6,612,750.

Three ways to benefit from the iOLM:	**OTDR Combo (Oi Code)** Run iOLM and OTDR applications on one unit	**Upgrade** Add the iOLM software option, even while in the field	**iOLM Only** Order a unit with the iOLM application only
Three iOLM feature value packs:	**iOLM Standard** › Dynamic multipulse acquisition › Intelligent trace analysis › Map view › Diagnosis › SOR trace generation	**iOLM Advanced** All the features of iOLM, plus additional Advanced features	**iOLM Pro** All the features of iOLM Advanced, plus additional high-value professional features

Note: Refer to the intelligent Optical Link Mapper (iOLM) specification sheet for the most recent description of the added-value features available in the iOLM Advanced and iOLM Pro packs.

AUTOMATE ASSET MANAGEMENT. PUSH TEST DATA IN THE CLOUD. GET CONNECTED.

EXFO | Connect

EXFO Connect pushes and stores test equipment and test-data content automatically in the cloud, allowing you to streamline test operation from build-out to maintenance.

ADDITIONAL SOFTWARE TEST CAPABILITIES ON THE FTB-1 PLATFORM

EXpert TEST TOOLS IP IPTV VoIP

EXpert Test Tools is a series of software applications leveraged through the FTB ecosystem platforms and designed to enhance and simplify FTTH/FTTx service deployments:

EXpert VoIP: Generate voice-over-IP call to validate performance during service turn-up and troubleshooting. This tool boasts a highly configurable test interface to maximize control over test parameters yet maintains an intuitive user interface, allowing for fast and easy test setup and completion.

EXpert IP: Benefit from six commonly used IP test tools in one application, helping field technicians deal with the complex testing environments of today's networks and further preparing them to handle unexpected customer issues easily and without interruption.

EXpert IPTV: Enables quick pass/fail verification on IPTV installations during service turn-up. By emulating a set-top box and displaying a real-time video preview, video and audio quality can be determined before any other equipment is installed, further ensuring subscribers' quality of experience (available on FTB-1 platform only).

EXFO

All specifications valid at 23° C ± 2° C with FC/APC for FTB-730, unless otherwise specified.

TECHNICAL SPECIFICATIONS (OTDR)

Model	FTB-730 [a]
Wavelength (nm) [b]	1310 ± 20/1490 ± 15/1550 ± 20/1625 ± 10/1650 ± 7
Dynamic range at 20 µs (dB) [c]	39/38/37/39 [d]/37
Event dead zone (m) [e]	0.8
Attenuation dead zone (m) [e]	4/4.5/4.5/4.5/4.5
Distance range (km)	1.25, 2.5, 5, 10, 20, 40, 80, 160, 260, 400
Pulse width (ns)	5, 10, 30, 50, 100, 275, 500, 1000, 2500, 10 000, 20 000
Linearity (dB/dB) [b]	±0.03
PON dead zone (m) [f]	35
Loss threshold (dB)	0.01
Loss resolution (dB)	0.001
Sampling resolution (m)	0.04 to 5
Sampling points	Up to 256 000
Distance uncertainty (m) [g]	±(0.75 + 0.0025 % x distance + resolution)
Measurement time	User-defined (60 min. maximum)
Typical real-time refresh (Hz)	4
Stable source output power (dBm) [h]	−2.5
Reflectance (dB) [b]	±2

TECHNICAL SPECIFICATIONS (In-Line Power Meter)

Input power range (dBm)	1490 nm: −65 to 18 1550 nm: −50 to 28
PON power meter (nm)	Two channels: 1490/1550
Broadband power meter (nm)	One channel: 1270 to 1625
Power uncertainty (dB) [b]	±0.2
Calibrated wavelengths (nm)	1310, 1490, 1550 and 1625
PON power meter spectral band (nm)	1450 to 1530
Broadband power meter spectral band (nm)	1270 to 1625
Display resolution (dB)	0.1
PON power meter ORL (dB) [b]	−55
Broadband power meter ORL (dB) [b]	−50

GENERAL SPECIFICATIONS

Size (H x W x D)	130 mm x 36 mm x 252 mm (5 $^1/_8$ in x 1 $^7/_{16}$ in x 9 $^{15}/_{16}$ in)	
Weight	0.65 kg (1.4 lb)	
Temperature		
Operating	0 °C to 50 °C	(32 °F to 122 °F)
Storage	−40 °C to 70 °C	(−40 °F to 158 °F)
Relative humidity	0% to 95% non-condensing	

For complete details on all available configurations, refer to the Ordering Information section.

Notes

a. SM Live port built in filter's bandpass 1625 nm ± 15 nm/1650 nm ± 7 nm.

b. Typical.

c. Typical dynamic range with a three-minute averaging at SNR = 1.

d. Non-SM Live 1625 nm dynamic range is 37 dB.

e. Typical dead zone for reflexions below −45 dB using a 5 ns pulse.

f. Non-reflective FUT, non-reflective splitter, 13 dB loss, 50 ns pulse, typical value.

g. Does not include uncertainty due to fiber index.

h. Typical output power value at 1550 nm.

LASER SAFETY

INVISIBLE LASER RADIATION

VIEWING THE LASER OUTPUT WITH CERTAIN OPTICAL INSTRUMENTS (FOR EXAMPLE, EYE LOUPES, MAGNIFIERS AND MICROSCOPES) WITHIN A DISTANCE OF 100 MM MAY POSE AN EYE HAZARD

CLASS 1M LASER PRODUCT

EXFO
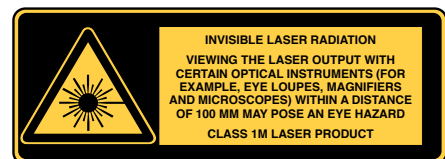
ORDERING INFORMATION

SINGLEMODE (PON FTTx/MDU) FOR FTB-1 PLATFORM

FTB-730-**XX**-**XX**-**XX**-**XX**-**XX**

Model
Dual Wavelength
FTB-730-23B = SM OTDR module, 1310/1550 nm (9/125 µm)
FTB-730-34B = SM OTDR module, 1550/1625 nm (9/125 µm)

Triple Wavelength
FTB-730-236B = SM OTDR module, 1310/1490/1550 nm (9/125 µm)
FTB-730-234B = SM OTDR module, 1310/1550/1625nm (9/125µm)

SM Live Port
FTB-730-23B-04B = SM and SM live OTDR module, 1310/1550 and 1625 nm
live port including in-line broadband power meter
FTB-730-23B-08B = SM and SM live OTDR module, 1310/1550 and 1650 nm
live filtered port (9/125 µm)
FTB-730-000-04B = SM live OTDR with 1625 nm live port (9/125 µm)
including in-line broadband power meter
FTB-730-000-08B = SM live OTDR with 1650 nm live filtered port (9/125 µm)

OPM Option [a]
OPM = One broadband channel included
OPM2 = Dual channel 1490/1550 nm

iOLM Software Option
00 = iOLM Standard
iADV = iOLM Advanced [b]
iPRO = iOLM Pro [b]

Connector
EA-EUI-28 = APC/DIN 47256
EA-EUI-89 = APC/FC narrow key
EA-EUI-91 = APC/SC
EA-EUI-95 = APC/E-2000
EI connectors = See note below about APC connectors

Base Software
OTDR = Enables the OTDR application only
iOLM = Enables the iOLM application only
Oi = Enables iOLM + OTDR applications

Example: FTB-730-23B-04B-OPM-OTDR-EA-EUI-89

Notes
a. Available with FTB-730-000-04B and FTB-730-23B-04B only.
b. The features available in iOLM Advanced and Pro depend on the platform and the module. Please refer to the intelligent Optical Link Mapper (iOLM) specification sheet for package details.

THE BENEFITS OF APC CONNECTORS FOR OTDR/iOLM TESTING

To maximize the performance of your OTDR, EXFO recommends using APC connectors. These connectors generate lower reflectance, which is a critical parameter that affects performance, particularly dead zones. APC connectors provide better performances than UPC connectors, thereby improving testing efficiency.

Note: UPC connectors are also available, simply replace EA-XX by EI-XX in the ordering part number. Additional connectors available are the EI-EUI-76 (UPC/HMS-10/AG) and EI-EUI-90 (UPC/ST).