

FTB-7400E Metro/CWDM OTDR

METRO/CORE AND CWDM NETWORK FIBER CHARACTERIZATION



High-resolution OTDR covering longer metro distances and ITU-based CWDM networks

KEY FEATURES

- Industry-leading linearity of ± 0.03 dB/dB
- Up to 256 000 sampling points
- Event dead zone of 0.8 m and attenuation dead zone of 4 m
- Low-water-peak fiber testing at 1383 nm
- Dynamic range of up to 42 dB for long-haul testing
- Tests through CWDM-based multiplexers and demultiplexers at all 16 ITU-recommended wavelengths

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

- Metro/core network testing
- CWDM network testing

PLATFORM COMPATIBILITY



Platform
FTB-2/FTB-2 Pro



Platform
FTB-200



Platform
FTB-500



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

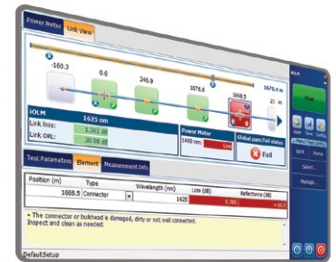


COMPLEX INSTRUMENT TRAINING/SUPPORT

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?



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 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 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).



All specifications valid at 23 °C ± 2 °C with an FC/APC connector, unless otherwise specified.

TECHNICAL SPECIFICATIONS					
Model ^a	FTB-7400E-XXXX	FTB-7400E-CWO	FTB-7400E-CWE	FTB-7400E-CWS	FTB-7400E-CWCL
Wavelengths (nm) ^b	1310 ± 20 1383 ± 1 1550 ± 20 1625 ± 10	1270 ± 3 1290 ± 3 1310 ± 3 1330 ± 3	1350 ± 3 1410 ± 3 1430 ± 3 1450 ± 3	1470 ± 3 1490 ± 3 1510 ± 3 1530 ± 3	1550 ± 3 1570 ± 3 1590 ± 3 1610 ± 3
Dynamic range at 20 μs (dB) ^c	42/40/41/41	41/41/41/41	41/41/41/41	41/41/ 41/41	41/41/ 40/40
Event dead zone (m) ^d	0.8	0.8	0.8	0.8	0.8
Attenuation dead zone (m) ^d	4/4/4.5/4.5	4.5	4.5	4.5	4.5
Distance range (km)	1.25, 2.5, 5, 10, 20, 40, 80, 160, 260, 400	1.25, 2.5, 5, 10, 20, 40, 80, 160, 260, 400	1.25, 2.5, 5, 10, 20, 40, 80, 160, 260, 400	1.25, 2.5, 5, 10, 20, 40, 80, 160, 260, 400	1.25, 2.5, 5, 10, 20, 40, 80, 160, 260, 400
Pulse width (ns)	5, 10, 30, 100, 275, 1000, 2500, 10 000, 20 000	5, 10, 30, 100, 275, 1000, 2500, 10 000, 20 000	5, 10, 30, 100, 275, 1000, 2500, 10 000, 20 000	5, 10, 30, 100, 275, 1000, 2500, 10 000, 20 000	5, 10, 30, 100, 275, 1000, 2500, 10 000, 20 000
Linearity (dB/dB) ^b	±0.03	±0.03	±0.03	±0.03	±0.03
Loss threshold (dB)	0.01	0.01	0.01	0.01	0.01
Loss resolution (dB)	0.001	0.001	0.001	0.001	0.001
Sampling resolution (m)	0.04 to 5	0.04 to 5	0.04 to 5	0.04 to 5	0.04 to 5
Sampling points	Up to 256 000	Up to 256 000	Up to 256 000	Up to 256 000	Up to 256 000
Distance uncertainty (m) ^e	±(0.75 + 0.001 % x distance + sampling resolution)	±(0.75 + 0.001 % x distance + resolution)	±(0.75 + 0.001 % x distance + resolution)	±(0.75 + 0.001 % x distance + sampling resolution)	±(0.75 + 0.001 % x distance + sampling resolution)
Measurement time	User-defined (5 sec. minimum to 60 min. maximum)	User-defined (60 min. maximum)	User-defined (60 min. maximum)	User-defined (5 sec. minimum to 60 min. maximum)	User-defined (5 sec. minimum to 60 min. maximum)
Typical real-time refresh (Hz)	4	4	4	4	4
Stable source output power (dBm) ^f	-4.5 (7400E-0023B)	-4.5	-4.5	-4.5	-4.5

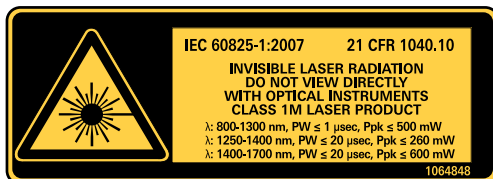
Notes

- For complete details on all available configurations, refer to the Ordering Information section.
- Typical.
- Typical dynamic range with a three-minute averaging at SNR = 1.
- Typical dead zone of singlemode modules for reflectance below -45 dB, using a 5 ns pulse.
- Does not include uncertainty due to fiber index.
- Typical output power value at 1550 nm.

GENERAL SPECIFICATIONS

Size (H x W x D)	97 mm x 25 mm x 260 mm (3 13/16 in x 1 in x 10 1/4 in)
Weight	0.55 kg (1.2 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

LASER SAFETY



ORDERING INFORMATION

Singlemode (METRO/CWDM) for FTB-2, FTB-2 Pro, FTB-200 or FTB-500 Platform

FTB-7400E-XX-XX-XX-XX

Model

Dual Wavelength

FTB-7400E-0023B = SM OTDR module, 1310/1550 nm (9/125 μ m)

Triple Wavelength

FTB-7400E-0234B = SM OTDR module, 1310/1550/1625 nm (9/125 μ m)

Quadruple Wavelength

FTB-7400E-2347B = SM OTDR module, 1310/1383/1550/1625 nm (9/125 μ m)FTB-7400E-CWS = CWDM SM OTDR module, 1470/1490/1510/1530 nm (9/125 μ m)FTB-7400E-CWCL = CWDM SM OTDR module, 1550/1570/1590/1610 nm (9/125 μ m)FTB-7400E-CWO = CWDM SM OTDR module, 1270/1290/1310/1330 nm (9/125 μ m)FTB-7400E-CWE = CWDM SM OTDR module, 1350/1410/1430/1450 nm (9/125 μ m)

Base Software

OTDR = Enables the OTDR application only

iOLM = Enables the iOLM application only^aOi = Enables iOLM and OTDR applications^a

Example: FTB-7400E-2347B-Oi-EI-EUI-89-AD

iOLM Software Option

00 = iOLM Standard

iADV = iOLM Advanced^biPRO = iOLM Pro^b

OTDR Software Option

00 = Without software option^cAD = Macrobend finder and linear view^d

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

EA-EUI-98 = APC/LC

EI Connectors: See note below

Notes

- iOLM application is not available for 1383 nm.
- 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.
- Includes macrobend finder and linear view in FTB-2/FTB-2 Pro.
- Included in FTB-200. Not available in FTB-2/FTB-2 Pro.

EI CONNECTORS



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).

EXFO Headquarters > Tel.: +1 418 683-0211 | Toll-free: +1 800 663-3936 (USA and Canada) | Fax: +1 418 683-2170 | info@EXFO.com | www.EXFO.com

EXFO serves over 2000 customers in more than 100 countries. To find your local office contact details, please go to www.EXFO.com/contact.

EXFO is certified ISO 9001 and attests to the quality of these products. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices. In addition, all of EXFO's manufactured products are compliant with the European Union's WEEE directive. For more information, please visit www.EXFO.com/recycle. Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.

For the most recent version of this spec sheet, please go to the EXFO website at www.EXFO.com/specs.

In case of discrepancy, the web version takes precedence over any printed literature.