

# FTB-7400E Metro/CWDM OTDR

METRO/CORE AND CWDM NETWORK FIBER CHARACTERIZATION



40G

iOLM  
READY

EXFO Connect  
Compatible



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

## KEY FEATURES

- Industry-leading linearity of  $\pm 0.03$  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

EXFO

## INTELLIGENT OPTICAL LINK MAPPER—GOING BEYOND OTDR

**iOLM** | intelligent Optical  
Link Mapper

Powered by  
**LINK AWARE™**  
TECHNOLOGY

Using an automated multipulse acquisition approach and filled with advanced algorithms, the iOLM is an OTDR-based application that delivers detailed information on every element of the link through a single button operation—providing maximum intelligence and simplicity for expert-level link characterization.

- › Hardware optimized for field upgradability to the optional iOLM software application
- › Multiple acquisitions with one button—all automated
- › Expert-level characterization results in a single, comprehensive report
- › The highest single-ended fiber testing performance available
- › No training required: self-setting device with clear go/no-go results
- › Minimized truck rolls, thanks to the smartest analysis, powered by Link Aware™ technology
- › No more trace misinterpretation: prompt diagnosis and clear optical link view

### Three ways to benefit from the iOLM on this module:

#### iOLM only

FTB-7400E with iOLM application

#### OTDR combo

FTB-7400E with iOLM and  
OTDR applications

#### Upgrade

iOLM software option for your  
existing FTB-7400E OTDR

## 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-200 PLATFORM

**EXpert** | **VoIP**  
TEST TOOLS

EXpert VoIP generates a voice-over-IP call directly from the test platform to validate performance during service turn-up and troubleshooting.

- › Supports a wide range of signaling protocols, including SIP, SCCP, H.248/Megaco and H.323
- › Supports MOS and R-factor quality metrics
- › Simplifies testing with configurable pass/fail thresholds and RTP metrics

**EXpert** | **IP**  
TEST TOOLS

EXpert IP integrates six commonly used datacom test tools into one platform-based application to ensure that field technicians are prepared for a wide range of testing needs.

- › Rapidly performs debugging sequences with VLAN scan and LAN discovery
- › Validates end-to-end ping and traceroute
- › Verifies FTP performance and HTTP availability

**EXpert** | **IPTV**  
TEST TOOLS

This powerful IPTV quality assessment solution enables set-top-box emulation and passive monitoring of IPTV streams, allowing quick and easy pass/fail verification of IPTV installations.

- › Real-time video preview
- › Analyzes up to 10 video streams
- › Comprehensive QoS and QoE metrics including MOS score

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


TECHNICAL SPECIFICATIONS					
Model <sup>a</sup>	FTB-7400E-XXXX	FTB-7400E-CWO	FTB-7400E-CWE	FTB-7400E-CWS	FTB-7400E-CWCL
Wavelengths (nm) <sup>b</sup>	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) <sup>c</sup>	42/40/41/41	41/41/41/41	41/41/41/41	41/41/ 41/41	41/41/ 40/40
Event dead zone (m) <sup>d</sup>	0.8	0.8	0.8	0.8	0.8
Attenuation dead zone (m) <sup>d</sup>	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) <sup>b</sup>	±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) <sup>e</sup>	±(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) <sup>f</sup>	-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



IEC 60825-1:2007      21 CFR 1040.10

**INVISIBLE LASER RADIATION**  
DO NOT VIEW DIRECTLY  
WITH OPTICAL INSTRUMENTS  
**CLASS 1M LASER PRODUCT**

λ: 800-1300 nm, PW ≤ 1 μsec, Ppk ≤ 500 mW  
λ: 1250-1400 nm, PW ≤ 20 μsec, Ppk ≤ 260 mW  
λ: 1400-1700 nm, PW ≤ 20 μsec, Ppk ≤ 600 mW

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## ORDERING INFORMATION

### Singlemode (METRO/CWDM)

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

#### Model

##### Dual Wavelength

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

##### Triple Wavelength

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

##### Quadruple Wavelength

FTB-7400E-2347B = SM OTDR module, 1310/1383/1550/1625 nm (9/125 μm)

FTB-7400E-CWS = CWDM SM OTDR module, 1470/1490/1510/1530 nm (9/125 μm)

FTB-7400E-CWCL = CWDM SM OTDR module, 1550/1570/1590/1610 nm (9/125 μm)

FTB-7400E-CWO = CWDM SM OTDR module, 1270/1290/1310/1330 nm (9/125 μm)

FTB-7400E-CWE = CWDM SM OTDR module, 1350/1410/1430/1450 nm (9/125 μm)

#### Base Software

OTDR = Enables the OTDR application only

iOLM = Enables the iOLM application only<sup>a</sup>

Oi = Enables iOLM and OTDR applications<sup>a</sup>

#### iOLM Software Option

00 = Without iOLM option

iEX = iOLM Expert mode

RT = Real-time OTDR mode (via iOLM application)<sup>b</sup>

#### OTDR Software Option<sup>c</sup>

00 = Without software option<sup>d</sup>

AD = Macrobend finder and linear view<sup>e</sup>

#### 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

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

#### Notes

- iOLM application is not available for 1383nm.
- Available with iOLM base software only. This feature is part of the Oi base software.
- Available with OTDR and Oi base software only.
- Includes macrobend finder in FTB-2/FTB-2 Pro.
- Included in FTB-200v2. 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).

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