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## Test & Measurement

- sales
- rentals
- calibration
- repair
- disposal

## Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

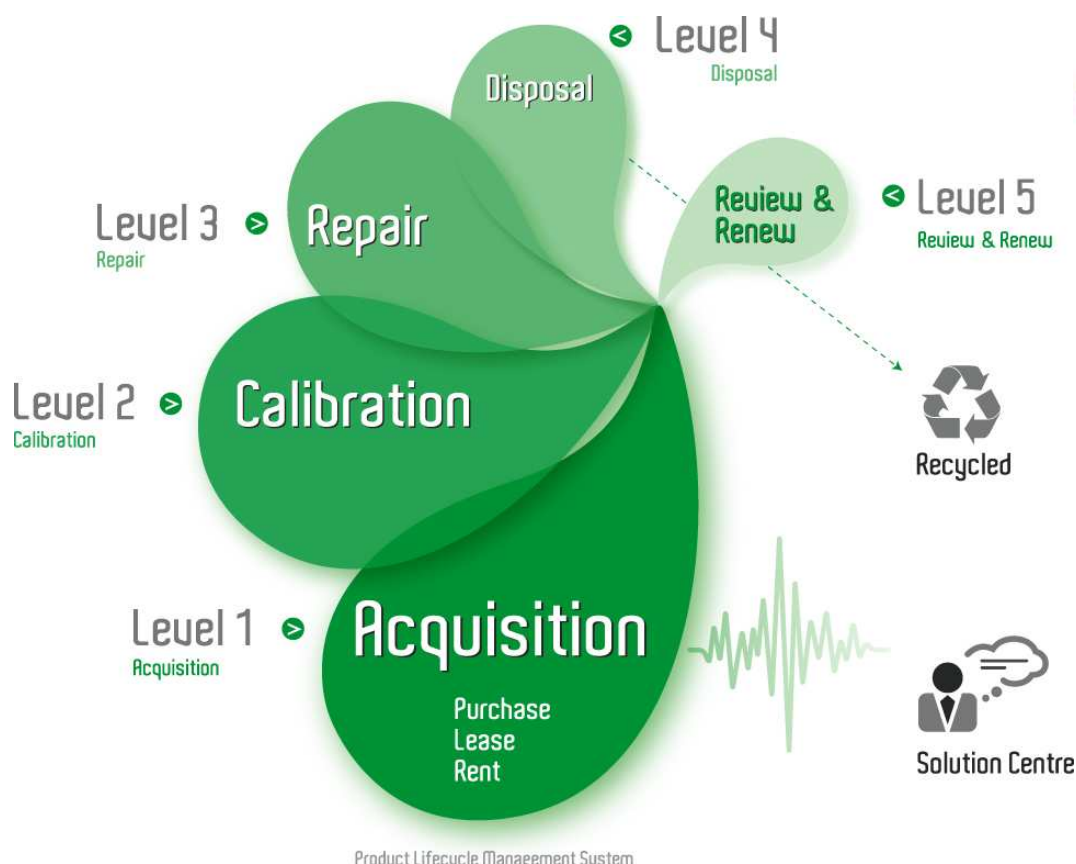
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# OTDR Module Series

FTB-7000B



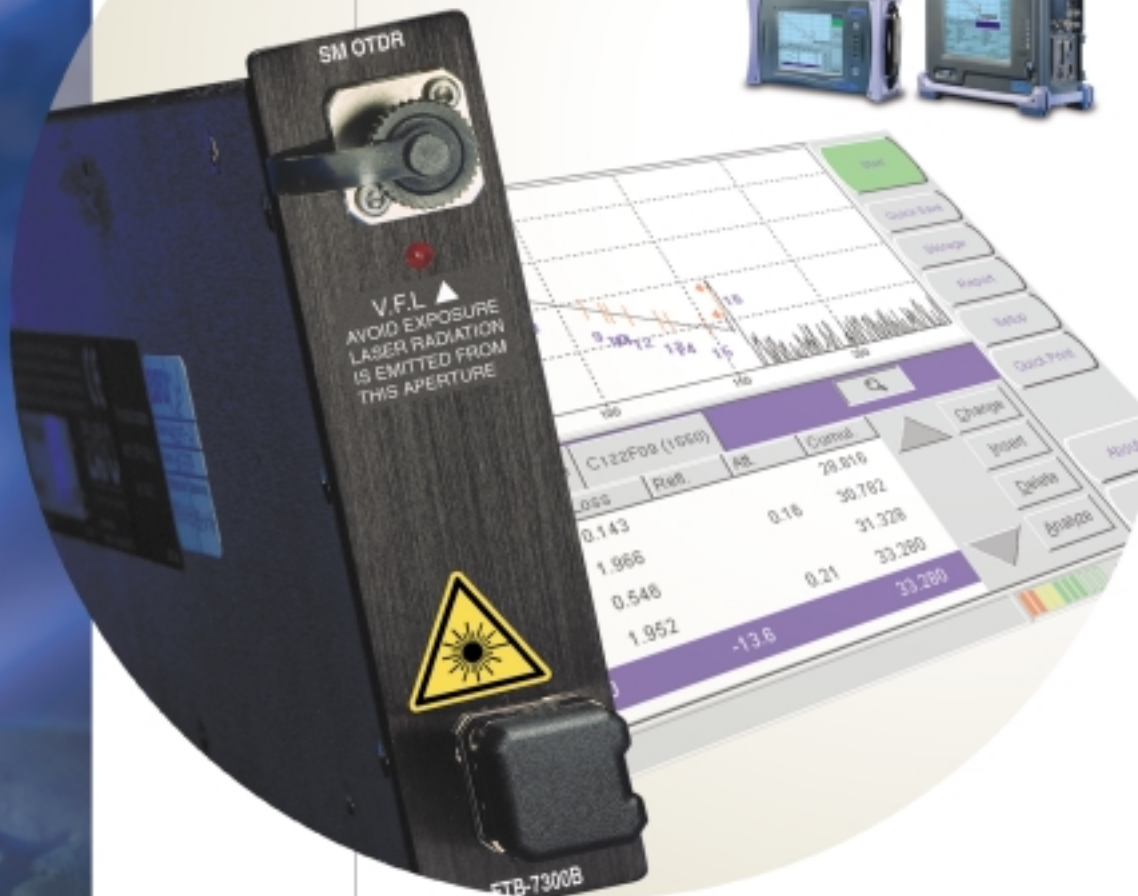
New-generation singlemode and multimode OTDR modules

High-speed traces starting at 10 seconds

Accurate, repeatable measurements

Sampling resolution down to 8 cm

Compatible with the FTB Universal Test System and FTB-100 Mini-OTDR



Fiber-optic test, measurement  
and monitoring instruments

EXFO

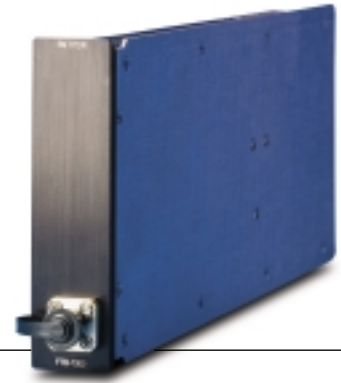
# Big OTDR Choice. Big Hardware Performance.

Fiber is growing faster than ever, which means that high-performance, easy-to-use OTDRs are more essential than ever for installing, maintaining and troubleshooting networks. With the new FTB-7000B series of OTDR modules from EXFO, you get the right tools to precisely detect and analyze fiber splices, connectors, breaks and other events along a fiber link. What's more, the FTB-7000B series delivers a wide choice of OTDRs to conveniently test the range of optical networks that are out there.

There are over 20 modules in this OTDR series. Choose from dynamic ranges that cover the shorter distances in LAN/WAN and metro applications as well as the greater distances in long-haul networks. In fact, you can easily characterize links exceeding 200 km using the 45 dB OTDR module—ideal for submarine links. A complete range of singlemode and multimode configurations are available at several wavelengths to meet all your testing needs. Most important, OTDR modules are field-interchangeable and easily inserted into any of EXFO's rugged, portable test platforms.



*OTDR modules fit smoothly into EXFO's durable test platforms.*



## Core Functionality

All FTB-7000B OTDRs come with these features built right in.

- Reduced trace noise: catch low-loss events.
- Short dead zones: detect closely spaced events.
- Four-point loss measurements: measure event loss and reflectance accurately.
- Optical return loss (ORL) calculation: pinpoint the backreflection level of singlemode networks, components and connectors.
- Quick startup: reach 90% of maximum dynamic range in under 30 seconds.
- Fast acquisition, fast analysis: a trace starting at 10 seconds.
- High sampling counts: locate events with unparalleled precision.
- Down to 8 cm sampling resolution: pinpoint fault locations with extreme accuracy.

## Get the Right Fit

- module choices for testing flexibility
- singlemode modules at 1310 nm, 1410 nm, 1550 nm and 1625 nm
- multimode modules at 850 nm and 1300 nm
- dynamic range up to 45 dB
- EXFO Universal Interface (EUI) connector: UPC- and APC-compatible
- Visual Fault Locator (VFL) option ideal for troubleshooting in LAN/WAN and metro networks



## Testing Advanced Networks? EXFO Has Answers

Out in the field, cables are reaching 1000-fiber counts. New transmission windows are appearing, thanks to new fiber technologies and denser WDM channel counts. Your testing operations are more demanding than ever, even though work schedules are tighter than ever. EXFO hardware can help.

### High Fiber Counts

If you need to speed up fiber ribbon cable installation, the FTB-9000 Optical Switch Module is the answer. When combined with an FTB-7000B OTDR, the setup is ideal for batch fiber testing in patch panels or bare ribbon testing during installation. Test up to twelve fibers consecutively, saving valuable reconnecting time. Choose from two output connector types: MTP (ribbon) or SC. With just a single connector to insert, MTP patchcords reduce test setup time and connect ribbon fiber directly to the OTDR—an industry first. Switch modules are available for singlemode and multimode fibers.

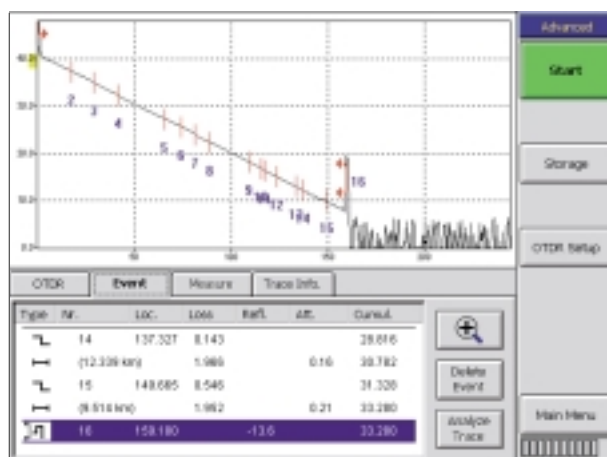
EXFO provides complete OTDR testing kits, including multifiber, ribbonized, and bare ribbon configurations. To learn more, ask for specification sheets for the FTB-9000 Optical Switch Module and the Ribbon Fiber Testing Kits.



FTB-9000 Optical Switch Module, MTP configuration, SC configuration.

### New Transmission Windows

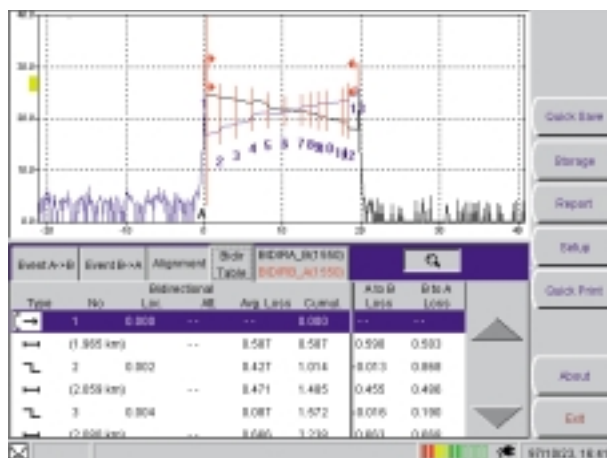
High-channel-count WDM systems are pushing transmission beyond conventional windows. Installers need OTDRs that keep up. Use the 1625 nm module to qualify systems for L-band transmission and the 1400 nm module to qualify systems that use new fiber without the water-peak attenuation.



End-to-end trace and data tables

### High-Speed, High-Quality Traces

When characterizing fiber links, choose the depth of analysis that suits your project: end-to-end trace or bidirectional trace.



Bidirectional trace and data tables



# Software That Boosts Productivity

Built right into each FTB-7000B module is the exclusive EXFO ToolBox OTDR software. This powerful program delivers tools and methods to streamline data acquisition in the field and reporting back at the office. Choose from two approaches to testing: Auto Mode and Advanced Mode.

## Auto Mode: One-Button Testing

Perfect for basic, repetitive applications, Auto Mode shortens the learning curve for new OTDR users.

- preset test parameters
- choice of single- or dual-wavelength OTDR testing
- convenient one-step event table



**As easy as 1-2-3!**

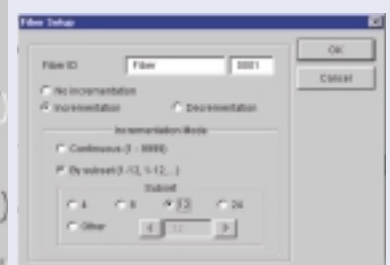
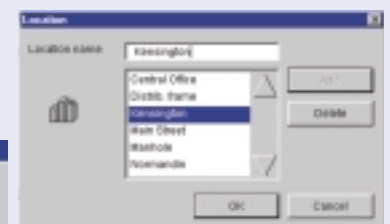
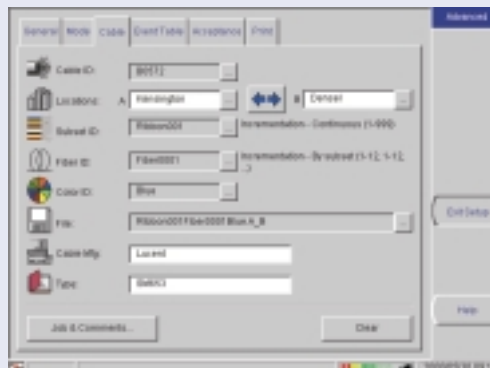
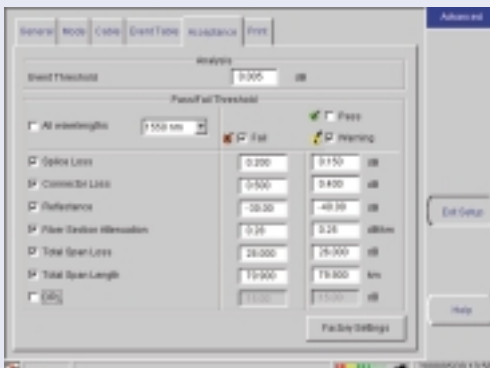
Press the **Start** button for automatic single- or dual-wavelength testing. Get complete OTDR test results.

**Quick Save** with automated trace-naming completes the test routine.

**Quick Print** outputs a detailed test report.

## Benefits at a Glance

- Seven key cable acceptance criteria at a glance: customizable three-level (Pass/Warning/Fail) thresholds for ribbon and multifiber validation.
- Smooth data management: file autonaming utility with subset cable and fiber incrementation.



## Advanced Mode: Flexibility for Experts

If you need complete control over your test routine, Advanced Mode is for you. Manually set all acquisition parameters, including the index of refraction (IOR) and helix factor. To save time and get better results, acquisition parameters can be fine-tuned on the fly.



## Time Savers from ToolBox OTDR Software

### Template Trace Mode

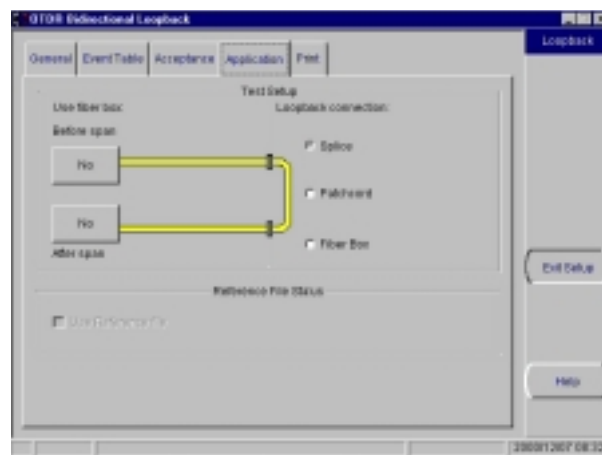
Dynamically compare new traces with a designated reference. Reference trace documentation is automatically pasted onto new acquisitions. The Template Trace Mode also allows easy modification of the reference trace. Ideal for multifiber testing.

### Bidirectional Analysis

Takes acquisitions from both fiber ends to obtain loss averages for each fiber event. Essential data for today's tighter loss budgets.

### Bidirectional Loopback Testing

Tests two fibers in a single operation. Test twice as fast.

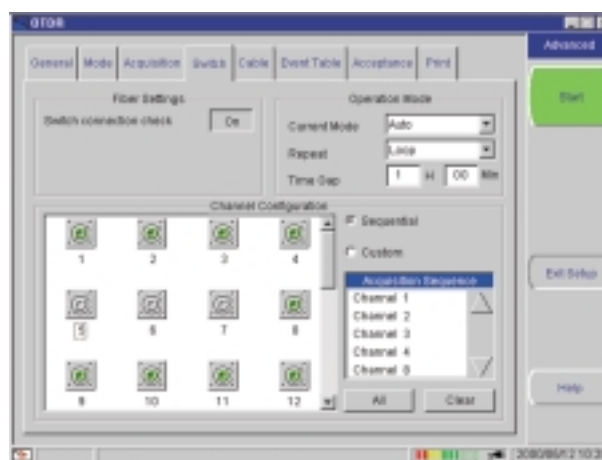


### Integrated Switch Application

Programs custom test routines.

Plus, use the results table to rapidly check acceptance.

- Cut unnecessary retesting: the first connection check displays a warning in case of a poor OTDR connection.
- Multi-user advantage: separate setup files and password access.
- Easy viewing: adjust preferences for trace display and printout.



# Fast-Track Your Cable Reports

After data acquisition is complete, create professional reports back at the office with ToolBox Office Pro CD-installed software. Designed for desktop use, ToolBox Office Pro dramatically speeds up OTDR data post-processing through the Batch Processor and Cable Report Generator. On high-fiber-count projects, these utilities can cut post-processing time by up to 90%. Operations that used to take hours or days can now be performed in a matter of minutes.

Create complete cable acceptances easily. A single report can replace hundreds of single-fiber test printouts, making data management on high-fiber-count projects easier and faster. Obtain statistics automatically, per event and per fiber, and generate average and maximum values for all the fibers of a cable or for a test session. This powerful utility also prints reports with end-to-end or bidirectional OTDR data based on single or multiple wavelengths and can include results on event reflectance, ORL and macrobends.

## User-Centric Print Options

### ■ Cable Report Function

Create cable acceptance reports, and get down to specifics with:

#### 1. Fiber Event Report

Complete event data in a compact format

#### 2. Fiber Section Report

Close-up look at any fiber section

#### 3. Fault Report

Lists faults specified by user thresholds



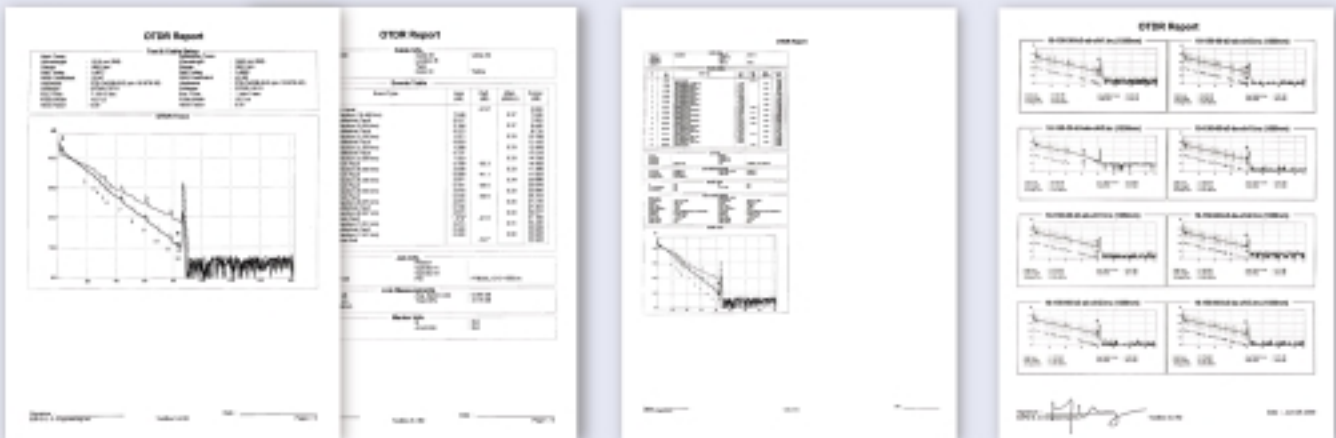
*Fiber Event Report*

*Fiber Section Report*

*Fault Report*

### ■ Batch Print Function

Choose from 3 print modes: Normal (full-size, multi-page OTDR report), Compressed (one-page report), or Multi-Trace (4, 6, or 8 traces per page). Plus, add report statistics such as event tables.



*Normal*

*Compressed*

*Multi-Trace*

### ■ Quick Print Function

Print the on-screen OTDR trace and choose statistics.

## Specifications

## OTDR Multimode Module Specifications<sup>1</sup>

Wavelength (nm)	Dynamic range <sup>2</sup> (dB) at 100 ns/1 μs	Event dead zone <sup>3</sup> (m)	Attenuation dead zone <sup>3</sup> (m)	Model
850/1300 ±20	23/27 (C), 25/29 (D)	1.5/1.5	5/5	FTB-7212B-C or D

## OTDR Singlemode Module Specifications<sup>1</sup>

Wavelength (nm)	Dynamic range <sup>2</sup> (dB) at 10 μs	Dynamic range <sup>2</sup> (dB) at 20 μs	Event dead zone <sup>5</sup> (m)	Attenuation dead zone <sup>5</sup> (m)	Model
1310/1550 ±20/±20	32/31	-	3/3	10/15	FTB-7223B-B
1310/1550 ±20/±20	37.5/35.5	38.5/37.5	3/3	10/15	FTB-7323B-B
1310/1550 ±20/±20	40/38	41.5/39.5	3/3	10/15	FTB-7423B-B
1310/1550 ±20/±20	43.5/41.5 <sup>4</sup>	45/43 <sup>4</sup>	3/3	10/15	FTB-7523B-B
1410 ±10	37	38.5	3	10	FTB-7405B-B
1550 ±20	42	43.5	3	15	FTB-7503B-B-ER
1625 ±10	35	36	3	16	FTB-7304B-B
1625 ±10	38	39	3	16	FTB-7404B-B
1625 ±10	40	41.5	3	16	FTB-7504B-B
1550/1625 ±20/±10	35.5/35	37.5/36	3/3	15/16	FTB-7334B-B
1550/1625 ±20/±10	40/38	40.5/39	3/3	15/16	FTB-7434B-B
1550/1625 ±20/±10	42/40	43.5/41.5	3/3	15/16	FTB-7534B-B

*Other OTDR configurations are available. Contact your EXFO representative for more information.*

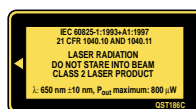
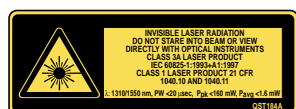
## General Specifications

Models	200B-C/D series	200B-B series	300B-B/400B-B/ 500B-B series
Distance range (km)	0.625, 1.25, 2.5, 5, 10, 20, 40	1.25, 2.5, 5, 10, 20, 40, 80, 160	1.25, 2.5, 5, 10, 20, 40, 80, 160, 260
Pulse width (ns)	850 nm: 10, 30, 100 1300 nm: 10, 30, 100, 275, 1000	10, 30, 100, 275, 1000, 10 000	10, 30, 100, 275, 1000, 2500, 10 000, 20 000
Linearity (dB/dB)	±0.05	±0.05	±0.05
Loss threshold (dB)	0.01	0.01	0.01
Loss resolution (dB)	0.001	0.001	0.001
Sampling resolution (m)	0.08 to 5	0.08 to 5	0.08 to 5
Sampling points	Up to 16 000	Up to 32 000	Up to 52 000
Distance uncertainty <sup>6</sup>	±(1 m + 0.0025% x distance)	±(1 m + 0.0025% x distance)	±(1 m + 0.0025% x distance)
Measurement time	User-defined (60 min maximum)	User-defined (60 min maximum)	User-defined (60 min maximum)
Real-time refresh	<1 s	<1 s	<1 s
Stable source output power (dBm)	-7	-10	-5
Visual fault locator (optional)	Laser, 650 ±10 nm	Laser, 650 ±10 nm	Laser, 650 ±10 nm
CW, P <sub>out</sub> maximum: 800 μW	CW, P <sub>out</sub> maximum: 800 μW	CW, P <sub>out</sub> maximum: 800 μW	

## Notes

1. All specifications are for a temperature of 73°F/23°C with a FC/PC connector unless otherwise specified.
2. Typical dynamic range with a three-minute average at SNR=1.
3. Typical dead zone of multimode modules for reflectance below -35 dB, using a 10 ns pulse.
4. Typical dynamic range on NZDSF with a three-minute average at SNR=1.
5. Typical dead zone of singlemode modules for reflectance below -45 dB, using a 10 ns pulse.
6. Does not include uncertainties due to fiber index and sampling resolution.

## Safety





## Ordering Information

FTB-7XXXB-X-XX-EUI-XX(VFL-XX)

**X: Power level**

- 2 = Low power
- 3 = Regular power
- 4 = High power
- 5 = Ultra-high power

**XX: OTDR code**

- 02 = 1310 nm SM or 1300 nm MM<sup>1</sup>
- 03 = 1550 nm SM
- 04 = 1625 nm SM
- 05 = 1410 nm SM
- 12 = 850/1300 nm MM
- 23 = 1310/1550 nm SM
- 34 = 1550/1625 nm SM

**XX: Connector code**

- EI = UPC Universal Interface
- EA = APC Universal Interface

**X: Fiber type**

- B = Singlemode fiber 9/125 µm
- C = Multimode fiber 50/125 µm
- D = Multimode fiber 62.5/125 µm

**VFL (Visual fault locator option)-XX**

- 50 = FC/PC
- 54 = SC/PC
- 74 = ST/PC

**EUI:** The fixed baseplate (EI or EA) must be ordered with a removable universal connector adapter (EUI-XX).

Please specify one EUI from the following list:

- EUI-28 = DIN 47256 (LSA)
- EUI-76 = HMS-10/AG (EI only)
- EUI-89 = FC
- EUI-90 = ST (EI only)
- EUI-91 = SC
- EUI-95 = E2000

### Note

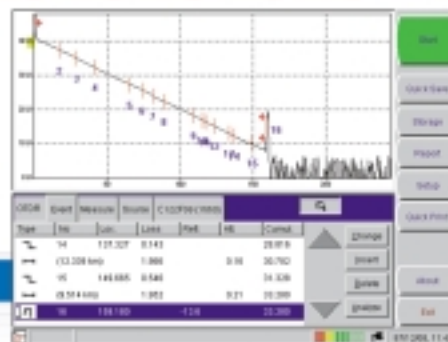
1. Depends on selected fiber type.

## Free Trial Download!

Get the OTDR Trace Viewer, a preview of ToolBox OTDR software, EXFO's OTDR software for the field. Download your free PC-installable copy from <http://registration.exfo.com/traceviewer> and discover true OTDR ease-of-use.

### Learn how to

- Display end-to-end and bidirectional OTDR traces in EXFO and Bellcore formats
- Zoom and measure traces
- Print in normal and compressed modes



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EXFO is certified ISO 9001 and attests to the quality of its products. These products are accompanied by a 12-month warranty and an excellent after-sales support service.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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