

# FTB-3930

## MULTITEST MODULE



Please note that this model has been discontinued. For more information, visit [EXFO.com](http://EXFO.com)

Provides fully automated bidirectional loss test results in 10 seconds for up to three wavelengths, as well as automatic ORL and fiber-length measurement.

### KEY FEATURES

FasTes™: three-wavelength measurement of optical loss, ORL and fiber length in 10 seconds

All-in-one portable test solution: up to eight instruments combined in a single module

FTTx ready: allows for the testing of passive optical networks (PONs) at 1310 nm, 1490 nm and 1550 nm, the three wavelengths recommended by the ITU-T [G.983.3] for PONs

Cost of ownership: lowest in the industry, thanks to three-year warranty and recommended calibration interval, error-free testing and minimized training time

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

### PLATFORM COMPATIBILITY



Platform  
FTB-2 / FTB-2 Pro



Platform  
FTB-200



Platform  
FTB-500



## EXFO'S NEXT-GENERATION MULTITEST MODULE: MORE FEATURES, BETTER PERFORMANCE

The new FTB-3930 MultiTest Module is designed to help network service providers address CAPEX and OPEX issues, enable installers to easily adapt to all network types, and provide CATV operators with a single-module solution to their backreflection, fiber-length, high-power and bidirectional loss measurement needs. Combined with a video fiber inspection probe and an OTDR, this solution lets you easily detect dirty or damaged connectors, providing a clear view of connectors and fiber ends and enabling complete link characterization.

### All-in-one unit: combines up to eight instruments

- › Loss meter
- › Power meter
- › Optical return loss (ORL) meter
- › Visual fault locator
- › Multimode and singlemode light sources
- › Digital talk set
- › Fiber-length meter

### FasTesT function\*: one-touch, automated measurements in 10 seconds

- › Bidirectional loss and ORL testing at up to three singlemode wavelengths
- › Bidirectional loss testing at two multimode wavelengths
- › Fiber-length measurement

### Flexible solution: five-wavelength multimode and singlemode configurations meeting the requirements of installers/contractors for all test situations

- › Up to three singlemode wavelengths—1310 nm, 1550 nm and a choice between 1490 nm and 1625 nm—on one port
- › Two multimode wavelengths—850 nm and 1300 nm—on a second port

### Future-proof: next-generation features meeting the latest industry requirements

- › User-configurable pass/fail thresholds that can be adjusted to different industry standards
- › FTTx ready, allowing for the testing of passive optical networks (PONs) at 1310 nm, 1490 nm and 1550 nm, the three wavelengths recommended by the ITU-T (G.983.3) for PONs

### Cost of ownership: lowest on the market

- › Three-year warranty and recommended calibration interval
- › Error-free testing achieved through visual loss and ORL pass/fail analysis
- › Minimized training time, thanks to a single user interface for the eight instruments included in this all-in-one unit



FTB-2-FTB-2 Pro Platform



FTB-200 Compact Platform



FTB-500 Platform

With countless configurations and combinations available, the FTB-3930 is ideal for today's network service providers, fiber-optic network installers/contractors and CATV operators.

\*Protected by US patent 5,305,078.

## FTTx-READY: OPTIMIZED FOR TESTING PASSIVE OPTICAL NETWORKS

### FTTx-Mode Operation

This mode lets you configure your FTB-3930 module to suit your FTTx wavelengths and test-unit locations, as well as choose your preferred data presentation options for on-screen display or report generation. Key benefits include:

- › Display of test data according to FTTx terminology
- › Similar test-data presentation, regardless of the location of master and remote units

Master date: 10/16/2004 10:59:15 AM

FasTesT					
$\lambda$ (nm)	Loss CO ->Premise (dB)	Loss Premise ->CO (dB)	Loss Average (dB)	ORL CO ->Premise (dB)	ORL Premise ->CO (dB)
<b>1310</b> (Up stream)	21.47	<b>22.73</b>	22.71	41.23	<b>37.76</b>
<b>1490</b> (Down stream)	<b>21.04</b>	21.47	21.25	<b>32.51</b>	41.23
<b>1550</b> (Down stream)	<b>21.04</b>	21.47	21.25	<b>32.51</b>	41.23

FasTesT 3930 (SM)

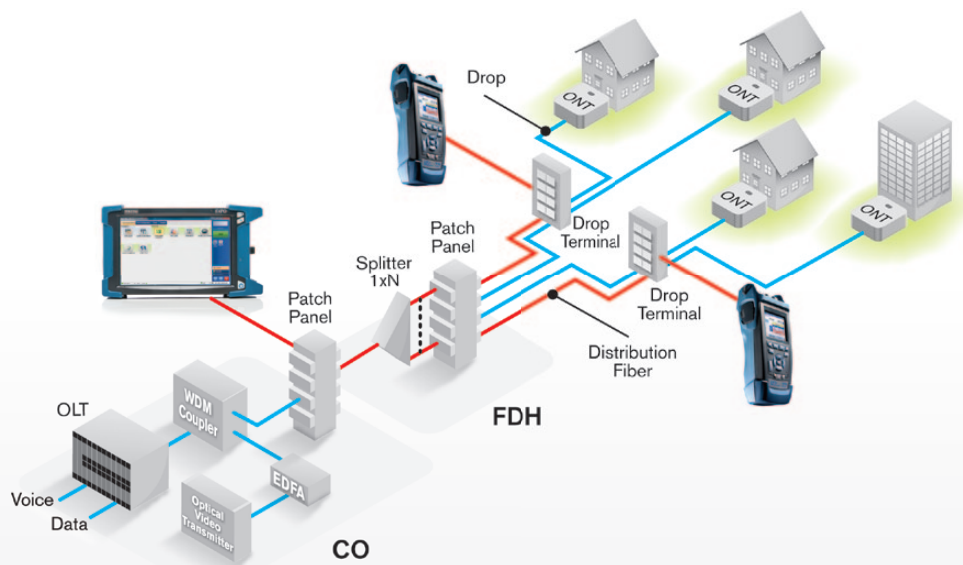
### Integrated Data Storage Management

This feature enables the FasTesT initiator to save results on a remote unit—even when multiple remote units are used. Key benefits include:

- › The possibility to store test data in a single unit
- › Easier data post-processing and transfer from the FTB-3930 module (see figure below)
- › Point-to-Multipoint Testing with Multiple Referencing

Implemented in the FTB-3930 MultiTest Module, multiple referencing lets you coordinate the FTB-3930 with up to 10 remote FOT-930 MaxTester units. Key benefits include:

- › First-class efficiency, as several technicians can simultaneously install and test distribution fibers



*The FTB-3930 allows for automated bidirectional loss and ORL testing of passive optical networks (PONs) at 1310 nm, 1490 nm and 1550 nm, the three wavelengths recommended by the ITU-T (G.983.3) for PONs.*

## A SINGLE TOOL FOR ALL BACKREFLECTION, FIBER-LENGTH AND LOSS MEASUREMENT NEEDS

Because learning how to operate only one instrument is easier and much faster, test specialists should choose an all-in-one tool that enables them to perform tasks such as installing long-haul high-speed networks, testing 1310/1490/1550 nm transmission in FTTH networks, performing multimode testing in enterprise networks, etc.—a do-it-all solution such as the FTB-3930 MultiTest Module.

### Key Advantages for All Network Types

- › Fast, three-wavelength loss and ORL testing
- › User-configurable pass/fail thresholds for error-free testing
- › The only unit designed for testing both multimode and singlemode fiber
- › Video fiber inspection probe, for easy viewing of connectors and fiber ends on the FOT-930's high-resolution display
- › GeX detector, for high-power measurement up to +26 dBm
- › Complete report generation capabilities
- › Talk set and VFL options
- › Ease of use, for faster testing, reduced training, minimum error potential, etc.

$\lambda$ (nm)	Loss A->B (dB)	Loss B->A (dB)	Average (dB)	ORL A (dB)	ORL B (dB)
1310	3.25	3.13	3.19	33.26	34.00
1490	2.16	2.04	2.10	35.20	35.13
1625	2.22	2.24	2.23	35.63	35.74

Fiber length: 8.386 km

*In 10 seconds, the FTB-3930's FasTesT function provides insertion loss and ORL values for up to three wavelengths—including either 1490 nm or 1625 nm—on a single port (FTB-500 interface).*

### KEY FEATURES

Two FasTesT ports: a three-wavelength singlemode port, including either 1625 nm or 1490 nm, and a two-wavelength multimode port, for a total of up to five wavelengths

Automatic measurement of ORL and fiber length during FasTesT

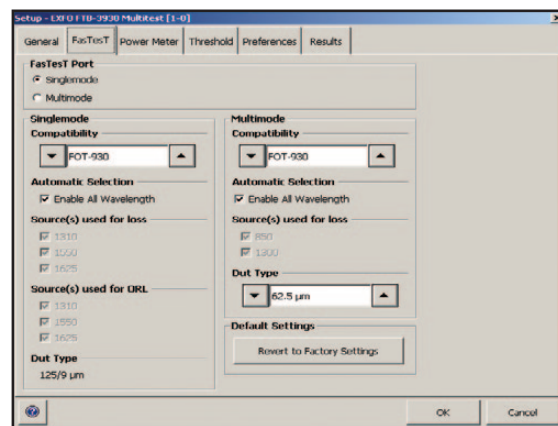
Visual loss and ORL pass/fail analysis

Field-swappable rechargeable batteries

Easily accessible connectors

Options: high-power detector, talk set and visual fault locator (VFL)

No offset nulling required



*While performing FasTesT measurements, the FTB-3930 can launch automated loss and ORL measurements on all three wavelengths and perform fiber-length measurements.*

## STANDARD DATA REPORTING FEATURES—FTB-3930 BUILT-IN APPLICATION

The FTB-3930's software automatically sets up test data in easy-to-read, well-organized table. What's more, thousands of test results can be saved directly on the FTB Ecosystem platforms.

Testing is simplified thanks to the highly intuitive user interface and integrated test functions, taking software user-friendliness to the next level.

- › Select predefined test parameters and pass/fail thresholds
- › Customize user settings and cable identification parameters
- › Add operator comments
- › Generate reports for ORL, bidirectional loss (three wavelengths) and fiber-length measurement
- › Interface available in English and Russian

Fiber ID	Wavelength (nm)	Loss A->B (dB)	Ref. Loss A->B (dB)	Loss B->A (dB)	Ref. Loss B->A (dB)	Average A (dB)	Average B (dB)	ORL A (dB)	ORL B (dB)	Length (km)
Fiber h.	1310	0.00	0.40	0.00	0.41	0.00	invid	invid	-30.40	
	1490			0.00	0.40				37.16	
	1549	0.00	0.42	0.00	0.34	0.00	invid	invid		
	1624	-0.01	0.57					25.18		
726 May 2004? -<<Click here to add...>>										
Fiber c.	1310	0.00	0.40	0.00	0.41	0.00	invid	invid	-30.40	
	1490			0.00	0.40				37.16	
	1549	0.00	0.42	0.00	0.34	0.00	invid	invid		
	1624	-0.01	0.57					25.18		
726 May 2004? -<<Click here to add...>>										
Fiber d.	1310	0.00	0.40	0.00	0.41	0.00	invid	invid	-30.40	
	1490			0.00	0.40				37.16	
	1549	0.00	0.42	0.00	0.34	0.00	invid	invid		
	1624	-0.01	0.57					25.18		

Display comprehensive test results thanks to the FTB-3930's data management software.

Fiber ID	Wavelength	Loss A->B	Loss B->A	Mean	Or A	Or B	Length
FIBER038	1310	-3.35	-3.22	-3.28	-30.86	-33.24	8415
	1550	-2.05	-1.72	-1.88			
	1625	-2.15	-1.89	-2.01	-33.05	-34.82	
FiberComment							
FIBER039	1310	-3.37	-3.18	-3.27	-30.84	-33.64	8415
	1550	-2.29	-1.94	-2.11			
	1625	-2.62	-2.25	-2.43	-33.35	-35.48	
FiberComment							
FIBER040	1310	-3.38	-3.20	-3.28	-30.84	-33.17	8415
	1550	-2.09	-1.75	-1.92			
	1625	-2.19	-1.86	-2.02	-33.11	-34.87	
FiberComment							
FIBER041	1310	-3.36	-3.18	-3.27	-30.84	-33.48	8415
	1550	-2.10	-1.77	-1.93			
	1625	-2.17	-1.85	-2.01	-33.09	-34.80	
FiberComment							
FIBER042	1310	-3.36	-3.19	-3.27	-31.04	-33.77	8416
	1550	-2.48	-2.28	-2.38			
	1625	-2.85	-2.73	-2.79	-33.79	-36.72	
FiberComment							
FIBER043	1310	-3.99	-3.37	-3.48	-20.96	-25.20	8415
	1550		-2.63	-2.77	-9.22		
	1625	-3.36	-3.03	-3.19	-17.12	-21.68	
FiberComment							
FIBER044	1310	-3.81	-3.48	-3.74	-10.40	-16.77	8414
	1550	-2.42	-2.07	-2.24			
	1625	-2.64	-2.35	-2.49	-10.31	-14.33	
FiberComment							
FIBER045	1310	-3.81	-3.67	-3.74	-10.42	-16.79	8417
	1550	-2.42	-2.07	-2.24			
	1625	-2.64	-2.35	-2.49	-10.33	-14.34	
FiberComment							

Quickly and easily generate detailed reports.

## FAST-TRACK DATA POST-PROCESSING WITH FASTREPORTER 2 SOFTWARE

FastReporter 2 includes a powerful tool that **automates repetitive operations on large numbers of test files**. You can process an unlimited number of files in a session, and combine single operations into multi-operation batch sessions. In a nutshell, FastReporter 2 optimizes your productivity.

### › Batch documentation

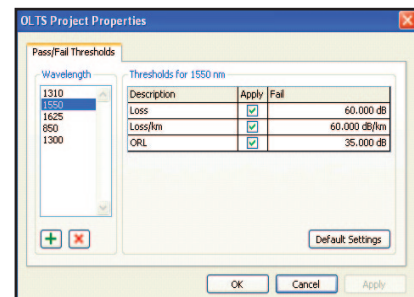
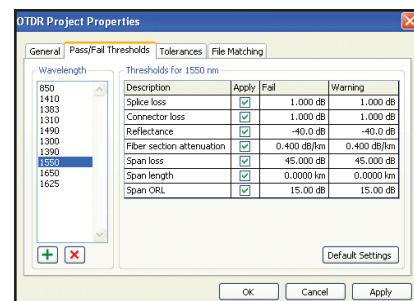
- › Document an entire cable/project in a matter of seconds
- › Save time in the field by documenting your files at the office
- › Manage different measurements simultaneously

### › Get uniformity in your results

- › Adjust cable and fiber parameters
- › Set detection thresholds for all measurements at once

### › Batch analysis

- › Adjust parameters for all cables at once
- › Adjust detection thresholds
- › Set pass/fail thresholds for OTDR, OLTS, CD and PMD testing and characterize your link. Make sure you meet the link's requirements.



## Flexible Reporting

### › Various report templates to choose from

- ✓ Loss and ORL (including EXFO's FasTesT function)
- ✓ OTDR
- ✓ PMD
- ✓ Chromatic dispersion (CD)
- ✓ Fiber characterization
- ✓ Cable report

Wavelength	Loss		Reflectance		Loss		Reflectance	
	Loss (dB)	Loss (dB/km)	Loss (dB)	Loss (dB/km)	Loss (dB)	Loss (dB/km)	Loss (dB)	Loss (dB/km)
Fiber#1 (2718 m)	42.7	0.21	-34.2	0.21	0.023	-0.228	-34.4	
Fiber#2 (2888 m)	47.2	0.229	-34.4	0.212	0.027	-0.238	-34.1	
Fiber#3 (2768 m)	47.1	0.243	-34.0	0.211	0.025	-0.224	-34.4	
Fiber#4 (2718 m)	42.8	0.236	-34.4	0.225	0.027	-0.224	-34.8	
Fiber#5 (2788 m)	47.1	0.210	-34.0	0.212	0.027	-0.223	-34.6	
Fiber#6 (2718 m)	42.9	0.229	-34.4	0.208	0.024	-0.217	-34.1	
Fiber#7 (2768 m)	47.2	0.242	-34.0	0.204	0.024	-0.218	-34.5	
Fiber#8 (2718 m)	42.8	0.216	-34.0	0.205	0.023	-0.217	-34.7	
Fiber#9 (2788 m)	47.1	0.222	-34.0	0.227	0.026	-0.226	-34.6	
Fiber#10 (2718 m)	42.1	0.198	-34.0	0.198	0.022	-0.204	-34.7	
Max	42.7	0.222	-34.0	0.198	0.022	-0.218	-34.1	

OTDR cable report.

Fiber ID	Loss		ORL		Loss		ORL						
	Loss (dB)	Loss (dB/km)	Loss (dB)	Loss (dB/km)	Loss (dB)	Loss (dB/km)	Loss (dB)	Loss (dB/km)					
G2	2253.54	16.84	0.26	0.24	1800	27.929	27.710	27.826	27.76	27.76	128.5855	0.188	0.207
G1	2241.22	16.89	0.24	0.23	1800	28.728	28.685	28.625	28.52	28.52	128.5465	0.248	0.267
					1400	26.200	26.265	26.265	26.26	26.26	128.5465	0.220	0.233
G4	2227.21	16.79	0.24	0.24	1800	29.010	28.975	28.940	28.87	28.82	128.5270	0.217	0.216
					1400	26.410	26.440	26.440	26.43	26.43	128.5270	0.188	0.216
G3	2228.02	16.81	0.21	0.22	1800	28.000	27.940	28.010	27.94	27.94	128.5225	0.214	0.208
					1400	26.790	26.740	26.760	26.72	26.71	128.5225	0.220	0.204

Fiber characterization report.

One cable report replaces hundreds of single-fiber test printouts, simplifying and speeding up high-fiber-count data management. This report automatically provides per-event and per-fiber statistics and flags threshold-exceeding values. It also generates end-to-end reports for one or many wavelengths.

### › Report customization

Create your own report template with external reporting software such as Crystal Reports®.

### › Format saving

Easily create comprehensive PDF, Excel or HTML reports, with no additional formatting.

### › Copy Graph function

Customize your reports by integrating your graphs into documents such as Excel, Word, etc.

## 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 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

SPECIFICATIONS<sup>a</sup>

TECHNICAL SPECIFICATIONS					
External Power Meter	FTB-3932	FTB-3932X	FTB-3933		
Detector type	Ge	GeX	InGaAs		
Measurement range (dBm)	10 to -70	26 to -55	6 to -73		
Uncertainty <sup>b,c</sup>	± 5 % ± 0.1 nW	± 5 % ± 3 nW	± 5 % ± 0.05 nW		
Wavelength range (nm)	800 to 1650	800 to 1650	800 to 1650		
Display resolution <sup>b</sup> (dB)	0.01	0.01	0.01		
Calibrated wavelengths	40	42	40		
Recommended recalibration period (years)	3	3	3		
Automatic offset nulling <sup>d</sup>	Yes	Yes	Yes		
Measurement-distance units	kilometers, meters, kilofeet, feet, miles				
<b>Sources</b>	<b>Standard</b>	<b>-4</b>	<b>-5</b>	<b>-12C (second port)</b>	<b>-12D (second port)</b>
Wavelengths <sup>e</sup> (nm)	1310 ± 20 1550 ± 20	1310 ± 20 1550 ± 20 1625 ± 10	1310 ± 20 1490 ± 10 1550 ± 20	850 ± 25 1300 +50/-20	850 ± 25 1300 +50/-20
Emitter type	Laser	Laser	Laser	LED	LED
Minimum output power <sup>e</sup> (dBm)	-1/-1	-1/-4/-7	-1/-7/-4	-27/-27 (50/125 μm) <sup>i</sup>	-21/-21 (62.5/125 μm) <sup>i</sup>
Spectral width <sup>f</sup> (nm)	≤ 5/≤ 5	≤ 5/≤ 5/≤ 5	≤ 5/≤ 5/≤ 5	50/135	50/135
Stability <sup>g</sup> (8 hours) (dB)	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05
<b>FasTesT</b>	<b>Standard</b>	<b>-4</b>	<b>-5</b>	<b>-12C (second port)</b>	<b>-12D (second port)</b>
Wavelengths (nm)	1310 1550	1310 1550 1625	1310 1490 1550	850 1300	850 1300
Loss range <sup>h</sup> (dB)	60	56	56	40	46
Loss precision <sup>i</sup> (repeatability) (dB)					
side-by-side	0.15	0.15	0.15	0.15	0.15
loopback	0.25	0.25	0.25	0.25	0.25
Length measurement range (km)	200	200	200	5	5
Length measurement uncertainty (typical) <sup>j</sup>	± (10 m + 1 % x length)				

SPECIFICATIONS					
Dedicated ORL Wavelengths	All SM	Talk Set		VFL <sup>i</sup>	
ORL range (APC / UPC) (dB)	65/55	Emitter type	Laser	Emitter type	Laser
ORL uncertainty <sup>i</sup> (dB)	± 0.5	Wavelength (nm)	1550 ± 20	Wavelength (nm)	650
Resolution <sup>b</sup> (dB)	0.01	Dynamic range at 1550 nm (dB)	45	Output power (dBm)	3
		Dynamic range MM <sup>k</sup> (dB)	40		

GENERAL SPECIFICATIONS			
Size (H x W x D)	96 mm x 25 mm x 260 mm (3 ¾ in x 1 in x 10 ¼ in)		
Weight	0.5 kg (1.1 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		
Warranty (years)	3		

## Notes

- a. At 23 °C ± 1 °C and 1550 nm with FC connector and on batteries, unless otherwise specified.  
b. Resolution, uncertainty and linearity are functions of input power; uncertainty is valid at calibration conditions.  
c. Up to 20 dBm for GeX.  
d. Power of > -45 dBm for Ge, > -30 dBm for GeX and > -47 dBm for InGaAs.  
e. In High source mode.  
f. As defined by Telcordia TR-TSY-000887, rms for lasers and at -3 dB for LEDs; typical values for LEDs.

- g. After a warmup time of 6 minutes, in CW source mode.  
h. Typical value, at 1550 nm for SM and 850 nm for MM.  
i. Typical value.  
j. For fiber length ≤ 120 km.  
k. For graded-index MM fibers; typical.



## STANDARD ACCESSORIES

User guide, Certificate of Calibration, connector adapter (FOA) according to chosen connector and mandrel.

## LASER SAFETY



CLASS 1  
LASER PRODUCT

## ORDERING INFORMATION

## FTB-3930X-XX-XX-XX

## Model ■

FTB-3932 = Ge detector, dual-wavelength 1310/1550 nm  
 FTB-3932-4 = Ge detector, triple-wavelength 1310/1550/1625 nm  
 FTB-3932-5 = Ge detector, triple-wavelength 1310/1490/1550 nm  
 FTB-3932X = GeX detector, dual-wavelength 1310/1550 nm  
 FTB-3932X-4 = GeX detector, triple-wavelength 1310/1550/1625 nm  
 FTB-3932X-5 = GeX detector, triple-wavelength 1310/1490/1550 nm  
 FTB-3933 = InGaAs detector, dual-wavelength 1310/1550 nm  
 FTB-3933-4 = InGaAs detector, triple-wavelength 1310/1550/1625 nm  
 FTB-3933-5 = InGaAs detector, triple-wavelength 1310/1490/1550 nm  
 FTB-3932-12C = Ge detector, dual-wavelength 1310/1550 nm (first port),  
 dual-wavelength 850/1300 nm (50/125 μm) (second port)  
 FTB-3932-12D = Ge detector, dual-wavelength 1310/1550 nm (first port),  
 dual-wavelength 850/1300 nm (62.5/125 μm) (second port)  
 FTB-3932X-12C = GeX detector, dual-wavelength 1310/1550 nm (first port),  
 dual-wavelength 850/1300 nm (50/125 μm) (second port)  
 FTB-3932X-12D = Ge detector, dual-wavelength 1310/1550 nm (first port),  
 dual-wavelength 850/1300 nm (62.5/125 μm) (second port)

## Talk Set and Visual Fault Locator ■

00 = Without talk set and VFL

VFL = With visual fault locator

VFT = With talk set and VFL (universal 2.5 mm connector) <sup>a, b</sup>

Example: FTB-3932-12C-EI-EUI-89-FOA-22

## Connector Adapter (description standard)

FOA-12  
 FOA-14  
 FOA-16  
 FOA-22  
 FOA-28  
 FOA-32  
 FOA-54  
 FOA-78  
 FOA-96B  
 FOA-98  
 FOA-99

## Connector\*

EI-EUI-28 = UPC/DIN 47256  
 EI-EUI-76 = UPC/HMS-10/AG  
 EI-EUI-89 = UPC/FC narrow key  
 EI-EUI-90 = UPC/ST  
 EI-EUI-91 = UPC/SC  
 EI-EUI-95 = UPC/E-2000  
 EI-EUI-98 = UPC/LC <sup>c</sup>  
 EA-EUI-28 = APC/DIN 47256 <sup>d</sup>  
 EA-EUI-89 = APC/FC narrow key <sup>d</sup>  
 EA-EUI-91 = APC/SC <sup>d</sup>  
 EA-EUI-95 = APC/E-2000 <sup>d</sup>  
 EA-EUI-98 = APC/LC <sup>d</sup>

\*EXFO Universal Interface is protected by US patent 6,612,750.

## Notes

- Connector type for the talk set is the same as the one specified for the main source.
- Not available when equipped with second port (850/1300 nm).
- Not available on second port (850/1300 nm).
- Connector interface EA (APC) is not available with second port (850/1300 nm).

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