

FTBx-3500 Variable Attenuator



EXFO | MULTILINK

40G

100G

Ideal for transceiver testing and system verification in demanding 24/7 production environments.

KEY FEATURES

Outstanding spectral uniformity

Ideal for BER testing and system verification

Integrated power monitoring options (on both singlemode and multimode models), for easy power setting and improved stability

Designed for 24/7 production, with minimal maintenance

Fast settling time for optimized efficiency

RELATED PRODUCTS AND ACCESSORIES



Rackmount Platform
LTB-8



Power Meter
FTBx-1750



MEMS Optical Switch
FTBx-9160

EXFO

A FULLY PROGRAMMABLE SOLUTION

Network equipment manufacturers and transceiver manufacturers know that variable attenuators are essential components of their test systems. They look for performance, user-friendliness, complete control of test parameters and advanced programming capability. EXFO's FTBx-3500 Variable Attenuator combines innovative design techniques, high-quality components and meticulous calibration procedure.

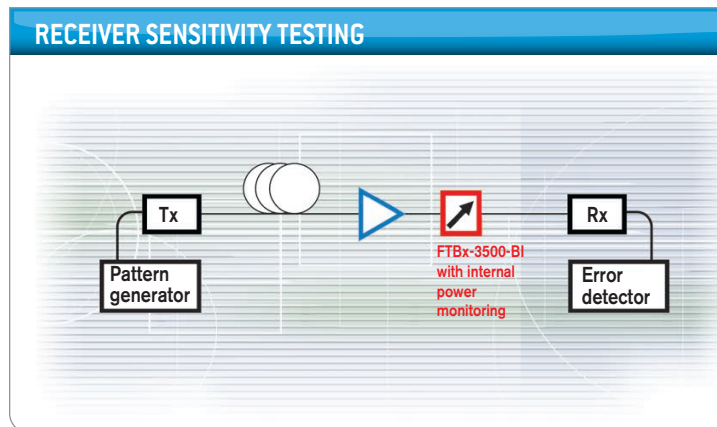
Option: Automatic Power Monitoring

The power monitoring option allows the attenuator output power level to be set directly. When enabled, this function ensures power stability, even if the source power fluctuates. This option also simplifies test setups, eliminating the need for an external power meter.

Rugged and Reliable

Flexible, fully programmable and built for both singlemode and multimode applications, the FTBx-3500 features an extremely rugged design allowing 24/7 operation for years without maintenance.

The attenuating filter technology used in the FTBx-3500 makes it ideal for multimode BER and transceiver testing.



Typical receiver sensitivity setup



With or without the power monitoring option, the FTBx-3500 module occupies just a single slot.

Featuring integrated power monitoring, the FTBx-3500-BI allows you to precisely control the amount of power your receiver (Rx) under test detects, thereby enabling you to achieve proper BER measurements. The FTBx-3500-CI or FTBx-3500-DI enable similar characterization for multimode applications.

When calibrating your system, you can choose between two offsets. The first is wavelength-independent and can be used to account for loss in the test setup, if applied to the attenuation or power setting. The second offset acts as a calibration factor, ensuring wavelength-specific correction levels and compensating for loss due to patchcords and connectors.

SPECIFICATIONS ^a		
Singlemode configurations		
Description	Without power monitoring	With power monitoring
Models	FTBx-3500-B	FTBx-3500-BI
Fiber type (μm)	9/125	9/125
Wavelength range (nm)	1250 to 1650	1250 to 1650
Max. attenuation ^b (dB)	≥ 65	≥ 65
Insertion loss ^{c,d} (dB), typical	1.0	1.5
Attenuation linearity ^e (dB)	±0.1	±0.1
Attenuation repeatability ^f (dB), typical	±0.02	±0.02
Power meter linearity ^g (dB)	N/A	±0.03
Power setting repeatability ^h (dB), typical	N/A	±0.015
Max. input power (dBm)	23	23
Transition speed (ms), typical	1 dB 10 dB	≤ 100 ≤ 450
Shutter isolation (dB)	> 90	> 90
Multimode configurations		
Description	Without power monitoring	With power monitoring
Models	FTBx-3500-C, D	FTBx-3500-CI, DI
Fiber type (μm)	50/125, 62.5/125	50/125, 62.5/125
Wavelength range (nm)	700 to 1350	700 to 1350
Max. attenuation (dB)	≥ 60	≥ 60
Insertion loss ^{c,d} (dB), typical	1.3	1.5
Attenuation linearity ^e (dB)	±0.1	±0.1
Attenuation repeatability ^f (dB), typical	±0.02	±0.02
Power meter linearity ⁱ (dB)	N/A	±0.03
Power setting repeatability ^h (dB), typical	N/A	±0.015
Max. input power (dBm)	20	20
Transition speed (ms), typical	1 dB 10 dB	≤ 100 ≤ 450
Shutter isolation (dB), typical	> 80	> 80

Notes

- a. At 23 °C ± 1 °C.
- b. At 1550 nm and below.
- c. Measured at 1310 nm and 1550 nm for singlemode units, measured at 850 nm for multimode units.
- d. Excluding connectors.
- e. Measured at 1310 nm and 1550 nm (up to 40 dB) for singlemode units and at 850 nm and 1300 nm (up to 35 dB) for multimode units, with non-polarized light.
- f. Up to 40 dB attenuation.
- g. At 1550 nm, after a 30-minute warm-up and an offset nulling, for an input power between 15 dBm and -45 dBm.
- h. Up to 20 dB attenuation. At 1550 nm.
- i. For FC/APC connectors.
- j. At 1300 nm, after a 30-minute warm-up and an offset nulling, for an input power between 15 dBm and -40 dBm.

GENERAL SPECIFICATIONS

Size (H X W X D)	25 mm X 159 mm X 185 mm	(1 in X 6 1/4 in X 6 7/8 in)
Temperature	Operating	0 °C to 40 °C (32 °F to 104 °F)
	Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Relative humidity	0 % to 80 % noncondensing	
Instrument drivers	IVI drivers and SCPI commands	
Remote control	With LTB-8: GPIB (IEEE 488.1, IEEE488.2) and Ethernet	
Standard accessories	User guide, Certificate of Compliance and Certificate of Calibration	

ORDERING INFORMATION

FTBx-3500-XX-XX

Model

FTBx-3500-B = Singlemode 9/125 μm
 FTBx-3500-BI = Singlemode 9/125 μm with power monitoring
 FTBx-3500-C = Multimode 50/125 μm
 FTBx-3500-CI = Multimode 50/125 μm with power monitoring
 FTBx-3500-D = Multimode 62.5/125 μm
 FTBx-3500-DI = Multimode 62.5/125 μm with power monitoring

Example: FTBx-3500-BI-EI-EUI-98

Connector adapter

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
 EA-EUI-28 = APC/DIN 47256 ^a
 EA-EUI-89 = APC/FC narrow key ^a
 EA-EUI-91 = APC/SC ^a
 EA-EUI-95 = APC/E-2000 ^a
 EA-EUI-98 = APC/LC ^a

Note

a. Available only for singlemode models.

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.

