FTBx-3500

VARIABLE ATTENUATOR

EXFO | MULTILINK

40G

100G

400G

SPEC SHEET

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

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.

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

Option: Automatic power monitoring

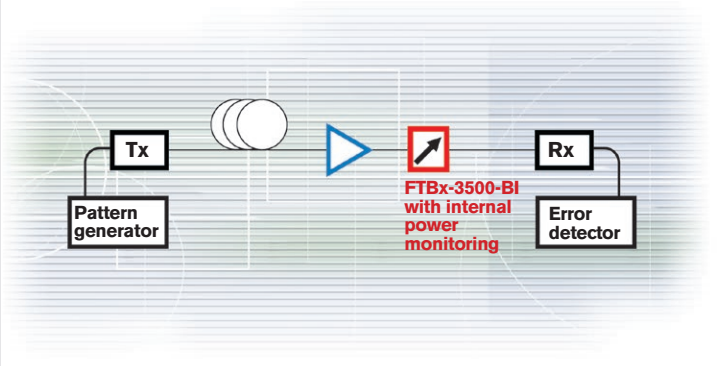
The power monitoring option allows the attenuator output power level to be set directly. When enabled, this function ensures power stability, even if the source power fluctuates. This option also simplifies test setups, eliminating the need for an external power meter.

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.

RECEIVER SENSITIVITY TESTING



Typical receiver sensitivity setup

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]			WITHOUT POWER MONITORING	WITH POWER MONITORING
Singlemode configurations			**FTBx-3500-B**	**FTBx-3500-BI**
	Fiber type (µm)		9/125	9/125
	Wavelength range (nm)		1250 to 1650	1250 to 1650
	Maximum attenuation [b] (dB)		≥ 65	≥ 65
	Insertion loss [c, d] (dB)	Typical Maximum	1.0 1.5	1.5 2.2
	Attenuation setting resolution (dB), typical		0.002	0.002
	Attenuation linearity [e] (dB)		±0.1	±0.1
	Attenuation repeatability [f] (dB), typical		±0.01	±0.01
	Spectral uniformity, 1510 nm to 1605 nm [g] (dB)		±0.05	±0.05
	Spectral uniformity, 1450 nm to 1630nm [g] (dB)		±0.09	±0.09
	Power meter linearity [h] (dB)		N/A	±0.03
	Power setting repeatability [f] (dB), 2σ		N/A	±0.035
	PDL [i] (dB) peak-to-peak		0.15	0.2
	Return loss [c, j] (dB), typical		60	60
	Max. input power (dBm)		23	23
	Transition speed (ms), typical [k]	1 dB 10 dB	≤ 160 ≤ 515	≤ 160 ≤ 515
	Shutter isolation (dB), typical		≥ 100	> 100
Multimode configurations			**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
	Maximum attenuation (dB), typical		≥ 60	≥ 60
	Insertion loss [c,d] (dB)	Typical Maximum	1.3 2.0	1.5 3.0
	Attenuation setting resolution (dB), typical		0.002	0.002
	Attenuation linearity [e] (dB)		±0.1	±0.1
	Attenuation repeatability [f] (dB), typical		±0.01	±0.01
	Power meter linearity [l] (dB)		N/A	±0.03
	Power setting repeatability [f] (dB), 2σ		N/A	±0.035
	Return loss [c, j] (dB), typical		40	40
	Max. input power (dBm)		20	20
	Transition speed (ms), typical [k]	1 dB 10 dB	≤ 160 ≤ 515	≤ 160 ≤ 515
	Shutter isolation (dB), typical		> 100	> 100

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 45 dB) for multimode units, with non-polarized light.
f. Up to 40 dB attenuation.
g. For 20 dB attenuation, relative to 0 dB attenuation.
h. At 1550 nm, after a 30-minute warm-up and an offset nulling, for an input power between 20 dBm and –40 dBm.
i. Up to 20 dB attenuation at 1550 nm.
j. For FC/APC connectors.
k. Including platform processing time.
l. At 1300 nm, after a 30-minute warm-up and an offset nulling, for an input power between 17 dBm and –40 dBm.

GENERAL SPECIFICATIONS

Size (H x W x D)		25 mm x 159 mm x 175 mm (1 in x 6 1/4 in x 6 7/8 in)
Weight		0.67 kg (1.47 lb)
Temperature	Operating Storage	0 °C to 40 °C (32 °F to 104 °F) –40 °C to 70 °C (–40 °F to 158 °F)
Relative humidity		0 % to 80 % non-condensing
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
B = Singlemode 9/125 µm
BI = Singlemode 9/125 µm with power monitoring
C = Multimode 50/125 µm
CI = Multimode 50/125 µm with power monitoring
D = Multimode 62.5/125 µm
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]

a. Available only for singlemode models.

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