

FVA-3150

VARIABLE ATTENUATOR



40G
100G

Please note that this model has been discontinued. For more information, visit EXFO.com

Fully programmable, highly accurate automated BER testing—ideal for singlemode and multimode applications.

KEY FEATURES

- Outstanding spectral uniformity (± 0.03 dB)
- Ideal for BER testing and system verification
- Monitor output option
- Fast settling time for optimized efficiency
- Programmable—using the front-panel buttons, or the built-in RS-232 or GPIB interfaces

APPLICATIONS

- BER testing
- System/component loss simulation
- EDFA characterization
- Accurate power-level monitoring
- Instrument calibration

SPEC SHEET

EXFO

FIRST-CLASS BUILDING BLOCK FOR ASSESSING SIGNAL ATTENUATION

High-quality components and meticulous calibration procedures make the FVA-3150 Variable Attenuator the instrument of choice for repeatable and accurate attenuation settings (up to 65 dB). The FVA-3150 meets system and component manufacturers' need for component and system loss simulation, instrument calibration, power meter linearity measurement and spectral tuning. Its ultra-low insertion loss enables you to optimize the loss budget.

The FVA-3150 is configured for singlemode or multimode fibers. Use it as a stand-alone instrument or mounted on a 19-inch rack (optional).



FVA-3150 with monitor port.

Rugged and Reliable

Flexible, fully programmable and built for both singlemode and multimode applications, the FVA-3150 features a truly rugged design that uses only two moving parts—a rotating motor for the shutter and a linear motor for the filter—and state-of-the-art electronics.

The attenuator's optomechanical assembly was tested at its highest operating temperature, at a very high relative humidity level, and with a continuous incident optical power of 23 dBm at 1550 nm—the equivalent of eight years of operation in typical bit-error-rate (BER) testing conditions. Results showed that an FVA-3150 can withstand 24/7 operation for years without requiring maintenance.

Key Features

Attenuation Modes

Choose from three attenuation modes: absolute (including insertion loss), relative (in reference to the 0.00 dB level) or X+B (relative display to any selected reference value).

Monitor port

The monitor output port enables accurate power-level monitoring at the receiver end of your system.

Programmable and Remote-Controllable

Using the front-panel buttons, cycle through a repeatable sequence of up to 100 attenuation steps, with a dwell time of up to 1000 hours per step. The Program mode is ideal for automated BER testing and linearity measurements.

Standard GPIB and RS-232 interface and control codes enable remote operation from a PC or test station. Program your own software solutions for complex test procedures and benefit from added computer capabilities. LabVIEW® drivers are available.

SPECIFICATIONS ^a

Singlemode configurations		
Description	Without monitor port	With monitor port
Models	FVA-3150-B	FVA-3150-BM
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 Max. 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), 2σ	±0.01	±0.01
Spectral uniformity, 1510 nm to 1605 nm ^g (dB)	±0.05	±0.05
Spectral uniformity, 1450 nm to 1630 nm ^g (dB), typical	±0.09	±0.09
PDL ^h (dB) peak-to-peak	0.15	0.2
Return loss ^{c,i} (dB), typical	60	60
Max. input power (dBm)	23	23
Transition speed (dB/s), typical	up to 23	up to 23
Shutter isolation (dB)	> 100	> 100
Monitor output ^j (dB), typical	N/A	12.8
Multimode configurations		
Description	Without monitor port	With monitor port
Models	FVA-3150-C; D	FVA-3150-CM; DM
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 Max. 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), 2σ	±0.01	±0.01
Return loss ^{c,d} (dB), typical	40	40
Max. input power (dBm)	20	20
Transition speed (dB/s), typical	up to 23	up to 23
Shutter isolation (dB), typical	> 90	> 90
Monitor output ^j (dB), typical	N/A	12.8

NOTES

- At 23 °C ± 1 °C.
- At 1550 nm and below.
- Measured at 1310 nm and 1550 nm for singlemode units, measured at 850 nm for multimode units.
- Excluding connectors.
- Measured at 1310 nm and 1550 nm (up to 60 dB) for singlemode units and at 850 nm and 1300 nm (up to 50 dB) for multimode units, with non-polarized light.
- Up to 45 dB attenuation.
- For 20 dB attenuation relative to 0 dB attenuation.
- Up to 20 dB attenuation. At 1550 nm.
- For FC/APC connectors.
- Ratio between output port and monitor port.

GENERAL SPECIFICATIONS

Size (H X W X D)	117 mm X 222 mm X 333 mm	(4 5/8 in X 8 3/4 in X 13 1/8 in)
Weight	2.6 kg	(5.8 lb)
Temperature Operating Storage	0 °C to 40 °C -40 °C to 70 °C	(32 °F to 104 °F) (-40 °F to 158 °F)
Relative humidity	0 % to 80 % noncondensing	
Instrument drivers	LabVIEW™ drivers and SCPI commands	
Remote control	GPIB (IEEE-488.1, IEEE-488.2), RS-232	
Standard accessories	User guide, Certificate of Compliance, Certificate of Calibration and AC power cord	

ORDERING INFORMATION

FVA-3150-XX-XX

Model

FVA-3150-B = 9/125 µm
 FVA-3150-C = 50/125 µm
 FVA-3150-D = 62.5/125 µm
 FVA-3150-BM = 9/125 µm with monitor output
 FVA-3150-CM = 50/125 µm with monitor output
 FVA-3150-DM = 62.5/125 µm with monitor output

Example: FVA-3150-BM-EI-EUI-89

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
 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. Only available for singlemode models.

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