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Find the *Exfo FVA-3100-B91* at our website: ***Click HERE***

Variable Attenuator

FVA-3100







- Excellent spectral uniformity of ± 0.1 dB
- 100 dB maximum attenuation
- Monitor output
- Ultra-low insertion loss
- Standard GPIB and RS-232 interface



EXFO

Fiber-optic test, measurement and monitoring instruments

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First-Class Spectral Uniformity

High-quality components and meticulous calibration procedures make the FVA-3100 Variable Attenuator the instrument of choice for repeatable and accurate attenuation settings (up to 100 dB). The FVA-3100 meets system and component manufacturers' need for accurate EDFA characterization, component and system loss simulation, instrument calibration, power meter linearity measurement and spectral tuning. Its ultra-low insertion loss of 1.5 dB enables you to optimize the loss budget.

The FVA-3100 is configured for singlemode or multimode fibers. Use it as a stand-alone instrument or mounted on a 19-inch rack (optional).



Key Features

- The FVA-3100-BW option offers high spectral uniformity, allowing you to maintain an attenuation value within ± 0.1 dB throughout the WDM spectrum when characterizing EDFAs or subsystems.
- Benefit from the monitor output port in the FVA-3100-BM, 3100-BWM or 3100-DM for accurate power-level monitoring at the receiver end of your system.
- 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).

Programmable

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 bit-error-rate (BER) testing.

Easy to Use

Access most functions at the touch of a button and manually change attenuation with the FVA-3100's user-defined steps or on-display value editing. The 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.

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Specifications

General Specifications[1]

Models	FVA-3100-B	FVA-3100-BM	FVA-3100-BW	FVA-3100-BWM
Fiber type (µm)	9/125	9/125	9/125	9/125
Wavelength range[2] (nm)	1200 to 1650	1270 to 1350 1510 to 1590	1200 to 1650	1270 to 1350 1510 to 1590
Wavelength resolution (nm)	0.1	0.1	0.1	0.1
Max. attenuation (dB)	≥ 100 (1200 nm to 1350 nm) ≥ 80 (1350 nm to 1600 nm) ≥70 (1600 nm to 1650 nm)	≥ 100 (1270 nm to 1350 nm) ≥ 80 (1510 nm to 1590 nm)	≥ 75 (1200 nm to 1400 nm) ≥ 70 (1400 nm to 1600 nm) ≥ 65 (1600 nm to 1650 nm)	≥ 75 (1270 nm to 1350 nm) ≥ 70 (1510 nm to 1590 nm)
Insertion loss[3,4] (dB)				
Typical	1.5	3.0	1.5	2.0
Maximum	1.8	3.3	1.8	3.0
Resolution (dB)	0.005	0.005	0.005	0.005
Linearity[5] (dB)	± 0.1	± 0.1	± 0.1	± 0.1
Spectral uniformity[6] (dB)				
≤ 20 dB	-	-	± 0.1	± 0.1
≤ 40 dB	-	-	± 0.25	± 0.25
≤ 50 dB	-	-	± 0.35	± 0.35
Max. repeatability (dB)	± 0.03	± 0.03	± 0.03	± 0.03
Typ. return loss[3, 7] (dB)	≥ 55	≥ 50	≥ 50	≥ 50
Max. input power[8] (dBm)	25	25	25	25
Max. PDL[9] (dB)				
for a 20 dB attenuation	0.2	0.2	0.2	0.2
for a 50 dB attenuation	0.2	0.2	0.3	0.3
Shutter isolation (dB)	> 100	> 100	> 100	> 100
Typ. Monitor output (dB)	-	14.5	-	14.5

Models	FVA-3100-C	FVA-3100-D	FVA-3100-DM	FVA-3100-E
Fiber type (µm)	50/125	62.5/125	62.5/125	100/140
Wavelength range[2] (nm)	700 to 1350	700 to 1350	700 to 1350	700 to 1350
Wavelength resolution (nm)	0.1	0.1	0.1	0.1
Max. attenuation (dB)	≥ 100 (700 nm to 1000 nm) ≥ 65 (1000 nm to 1350 nm)	≥ 100 (700 nm to 1000 nm) ≥ 65 (1000 nm to 1350 nm)	≥ 100 (700 nm to 1000 nm) ≥ 65 (1000 nm to 1350 nm)	≥ 100 (700 nm to 1000 nm) ≥ 65 (1000 nm to 1350 nm)
Insertion loss[3,4] (dB)				
Typical	1.5	1.5	3.0	1.5
Maximum	2.0	2.0	4.5	2.0
Resolution (dB)	0.01	0.01	0.01	0.01
Linearity[5] (dB)	± 0.1	± 0.1	± 0.12	± 0.1
Max. repeatability (dB)	± 0.03	± 0.03	± 0.03	± 0.03
Typ. return loss[7] (dB)	≥ 25	≥ 25	≥ 25	≥ 25
Max. intput power[8] (dBm)	25	25	25	25
Shutter isolation (dB)	> 100	> 100	> 100	> 100
Typ. monitor output (dB)	-	-	13	-

Notes

1. At 23 ° C ± 2 °C.
2. Calibrated at 1310 nm and 1550 nm for singlemode fiber; calibrated at 1300 nm for multimode fiber.
3. Measured at 1310 nm and 1550 nm for singlemode fiber; measured at 1300 nm for multimode fiber. The insertion loss is dependent on the input numerical aperture.
4. Measured with FC/UPC connectors for singlemode fiber and FC/PC for multimode fiber.
5. Using a light source with 0.002 dB stability for a 15-minute period (source accuracy of ± 0.5 nm), non-polarized light, at a calibrated wavelength and an attenuation of up to 60 dB.
6. Measured between 1520 nm and 1570 nm.
7. The return loss is limited by the return loss of the connectors. The connectors used are FC/APC for the IQ-3100-B and IQ-3100-BM, FC/UPC for the IQ-3100-BW and the IQ-3100-BWM, and FC/PC for multimode fiber.
8. Input power above this limit may damage the unit. The linearity may be higher than specified.
9. Peak-to-peak value. Measured at 1550 nm.

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General Specifications

Size (H X W X D)		11.7 cm X 22.2 cm X 33.3 cm	(4 5/8 in X 8 3/4 in X 13 1/8 in)
Weight		2.6 kg	(5.8 lb)
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[1]		0 to 80% non-condensing	

Notes

1. Measured in the 0 °C to 31 °C (32 °F to 87.8 °F) range decreasing linearly to 50 % at 40 °C.

Instrument Drivers

LabVIEW® drivers and OCX controls.

Standard Accessories

Instruction manual and Certificate of Compliance.

Ordering Information

FVA-3100-XXX

Option

B = 9/125 µm
BM = 9/125 µm with monitor output
BW = 9/125 µm optimized for spectral flatness
BWM = 9/125 µm optimized for spectral flatness with a monitor output
C = 50/125 µm
D = 62.5/125 µm
DM = 62.5/125 µm with monitor output
E = 100/140 µm

The fixed baseplate (EI or EA) must be ordered with a removable universal connector adapter EUI-XX. Please specify an EUI from the following list:

EUI-28 = DIN 47256
EUI-76 = HMS-10/AG (EI only)
EUI-89 = FC narrow key
EUI-90 = ST (EI only)
EUI-91 = SC
EUI-95 = E-2000

Connector code

EI = EXFO PC/UPC interface
EA = EXFO APC interface

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EXFO is certified ISO 9001 and attests to the quality of these products. 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. 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.
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SPFVA3100.7AN

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Printed in Canada 02/03 W

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