

MOA-3800 VARIABLE ATTENUATOR

AVAILABLE EXCLUSIVELY FROM EXFO



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Optimized for use with EXFO systems and software control via SCPI over ethernet, the MOA-3800 Variable Attenuator (VOA) can precisely add attenuation to four, eight or sixteen different singlemode or multimode fibers, with the attenuation of each fiber set independantly. An optional *self-adjusting* mode is also available, which automatically monitors and sets the output power to a desired power level.

KEY FEATURES

- Singlemode or multimode fiber
- 4, 8 or 16 channels
- VOAs only, or with a *self-adjusting* power option
- Linear response
- Protocol and bit rate independent
- SCPI over ethernet remote control

APPLICATIONS

- Bit error rate (BER) testing
- System characterization
- Component or system loss simulation
- Optical margin and loss budget analysis
- WDM power balancing



MOA-3800 VARIABLE ATTENUATOR

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SINGLEMODE MOA-3800



- Optimized for singlemode fiber use
- Wide attenuation range up to 40 dB
- Protocol and bit rate independent
- 4, 8 or 16 channels in 1U housing
- SCPI over ethernet remote control

MULTIMODE MOA-3800



- Optimized for multimode fiber use
- Stable attenuation, independent of mode fill condition
- Protocol and bit rate independent
- 4, 8 or 16 channels in 2U housing
- SCPI over ethernet remote control

DiCon
FIBEROPTICS

MOA-3800 SINGLEMODE VARIABLE ATTENUATOR

OPTICAL SPECIFICATIONS¹

PARAMETER	RATING	
Attenuation Range ²	40 dB min.	
Dynamic Power Range ³	-32 to 13 dBm	
Output Accuracy ³	+/- 0.3 dB max.	
Tuning Resolution	0.01 dB	
Excess Loss ⁴	VOA Only	0.8 dB max
	Self-Adjusting	1.6 dB max
WDL of VOA Only ⁵	0 - 5 dB	0.2 dB max. ⁷
	5 - 10 dB	0.3 dB max. ⁸
	10 - 20 dB	0.7 dB max. ⁸
WDL of Self-Adjusting ⁵	0 - 10 dB	0.5 dB max. ⁶
	10 - 20 dB	0.7 dB max. ⁸
PDL ⁹	0 - 15 dB	0.15 dB max.
	15 - 20 dB	0.2 dB max.
Back Reflection	-50 dB max.	
Optical Power	VOA Only	500 mW Max.
	Self-Adjusting	200 mW Max.
Operating Temperature	0 to 50 °C	
Storage Temperature	-20 to 60 °C	
Relative Humidity	0% to 80% non-condensing	
Repeatability ¹⁰	0.1 dB max.	
Durability	1 x 10 ⁹ cycles min.	
Fiber Type	9/125 um singlemode	
Operating Wavelength Range	1290 - 1650 nm	

- All specifications are without connectors, at 23 ± 5 °C.
- Default power off state does not add any attenuation (transparent).
- Specification valid for Self-Adjusting closed-loop mode only.
- Excess Loss is the insertion loss when set to 0 dB of attenuation.
- Wavelength dependent loss (WDL) is defined as the maximum deviation in insertion loss at a given attenuation setting, measured 1528 - 1563 nm.
- Add 0.1 dB for operation over 1290 - 1330 nm, or 1570 - 1610 nm.
- Add 0.2 dB for operation over 1290 - 1330 nm, or 1570 - 1610 nm.
- Add 0.3 dB for operation over 1290 - 1330 nm, or 1570 - 1610 nm.
- Polarization Dependent Loss (PDL) is measured at 1550 nm. Add 0.1 dB for operation at 1310 or 1590 nm.
- Repeatability is defined within 100 cycles.

ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Latching Type	Non-latching
Control Type	Ethernet interface with EXFO SCPI command set
Supply Voltage	AC 100 - 240 V, 50/60 Hz

ORDERING INFORMATION

MOA - 3800 - - -

Product Code

MOA-3800

Number of VOAs

- 04 4 VOAs per system
- 08 8 VOAs per system
- 16 16 VOAs per system

Model

- B 9/125 um singlemode fiber, VOA Only
- BI 9/125 um singlemode fiber, Self-Adjusting

Connector Type

- 58 FC/APC connectors
- 89 FC/UPC connectors
- 104 LC/APC connectors
- 101 LC/UPC connectors
- 88 SC/APC connectors
- 91 SC/UPC connectors

MECHANICAL SPECIFICATIONS

PARAMETER	RATING
Housing Size	Height: 43.7 mm (1U) Width: 483 mm (19") Depth: 345 mm



MOA-3800 MULTIMODE VARIABLE ATTENUATOR

OPTICAL SPECIFICATIONS¹

PARAMETER		RATING
Attenuation Range		30 dB min.
Dynamic Power Range ²		-30 to 10 dBm
Tuning Speed		50 ms min., 1400 ms max.
Excess Loss ^{3, 4}	VOA Only	0.8 dB typ., 1.3 dB max
	Self-Adjusting	1.8 dB typ., 2.3 dB max
Accuracy ⁴	VOA Only ⁵	+/- 0.2 dB max.
	Self-Adjusting ⁶	+/- 0.3 dBm max.
Resolution	VOA Only ⁵	0.01 dB
	Self-Adjusting ⁶	0.01 dBm
Back Reflection ⁴		-20 dB max.
Optical Power		300 mW Max.
Operating Temperature		0 to 50 °C
Storage Temperature		-20 to 60 °C
Relative Humidity		0% to 80% non-condensing
Fiber Type		50/125 um multimode, or 62.5/125 um multimode
Operating Wavelength Range		850 & 1310 nm

1. All specifications are without connectors, at 23 ± 5 °C.

2. When in Self Adjusting mode.

3. Excess Loss is the insertion loss when set to 0 dB of added attenuation.

4. At calibration wavelength.

5. Specification is valid over an attenuation range of 0 - 20 dB.

6. Specification is valid when in Self-Adjusting mode. If Self-Adjusting unit is used in attenuation mode, then the VOA Only accuracy specification is valid.

ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Latching Type	Non-latching
Control Type	Ethernet interface with EXFO SCPI command set
Supply Voltage	AC 100 - 240 V, 50/60 Hz

ORDERING INFORMATION

MOA - 3800 - - -

Product Code

MOA-3800

Number of VOAs

04 4 VOAs per system

08 8 VOAs per system

16 16 VOAs per system

Model

C 50/125 um multimode fiber, VOA Only

CI 50/125 um multimode fiber, Self-Adjusting

D 62.5/125 um multimode fiber, VOA Only

DI 62.5/125 um multimode fiber, Self-Adjusting

Connector Type

50 FC connectors

54 SC connectors

MECHANICAL SPECIFICATIONS

PARAMETER	RATING
Housing Size	Height: 88 mm (2U) Width: 483 mm (19") Depth: 434.5 mm

