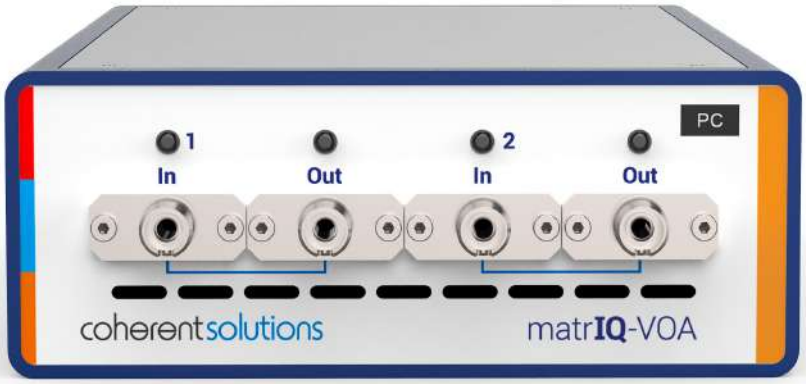


matrIQ-VOA-1002

matrIQ-VOA™

Variable Optical Attenuator

SPEC SHEET

The matrIQ-VOA™ is a variable optical attenuator with fast attenuation speed, low insertion loss and and in-built power meter. Its advanced power stabilization function lets you set and maintain the output power stability even when the input power fluctuates.

matrIQ-VOA is available in a range of wavelengths to suit a wide range of applications. Its stackable, space-saving design and intuitive software controls make it a valued addition to the optical lab or test bench.

coherent solutions

complexity made simple.

Features

Wide coverage of operational wavelength

One versatile tool to cover a wide variety of applications.

Constant power output mode

With the built-in closed-loop power monitoring, matrIQ-VOA can operate in the constant power output mode to stabilize fluctuating input power.

Built in power monitoring capability

Eliminate the need for an extra power meter with built-in power monitoring capability.

Fast attenuation speed

Fast attenuation speed minimizes the down time during changes in attenuation settings to shorten your overall test time.

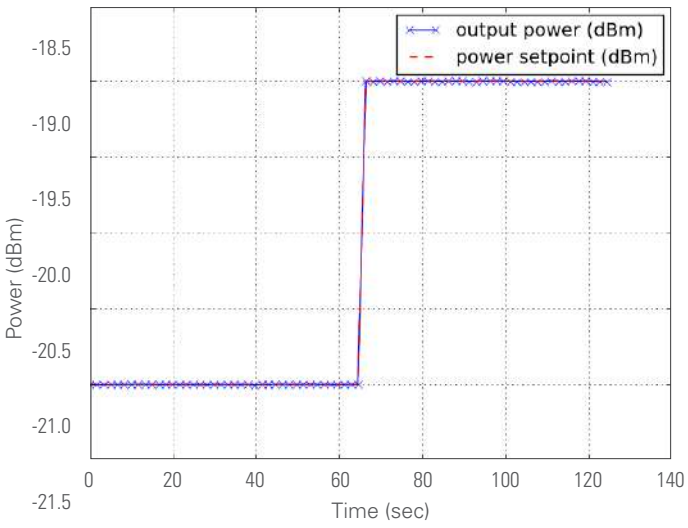
Excellent measurement correlation with our optical PXI modules

Shared product architecture lets you validate your system and test requirements in the lab with matrIQ-VOA, and scale up to high-volume automated production testing with the VOAPXIe module.

Simple, intuitive operation with cohesionUI

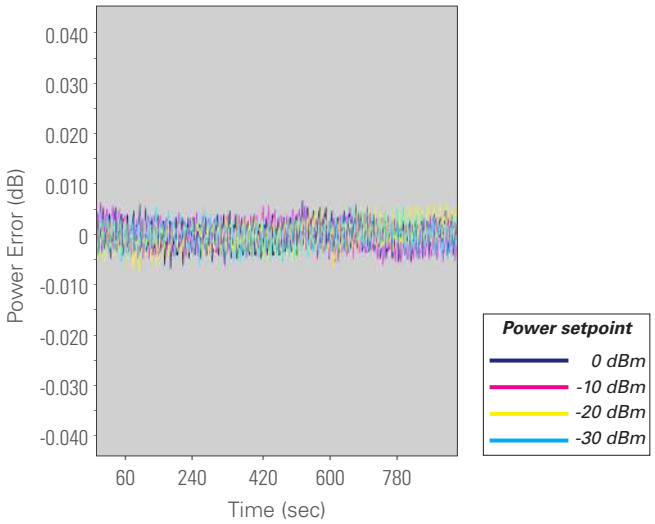
cohesionUI makes it simple to control the matrIQ-VOA from your PC or mobile device. Its cutting-edge design offers a sleek modern interface, cross device compatibility, customizable views and remote network access.

Power Control



This graph illustrates how quickly the VOA moves to the desired setpoint.

Power Stability - Power Mode



This graph illustrates the power output stability of < 0.005 dB RMS at various power setpoints.

Target Applications

- Transceiver stress testing
- Receiver sensitivity testing
- Loss simulation
- Optical power budget analysis
- Instrument power calibration
- EDFA gain linearity test

cohesionUI™

cohesionUI graphical user interface makes it simple to control the matrIQ-VOA from your PC or mobile device. Its cutting edge design offers a sleek modern interface, cross device compatibility, customizable views and remote network access.

matrIQ-VOA-1002 2 channel attentuation control in cohesionUI

Technical Specifications

Single Mode Fiber

General Specifications	matrIQ-VOA				
Bus connection	USB and Ethernet				
Optical connector type	FC/PC, SC/PC, FC/APC, SC/APC				
Number of channels	2				
Dimensions (HxWxD)	45 x 114 x 212 mm | 1.7 x 4.5 x 8.3 inches				
Weight	~ 1.1 kg | ~ 2.4 lbs				
Operating temperature range	5 °C to 45 °C | 41 °F to 113 °F				
Storage temperature range	-40 °C to 70 °C | -40 °F to 158 °F				

Model Number	1001	1002	1003	1004	1005
	CWDM8	Broadband	1310 nm	1490 nm	1550 nm
Wavelength range	1260 nm to 1650 nm	1260 nm to 1650 nm	1260 nm to 1360 nm	1440 nm to 1530 nm	1520 nm to 1650 nm
Fiber type	SMF-28				
Input power range	-50 to +20 dBm				
Damage level	+23 dBm				
Insertion loss[3]	< 1.3 dB at 1310 nm < 2.0 dB for all others	< 2.0 dB	< 1.3 dB at 1310 nm	< 1.8 dB	< 1.3 dB at 1550 nm
WDL	< 0.02 dB/nm				
Return loss[3]	> 45 dB				
Warm-up time	< 20 mins				

Attenuator	1001	1002	1003	1004	1005
Calibration wavelengths	1271 nm, 1291 nm, 1311 nm, 1331 nm, 1351 nm, 1371 nm, 1391 nm, 1411 nm, 1490 nm, 1550 nm	1310 nm, 1490 nm, 1550 nm	1310 nm	1490 nm	1550 nm
Attenuation range (Typical)[5]	> 46 dB				
Attenuation range (Guaranteed)[5]	> 40 dB				
Resolution	0.01 dB				
Attenuation speed	0.1 to 1000 dB/s				

Power meter	1001	1002	1003	1004	1005
Calibration wavelengths	1271 nm, 1291 nm, 1311 nm, 1331 nm, 1351 nm, 1371 nm, 1391 nm, 1411 nm, 1490 nm, 1550 nm	1310 nm, 1490 nm, 1550 nm	1310 nm	1490 nm	1550 nm
Polarization dependent responsivity[2,3]	< 0.2 dB				
Linearity[2,5]	± 0.1 dB		± 0.08 dB		± 0.06 dB
Total uncertainty[2,3,5]	± 0.34 dB (Typical) | ± 0.55 dB (Max)				
Averaging time	100 µs to 10 s				
Resolution	0.01 dB				
Number of trace points	1 to 1024 points per channel				
Sample rate for trace	0.01 Hz to 12 kHz				

Multi Mode Fiber

General Specifications	matrIQ-VOA
Bus connection	USB and Ethernet
Optical connector type	FC/PC, SC/PC, FC/APC, SC/APC
Number of channels	2
Dimensions (HxWxD)	45 x 114 x 212 mm | 1.7 x 4.5 x 8.3 inches
Weight	~ 1.1 kg | ~ 2.4 lbs
Operating temperature range	5 °C to 45 °C | 41 °F to 113 °F
Storage temperature range	-40 °C to 70 °C | -40 °F to 158 °F
Model Number	**1102[7]**
Wavelength range	800 to 900 nm
Fiber type	MM 50um core (OM3)
Input power range	-50 to +20 dBm
Damage level	+22 dBm
Insertion loss[3]	<2.5 dB
WDL	TBC
Return loss[3]	>20 dB
Warm-up time	<20 mins
Attenuator	**1102[7]**
Calibration wavelengths	850 nm
Attenuation range (Typical)[5]	>30 dB
Attenuation range (Guaranteed)[5]	>25 dB
Resolution	0.01 dB
Attenuation speed	0.1 to 1000 dB/s
Power Meter	**1102[7]**
Calibration wavelengths	850 nm
Polarization dependent responsivity[2,3]	NA
Modal dependence (multimode only)	<0.5 dB
Linearity[2,5]	± 0.25 dB
Total uncertainty[2,3,5]	TBD
Averaging time	100 us to 10 s
Resolution	0.01 dB
Number of trace points	1 to 1024 points per channel
Sample rate for trace	0.01 Hz to 12 kHz

Polarization Maintaining Fiber

General Specifications	matrIQ-VOA	
Bus connection	USB and Ethernet	
Optical connector type	FC/PC, SC/PC, FC/APC, SC/APC	
Number of channels	2	
Dimensions (HxWxD)	45 x 114 x 212 mm | 1.7 x 4.5 x 8.3 inches	
Weight	~ 1.1 kg | ~ 2.4 lbs	
Operating temperature range	5 °C to 45 °C | 41 °F to 113 °F	
Storage temperature range	-40 °C to 70 °C | -40 °F to 158 °F	
Model Number	**1301[6]**	**1302[6]**
Wavelength range	1520 to 1570 nm	1290 to 1330 nm
Fiber type	PM1550	PM1310
Input power range	-50 to +20 dBm	
Damage level	+23 dBm	
Insertion loss[3]	<2.0 dB	
WDL	<0.02 dB/nm	
Return loss[3]	> 45 dB	
Warm-up time	< 20 mins	
Attenuator	**1301[6]**	**1302[6]**
Calibration wavelengths	1550 nm	1310 nm
Attenuation range (Typical)[5]	>40 dB	
Attenuation range (Guaranteed)[5]	>35 dB	
Resolution	0.01 dB	
Attenuation speed	0.1 to 1000 dB/s	
Power Meter	**1301[6]**	**1302[6]**
Calibration wavelengths	1550 nm	1310 nm
Polarization dependent responsivity[2,3]	<0.2 dB	
Linearity[2,5]	± 0.1 dB	
Total uncertainty[2,3,5]	± 0.34 dB (Typical) | ± 0.55 dB (Max)	
Averaging time	100 us to 10 s	
Resolution	0.01 dB	
Number of trace points	1 to 1024 points per channel	
Sample rate for trace	0.01 Hz to 12 kHz	

SPECS AS OF JULY 2019

Notes:
1 Specifications are valid at 23 °C ± 3 °C.
2 +10 dBm to -40 dBm, 23 °C.
3 Excluding connectors.
4 < 10 dB attenuation.
5 At calibration wavelengths.
6 Preliminary specs.
7 Advance specs.

Ordering Information

VOAMatr**IQ** - XXXX - X - XX

Model number

1001 = SM, CWDM8 (1271, 1291, 1311, 1331, 1351, 1371, 1431, 1451 nm)

1002 = SM, broadband (1310, 1490, 1550 nm)

1003 = SM, 1310 nm

1004 = SM, 1490 nm

1005 = SM, 1550 nm

1102 = MM, 850 nm

1301 = PM, 1550 nm

1302 = PM, 1310 nm

Connector type

FC = FC/PC

FA = FC/APC

SC = SC/PC

SA = SC/APC

Number of attenuators

2 = 2 attenuators

Product Warranty

This product comes with a 3 year warranty.

About Coherent Solutions

Coherent Solutions is a world-leader in photonics test and measurement. Our portfolio of benchtop and modular test instruments is rapidly expanding to meet the needs of scientists, engineers and manufacturers around the world. No matter where you are, we'll work with you to solve complex problems with simple, intuitive solutions.

To find out more, get in touch with us today.

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