Optical Variable Attenuator

OVA-100



Product Overview

The Optical Variable Attenuator, OVA-100, enables precise optical power control featuring high accuracy and superior repeatability. It can be used as a benchtop or rackmount instrument.

The OVA-100 is ideal for lab and production applications including power level adjustments in automated test systems, Bit Error Rate Testing (BERT) of transceivers, and channel equalization in WDM systems.

The OVA-100 offers ± 0.01 dB repeatability and a dynamic range of up to 100 dB (depending on the model configuration). The OVA can be controlled via the front panel touch screen, or remotely via USB and Ethernet.

Another key feature is the wide wavelength range. The single-mode and Panda PM attenuators cover from 1200 to 1700 nm while the multimode versions cover from 750 to 1700 nm. A power monitoring PD can be added to read the power output of the instrument. Enable the power leveling setting to automatically adjust the attenuation for a constant selectable power level.

Features

- Precise optical power
- ± 0.1 dB accuracy
- ± 0.01 dB repeatability
- 100 dB dynamic range
- Available in single-mode 9 µm, Panda PM, HI 1060, Multimode 50 µm and 62.5 µm
- Custom fiber types upon request

Applications

- Manufacturing production testing
- Bit Error Rate Testing (BERT)
- Channel equalization

Compliance

- UL/CSA 61010
- IEC 61010
- FCC Part 15 (Class A)
- EN 61326 (Class A)

OVA Optical / Electrical Specifications

Parameter	Specification			
	Single-mode			Multimode
Fiber Type (µm)	9/125	Panda PM	HI1060	50/125 or 62.5/125
Wavelength Range (nm)	1200-1700	1200-1700	960-1080	750-1700
Attenuation Range (dB)	60/100		60	60
Insertion Loss (dB)[1]	1.2 / 1.5[2]	1.7 / 2.0[2]	2.5[3]	2.5[4]
Return Loss (dB)	60	55	50	35[5]
PDL (dB)	0.1	N/A	0.1	N/A
PER (dB)[6]	N/A	23	N/A	N/A
Resolution (dB)	0.01			
Repeatability (dB)	± 0.01			
Absolute Accuracy (dB)	± 0.1			
Maximum Optical Input Power (dBm)	23			
Beam Block (dB)	100			
Remote Interface	USB or Ethernet			
Display	5” touchscreen			
Input Voltage	110 - 240 V AC, 50 - 60 Hz			
Power Consumption (VA)	80 maximum			

Notes:
[1] *excluding connectors and couplers.*
[2] *at 1550 nm, add 0.3 dB at 1310 nm.*
[3] *at 1060 nm, add 0.3 dB at 980 nm*
[4] *at 1300 nm, add 0.3 dB at 850 nm*
[5] *at 850 and 1350 nm.*
[6] *at optimized wavelength.*

OVA Mechanical / Environmental Specifications

Parameter	Specification	
	1U half rack	2U half rack
Max Attenuator Count	1	4
Unit Dimensions W x H x D (cm) [1]	22.5 x 4.5 x 32.5	22.5 x 9 x 32.5
Unit Weight (kg)	3	4
Shipping Box Dimensions W x H x D (cm)	36.5 x 39 x 53	36.5 x 39 x 53
Volumetric Weight (kg) [2]	15	15
Operating Temperature (°C)	0 to 55	
Storage Temperature (°C)	–40 to 70	
Humidity (Non-condensing)	Maximum 95% RH from 0 to 40°C	

Notes:
[1] *excluding removable rubber bezels. Add 1.5 cm to W and 3.5 cm to H with the removable bezels..*
[2] *W*H*D / 5000*

Ordering Scheme & Instructions

1. Configure OVA Optical Variable Attenuator

OVA-100 - □□ - □ - □□ - □□ - □ - □□



Selecting different module types possible upon request

# OF MODULES	
01	1 Module
02	2 Modules
04	4 Modules

ATTENUATION RANGE*	
	Standard, Leave Blank
L	Long (100 dB)

** Long range only available on 9/125 µm and Panda PM fiber types.*

FIBER TYPE	
09	Single-mode (9 µm)
50	Multimode (50 µm)
62	Multimode (62.5 µm)
HI1060	HI1060 (5 µm)
PM3	Panda PM (9µm), 1310 nm optimized
PM5	Panda PMF (9µm), 1550 nm optimized

CONNECTOR	
FA	FC/APC
FP	FC/UPC
SA	SC/APC
SP	SC/UPC
LA	LC/APC
LP	LC/UPC

OPTION	
	None, Leave Blank
P	Power monitoring

CHASSIS SIZE	
1H	1U half rack (no display)
2H	2U half rack (with display)

2. Add Accessories

2U-Rack-Short-Ear
2U Rack Short Ear



2U-Bezel
2U Rubber Bezels



2U-Connector-Plate
2U Chassis Connector Plate



2U-Rack-Long-Ear
2U Rack Long Ear Filler Plate



In the Box

OVA-100 - Optical Variable Attenuator

- OVA-100
- USB A to USB B cable (1.5 m)
- Ethernet cable (1.5 m)
- Power cable

EU Compliant UK Compliant RoHS Compliant

Santec Japan Corporation
Tel: +81-568-79-3536

Santec USA Corporation
Tel: +1-201-488-5505

Santec Europe Ltd
Tel: +44-20-3176-1550

Santec (Shanghai) Corporation, Ltd
Tel: +86-21-5836-1261

2022© SANTEC CORPORATION Santec reserves the right to make changes in equipment design, components or specifications without notice.

OVA-100-C-E_Ver1-5_CODE-202610-TB-KT-CPY