High Precision MEMS Fiber VOA

(build-in position sensor, high setting precision, little drift)

(US patent 8,666,218 and other patents pending)

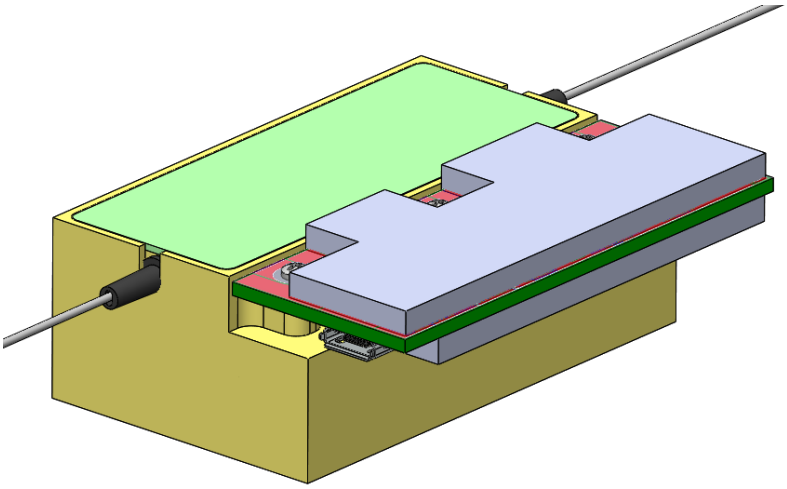
Features

- 0.2dB Low Loss
- 0.1dB Repeatable
- 200-2100 Broadband
- 65dB Attenuation
- SM,PM,MM,106um
- 1W Optical Power
- Linear Response

Product Description

The High Precision Series VOA is based on a micro-electro-mechanical system (MEMS) device platform driven by a fast piezo actuator having a built-in high precision optical position sensor. It uniquely offers near-perfect performances that are unmatched in the industry, including ultra-low insertion loss of 0.2dB, ultra-broadband from 200 to 2100nm, ultra-high setting/repeating precision of 0.1dB, high optical power handling up to 1W, and linear response. Once, the VOA attenuation value is set, it will remain at the value regardless of the environment variations and the loss of electrical power. Light passes through the device with a thin index matched gap without any optical coatings. It is available with all types of fibers having a 125 micron outer diameter. Other diameter fibers can be accommodated with special order.

The VOA is driven by a attached PCB having USB or RS232 computer interfaces with GUI software.



Performance Specifications

***Precision* Series VOA**	Min	Typical	Max	Unit
Operation Wavelength	300		2500	nm
Insertion Loss [1]	0.1	0.2	0.5	dB
Polarization Dependent Loss		0.1	0.3	dB
Wavelength Dependence Loss		0.01	0.1	dB
Attenuation Range		60	70	dB
Attenuation Setting Repeatability			0.1	dB
Extinction Ratio (PM version only)	19	25	28	dB
Polarization Mode Dispersion (SM version only)		0.01	0.05	ps
Return Loss[2]		55		dB
Response Time		3	20	ms
Optical Power handling		600	800	mW
Operating Temperature	-5		75	°C
Storage Temperature	-40		85	°C
Package		40x25x10		mm

Notes:

[1].Without connector and at room temperature

[2].For SM fiber

Applications

- Power Control
- Power Regulation
- Channel Balance
- Instrumentation

RoHS Compliant

Revised on 11/12/21

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Electrical Control Interface

The VOA can be controlled via USB or RS232 interfaces

USB control - Using a USB type A - Micro USB type B cable to control the device an supply power to the device. The device accept UART command and recognized as a serial device by the PC.

RS232 control – Using a RS232-Micro USB type B cable to control the device. An extra 5-12V power supply by Agiltron needs to connect to the device via a connector on the board.

Mechanical Footprint Dimensions (Unit:mm)

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information

PVOA-	☐	☐	☐	☐	☐☐	☐	☐	☐
	Type	Controller	Off State	Test Wavelength	Fiber type		Fiber Length	Connector
	Piezo=2 Special=0	USB/I2C=1 RS232=2 Special=0	Transparent =1 Opaque =2 Special =0	350= U 488 = 4 532 = 5 630 = 6 780 = 7 850 = 8 980 = 9 1060 = 1 1310 = 3 1550 = C 2000 = 2	Pick from below table	Bare fiber=1 900um tube=3 Special=0	0.25m=1 0.5m=2 1.0m=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Special=0

01	SMF-28	34	PM1550	67	OM1 (MMF 62.5/125um)
02	SMF-28e	35	PM1950	68	OM2 (MMF 50/125um)
03	Corning XB	36	PM1310	69	OM3 (MMF 50/125um)
04	SM450	37	PM400	70	OM4 (MMF 50/125um)
05	SM2000	38	PM480	71	GIF50 (GIF 50/125um)
06	SM600	39	PM630	72	GIF625 (GIF 62.5/125um)
07	Hi780	40	PM850	73	106/125um
08	SM800	41	PM980	74	FG105LCA
09	Hi980	42	PM780	75	FG50LGA
10	Hi1060	43		76	
11		44		77	
12		45		78	