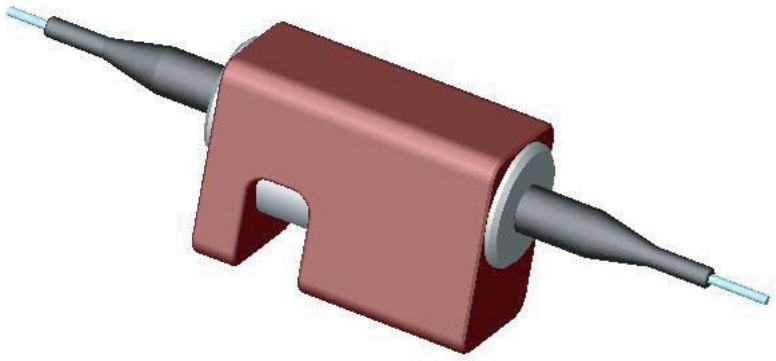
Polarization Maintaining Variable Optical Attenuator



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Description

The design of a variable optical attenuator is deceivingly simple since all one has to do is to block the beam somehow and only allow partial transmision. That is probably why there is an array of designs in this category: motor-driven neutral density filter, MEMs, fiber side polish, piezo actuator, and fiber off set to name just a few. However, most of the techniques suffer low extinction ratio, low repeatability, and low stability.

Princetel offers a dual-polarizer based stepper-motor-driven PM fiber VOA that ensures a high level of State-of-Polarization (SOP) stability and very small temperature effect. It also features very low initial insertion loss and high extinction ratio through out the tuning range. The precision bipolar stepper motor can be tuned to achieve 0.9 degree rotation resolution with only two control signals.

Specifications

Wavelength	1290-1330, 1530-1570 nm
Insertion loss	<1 dB (0.5 dB typical)
Extinction ratio	>20 dB (25-30 dB typical)
Extinction ratio variation	<1 dB
Return loss	>50 dB (60 dB typical)
Dynamic range	>30 dB
Tuning resolution	0.9 degree (see chart next page)
Operating temperature	0 to 65 C
Storage temperature	-40 to 85 C
Optical power handling	23 dBm
Motor type	Bipolar stepper
Tuning speed	1-10 ms/step
Driving voltage	3-5 VDC
Current requirement	140 mA/3 V, 80 mA/5 V

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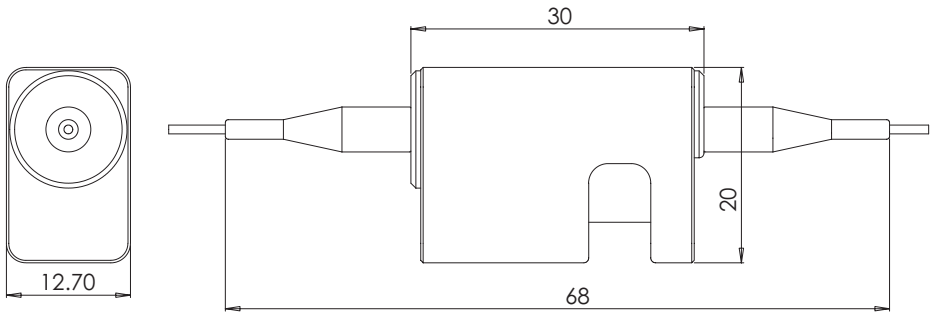
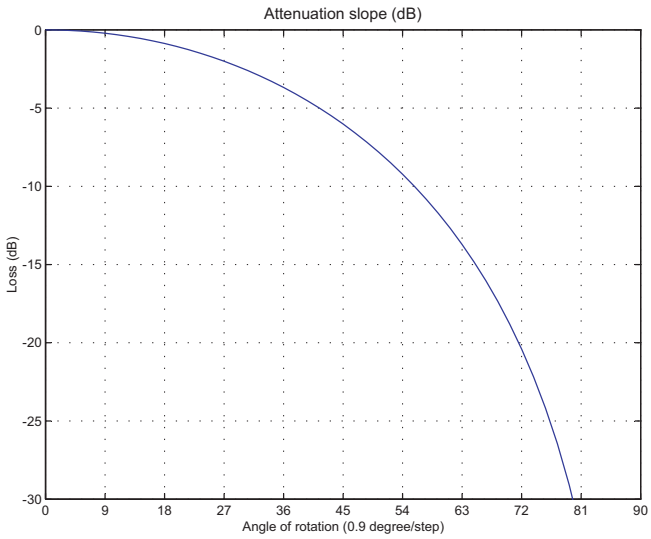
Physical

Package Material	Aluminum/stainless steel
Fiber type	Polarization maintaining
Jacket type	400 um tight buffer, or 900 um loose tubing
Connector type	FC/PC, SC/PC, FC/APC, or SC/APC
Demensions (lxwxh)	30x12.7x20 mm
Motor driver selection	Call for details





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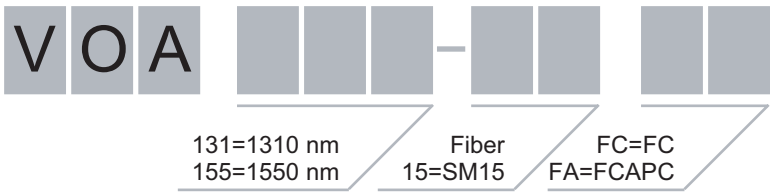
Part Number



Wavelength and Fiber Code

Wavelength	Fiber
165=1625 nm	28=CorningSMF28 (1290=1650 nm)
162=1625 nm	13=Fujikura SM13 PANDA fiber
159=1590 nm	15=Fujikura SM15 PANDA fiber
155=1550 nm	56=3M FS-SN5624 (980 nm)
153=1530 nm	42=3M FS-SN4224 (850 nm)
148=1480 nm	32=3M FS-SN3224 (635 nm)
131=1310 nm	50=50/125 multimode
980=980 nm	62=62.5/125 multimode
850=950 nm	10=100/140 multimode
780=780 nm	20=200/240 multimode
670=670 nm	40=400/425 multimode
650=650 nm	60=600/630 multimode
635=635 nm	01=1000 um Mitsubishi plastic

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