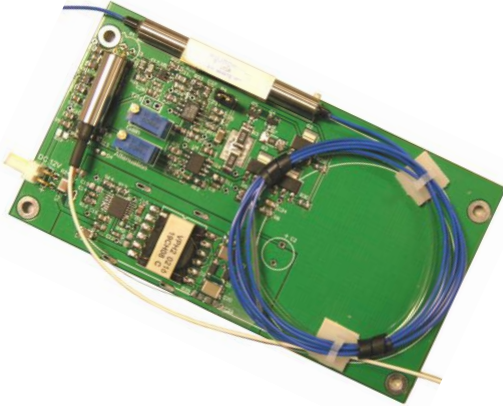


Optical Power Regulator



DATASHEET

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Features

- High Reliability
- High Precision

Applications

- Laser Power Regulation
- Surge Power Prevention
- Power Balance
- Instrumentation

The optical power regulator is a module that maintains a constant output power, regardless of the input fluctuations. This is achieved by using a detector to tap a small amount of light from the output and feed into a close-loop circuit to control a MEMS variable fiber optical attenuator connected between light input and output. The regulation output power range is set by the two pots on the board and can be preset according to customer spec. The module can also compensate slow polarization dependent loss changes and fast optical power surges. The optical power regulator provides an ultimate solution for optical power stabilizing and limiting. device is designed for over 20 years continuous operation. The unit comes with a wall-plug 12V power supply.

Specifications

Parameter	Min	Typical	Max	Unit
Wavelength	400		1800	nm
Insertion Loss ^[1]		0.5	1	dB
Dynamic Range	18	25	30	dB
Return Loss	45	50		dB
Response Time			5	ms
Power Adjustment Resolution		Continuous		dB
Optical Power Handling (CW)		300	500	mW
Operating Temperature ^[2]	-5		70	°C
Storage Temperature	-40		85	°C

Notes:

[1]. Excluding connectors.

[2]. Extended operation temperature is available

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Rev 01/01/24

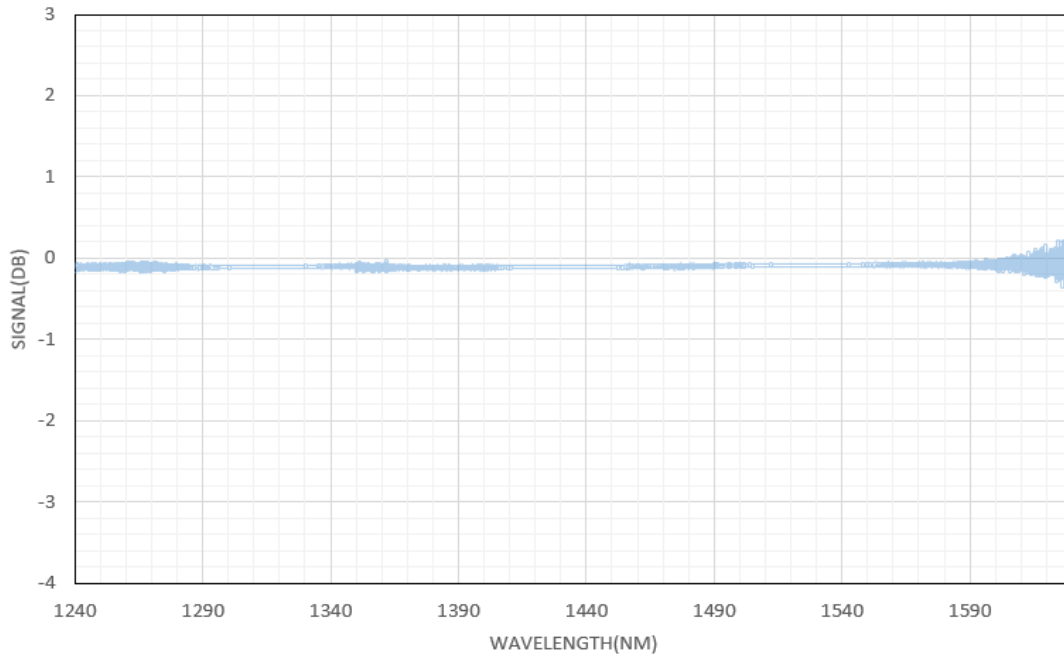
Optical Power Regulator



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Typical Insertion Loss vs Wavelength (1240-1630nm)

1x2 MEMS Switch



Ordering Information

Prefix	Type	Wavelength	State	Package	Fiber Type	Fiber Cover	Fiber Length	Connector
MOPR-	1 1	1060 = 1 2000 = 2 1310 = 3 1480 = 4 1550 = 5 1625 = 6 780 = 7 850 = 8 650 = E 550 = F 400 = G 1565~1620 = L Special = 0	1	1	SMF-28 = 1 50 μm = 4 60 μm = 6 HI1060 = 2 HI780 = 3 PM1550 = 5 PM850 = 8 PM980 = 9 Special = 0	Bare fiber = 1 900um tube = 3 Special = 0	0.25m = 1 0.5m = 2 1.0 m = 3 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 LC/U/PC = U Special = 0

Application Notes

Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness

Fibers with smaller core diameters ($<5 \mu\text{m}$) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the handling by expanding the core side at the fiber ends.