

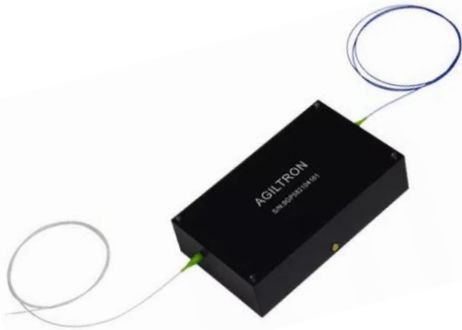
1060 nm Fiber Optical Phase Modulator Module

DC-200MHz, integrated with driver



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BUY NOW



The FPMML fiber optical phase modulator module integrates a LiNbO₃ phase modulator with a driver for improved performance. It features a high electrical control signal impedance >10kΩ and frequency compensator to achieve near flat response from DC to 100MHz. The input and output fibers are polarization-maintaining (PM). The key of the fiber connectors is aligned to the slow axis of the PM fiber, which is in turn aligned with the extraordinary mode of the LiNbO₃ waveguide. The RF port input is through an SMA connector. 5V wall pluggable DC power supply is provided. Units are available with FC/PC or FC/APC connectors.

Features

- Operating Wavelength of 1030 - 1070 nm
- 300 mW Optical Power Handling
- Low Optical Loss

Applications

- Quantum Optics
- Frequency Modulation
- Spectrum Broadening
- Laser Stabilization
- Coherent Communications
- Test and Measurement

Specifications

Parameter	Min	Typical	Max	Unit
Operation Wavelength	1030		1070	nm
Insertion Loss		3	3.5	dB
Return Loss	30	40		dB
Optical Input Power			500	mW
Polarization Extinction Ratio(20mW,DC)	20			dB
E/O Bandwidth	100	150		MHz
Operating Frequency Range	DC		200	MHz
RF Port V _r		2.5		V
RF Port 2V _r [1]		5		V
RF Port Impedance	10			kΩ
RF Connector	SMA Female			
Fiber Type	PM98-U40D-H			
Fiber Cover	Ø900 μm Loose Tube			
Operating Temperature	-25		75	°C
Storage Temperature	-50		90	°C
DC Power Input		5	5.5	V

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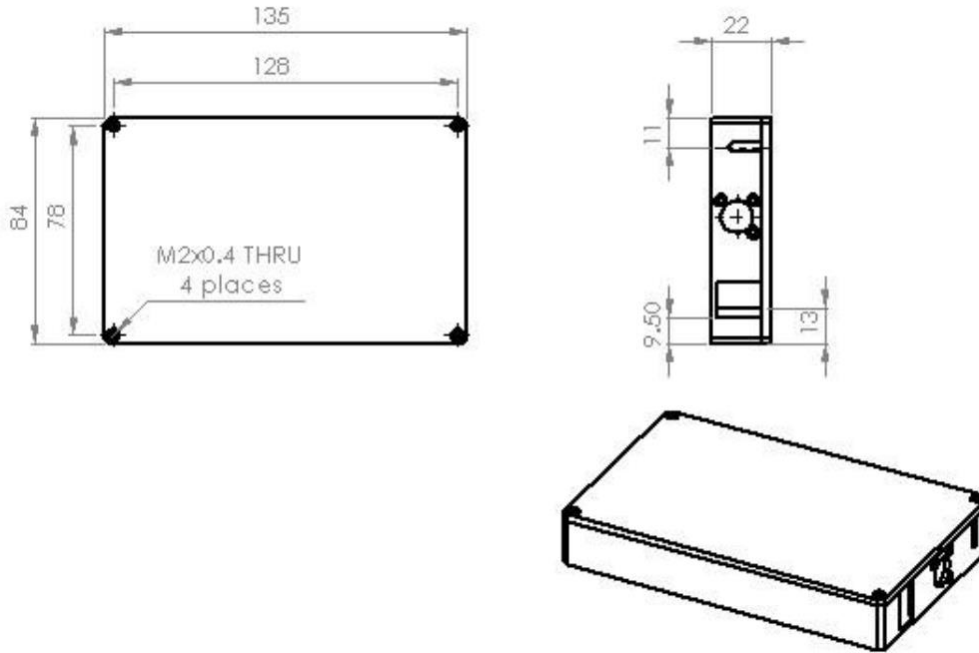
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Dimensions (mm)



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

Electrical Connection

Ordering Information

Prefix	Configuration	Type	Wavelength	Frequency	Input Fiber	Output Fiber	Cable	Fiber Length	Connector
LNPM-	Phase = 2	Module = 2	1030-1070nm = 1	200MHz = 2	PM1550 = 5	PM1550 = 5	0.9mm tube = 1 Special = 0	1m = 1 1.5m = 2 Special = 0	FC/APC = 3 FC/PC = 2 Non = 1 Special = 0

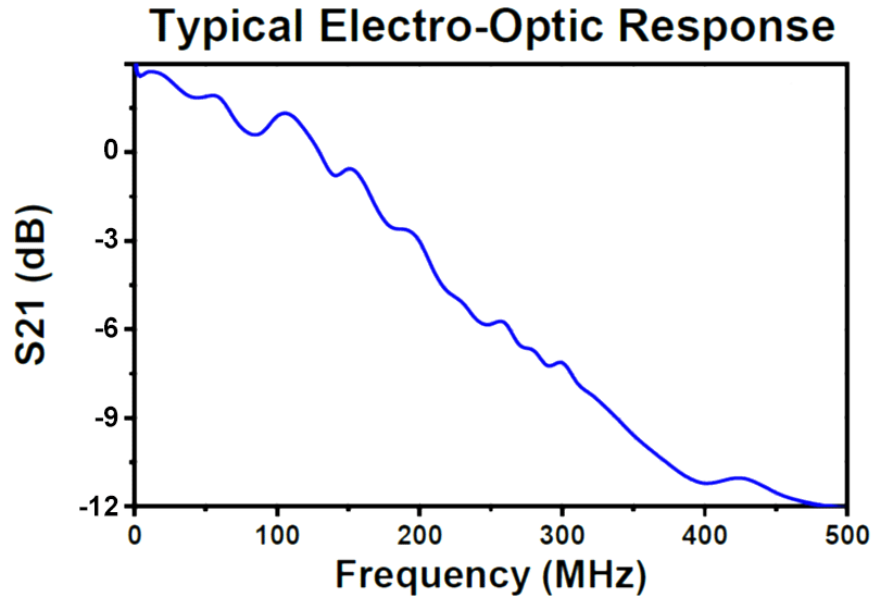
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Typical RF S21 Performance



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 μm) 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.