

Fiber Optical Phase Modulator 1310 nm

200 MHz, PM Fibers



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The LNPM is a high-performance, fiber-coupled phase modulator with operating frequencies ranging from DC to 10 GHz, covering the 1270–1370 nm wavelength band. It is constructed using optical waveguides on high-efficiency X-cut LiNbO₃ material and is coupled with polarization-maintaining input and output fibers.

A phase modulator does not require bias control. Using a phase modulator together with a polarizer to construct an intensity modulator may result in unstable operation due to birefringence.

Note: This component is intended for OEM system integration and is not designed for standalone laboratory use. Units supplied without a protective benchtop enclosure are provided without warranty, as they are susceptible to damage from improper handling, installation, or operation.

Features

- 200 MHz Bandwidth
- X-cut APE Process
- Low Insertion Loss
- Low Drive Voltage
- 1270 nm to 1370 nm
- Minimal Back Reflections
- Chip PER over 60 dB

Applications

- Optical Chirping
- Research & Development
- Laser Linewidth Broadening
- FM Spectroscopy
- Frequency Shifting

Specifications

Parameter	Min	Typical	Max	Unit
Input Optical Power			50	mW
Operating Wavelength	1270		1370	nm
Insertion Loss			4	dB
Polarization Extinction Ratio	20			dB
Optical Return Loss	30			dB
S21 Bandwidth	DC	200	250	MHz
V _π		5		V
RF Input Power			30	V _{pp}
Impedance		50		Ω
Operating Temperature	-55	8.8	75	°C
Storage Temperature	-60		90	°C
Operating Humidity	0	50	90	%



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Rev 10/02/26

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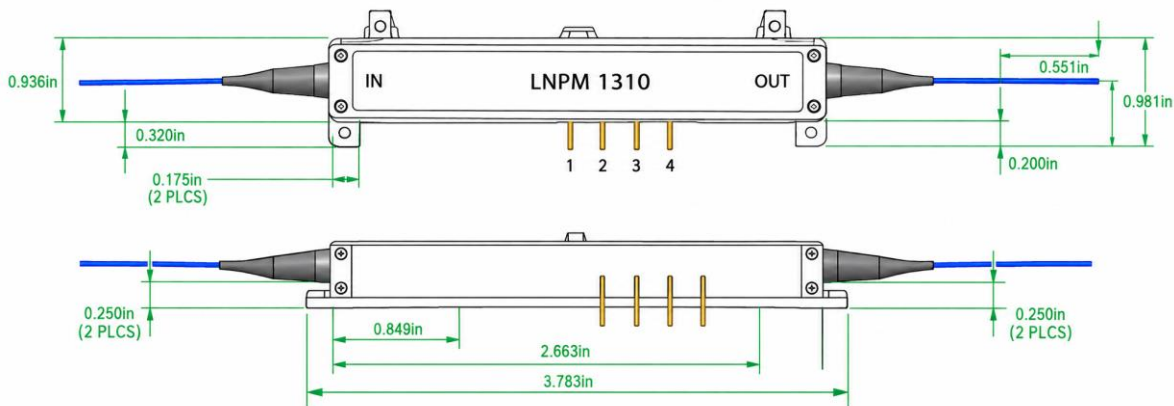
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Dimensions



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

Electrical Connection

PIN	Symbol	Description
1	-	N/A
2	-	RF
3	-	RF
4	-	N/A

Ordering Information (Part Number)

	2	2	3	A	3	3	1	1	☐
Prefix	Configuration	Wavelength	Frequency	Input Fiber	Output Fiber	Cable	Fiber Length	Connector ^[1]	
LNPM-	Phase = 2	1310nm = 3	200MHz = A	PM1310 = 3	PM1310 = 3	0.9mm Tube = 1	0.25m = 1 Special = 0	None = 1 FC/APC = 3 FC/PC = 2 Special = 0	

[1]. The default connector configuration uses fiber with 0.9 mm buffer protection. The connector cannot be installed directly onto bare fiber because the bare fiber is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer may remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SMF-28 fiber and decreases further for smaller-core fibers.