

Fiber Optical Phase Modulator

500MHz, 850 nm



DATASHEET

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Features

- Low drive voltage
- Low insertion loss
- APE waveguide
- Excellent long-term stability

Applications

- Optical sensor
- Quantum optics
- Frequency shifting
- Hydrophone

The LNPM is a high-performance, fiber-coupled phase modulator with operating frequencies ranging from DC to 200MHz, covering the 1030-1070 wavelength band. It is constructed using optical waveguides on high efficient X-cut LiNbO₃ material and is coupled with polarization-maintaining input and output fibers.

Specifications

Parameter	Min	Typical	Max	Unit
Input Optical Power			10	mW
Operating Wavelength	810		850	nm
Insertion Loss*		3.5	4	dB
Polarization Extinction Ratio	18			dB
Optical Return Loss			-55	dB
Operating Frequency	0		500	MHz
V _π RF @50kHz			3.5	V
Maximum Applying Voltage	-15		+15	V
Operating Frequency	0.01		10	GHz
Additional Intensity Modulation			0.1	%
Operating Temperature	-40		75	°C
Storage Temperature	-55		85	°C
Operating Humidity			95	%

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Rev 11/13/25

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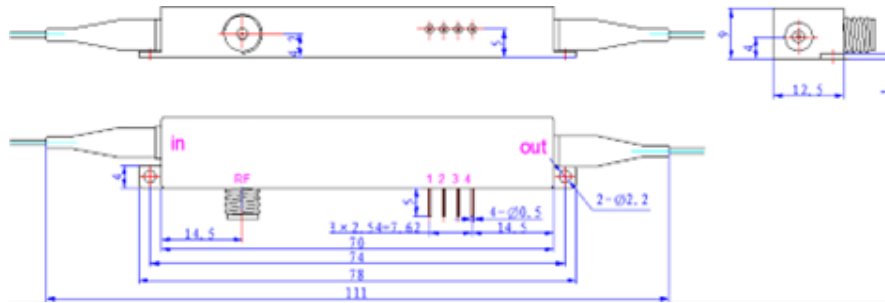
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Dimensions (mm)



(LxWxH=111x12.5x9)

Unite: mm

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

Electrical Connection

PIN	Symbol	Description
1	-	N/A
2	-	N/A
3	-	N/A
4	-	N/A
5	-	N/A
6	-	N/A
7	-	N/A
RF	RF connector*	SMA or K(2.92mm)

Ordering Information (Part Number)

Prefix	Configuration	Wavelength	Frequency	Input Fiber	Output Fiber	Cable	Fiber Length	Fiber Connector ^[1]
LNPM-	Phase = 2	850 nm = 8	500MHz = 5	PM850 = P	PM850 = P	0.125mm = 1 0.9mm = 2	0.5m = 1 Special = 0	FC/APC = 3 FC/PC = 2 Special = 0

[1]. The connector cannot be installed directly onto bare fiber, as it 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 can remove this protective tube after testing. The optical power handling of a standard connector* is less than 0.5 W for SM28 fiber and decreases further with smaller core fibers.