

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



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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.

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.

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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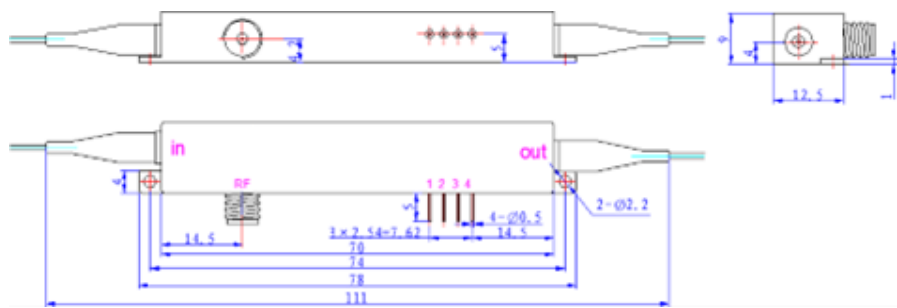
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Dimensions (mm)



(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)

	2	1	☐	☐	☐	☐	☐	☐	☐
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 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.