

Electro-Optic Phase Modulator

—HC-QN Series

Product introduction

- HC-QN series electro-optic phase modulators use the electro-optic effect of lithium niobate crystal to realize the phase modulation of optical signals, and use titanium diffusion or proton exchange technology to manufacture optical waveguides, which can realize dual-polarization or single-polarization phase modulation. Has that characteristic of low insertion loss, high modulation bandwidth, low half-wave voltage, high damage optical pow and the like, and is mainly applied to the fields of optical chirp control in a high-speed optical communication system, phase delay in a coherent communication system, optical sideband generation, phase modulation in quantum communication, stimulated Brillouin scatter (SBS) reduction in an analog optical fiber communication system and the like.

Product features

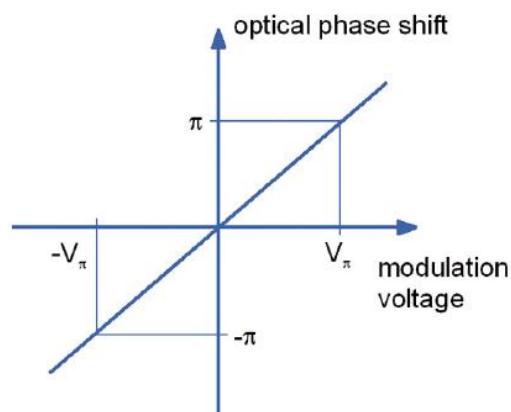
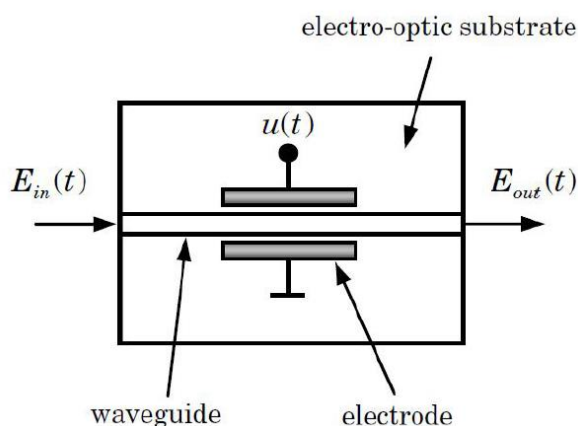
- Multiple operating wavelength
- Low half-wave voltage
- Low insertion loss
- High damage optical power



Scope of application

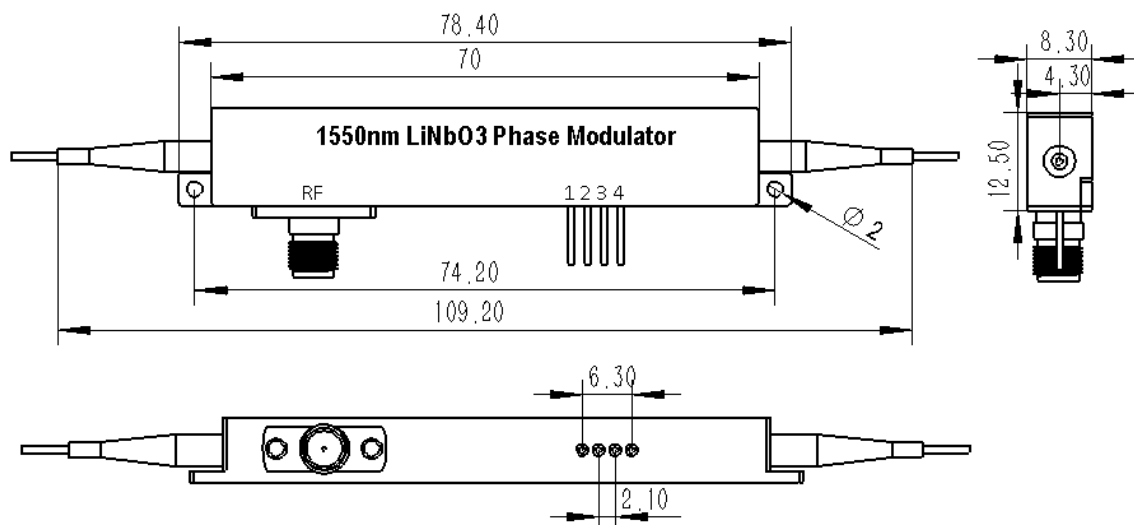
- Optical fiber sensing
- Optical fiber communication and laser coherent combination
- Phase Retardation (Shifter)
- Quantum communication

Functional block diagram

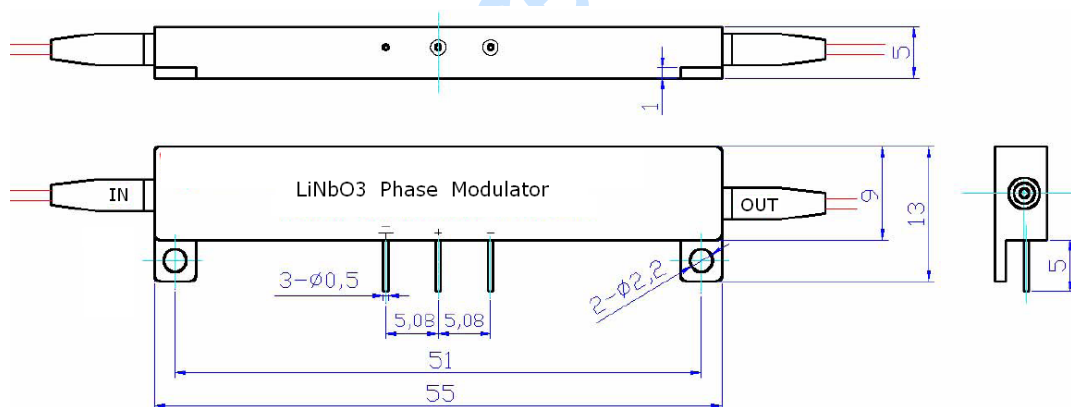


Technical parameters

Parameter	Symbol	QN-08	QN-10-300M	QN-10-10G	QN-15-300M	QN-15-10G
Operating wavelength	λ	830±40	1064±60		1550±100nm	
Insertion loss	IL	<5 dB	<4 dB	<4 dB	<4 dB	<4 dB
Optical return loss	ORL	-40 dB	-45 dB	-45 dB	-45dB	-45dB
Operating bandwidth (-3dB)	S_{21}	10GHz	300MHz-	10GHz-	300MHz	10GHz
Rise time 10% ~ 90%	t_r	35ps	1ns	35ps	1ns	35ps
Half-wave voltage V_{π} @ 50KHz	V_{π}	5V	4V	4.5V	4V	4V
Input impedance	Z_{RF}	50Ω	1MΩ	50Ω	1MΩ	50Ω
Electrical interface		SMA(f)	3pin	SMA(f)	3pin	SMA(f)
Electrical return loss	S_{11}	<-10dB				
Input and output optical fiber		PM Panda Slow Axis Alignment				
Fiber optic interface		FC/APC or Customer Specified				
Operating temperature	Top	-10~60°C				
Storage temperature	Tst	-40~80°C				
Electrical signal input power	Pi	<28dBm				
Maximum input optical power	Po	20mW	100mW	100mW	100mW	100mW



Package 1



Package 2

Ordering Information HC-QN-WL-BW-PP-FA

WL — working wavelength: 15-1550nm, 10-1064nm

BW — Operating bandwidth: 10GHz, 300m