

Electro-Optic Phase Modulator —HC-QN Series

Product introduction

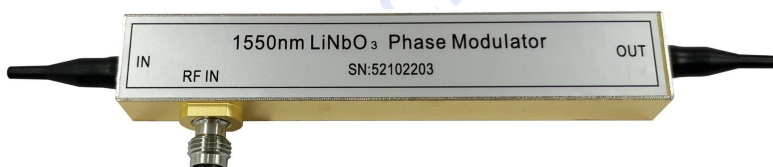
- HC-QN series electro-optic phase modulators use the electro-optic effect of lithium niobate crystal to realize the phase modulation of optical signals, and use titanium diffusion or proton exchange technology to manufacture optical waveguides, which can realize dual-polarization or single-polarization phase modulation. Has that characteristic of low insertion loss, high modulation bandwidth, low half-wave voltage, high damage optical power 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

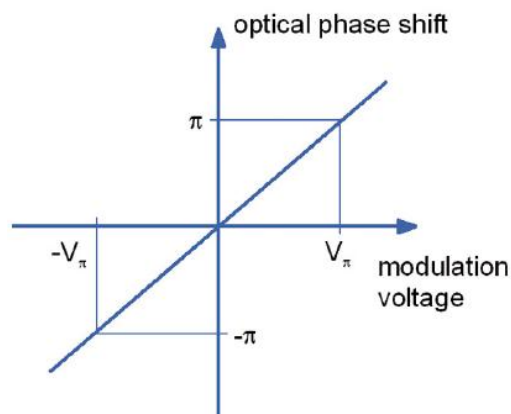
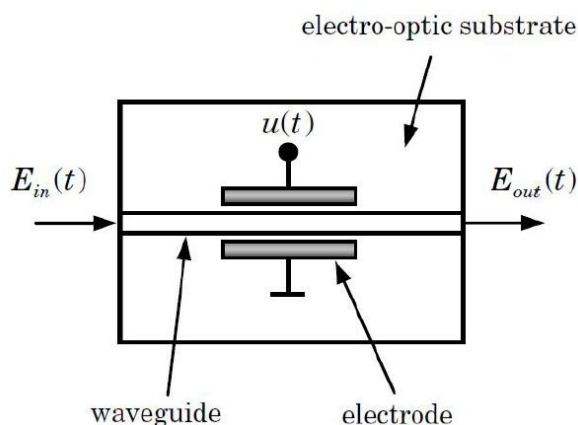
-  Low insertion loss
-  Low half-wave voltage
-  High damage optical power
-  Multiple operating wavelength

Scope of application

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



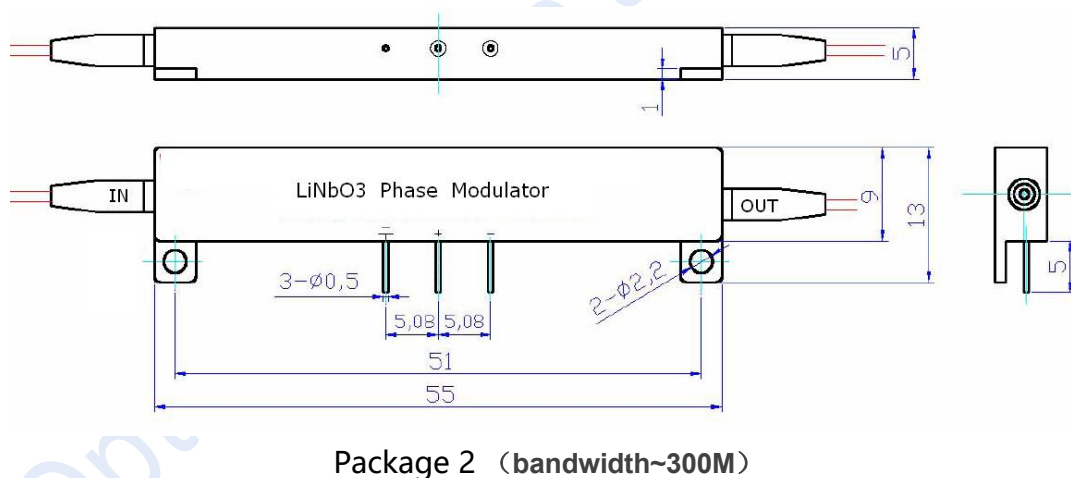
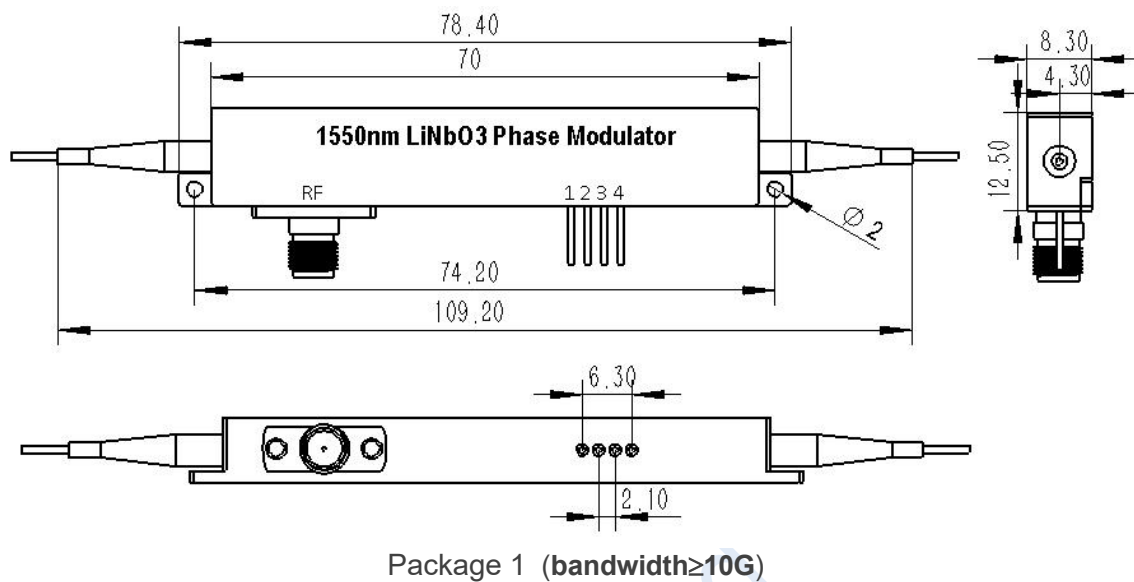
Functional block diagram



Technical parameters

Parameter	Symbol	QN-08	QN-10-300M	QN-10-10G	QN-15-300M	QN-15-10G	QN-15-18G
Operating wavelength		770-880nm	1064±60nm		1550±100nm		
Insertion loss	IL	<5 dB	<4 dB		<4 dB		
Optical return loss	ORL	-40 dB	-45 dB	-45 dB	-45dB	-45dB	-40dB
Operating bandwidth (-3dB)	S_{21}	10GHz	300MHz-	10GHz-	300MHz	10GHz	18GHz
Rise time 10% ~ 90%	t_r	35ps	1ns	35ps	1ns	35ps	18ps
Half-wave voltage V_{π} @ 50KHz	V_{π}	5V	4V	4.5V	4V	4V	5V
Input impedance	Z_{RF}	50	1M	50	1M	50	50
Electrical interface		2.92mm(f)	2pin	2.92mm(f)	2pin	2.92mm(f)	2.92mm(f)
Electrical return loss	S_{11}	<-10dB					
Input and output optical fiber		Polarization Maintain Panda Slow Axis Alignment					
Fiber optic Connector		FC/APC or Customer Specified					
Operating temperature	Top	-10~60°C					
Storage temperature	Tst	-40~80°C					
Electrical signal input power	P_i	<28dBm					
Maximum input optical power	P_o	20mW	100mW	100mW	100mW	100mW	100mW

Mechanical dimensions (mm)



Ordering Information HC-QN-WL-BW-PP-FA (connector)

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

BW — Operating bandwidth: 300M, 10GHz, 18G