Electro-Optic Intensity Modulator

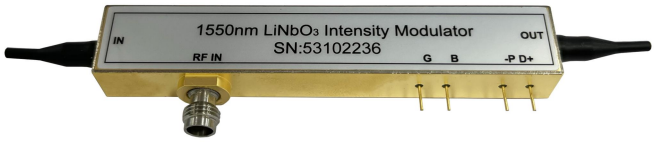
--HC - BN Series

Product introduction

HC-BN series electro-optic intensity modulators use the electro-optic effect of lithium niobate crystal to realize the intensity modulation of optical signals by using push-pull Mach-Zehnder interference structure. They have the characteristics of low insertion loss, high modulation bandwidth, high extinction ratio, low half-wave voltage and high damage optical power. They are mainly used for electro-optic signal conversion and optical sideband generation in high-speed optical communication systems. High extinction ratio optical pulse generation in quantum communication and microwave optical fiber links.

Product features

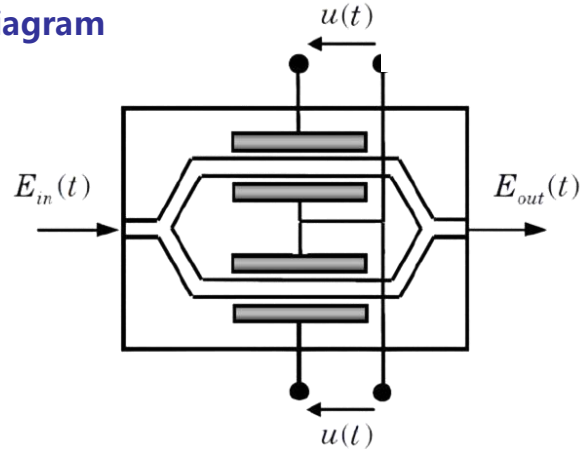
- Multiple operating wavelength
- Low half-wave voltage
- High bandwidth
- Low insertion loss



Scope of application

- High-speed optical fiber communication system
- Microwave fiber optic link
- Quantum communication

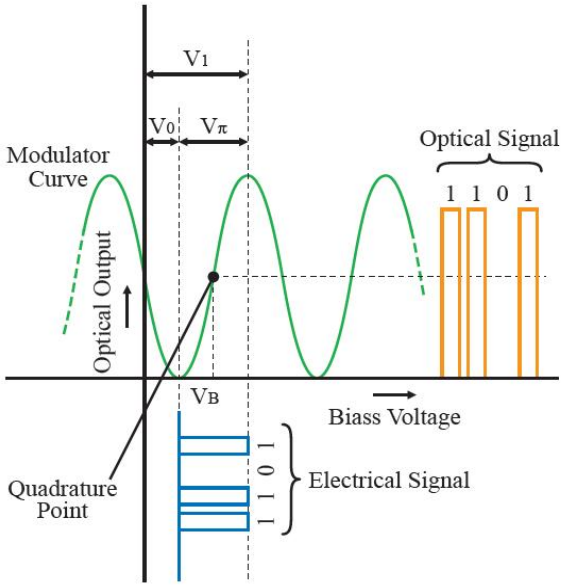
Functional block diagram



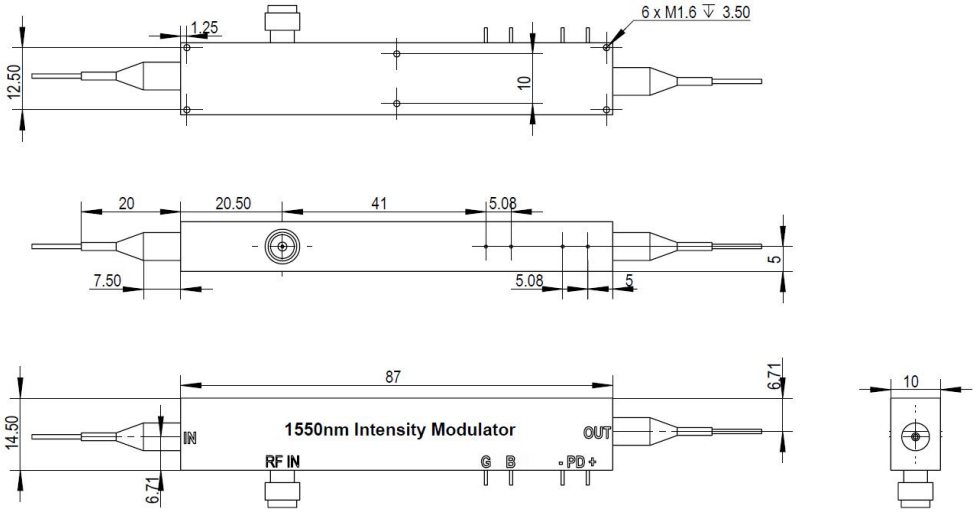
Technical parameters

Parameter		Symbol	AM-08	AM-10	AM-15-10	AM-15-20	AM-15-40
Operating wavelength		λ	770~880nm	1064±60	1550±100nm		
Waveguide technology		Titanium diffusion or proton exchange APE					
Insertion loss		IL	<3 dB	<3 dB	<4 dB	<4 dB	<4 dB
Optical return loss		ORL	-40 dB	-45 dB	-45dB	-45dB	-45dB
Operating Bandwidth (-3dB)-RF	High frequency	S_{21}	>10GHz	>10GHz-	>10GHz	>20GHz	>28GHz
	Low frequency		<10MHz				
Rise time 10% ~ 90%		tr	35ps	35ps	35ps	18ps	11ps
Half-wave voltage @ 50KHz, RF		Vπ	4V	4V	4V	4.5V	4V
Half-wave voltage @ Bias		Vπ	6V	6V	5V	5V	5V
Extinction ratio		ER	>20dB	>20dB	> 20dB, typical 25dB		
Input impedance		Z_{RF}	50Ω@RF, 1MΩ@Bias				
Electrical interface			2.92mm(f)				1.85mm(f)
Electrical return loss		S11	<-10dB				
Input fiber			PM780	PM980	PM1550 Panda Slow Axis Alignment		
Output fiber			PM780	PM980	PM1550 Panda Slow Axis Alignment		
Fiber optic interface			FC/APC or Customer Specified				
Operating temperature		Top	-20~70°C				
Storage temperature		Tst	-40~80°C				
Electrical Signal Input Power-RF		Pi	<27dBm				
Voltage Input Range-BIAS		Vi	±15V				
Maximum input optical power		Po	20mW	100mW	50 mW (titanium diffusion), 200 mW (proton exchange APE)		

Characteristic curve



Mechanical dimensions (in mm)



Ordering Information HC-BN-WL-BW-PP

WL — working wavelength: 15-1550nm, 10-1064nm, 08-770-880nm

BW — Operating bandwidth: 10G, 20G, 40G

PP — input/output fiber: PP--PM/PM , PS--PM/SM