

Features

- No moving parts, best durability
- Ultra fast switching speed
- Extremely stable latching mode
- Low power consumption
- Easy to route -all fibers on same side
- Exceptional reliability and stability



Applications

- Optical switching
- Test & measurement
- Fiber optics sensing system
- High speed optics beam scanning

Product Description

Primanex MagLight™ 1x2 or 2x1 optical switch is an all solid-state device without any moving parts. The switching of the optical signal is based on well-known Faraday Effect, and realized by using a patent protected non-mechanical configuration with solid-state all-crystal design which eliminates the need for mechanical movement. The microsecond fiber optic switch is designed to meet the most demanding switching requirements for reliability, durability, speed, and none-stopping high frequency switching; more specifically, is designed to withstand high-power /high-energy lasers in such applications as LIDAR etc.

Specifications

Item	Unit	Parameters		Notes
		Unidirectional	Bidirectional	
Wavelength Range	nm	1525~1565		Other wavelengths available
Insertion Loss	dB	1.1 (Typ.); 1.4 (Max.)	1.3(Typ.); 1.7 (Max.)	
PDL	dB	0.1 (Typ.); 0.2 (Max.)		
Return Loss	dB	>40	>30	
Cross-talk	dB	>40	>35	Typical >50dB
PMD	ps	<0.2		
Repeatability	dB	+/- 0.01		
Durability	Cycle	> 100 Billions		
Switching Speed	μs	Regular (200~400); Ultra-fast (10~30)		Other speed optional
Switching Type	N/A	Latching		Need power only during switching
Operating Temperature	°C	-5~70		
Storage Temperature	°C	-40~85		
Maximum Optical Power	N/A	100μJ for nano-second pulsed laser or 5W for CW laser for single-mode fiber devices		Higher power-handling available upon request
Dimension(L×W×H)	mm	39 × 9.0 × 9.5		

*. All the specifications are based on the devices without connectors, and guaranteed over the operating temperature ranges, wavelength ranges and all polarization states.

**. Specifications are subject to change without notice.

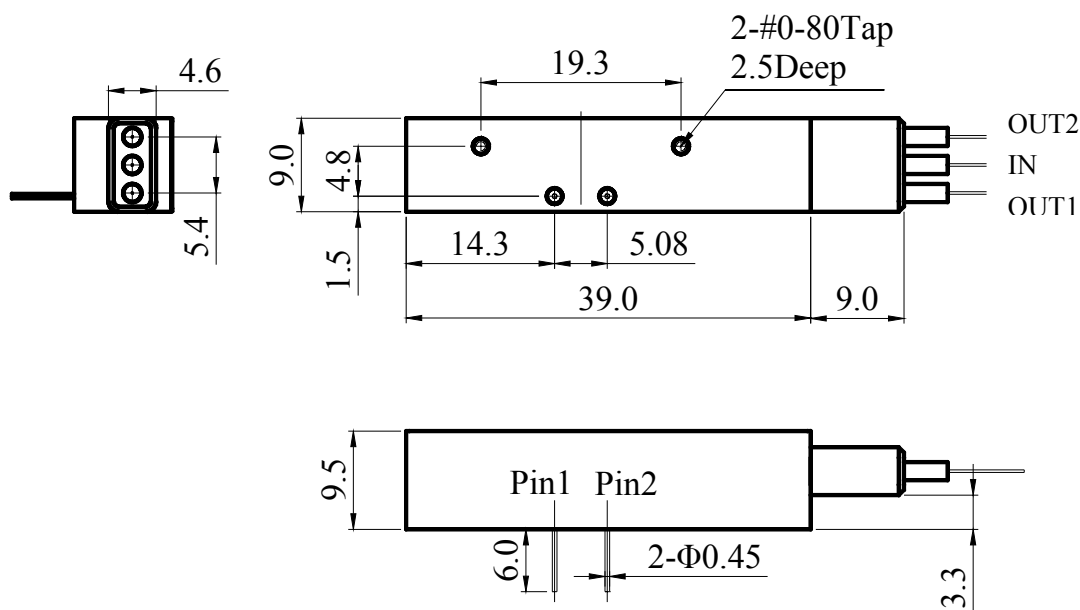
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Dimensions Drawing (Unit: mm)



Electrical Specifications

Parameters	Specifications		Unit
	Regular	Ultra-fast	
Switching Speed	200~400	10~30	μs
Switching Voltage (VCC)	5 (+/-5%)	6.0~7.0	V
Switching Current	< 100	< 350	mA
Driving Mode	Voltage or Pulse Driving	Pulse Driving	NA
Pulse Width	>1000	>20	μs
Claim Frequency	<800	< 3000	Hz

Notes:

- *Primanex provides optional switch driving board at additional charge;*
- *It is recommended to use Primanex switch driving board for the Ultra-fast switch;*
- *To avoid damaging the Ultra-fast switch, Primanex recommends to set the current limit below 800mA when the power supply voltage is set at 6.0V~7.0V.*

Pin Control Table

States	Pin1	Pin2	The Optical Path	
			Unidirectional	Bidirectional
“0”	1(Voltage = VCC)	0(Voltage = GND)	IN → OUT1, OUT2 → IN	IN ↔ OUT1
“1”	0(Voltage = GND)	1(Voltage = VCC)	IN → OUT2, OUT1 → IN	IN ↔ OUT2



Ordering Information(Example:RFMS11-12NR1121110)

<input type="checkbox"/>	FMS1	<input type="checkbox"/>	-12NR	<input type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working Mode				Operating Wavelength		Dimension			Connector Type
R. Regular (Unidirectional)				1. C Band		1. Standard			0. No Connector
B. Bidirectional				2. L Band		2. Others			1. FC/UPC
				3. C & L Band					2. FC/APC
				4. Others					3. SC/UPC
Power Handling									4. SC/APC
0. Regular 500mW				Switch Speed		Fiber Length		Fiber Type	5. LC/PC
1. Hi-power: 100μJ for pulsed or 5W for CW				1. 200~400μs		1. 0. 5 +/- 0.1m		1.250μm fiber	6. MU/PC
2. Others				2. 10~30μs		2. 1.0 +/- 0.1m		2.900μm fiber	7. Others
				3. Others		3. Others		3. Others	

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