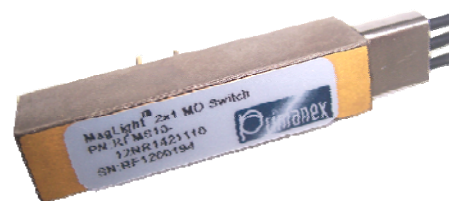## Features

- 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
- Channel protection
- System monitoring
- Test & measurement
- Fiber optics sensing system
- High speed optics beam scanning

Product Description

Primanex *MagLight[TM]* 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.
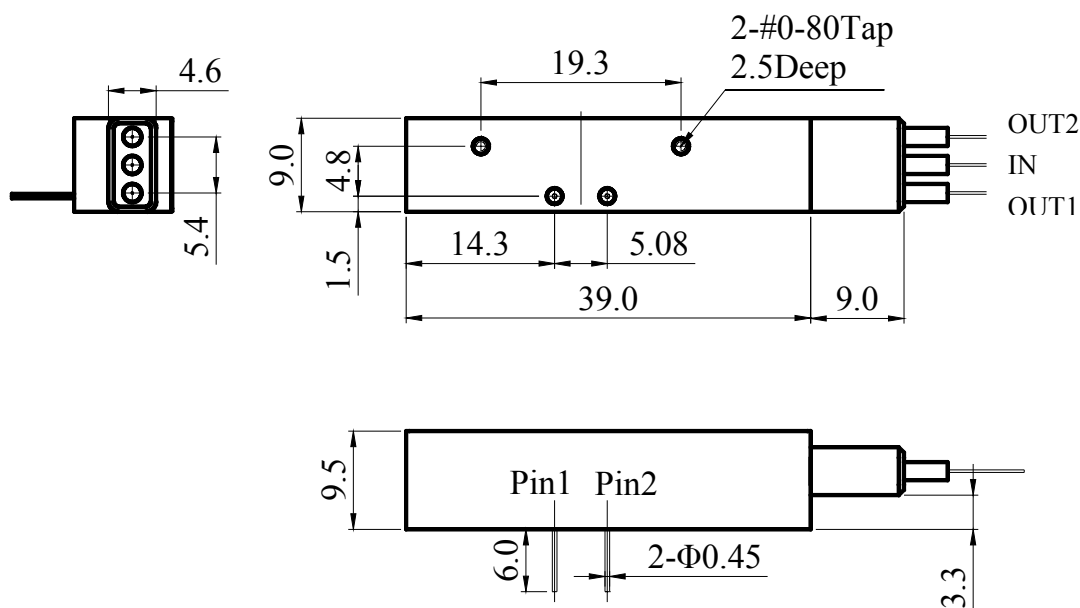
Specifications

Item	Unit	Parameters		Notes
		Unidirectional	**Bidirectional**	
Wavelength Range	nm	1525~1565		Other wavelengths available
Insertion Loss	dB	0.8 (Typ.); 1.1 (Max.)	1.0 (Typ.); 1.3 (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	^{0}C	-5~70		
Storage Temperature	^{0}C	-40~85		
Maximum Optical Power	mW	500		Refer to hi-power version for higher power handling requirement
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.

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
Electrical 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: RFMS10-12NR1121110)

☐ FMS1☐ -12NR ☐ ☐ ☐ 1 ☐ ☐ ☐

Working Mode

R. Regular

   (Unidirectional)

B. Bidirectional

Operating Wavelength

1. C Band

2. L Band

3. C & L Band

4. Others

Dimension

1. Standard

2. Others

Connector Type

0. No Connector

1. FC/UPC

2. FC/APC

3. SC/UPC

4. SC/APC

5. LC/PC

6. MU/PC

7. Others

Power Handling

0. Regular 500mW

1. Hi-power: 100μJ for

   pulsed or 5W for CW

2. Others

Switch Speed

1. 200~400μs

2. 10~30μs

3. Others

Fiber Length

1. 0. 5 +/- 0.1m

2. 1.0 +/- 0.1m

3. Others

Fiber Type

1.250μm fiber

2.900μm fiber

3. Others