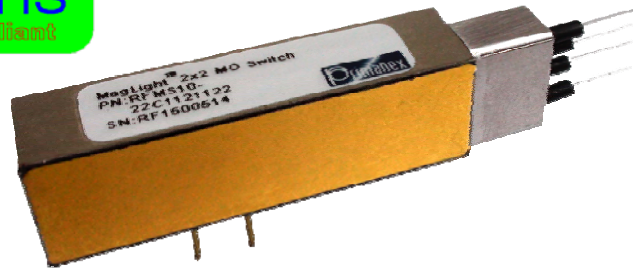


## Features

- No moving parts, best reliability
- Ultra fast switching speed
- Extremely stable latching mode
- Low power consumption
- Exceptional durability and stability



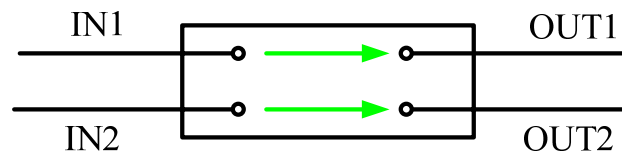
## Applications

- Optical switching
- Tunable time delay
- Test & measurement
- Fiber optics sensing system

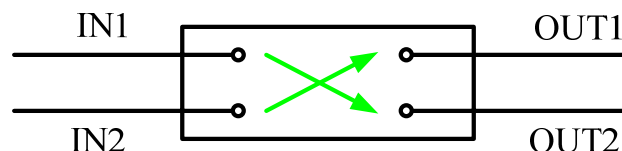
## Product Description

Primanex MagLight™ 2x2 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.

## Functional Diagram



(a) At switching state-"0"



(b) At switching state-"1"

Primanex Maglight™ 2x2 Cross/Bar switch has two switching states:

- While at state-"0": the optical light coming from IN1 will transmit to OUT1 in a way of "Bar" and the optical light coming from IN2 will transmit to OUT2;
- While at state-"1": the optical light coming from IN1 will transmit to OUT2 in a way of "Cross" and the optical light coming from IN2 will transmit to OUT1.

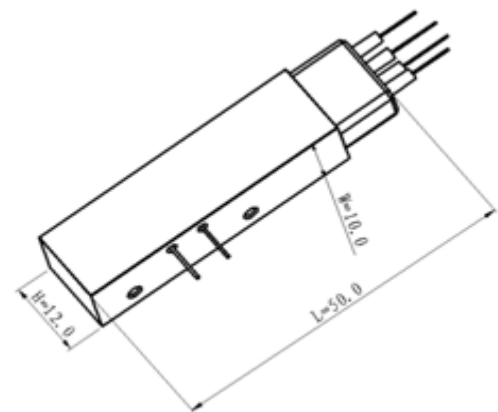
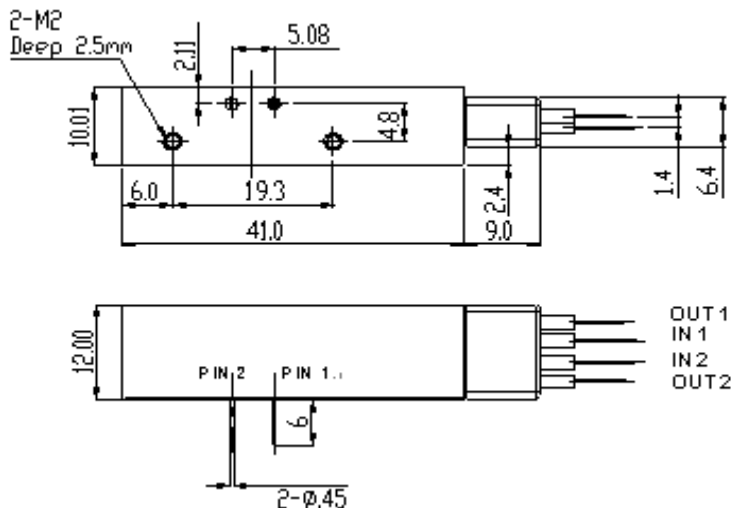
## Optical Specifications

Item	unit	Parameter		Notes
		Unidirectional	Bidirectional	
Wavelength Range	nm	1525 ~ 1565		Other wavelengths available
Insertion Loss	dB	0.90(Typ.); 1.20(Max)	1.10(Typ.); 1.40(Max)	Add 0.3dB for high-power version
PDL	dB	0.15(Typ.), 0.30(Max)		
Return Loss	dB	≥ 40	≥ 30	
Crosstalk	dB	≥ 30	≥ 30	
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	mW	500		Refer to hi-power version for higher power handling requirement
Dimension( L×W×H )	mm	41× 10 × 12		
Fiber Type	NA	SMF-28e+		

\*. 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

Parameter	Specification		Unit
	Regular	Ultra-fast	
Switching Speed	200~400	10~30	μs
Switching Voltage(VCC)	5 (+/-5%)	6.0~7.0	V
Switching Current	< 200	< 500	mA
Pulse Width	>1000	>20	μs
Claim Frequency	< 800	< 3000	Hz

\*. for electrical specifications related to other switching speed, please contact Primanex.

## Pin Control Table

States	Pin1	Pin2	Optical Path	
			Unidirectional	Bidirectional
“0”	1(Voltage = VCC)	0(Voltage = GND)	IN1 → OUT1, OUT1 → IN2; IN2 → OUT2, OUT2 → IN1	IN1 ↔ OUT1 IN2 ↔ OUT2
“1”	0(Voltage = GND)	1(Voltage = VCC)	IN1 → OUT2, OUT2 → IN2; IN2 → OUT1, OUT1 → IN1	IN1 ↔ OUT2 IN2 ↔ OUT1

### Ordering Information(Example:RFMS10-22C1121110)

<div><div></div></div> <b>FMS1</b> <div><div></div></div> <b>-22C</b>	<div><div></div></div>	<div><div></div></div> <b>1</b> <div><div></div></div>	<div><div></div></div>	<div><div></div></div>
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	
			4. SC/APC	
			5. LC/PC	
			6. MU/PC	
			7. Others	
Power Handling	Switch Speed	Fiber Length	Fiber Type	
0. Regular 500mW	1. 200~400μs	1. 0. 5 +/- 0.1m	1.250μm fiber	
1. Hi-power: 100μJ for pulsed or 5W for CW	2. 10~30μs	2. 1.0 +/- 0.1m	2.900μm fiber	
2. Others	3. Others	3. Others	3. Others	

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