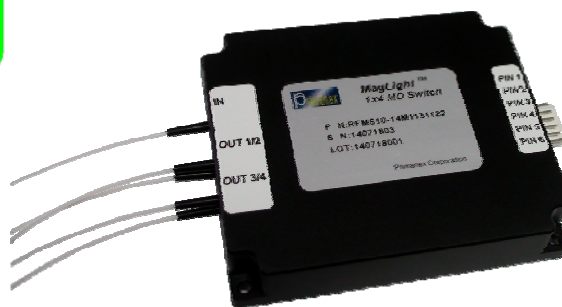


## Features

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



## Applications

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

## Product Description

Primanex MagLight™ 1x4 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	<2.8	<3.0	
PDL	dB	<0.3		
Return Loss	dB	>40	>30	
Crosstalk	dB	>40	>35	Typical >50dB
PMD	ps	<0.2		
Repeatability	dB	+/- 0.01		
Durability	Cycles	> 100 Billions		
Switching Speed	μs	200 ~ 400		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	90×76×17.5		

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

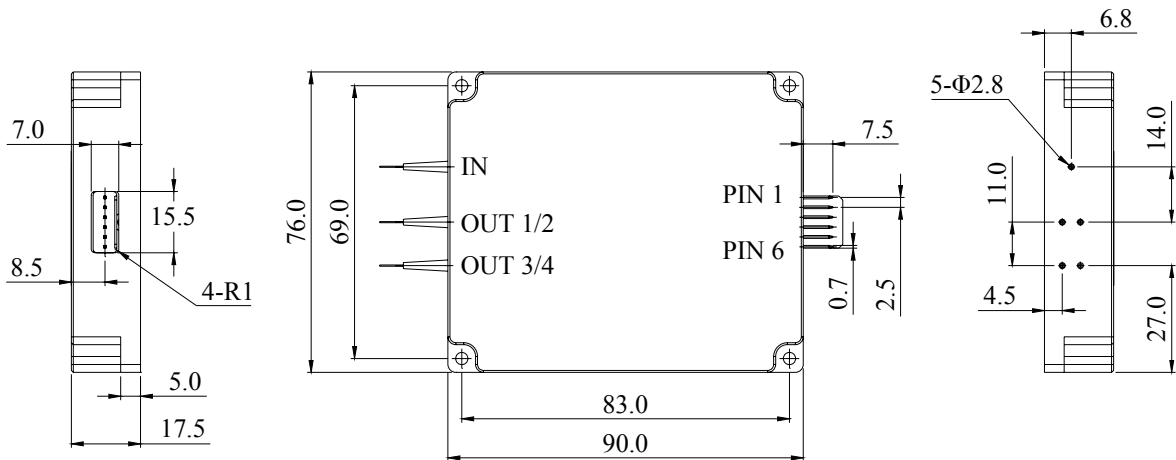
\*\* Specifications are subject to change without notice.



# 1×4 MagLight™ Optical Switch (High-Power)

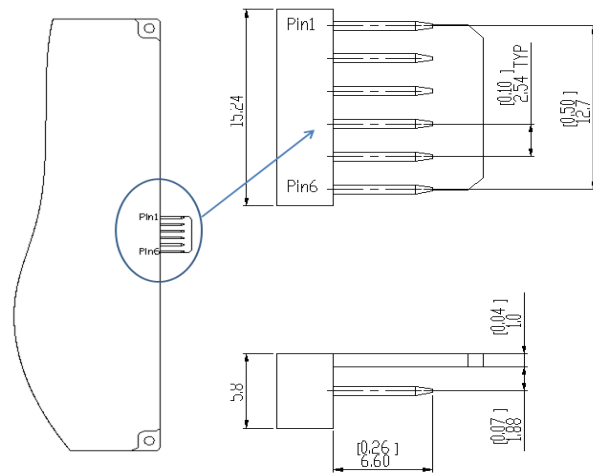
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## Dimensions Drawing (Unit: mm)



## Electrical Connector Specifications

Vendor: Molex (P/N: 0022057068)  
Housing: Natural nylon, UL 94V-O  
Contact: Brass, 0.64 mm (.025") square  
Plating: Tin



## Electrical Specifications

Parameter	Specification	Unit
Switching Speed	200~400	μs
Switching Voltage(VCC)	5 (+/-5%)	V
Switching Current	< 200	mA
Pulse Width(typical)	1000	μs
Claim Frequency	< 800	Hz

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



# 1×4 MagLight™ Optical Switch (High-Power)

*Photonics Beyond Boundary*

## Port Mark & Pin Assignment

Ports & Pins	Assignment	Note
IN	The optical input port	-
OUT1, OUT2, OUT3, OUT4	The optical output port1, 2, 3, 4,	-
Pin 1	VCC	5V
Pin 2	GND	-
Pin 3	Ctrl 0	5V TTL
Pin 4	Ctrl 1	5V TTL
Pin 5	Ctrl 2	5V TTL
Pin 6	NA	-

## Pin Control Table

Table1: Pin control signal corresponding to switching status for unidirectional and bidirectional switch

Switching State	Ctrl 0	Ctrl 1	Optical Path	
			Unidirectional	Bidirectional
0	0	0	IN → OUT1, OUT4 → IN	IN ↔ OUT1
1	0	1	IN → OUT2, OUT3 → IN	IN ↔ OUT2
2	1	0	IN → OUT3, OUT2 → IN	IN ↔ OUT3
3	1	1	IN → OUT4, OUT1 → IN	IN ↔ OUT4

## Ordering Information (Example:RFMS11-14M1121120)

<input type="checkbox"/> <b>FMS1</b> <input type="checkbox"/> <b>-14M</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>1</b> <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
				4. SC/APC
				5. LC/PC
Power Handling	Switch Speed	Fiber Length	Fiber Type	6. MU/PC
0. Regular 500mW	1. 200~400μs	1. 0.5 +/- 0.1m	1.250μm fiber	7. Others
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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Add: Rm#802, Bldg#57, Qingdao Optics Valley International Marine Information Port 396 Emei Rd, Qingdao Economics & Technology Development Zone, Shandong 266555, China.

Website: [WWW.Primanex.com.cn](http://WWW.Primanex.com.cn)

Tel: +86-532-8695 9098 Fax: +86-532-8676 8589

Email: [Sales@primanex.com.cn](mailto:Sales@primanex.com.cn)