

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	> 30 Billions		
Switching Speed	μs	200 ~ 400		Other speed optional
Switching Type	N/A	Latching		Need power only during switching
Operating Temperature	℃	-5 ~ 70		
Storage Temperature	℃	-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.

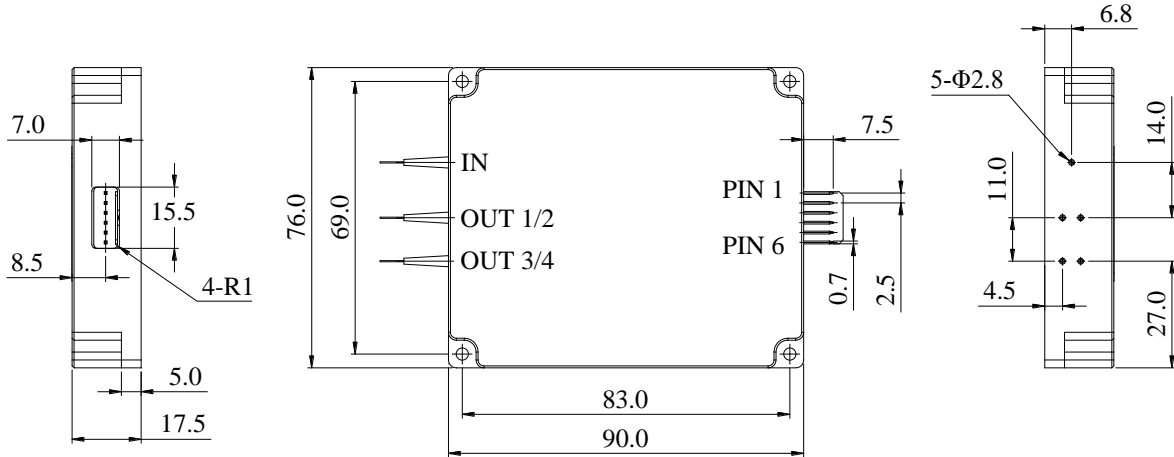
** Specifications are subject to change without notice.



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

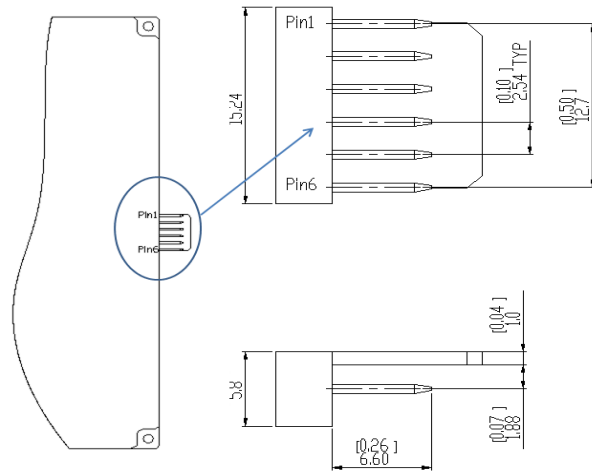
Photonics Beyond Boundary

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.



Port Mark & Pin Assignment

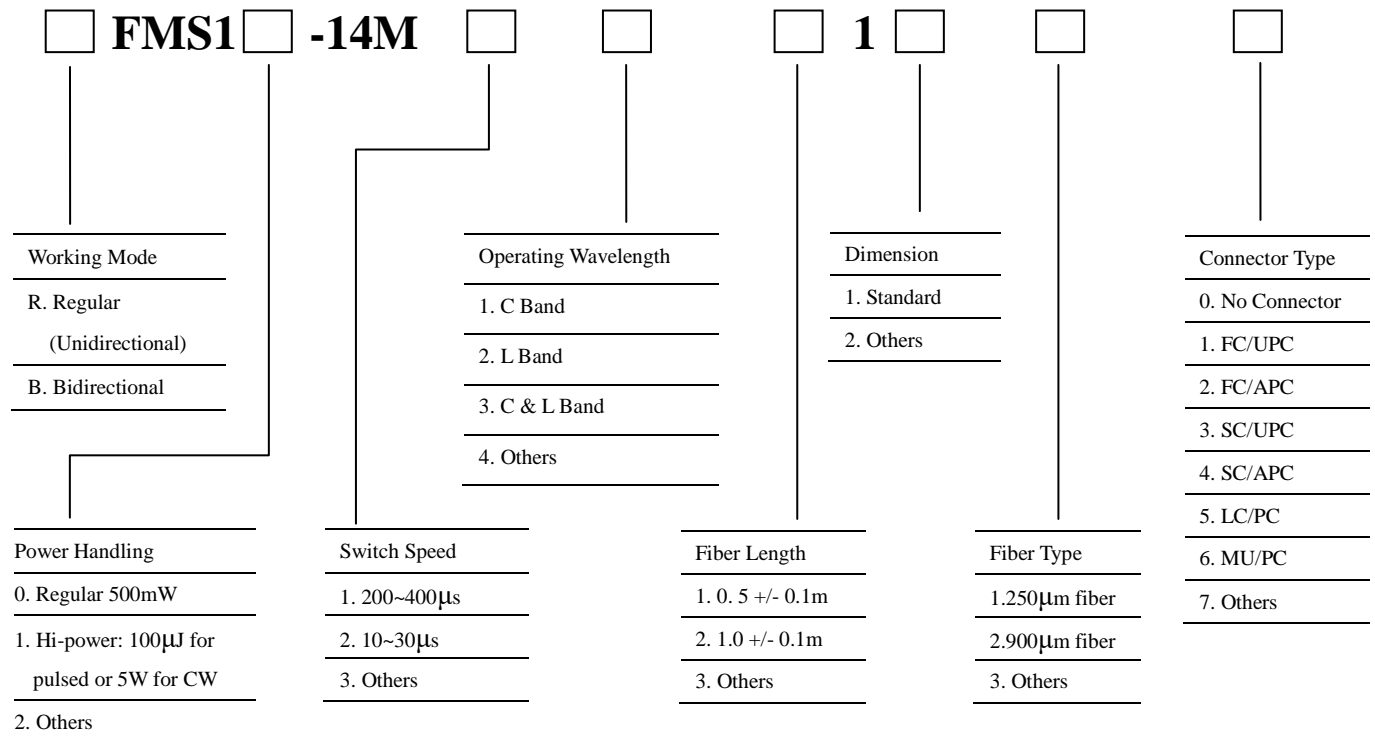
Ports & Pins	Assignment	Note
IN	The optical input port	-
OUT1, OUT2, OUT3, OUT4	The optical output port1, 2, 3, 4,	-
Pin 1	VCC	5V
Pin 2	GND	-
Pin 3	Ctrl 0	5V TTL
Pin 4	Ctrl 1	5V TTL
Pin 5	Ctrl 2	5V TTL
Pin 6	NA	-

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)



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