1×16 *MagLight*™ Optical Switch

Photonics Beyond Boundary

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* ™ 1x16 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

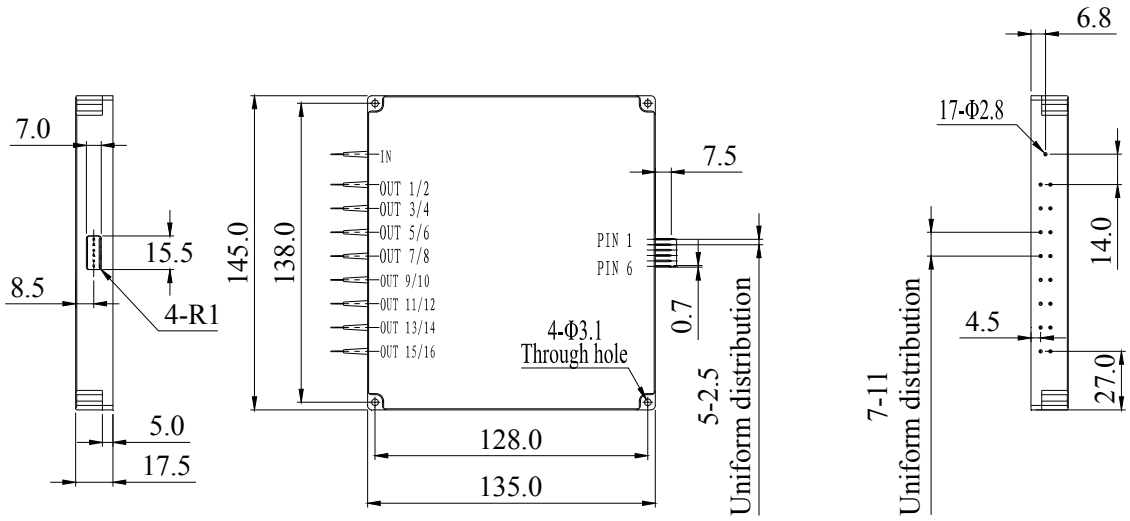
Item	Unit	Parameters		Notes
		Unidirectional	Bidirectional	
Wavelength Range	nm	1525 ~ 1565		Other wavelengths available
Insertion Loss	dB	3.5(Typ.); 4.0 (Max.)	4.0(Typ.); 5.0(Max.)	Add 1.2dB for high-power version
PDL	dB	0.3(Typ.); 0.5(Max.)		
Return Loss	dB	>40	>30	
Crosstalk	dB	>40	>35	Typical >50dB
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
Storage Temperature	°C	-40 ~ 85		
Operating Temperature	°C	-5 ~ 70		
Maximum Optical Power	mW	500		Refer to hi-power version for higher power handling requirement
Package Size (L × W × H)	mm	145 × 135 × 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.

Add: Rm#802, Bldg#57, Qingdao Optics Valley International Marine Information Port 396 Emei Rd, Qingdao Economics & Technology Development Zone, Shandong 266555, China. Tel: +86-532-8695 9098 Fax: +86-532-8676 8589
Website: WWW.Primanex.com.cn Email: Sales@primanex.com.cn

Dimensions Drawing (Unit: mm)



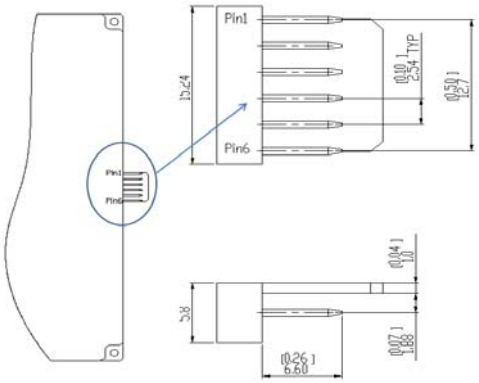
Electrical Connector Specifications

Vendor: Molex (P/N: 0022057068)

Housing: Natural nylon，UL 94V-O

Contact: Brass, 0.64 mm (.025") square

Plating: Tin



Port Mark & Pin Assignment

Ports & Pins	Assignment	Note
IN	The optical input port	-
OUT1, OUT2, OUT3, OUT4, OUT5, OUT6, OUT7, OUT8, OUT9, OUT10, OUT11, OUT12, OUT13, OUT14, OUT15, OUT16	The optical output port1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	-
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	Ctrl 3	5V TTL

Add: Rm#802, Bldg#57, Qingdao Optics Valley International Marine Information Port 396 Emei Rd, Qingdao Economics & Technology Development Zone, Shandong 266555, China. Tel: +86-532-8695 9098 Fax: +86-532-8676 8589
Website: WWW.Primanex.com.cn Email: Sales@primanex.com.cn

Electrical Specifications

Parameter	Specification	Unit
Power Supply Voltage(VCC)	5 (+/-5%)	V
Inrush Current	<1.2	A
Claim Frequency	600	Hz

Pin Control Table

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

Switching State	Ctrl 0	Ctrl 1	Ctrl 2	Ctrl 3	Optical Path	
					Unidirectional	Bidirectional
0	0	0	0	0	IN → OUT1, OUT16 → IN	IN ↔ OUT1
1	0	0	0	1	IN → OUT2, OUT15 → IN	IN ↔ OUT2
2	0	0	1	0	IN → OUT3, OUT14 → IN	IN ↔ OUT3
3	0	0	1	1	IN → OUT4, OUT13 → IN	IN ↔ OUT4
4	0	1	0	0	IN → OUT5, OUT12 → IN	IN ↔ OUT5
5	0	1	0	1	IN → OUT6, OUT11 → IN	IN ↔ OUT6
6	0	1	1	0	IN → OUT7, OUT10 → IN	IN ↔ OUT7
7	0	1	1	1	IN → OUT8, OUT9 → IN	IN ↔ OUT8
8	1	0	0	0	IN → OUT9, OUT8 → IN	IN ↔ OUT9
9	1	0	0	1	IN → OUT10, OUT7 → IN	IN ↔ OUT10
10	1	0	1	0	IN → OUT11, OUT6 → IN	IN ↔ OUT11
11	1	0	1	1	IN → OUT12, OUT5 → IN	IN ↔ OUT12
12	1	1	0	0	IN → OUT13, OUT4 → IN	IN ↔ OUT13
13	1	1	0	1	IN → OUT14, OUT3 → IN	IN ↔ OUT14
14	1	1	1	0	IN → OUT15, OUT2 → IN	IN ↔ OUT15
15	1	1	1	1	IN → OUT16, OUT1 → IN	IN ↔ OUT16

Ordering Information (Example:RFMS10-116M1121120)

□ FMS1 □ -116 M 1 □ □ 1 □ □ □

Working Mode
R. Regular (Unidirectional)
B. Bidirectional

Power Handling
0. Regular 500mW
1. Hi-power: 100μJ for pulsed or 5W for CW
2. Others

Operating Wavelength
1. C Band
2. L Band
3. C & L Band
4. Others

Fiber Length
1. 0. 5 +/- 0.1m
2. 1.0 +/- 0.1m
3. Others

Dimension
1. Standard
2. Others

Fiber Type
1.250μm fiber
2.900μm fiber
3. 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

Add: Rm#802, Bldg#57, Qingdao Optics Valley International Marine Information Port 396 Emei Rd, Qingdao Economics & Technology Development Zone, Shandong 266555, China. Tel: +86-532-8695 9098 Fax: +86-532-8676 8589
Website: WWW.Primanex.com.cn Email: Sales@primanex.com.cn