

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™ 1x8 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 maintain the polarization state of incoming optical signal.

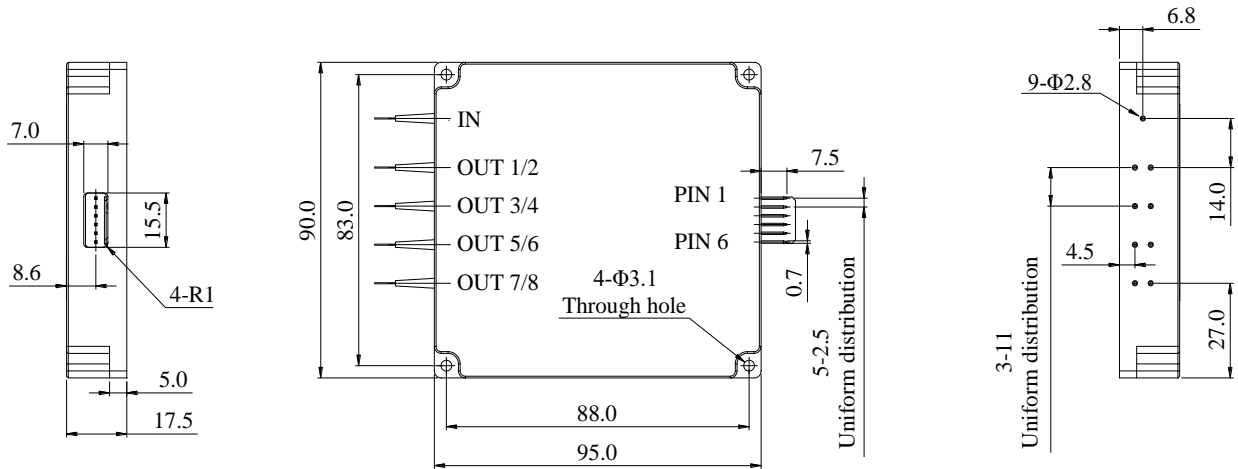
Specifications

| Item | Unit | Parameters | | Notes |
|-------------------------------|--------|----------------|---------------|---|
| | | Unidirectional | Bidirectional | |
| Wavelength Range | nm | 1525 ~ 1565 | | Other wavelengths available |
| Insertion Loss | dB | <3.2 | <3.5 | Add 0.9dB for high-power version |
| Polarization Extinction Ratio | dB | >18 | | |
| Return Loss | dB | >40 | >30 | |
| Crosstalk | dB | >40 | >35 | Typical >50dB |
| 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 | mW | 500 | | Refer to hi-power version for higher power handling requirement |
| Fiber Type | NA | Panda PM fiber | | Customizable |
| Dimension(L×W×H) | mm | 95×90×17.5 | | |

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

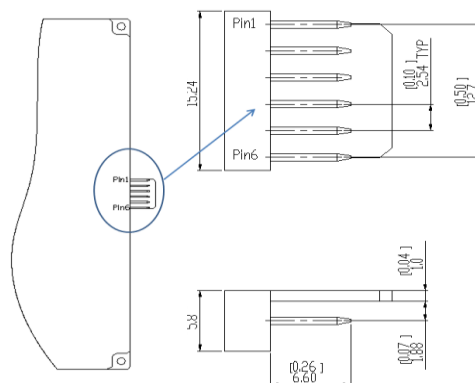
** Specifications are subject to change without notice.

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 | The optical output port1, 2, 3, 4, 5, 6, 7, 8 | - |
| 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 | - |



Electrical Specifications

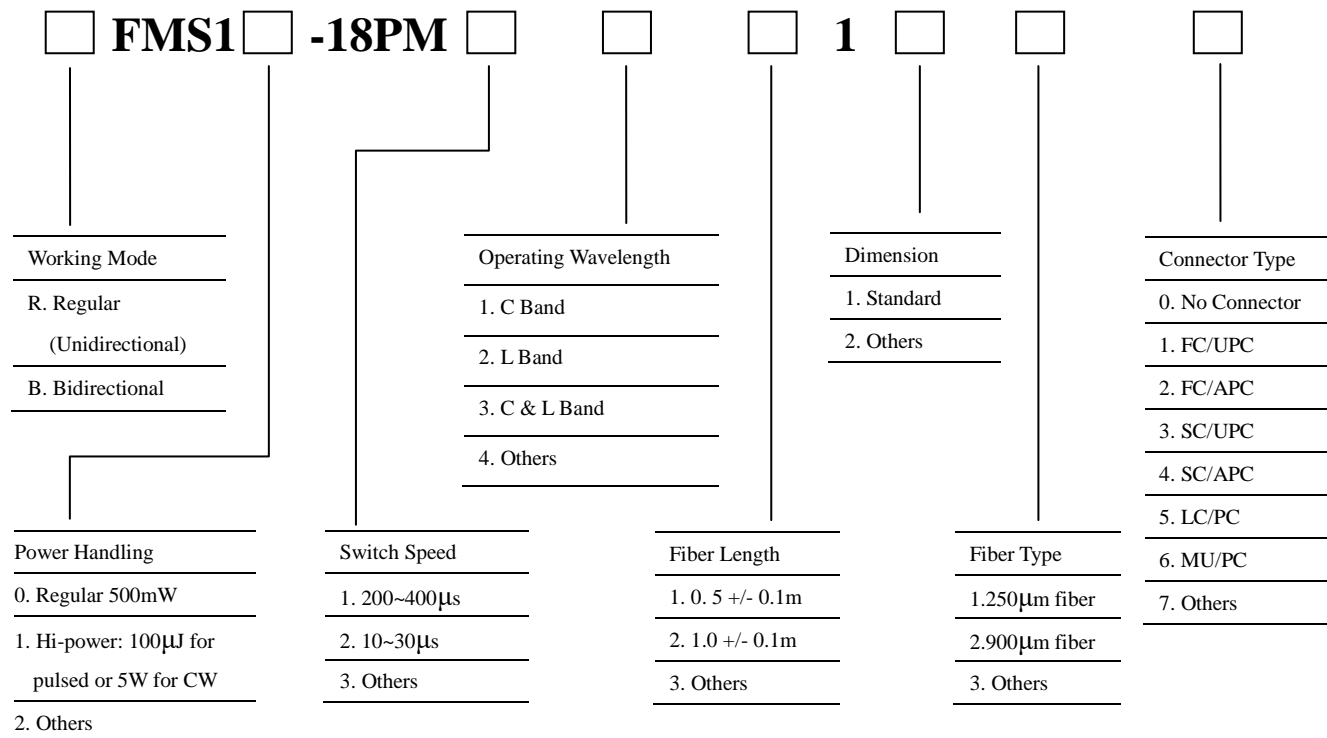
| Parameter | Specification | Unit |
|----------------------------|---------------|------|
| Power Supply Voltage (VCC) | 5 (+/-5%) | V |
| Inrush Current | < 700 | mA |
| Claim Frequency | 600 | Hz |

Pin Control Signal Corresponding to Switching Status:

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

| Switching State | Ctrl 0 | Ctrl 1 | Ctrl 2 | Optical Path | |
|-----------------|--------|--------|--------|----------------------|---------------|
| | | | | Unidirectional | Bidirectional |
| 0 | 0 | 0 | 0 | IN → OUT1, OUT8 → IN | IN ↔ OUT1 |
| 1 | 0 | 0 | 1 | IN → OUT2, OUT7 → IN | IN ↔ OUT2 |
| 2 | 0 | 1 | 0 | IN → OUT3, OUT6 → IN | IN ↔ OUT3 |
| 3 | 0 | 1 | 1 | IN → OUT4, OUT5 → IN | IN ↔ OUT4 |
| 4 | 1 | 0 | 0 | IN → OUT5, OUT4 → IN | IN ↔ OUT5 |
| 5 | 1 | 0 | 1 | IN → OUT6, OUT3 → IN | IN ↔ OUT6 |
| 6 | 1 | 1 | 0 | IN → OUT7, OUT2 → IN | IN ↔ OUT7 |
| 7 | 1 | 1 | 1 | IN → OUT8, OUT1 → IN | IN ↔ OUT8 |

Ordering Information (Example:RFMS10-18PM1121120)



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