

1x8 Mechanical Optical Switch

The Series 1x8 fiber optic switch connects optical channels by redirecting an incoming optical signal into a selected output fiber. This is achieved by using a patent pending optical-to-mechanical configuration activated via an electrical control signal. Latching operation preserves the selected optical path after the drive signal has been removed. The switch has integrated electrical position sensors, and the new material based advanced design significantly reduces moving part position sensitivity, offering unprecedented high stability as well as an unmatched low cost. Electronic driver is available for this series of switches.

Features

- ◆ Unmatched Low Cost
- ◆ Low Optical Distortions
- ◆ High Isolation
- ◆ High Reliability
- ◆ Epoxy-Free Optical Path

Applications

- ◆ Channel Blocking
- ◆ Configurable Add/Drop
- ◆ System Monitoring
- ◆ Instrumentation

Specifications

| | | | |
|-----------------------------------|-------------------------------|------------------------------------|------------------------|
| Operating Wavelength | 1260~1620nm (SM) 850nm(MM) | Insertion Loss | ≤1.2dB |
| Wavelength Dependent Loss | ≤0.35dB | Polarization Dependent Loss | ≤0.05dB |
| Temperature Dependent Loss | ≤0.25dB | Return Loss | SM≥50dB MM≥30dB |
| Cross Talk | SM≥55dB MM≥35dB | Switch Time | ≤8ms |
| Repeatability | ≤±0.02dB | Durability | ≥10 ⁷ times |
| Operating Voltage | 3 or 5V | Switch Type | Non-Latching/Latching |
| Operating Temperature | -20~+70°C | Storage Temperature | -40~+85°C |
| Optical Power | ≤500mW | Dimension | 35.0L×35.0W×9H mm |

Pin Configurations

Latching Type:

| Type | Optical Route | Relay | Electric Drive | | | | State Sensor | | | |
|------|----------------------|--------|----------------|-------|-------|--------|--------------|---------|---------|---------|
| | | | Pin 1 | Pin 5 | Pin 6 | Pin 10 | Pin 2-3 | Pin 3-4 | Pin 7-8 | Pin 8-9 |
| 1x8 | Input- Port 1(Black) | Relay1 | -- | -- | GND | V+ | Close | Open | Open | Close |

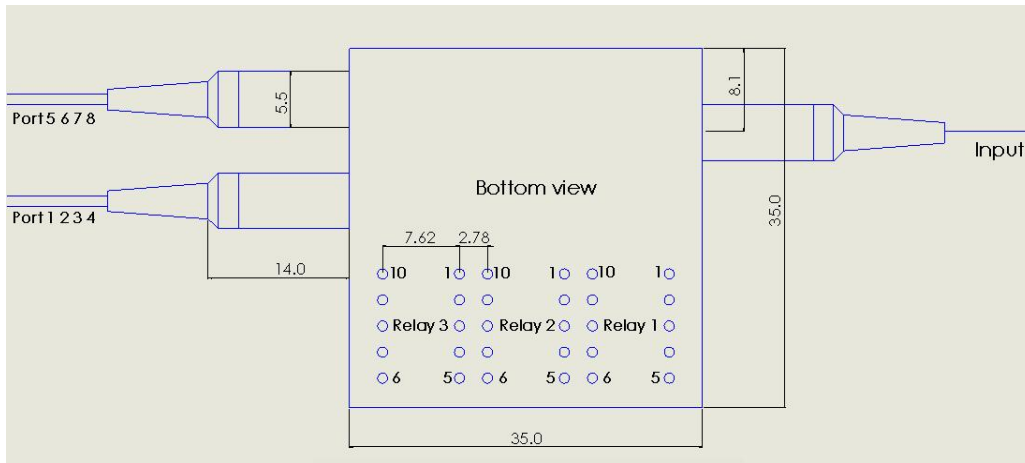
| | | | | | | | | | | |
|--|----------------------|--------|----|-----|-----|----|-------|-------|-------|-------|
| | | Relay2 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | | Relay3 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | Input- Port 2 (red) | Relay1 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | | Relay2 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | | Relay3 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | Input- Port 3(blue) | Relay1 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | | Relay2 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | | Relay3 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | Input- Port 4(White) | Relay1 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | | Relay2 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | | Relay3 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | Input- Port 5(Black) | Relay1 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | | Relay2 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | | Relay3 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | Input- Port 6 (red) | Relay1 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | | Relay2 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | | Relay3 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | Input- Port 7(blue) | Relay1 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | | Relay2 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | | Relay3 | -- | -- | GND | V+ | Close | Open | Open | Close |
| | Input- Port 8(White) | Relay1 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | | Relay2 | V+ | GND | -- | -- | Open | Close | Close | Open |
| | | Relay3 | V+ | GND | -- | -- | Open | Close | Close | Open |

Non-Latching Type:

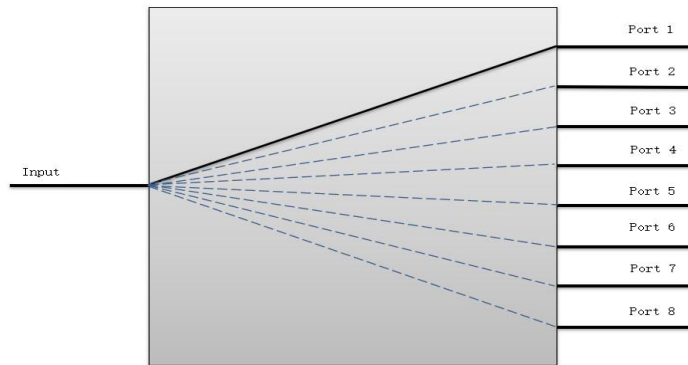
| Type | Optical Route | Relay | Electric Drive | | | | State Sensor | | | |
|-------------------------|----------------------|--------|----------------|-------|-------|--------|--------------|---------|---------|---------|
| | | | Pin 1 | Pin 5 | Pin 6 | Pin 10 | Pin 2-3 | Pin 3-4 | Pin 7-8 | Pin 8-9 |
| 1x8 Non-Latching | Input- Port 1(Black) | Relay1 | -- | -- | -- | -- | Close | Open | Open | Close |
| | | Relay2 | -- | -- | -- | -- | Close | Open | Open | Close |
| | | Relay3 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | Input- Port 2 (red) | Relay1 | -- | -- | -- | -- | Close | Open | Open | Close |
| | | Relay2 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | | Relay3 | -- | -- | -- | -- | Close | Open | Open | Close |
| | Input- Port 3(blue) | Relay1 | -- | -- | -- | -- | Close | Open | Open | Close |
| | | Relay2 | -- | -- | -- | -- | Close | Open | Open | Close |
| | | Relay3 | -- | -- | -- | -- | Close | Open | Open | Close |
| | Input- Port 4(White) | Relay1 | -- | -- | -- | -- | Close | Open | Open | Close |

| | | | | | | | | | | |
|--------|----------------------|--------|----|----|-----|------|-------|-------|-------|-------|
| | | Relay2 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | | Relay3 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | Input- Port 5(Black) | Relay1 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | | Relay2 | -- | -- | -- | -- | Close | Open | Open | Close |
| | | Relay3 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | Input- Port 6 (red) | Relay1 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | | Relay2 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | | Relay3 | -- | -- | -- | -- | Close | Open | Open | Close |
| | Input- Port 7(blue) | Relay1 | V+ | -- | -- | GND | Open | Close | Close | Open |
| | | Relay2 | -- | -- | -- | -- | Close | Open | Open | Close |
| | | Relay3 | -- | -- | -- | -- | Close | Open | Open | Close |
| | Input- Port 8(White) | Relay1 | V+ | -- | -- | GND | Open | Close | Close | Open |
| Relay2 | | V+ | -- | -- | GND | Open | Close | Close | Open | |
| Relay3 | | V+ | -- | -- | GND | Open | Close | Close | Open | |

Mechanical Dimensions (Unit:mm)



Optical Route



Ordering Information

| | | | | | | | | |
|--------|-------|--------------|---------------|-----------|--------------|-----------|----------------|------------|
| RD-FSW | -1x8- | -Wavelength- | -Switch Type- | -Voltage- | -Fiber Type- | -Package- | -Fiber length- | -Connector |
|--------|-------|--------------|---------------|-----------|--------------|-----------|----------------|------------|

| | | | | | | | | |
|--|--|-------------|---------------------|-----------|------------|-----------|-----------|-----------|
| | | | | | | | | - |
| | | 1060=1 | Latching=1 | 3V=3 | SM28=1 | Bare | 0.25m=1 | None=1 |
| | | C+L=2 | Non-latching=2 | 5V=5 | 50/125=5 | fiber=1 | 0.5m=2 | FC/PC=2 |
| | | 1310=3 | MINI Latching=3 | Special=0 | 62.5/125=6 | 900um | 1.0m=3 | FC/APC=3 |
| | | 1410=4 | MINI Non-latching=4 | | Special=0 | tube=3 | Special=0 | SC/PC=4 |
| | | 1550=5 | Special=0 | | | Special=0 | | SC/APC=5 |
| | | 650=6 | | | | | | ST/PC=6 |
| | | 780=7 | | | | | | LC/PC=7 |
| | | 1260-1610=A | | | | | | Duplex |
| | | 1310/1550=9 | | | | | | LC=8 |
| | | 850=8 | | | | | | Special=0 |
| | | Special=0 | | | | | | |