# 850nm 1x8 MM Mechanical Optical Switch

850nm 1x8 MM Mechanical Optical Switch is an optoelectronic passive product which can switch or operate the light signal in the optical transmission line or integrated optical path. It's widely used in fiber communication, fiber optic sensor and optical testing systems, high power type is available upon request.

**Application:**

Fiber Communication
Fiber Optic Sensor
Testing System
Lab & Research

**Features:**

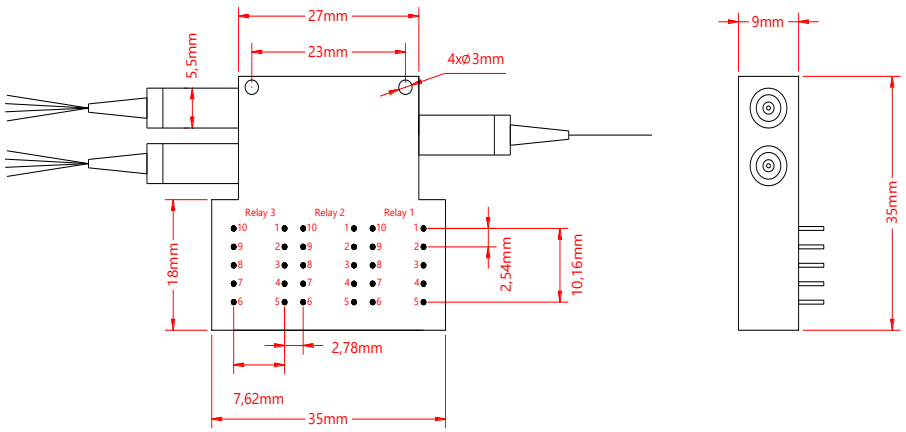
Low Insertion Loss
High Switching Speed
RoHs Compliant
High Reliability

**Specification:**

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Center Wavelength | λ | 850 | nm |
| Bandwidth | BW | ±30 | nm |
| Typ. Insertion Loss | IL | 0.6 | dB |
| Max. Insertion Loss | IL | 0.8 | dB |
| Max. Polarization Dependent Loss | PDL | 0.1 | dB |
| Max. Wavelength Dependent Loss | WDL | 0.25 | dB |
| Max. Temperature Dependent Loss | TDL | 0.25 | dB |
| Min. Return Loss | RL | 30 | dB |
| Min. Cross Talk | CT | 35 | dB |
| Max. Repeatability | | ±0.05 | dB |
| Power Supply | | 3.0 or 5.0 | V |
| Min. Life Time | | $10^7$ | Cycle |
| Max. Switching Time | | 8 | ms |
| Max. Optical Power (CW) | P | 500 | mW |
| Max. Tensil Load | | 5 | N |
| Fiber Type | | 50/125 or 62.5/125 MM fiber | - |
| Operating Temperature | T | -5~70 | ℃ |
| Storage Temperature | T | -40~85 | ℃ |
| Package Dimension | | L35xW35xH9 | mm |

Notice: Above specifications are tested at center wavelength without connector in room temperature @23℃.
For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower.

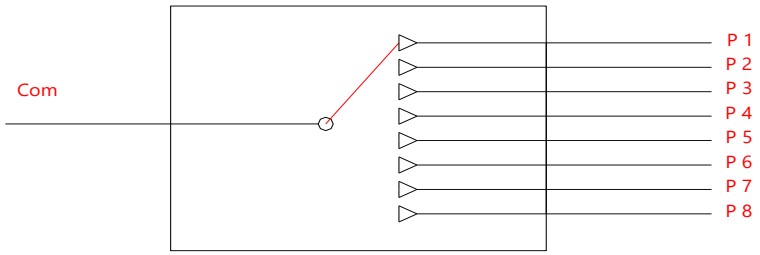
**Drawing:**



**Pin Information:**

| Type for 1x8 | Optical Path | | Electric Drive | | | | Status Sensor | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Pin 1 | Pin 5 | Pin 6 | Pin 10 | Pin 2-3 | Pin 3-4 | Pin 7-8 | Pin 8-9 |
| Latching | Com - P1 | Relay 1 | - | - | GND | V+ | Close | Open | Open | Close |
| | | Relay 2 | - | - | GND | V+ | Close | Open | Open | Close |
| | | Relay 3 | V+ | GND | - | - | Open | Close | Close | Open |
| | Com - P2 | Relay 1 | - | - | GND | V+ | Close | Open | Open | Close |
| | | Relay 2 | V+ | GND | - | - | Open | Close | Close | Open |
| | | Relay 3 | - | - | GND | V+ | Close | Open | Open | Close |
| | Com - P3 | Relay 1 | - | - | GND | V+ | Close | Open | Open | Close |
| | | Relay 2 | - | - | GND | V+ | Close | Open | Open | Close |
| | | Relay 3 | - | - | GND | V+ | Close | Open | Open | Close |
| | Com - P4 | Relay 1 | - | - | GND | V+ | Close | Open | Open | Close |
| | | Relay 2 | V+ | GND | - | - | Open | Close | Close | Open |
| | | Relay 3 | V+ | GND | - | - | Open | Close | Close | Open |
| | Com - P5 | Relay 1 | V+ | GND | - | - | Open | Close | Close | Open |
| | | Relay 2 | - | - | GND | V+ | Close | Open | Open | Close |
| | | Relay 3 | V+ | GND | - | - | Open | Close | Close | Open |
| | Com - P6 | Relay 1 | V+ | GND | - | - | Open | Close | Close | Open |
| | | Relay 2 | V+ | GND | - | - | Open | Close | Close | Open |
| | | Relay 3 | - | - | GND | V+ | Close | Open | Open | Close |
| | Com - P7 | Relay 1 | V+ | GND | - | - | Open | Close | Close | Open |
| | | Relay 2 | - | - | GND | V+ | Close | Open | Open | Close |
| | | Relay 3 | - | - | GND | V+ | Close | Open | Open | Close |
| | Com - P8 | Relay 1 | V+ | GND | - | - | Open | Close | Close | Open |
| | | Relay 2 | V+ | GND | - | - | Open | Close | Close | Open |
| | | Relay 3 | V+ | GND | - | - | Open | Close | Close | Open |
| Non-Latching | Com - P1 | Relay 1 | - | - | - | - | Close | Open | Open | Open |
| | | Relay 2 | - | - | - | - | Close | Open | Open | Open |
| | | Relay 3 | V+ | - | - | GND | Open | Close | Close | Close |
| | Com - P2 | Relay 1 | - | - | - | - | Close | Open | Open | Open |
| | | Relay 2 | V+ | - | - | GND | Open | Close | Close | Close |
| | | Relay 3 | - | - | - | - | Close | Open | Open | Open |
| | Com - P3 | Relay 1 | - | - | - | - | Close | Open | Open | Open |
| | | Relay 2 | - | - | - | - | Close | Open | Open | Open |
| | | Relay 3 | - | - | - | - | Close | Open | Open | Open |
| | Com - P4 | Relay 1 | - | - | - | - | Close | Open | Open | Open |
| | | Relay 2 | V+ | - | - | GND | Open | Close | Close | Close |
| | | Relay 3 | V+ | - | - | GND | Open | Close | Close | Close |
| | Com - P5 | Relay 1 | V+ | - | - | GND | Open | Close | Close | Close |
| | | Relay 2 | - | - | - | - | Close | Open | Open | Open |
| | | Relay 3 | V+ | - | - | GND | Open | Close | Close | Close |
| | Com - P6 | Relay 1 | V+ | - | - | GND | Open | Close | Close | Close |
| | | Relay 2 | V+ | - | - | GND | Open | Close | Close | Close |
| | | Relay 3 | - | - | - | - | Close | Open | Open | Open |
| | Com - P7 | Relay 1 | V+ | - | - | GND | Open | Close | Close | Close |
| | | Relay 2 | - | - | - | - | Close | Open | Open | Open |
| | | Relay 3 | - | - | - | - | Close | Open | Open | Open |
| | Com - P8 | Relay 1 | V+ | - | - | GND | Open | Close | Close | Close |
| | | Relay 2 | V+ | - | - | GND | Open | Close | Close | Close |
| | | Relay 3 | V+ | - | - | GND | Open | Close | Close | Close |

## Optical Path:




## Electric:

| Type | Voltage | Current | Resistance |
|---|---|---|---|
| 5V Latching | 4.5~5.5V | 20~24mA | 182~220Ω |
| 5V Non-latching | 4.5~5.5V | 28~34mA | 130~159Ω |
| 3V Latching | 2.7~3.3V | 30~36mA | 81~99Ω |
| 3V Non-latching | 2.7~3.3V | 42~51mA | 58~70Ω |

## Ordering Information (Part Number):

**MMSW-WWW-CC-M-D-FF-J-LL-CC**

| WWW | CC | M | D | FF | J | LL | CC |
|---|---|---|---|---|---|---|---|
| **Wavelength** | **Configuration** | **Mode** | **Driving Voltage** | **Fiber Type** | **Fiber Jacket** | **Fiber Length** | **Connector** |
| 850 - 850nm | 18 - 1x8 | L - Latching<br>N - Non-latching | 3 - 3V<br>5 - 5V | M5 - 50/125<br>M6 - 62.5/125 | B - 250um Bare Fiber<br>9 - 900um Loose Tube | 05 - 0.5m<br>10 - 1.0m<br>15 - 1.5m<br>20 - 2.0m<br>SS - Specify | NE - None<br>FA - FC/APC<br>FU - FC/UPC<br>SA - SC/APC<br>SU - SU/APC<br>LA - LC/APC<br>LU - LC/UPC<br>SS - Specify |