# 1x2 Solid-State SM Fiberoptic Switch (Single Side)


ACP's SW Series switch connects optical channels by redirecting an incoming optical signal into a selected output fiber. This is achieved using patent pending non-mechanical proprietary configurations and activated via an electrical control signal. The solid-state operation offers ultra-high reliability and fast switching speed as well as bi-directional performance. The SW fiberoptic switches are true switching solutions for optical networking applications.

## PERFORMANCE SPECIFICATIONS

| Parameter | Specifications | |
|---|---|---|
| Port Configuration | Unidirectional | Bidirectional |
| Operating Wavelength | 1525 ~ 1565 or Custom Wavelengths | |
| Insertion Loss | ≤ 1.1dB | ≤ 1.2dB |
| Polarization Dependent Loss (PDL) | ≤ 0.20dB | ≤ 0.30dB |
| Polarization Mode Dispersion (PMD) | ≤ 0.20ps | ≤ 0.30ps |
| Channel Crosstalk | ≥ 40dB | ≥ 30dB |
| Return Loss | ≥ 40dB | ≥ 30dB |
| Repeatability | ± 0.01dB | |
| Switching Speed (Regular) | 200 ~ 400us | |
| Switching Speed (Ultra-fast) | 10 ~ 30us | |
| Durability (Cycles) | ≥100 Billion | |
| Optical Power | ≤ 500mW | |
| Operating Temperature | -5 to +70°C | |
| Storage Temperature | - 40 to +85°C | |
| Package Dimensions (LxWxH) | 28x7.8x9.5 | |

All values referenced are without connector.

## FEATURES

- Fast Switching Speed
- Ultra-High Reliability
- Latching
- Highly Repeatability
- Low Cost

## APPLICATION

- Optical Network Protection/ Restoration
- Optical Signal Routing
- Configurable Optical Add/Drop
- Transmitter & Receiver Protection
- Network Test Systems
- Instrumentation

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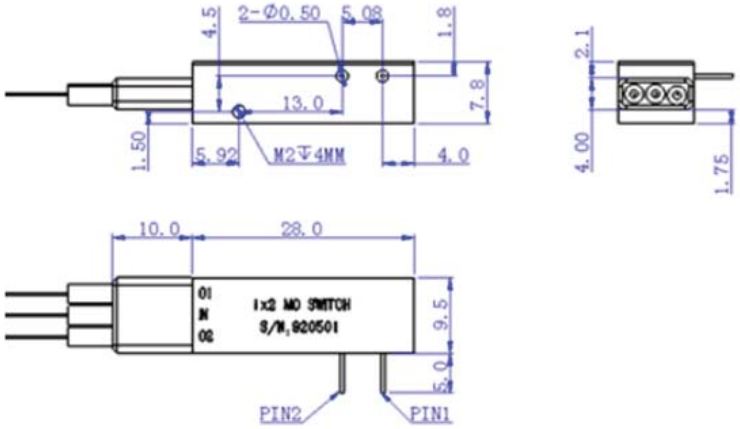
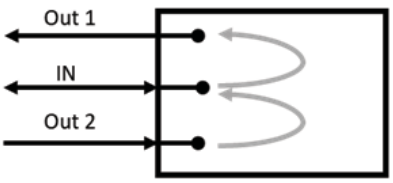
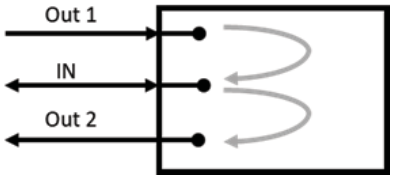
## MECHANICAL DIMENSIONS



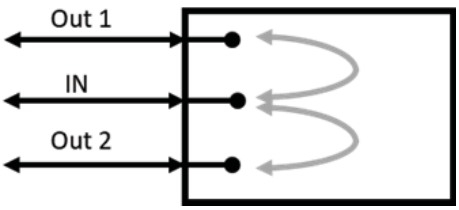

## PORT CONFIGURATIONS

Unidirectional




Bidirectional



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## OPTICAL PATH AND ELECTRICAL PIN CONFIGURATION

| Unidirectional Configuration | | |
|---|---|---|
| Pin 1 | Pin 2 | Optical Path |
| 1 (Voltage = Vcc) | 0 (Voltage = GND) | IN → OUT 1, OUT2 → IN |
| 0 (Voltage = GND) | 1 (Voltage = Vcc) | IN → OUT 2, OUT1→ IN |

| Bidirectional Configuration | | |
|---|---|---|
| Pin 1 | Pin 2 | Optical Path |
| 1 (Voltage = Vcc) | 0 (Voltage = GND) | IN ↔ OUT 1, OUT2 ↔ IN |
| 0 (Voltage = GND) | 1 (Voltage = Vcc) | IN ↔ OUT 2, OUT1↔ IN |

## ELECTRICAL SPECIFICATIONS

| Parameters | Unit | Specifications | |
|---|---|---|---|
| | | Regular | Ultra-fast |
| Switching Speed | us | 200 ~ 400 | 10 ~ 30 |
| Switching Voltage (Vcc) | V | 5 ± 5% | 6 ~ 7 |
| Switching Current | mA | ≤ 100 | ≤ 350 |
| Driving Mode | | Voltage or Pulse | Pulse |
| Pulse Width (Typical) | us | 1,000 | 200 [1)] |
| Claim Frequency | Hz | ≤ 800 | ≤ 3,000 [2)] |

1. The recommended pulse width < 200μs. To operate 20μs operation a customer must apply 7V.
2. When the switch is used for high-frequency (2 ~ 3KHz) switching, do not use it for a long time. If you want to use this for a long time at high frequency, it is recommended to use a cooling device.

## ORDERING INFORMATION

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| Configuration | Switching Speed | Operating Wavelength | Port | Fiber Type* | Pigtail Style | Fiber Length | In Connector | Out Connector |
|---|---|---|---|---|---|---|---|---|
| U=Unidirectional<br>B=Bidirectional | 1=200~400us<br>2=10 ~ 30us | 55=1525 ~ 1565nm<br>Custom | 102=1x2 | 2=SMF-28 Ultra (G.657.A1)<br>3=ClearCurve ZBL(G.657.B3) | 1=Bare fiber<br>2=900um loose tube | 05=0.5m<br>10=1.0m<br>.<br>.<br>.<br>20=2.0m | 0=None<br>1=FC/APC<br>2=FC/PC<br>3=SC/APC<br>4=SC/PC<br>5=ST<br>6=LC/UPC<br>7=LC/APC | 0=None<br>1=FC/APC<br>2=FC/PC<br>3=SC/APC<br>4=SC/PC<br>5=ST<br>6=LC/UPC<br>7=LC/APC |

*1=SMF-28(G.652) is available upon request.