

1x2 Mini Mechanical Optical Switch



Description

The 1×2 Mini Mechanical Optical Switch is a compact fiber optic switch designed to connect Port 1 (P1), the common port, to either Port 2 (P2) or Port 3 (P3). In State A, the optical path is established between P1 and P2, while in State B, it is switched between P1 and P3. Featuring a precision mechanical switching mechanism, the switch provides low insertion loss, high return loss, low crosstalk, and stable optical performance. Its miniature package is ideal for space-constrained optical systems, fiber monitoring, optical sensing, test equipment, and communication networks requiring reliable optical path switching.

Features

- Bi-directional
- Compact Design
- Short Switching Time
- High Stability and Reliability

Applications

- Channel Blocking
- Network Switching
- System Monitoring
- Instrumentation, Testing and Measurement

Specifications

Parameter	Unit	Value	
Center Wavelength	nm	650/780/850/980/1064	1310/1490/1550/1625/1650
Operating Wavelength Range	nm	650-1310	1260-1670
Insertion Loss	dB	≤0.8	
Return Loss	dB	≥30	≥50
Crosstalk	dB	≥35	≥55
Polarization Dependent Loss	dB	≤0.05	
Wavelength Dependent Loss	dB	≤0.25	
Temperature Dependent Loss	dB	≤0.25	
Repeatability	dB	≤±0.02	
Power supply	V	3.0 or 5.0	
Lifetime	Cycle	≥10 ⁷	
Switch Time	ms	≤8	
Max Optical Power (CW)	mW	500	
Fiber Type	-	SMF-28e	
Package Dimensions	mm	L27 x W12.6 x H8.2	
Operating Temperature	°C	-20 to +70	
Storage Temperature	°C	-40 to +85	

Pins

Optical Path		Electric Drive				Sensor Status	
		Pin 1	Pin 5	Pin 6	Pin 10	Pin 2-3/8-9	Pin 3-4/7-8
Latching	A	V+	GND	N/A	N/A	OPEN	CLOSE
	B	N/A	N/A	GND	V+	CLOSE	OPEN
Non-Latching	A	V+	N/A	N/A	GND	OPEN	CLOSE
	B	N/A	N/A	N/A	N/A	CLOSE	OPEN

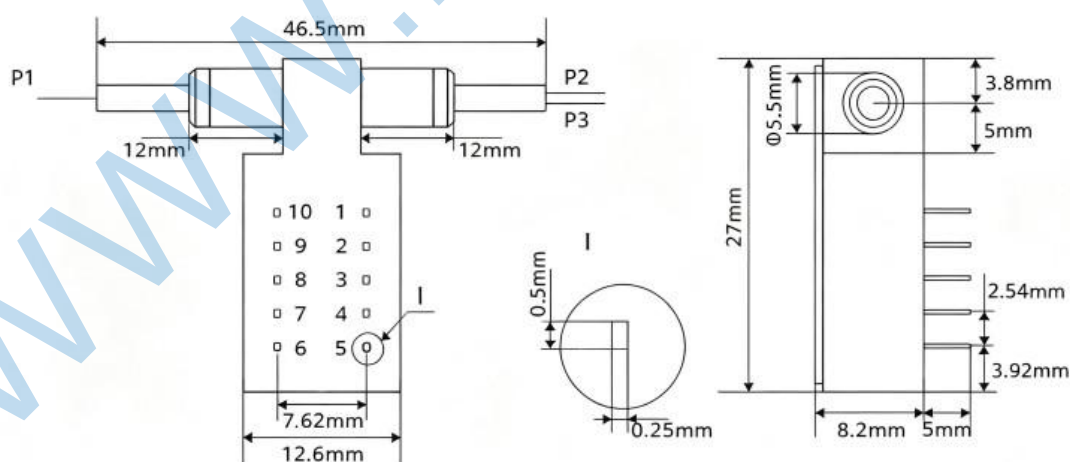
Optical Route

State A	State B
P1-P2	P1-P3
	

Electrical Specifications

Parameter	Voltage	Current	Resistance
5V Latching	4.5~5.5	36~44mA	125Ω
5V Non-Latching	4.5~5.5	26~32mA	175Ω
3V Latching	2.7~3.3	54~66mA	50Ω
3V Non-Latching	2.7~3.3	39~47mA	70Ω

Product Dimensions



Ordering Information

						
Center Wavelength	Voltage	Control Model	Fiber Type	Pigtail Length	Pigtail Diameter	Connector
650nm	3V	Latching	OS2 9/125μm	0.5m	250μm Bare Fiber	None
780nm	5V	Non-Latching	OM1 62.5/125μm	1.0m	900μm Loose Tube	LC/UPC
850nm			OM2 50/125μm	1.5m		LC/APC
980nm			OM3 50/125μm	2.0m		SC/UPC
1064nm			OM4 50/125μm			SC/APC
1310nm						FC/UPC
1490nm						FC/APC
1550nm						ST/UPC
1625nm						ST/APC
1650nm						