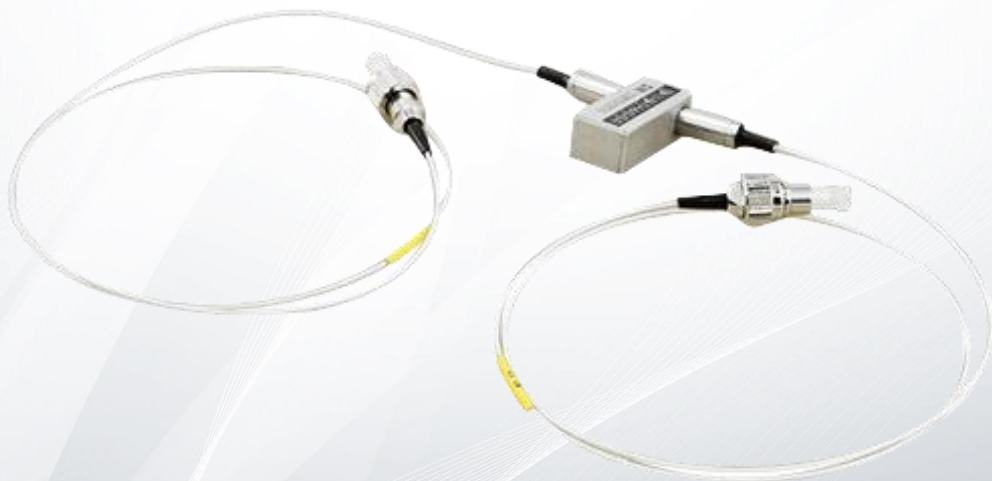


Customized Opto-Mechanical Optical Switches

Data Center & Cloud Computing Infrastructure Solutions



Overview

The customized opto-mechanical optical switches, based on thin film filter technology, which connects optical channels by redirecting an incoming optical signal into selected output fiber.

This is achieved using a patent pending opto-mechanical configuration and activated via an electrical control signal.

FS.COM offers most affordable high performance opto-mechanical fiber optic switches. Our mechanical fiber optic switches are tested in-house prior to shipment to guarantee that they will arrive in perfect physical and working condition.

Features

- Low insertion loss
- Wide Wavelength Range
- Low Crosstalk
- High Stability, High Reliability
- Epoxy-free on Optical Path
- Latching and Non-latching

Applications

- Metropolitan Area Network
- R&D in Laboratory
- System Monitoring
- Configurable OADM

Route States

According to the fiber configurations, optical switches can be divided into 1x1, 1x2, Dual 1x2, Dual 2x2B, etc. Following is the optical routes diagrams for your reference.

State	Status A	Status B
1x1		
1x2		
2x2		
2x2B		
D1x2		
D2x2B		

Technical Data

Parameter	1 × 1 Optical Switch	
Wavelength Range	650nm~1310nm	1260nm~1670nm
Wavelength	650nm/780nm/850nm/980nm/1064nm/1310nm	1310nm/1490nm/1550nm/1625nm/1650nm
Insertion Loss	Typ: 0.6dB, Max: 1.0dB	Typ: 0.5dB, Max: 0.8dB
Return Loss	≥40dB	≥55dB
Crosstalk	≥70dB	
PDL	≤0.05dB	
WDL	≤0.25dB	
TDL	≤0.25dB	
Repeatability	≤0.005dB	
Power supply	3.0V or 5.0V	
Lifetime	≥10 ⁷ Cycle	
Switch Time	≤5ms	
Transmission Power	≤500mW	
Operation Temperature	-40~+85°C	
Storage Temperature	-40~+85°C	
Weight	16g	

Dimensions (H x W x D)

0.33"x0.50"x1.06" [(8.5 ± 0.2)x12.6x27mm]

Pins

Type	Optical Route	Electric Drive				Status Sensor			
1 × 1		Pin 1	Pin 5	Pin 6	Pin 10	Pin 2-3	Pin 3-4	Pin 7-8	Pin 8-9
Latching	Light close	/	/	GND	V+	Close	Open	Open	Close
	P1-P2	V+	GND	/	/	Open	Close	Close	Open
Non-latching	Light close	/	/	/	/	Close	Open	Open	Close
	P1-P2	V+	/	/	GND	Open	Close	Close	Open

Note:

1. V+:positive 2. GND: negative

Technical Data

Parameter	1 × 2 Optical Switch	
Wavelength Range	400nm~850nm, 850nm~1310nm	1260nm~1650nm
Wavelength	450nm/650nm/780nm/850nm/980nm /1064nm/1310nm	1310nm/1490nm/1550nm/1625nm /1650nm
Insertion Loss	Typ: 0.8dB, Max: 1.2dB	Typ: 0.8dB, Max: 1.0dB
Return Loss	≥30dB	≥50dB
Crosstalk	≥35dB	≥50dB
PDL	≤0.05dB	
WDL	≤0.25dB	
TDL	≤0.25dB	
Repeatability	± 0.02dB	
Power supply	3.0V or 5.0V	
Lifetime	≥10 ⁷ Cycle	
Switch Time	≤8ms	
Transmission Power	≤500mW	
Operation Temperature	-40~+85°C	
Storage Temperature	-40~+85°C	
Weight	16g	
Dimensions (H x W x D)	0.33"x0.50"x1.06" [(8.5 ± 0.2)x12.6x27mm]	

Pins

Type	Optical Route	Electric Drive				Status Sensor	
1 × 2		Pin 1	Pin 5	Pin 6	Pin 10	Pin 3-4, Pin 7-8	Pin 2-3, Pin 8-9
Latching	P1-P2	/	/	GND	+5V	Open	Close
	P1-P3	+5V	GND	/	/	Close	Open
Non-latching	P1-P2	/	/	/	/	Open	Close
	P1-P3	+5V	/	/	GND	Close	Open

Technical Data

Parameter	2 × 2 Optical Switch	
Wavelength Range	400nm~850nm, 850nm~1310nm	1260nm~1650nm
Wavelength	450nm/650nm/780nm/850nm/980nm /1064nm/1310nm	1310nm/1490nm/1550nm/1625nm /1650nm
Insertion Loss	Typ: 0.8dB, Max: 1.2dB	Typ: 0.8dB, Max: 1.0dB
Return Loss	≥30dB	≥50dB
Crosstalk	≥35dB	≥50dB
PDL	≤0.05dB	
WDL	≤0.25dB	
TDL	≤0.25dB	
Repeatability	≤ ± 0.02dB	
Power supply	3.0V or 5.0V	
Lifetime	≥10 ⁷ Cycle	
Switch Time	≤8ms	
Transmission Power	≤500mW	
Operation Temperature	-40~+85°C	
Storage Temperature	-40~+85°C	
Weight	16g	

Dimensions (H x W x D) 0.33"x0.50"x1.06" [(8.5 ± 0.2)x12.6x27mm]

Pins

Type	Optical Route	Electric Drive				Status Sensor	
		Pin 1	Pin 5	Pin 6	Pin 10	Pin 3-4, Pin 7-8	Pin 2-3, Pin 8-9
2 × 2		Pin 1	Pin 5	Pin 6	Pin 10	Pin 3-4, Pin 7-8	Pin 2-3, Pin 8-9
	Latching	P1-P4, P2-P3	+5V	GND	/	/	Close
Non-latching	P1-P3, P2-P4	/	/	GND	+5V	Open	Close
	P1-P3, P2-P4	/	/	/	/	Open	Close
	P1-P4, P2-P3	+5V	/	/	GND	Close	Open

Technical Data

Parameter	2 × 2B Optical Switch	
Wavelength Range	650nm~1310nm	1260nm~1670nm
Wavelength	650nm/780nm/850nm/980nm /1064nm/1310nm	1310nm/1490nm/1550nm/1625nm /1650nm
Insertion Loss	Typ: 0.6dB, Max: 1.0dB	Typ: 0.5dB, Max: 0.8dB
Return Loss	≥30dB	≥50dB
Crosstalk	≥35dB	≥50dB
PDL	≤0.05dB	
WDL	≤0.25dB	
TDL	≤0.25dB	
Repeatability	≤ ± 0.02dB	
Power supply	3.0V or 5.0V	
Lifetime	≥10 ⁷ Cycle	
Switch Time	≤8ms	
Transmission Power	≤500mW	
Operation Temperature	-40~+85°C	
Storage Temperature	-40~+85°C	
Weight	16g	

Dimensions (H x W x D)

0.33"x0.50"x1.06" [(8.5 ± 0.2)x12.6x27mm]

Pins

Type	Optical Route	Electric Drive				Status Sensor	
2 × 2B		Pin 1	Pin 5	Pin 6	Pin 10	Pin 3-4, Pin 7-8	Pin 2-3, Pin 8-9
Latching	P1-P3	/	/	GND	+5V	Open	Close
	P1-P4/P2-P3	+5V	GND	/	/	Close	Open
Non-latching	P1-P3	/	/	/	/	Open	Close
	P1-P4/P2-P3	+5V	/	/	GND	Close	Open

Technical Data

Parameter	D1 × 2 Optical Switch	
Wavelength Range	650nm~1310nm	1260nm~1670nm
Wavelength	650nm/780nm/850nm/980nm /1064nm/1310nm	1310nm/1490nm/1550nm/1625nm /1650nm
Insertion Loss	Typ: 0.6dB, Max: 1.0dB	Typ: 0.5dB, Max: 0.8dB
Return Loss	≥35dB	≥50dB
Crosstalk	≥40dB	≥50dB
PDL	≤0.05dB	
WDL	≤0.25dB	
TDL	≤0.25dB	
Repeatability	≤ ± 0.02dB	
Power supply	3.0V or 5.0V	
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Switch Time	≤8ms	
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Storage Temperature	-40~+85°C	
Weight	16g	
Dimensions (H x W x D)	0.33"x0.50"x1.06" [(8.5 ± 0.2)x12.6x27mm]	

Pins

Type	Optical Route	Electric Drive				Status Sensor	
D1 × 2		Pin 1	Pin 5	Pin 6	Pin 10	Pin 3-4, Pin 7-8	Pin 2-3, Pin 8-9
Latching	P1-P2, 1-2	/	/	GND	+5V	Open	Close
	P1-P3, 1-3	+5V	GND	/	/	Close	Open
Non-latching	P1-P2, 1-2	/	/	/	/	Open	Close
	P1-P3, 1-3	+5V	/	/	GND	Close	Open

Technical Data

Parameter	D2 X 2B Optical Switch	
Wavelength Range	650nm~1310nm	1260nm~1670nm
Wavelength	650nm/780nm/850nm/980nm /1064nm/1310nm	1310nm/1490nm/1550nm/1625nm /1650nm
Insertion Loss	Typ: 0.6dB, Max: 1.0dB	Typ: 0.8dB, Max: 1.2dB
Return Loss	≥30dB	≥50dB
Crosstalk	≥35dB	≥50dB
PDL	≤0.05dB	
WDL	≤0.25dB	
TDL	≤0.25dB	
Repeatability	≤ ± 0.02dB	
Power supply	3.0V or 5.0V	
Lifetime	≥10 ⁷ Cycle	
Switch Time	≤8ms	
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Operation Temperature	-40~+85°C	
Storage Temperature	-40~+85°C	
Weight	16g	

Dimensions (H x W x D)

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Pins

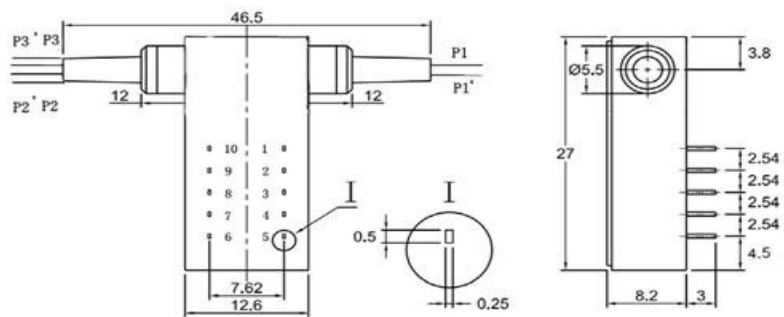
Type	Optical Route	Electric Drive				Status Sensor	
D2 X 2B		Pin 1	Pin 5	Pin 6	Pin 10	Pin 3-4, Pin 7-8	Pin 2-3, Pin 8-9
Latching	P1-P3, P1"-P3"	/	/	GND	+5V	Open	Close
	P1-P4, P1"-P4" P2-P3, P2"-P3"	+5V	GND	/	/	Close	Open
Non-latching	P1-P3, P1"-P3"	/	/	/	/	Open	Close
	P1-P4, P1"-P4" P2-P3, P2"-P3"	+5V	/	/	GND	Close	Open

Electrical Parameters

	Voltage	Current	Resistor
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

Layout and Dimensions

- Height: 8.5 ± 0.2mm (0.33")
- Width: 12.6mm (0.50")
- Depth: 27mm (1.06")





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