

# 2x2 Optical Switch

## Product Description

Lightwave Link Inc. 2x2 Optical Switch (OSW) provides channel selection between a pair of input fibers and output fibers. The switch is a compact device suitable for a wide range of applications; for example, optical networking system protection, measurement system, route diversity, reconfigurable add/drop module. The latching mechanism ensures the optical switch status remains in the selected state during power failure. Lightwave Link Inc. 2x2 Optical Switch fully complies with RoHS Directive 2011/65/EU.



## Features

- Smallest Size
- Low Insertion-Loss
- Fast Switching Speed
- PCB Mountable
- Available in Single Mode / Multi Mode
- RoHS Compliance

## Applications

- Optical network protection and restoration
- Optical network monitoring
- Reconfigurable add/drop multiplexers
- Transmission equipment protection
- Research and development
- Wavelength router

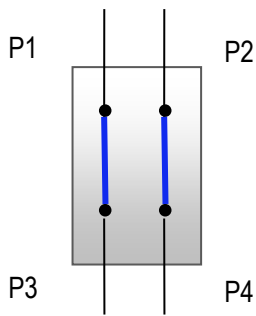
## Performance Specification (Unless otherwise notice, parameters tested without connectors.)

Parameter	9/125 Single Mode			50/125 · 62.5/125 Multi Mode			Unit
	Min.	Typ.	Max.	Min.	Typ.	Max.	
Operating Wavelength Range <sup>1</sup>	1260~1625			770~890; 1260~1360			nm
Insertion Loss	0.8			0.8			dB
Return Loss	55			35			dB
PDL	0.1			-			dB
Crosstalk	60			35			dB
Repeatability	±0.1			±0.1			dB
Optical Switching Time <sup>2</sup>	5			10			ms
Absolute Optical Input Power	500			500			mW
Operating Voltage	Latching: 5.0±10% / Non-Latching: 5.0±10%						VDC
Power Consumption	Latching: 200±10% / Non-Latching: 160±10%						mW
Switching Life Expectancy	3x10 <sup>7</sup>			3x10 <sup>7</sup>			Cycles
Operation Temperature	-5			-5			°C
Storage Temperature	-40			-40			°C
Operation Humidity	5			5			%RH
Storage Humidity	5			5			%RH
Dimension (H*W*L)	7.5 × 13 × 27						mm
Weight <sup>4</sup>	20						g

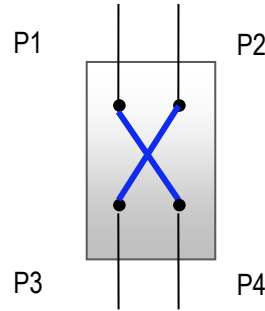
1. Special wavelength would be upon request.

2. A minimum 20 ms of driving force is required.

### Optical Function Diagram



Straight State



Cross State

Port Name	Description	Marking
P1	Input Port 1	Blue
P2	Input Port 2	Green
P3	Output Port 1	Purple
P4	Output Port 2	Yellow

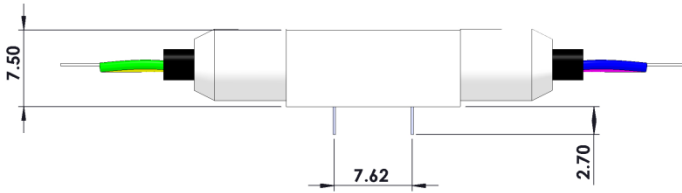
### Pin Designations

Pin Number	Latching Type Pin Function	Non-Latching Type Pin Function
1	Cross Activation Terminal (+)	Bar Activation Terminal (+)
2	Bar State Monitor #1	Bar State Monitor #1
3	Monitor Common #1	Monitor Common #1
4	Cross State Monitor #1	Cross Monitor #1 (Normal Close to Common #1)
5	Cross Activation Terminal (-)	N.C.
6	Bar Activation Terminal (-)	N.C.
7	Cross State Monitor #2	Cross State Monitor #2 (Normal Close to Common #2)
8	Monitor Common #2	Monitor Common #2
9	Bar State Monitor #2	Bar State Monitor #2
10	Bar Activation Terminal (+)	Bar Activation Terminal (-).

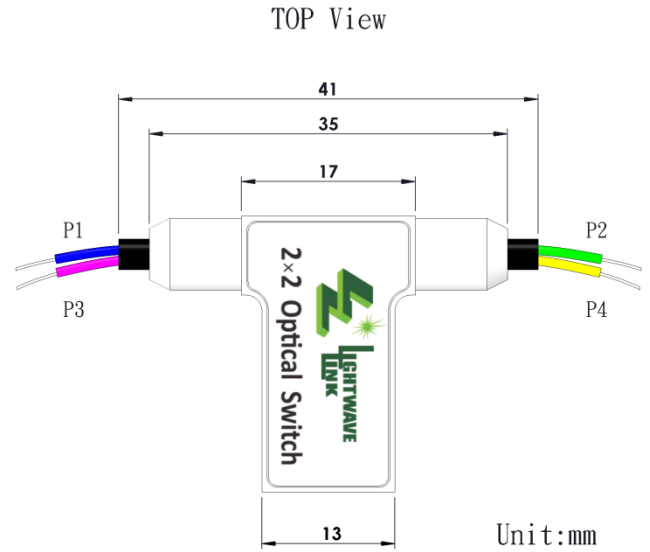
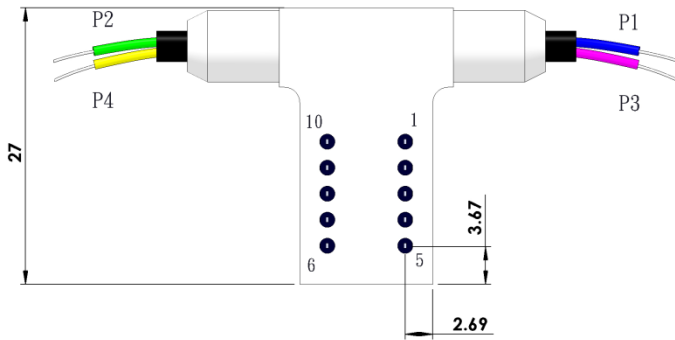
### Switch Control and Monitor Table

Switch Type	Optical Path	Control Pins				Monitor Pins			
		1	5	6	10	2 - 3	3 - 4	7 - 8	8 - 9
Latching	Straight	-	-	0 V	5 V	Close	Open	Open	Close
	Cross	5 V	0 V	-	-	Open	Close	Close	Open
Non-Latching	Straight	-	-	-	-	Close	Open	Open	Close
	Cross	5 V	-	-	0 V	Open	Close	Close	Open

Physical Dimension



2x2 optical Switch



Unit:mm

Ordering Information

Product Version	Input	Output	Operation Function	Fiber Type	Fiber Cabling	Connector Type
FOSWC -	2 -	2 -	[ ] -	[ ] -	[ ] -	[ ]
	2	2	L: Latching N: Non-latching	9: 9/125μm 50: 50/125μm 62: 62.5/125μm	B: Bare fiber L: 900μm loose tube	1: None 2: FC/PC 3: FC/APC 4: SC/APC 5: SC/PC 6: MU/PC 7: ST/PC 8: LC/PC 9: SC/UPC A: MT/RJ B: MU/UPC C: FC/UPC D: LC/APC E: LC/UPC

- Do not open the case of LLI's product without authorization to maintain warranty.