1x8 / 8x1 Optical Switch

Product Description

Lightwave Link 1X8 / 8X1 Fiber Optical Switches optimized for a wide range of fiber-optic applications. Design is based on worldwide telecommunications, data communication, system monitoring and component testing requirements. This 1×8 / 8×1 OSW Module has 1 Input Port, 8 Output Ports or 8 Input Ports, 1 Output port. The Module is controlled by a set of electrical connections. Electrical feedback will be provided by the Module indicating which state the optical switch is in. Lightwave Link Inc. 1×8 / 8×1 OSW Module fully complies with RoHS Directive 2002/95/EC (2008/385/EC).

Features

- Compact Size
- Low Insertion-Loss
- Fast Switching Speed
- Built-In position monitoring
- Latching Type available
- RoHS Compliance

Applications

- Optical network monitoring
- Optical measurement systems

Performance Specification

Parameter	9μm Core Single Mode			50μm or 62.5μm Core Multi Mode			Unit
	Min.	Typ.	Max.	Min.	Typ.	Max.	
Wavelength Range [1]		1260~1630			850/1300		nm
Insertion Loss [2]		1.2	1.8		1.0	1.2	dB
Return Loss		-50					dB
PDL			0.1				dB
WDL			0.3				dB
Crosstalk		-80			-80		dB
Repeatability			±0.1			±0.1	dB
Switching Time [3]			5			5	ms
Absolute Optical Input Power			500			500	mW
Operating Voltage	4.5	5.0	5.5	4.5	5.0	5.5	VDC
Power Consumption			1000±10%				mW
Switching Life Expectancy	$3x10^7$			$3x10^7$			Cycles
Operation Temperature-Normal	-5		70	-5		70	℃
Operation Temperature-Special	-20		70	-20		70	℃
Storage Temperature	-40		85	-40		85	℃
Operation Humidity	5		85	5		85	%RH
Storage Humidity	5		85	5		85	%RH
Dimension (H*W*L)			18 x 100 x 100				mm
Weight [4]			270				g

1.Special wavelength would be upon request.
2.Optical parameters excluded connectors.
3.A minimum ≧20ms pulse is recommended for latching type of switch.
4. The product weight excluded optical connectors.

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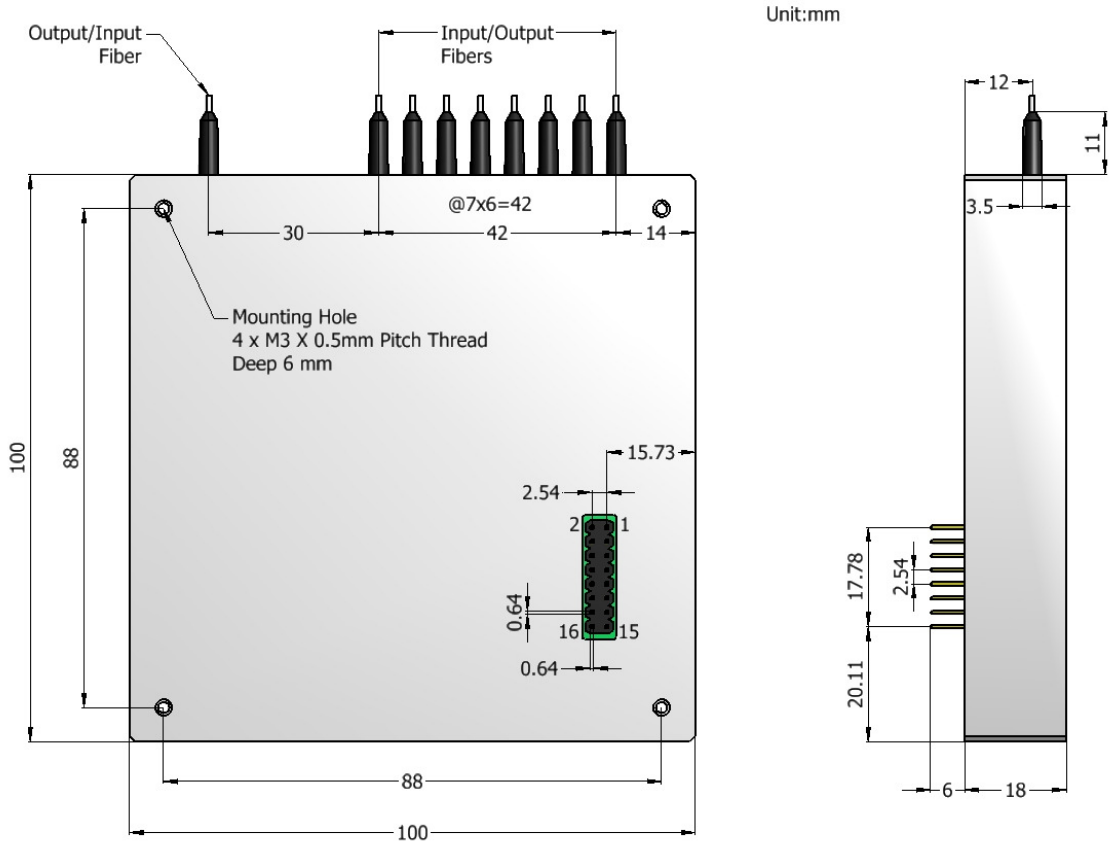
Physical Dimension



PIN Description

Pin Number	Name	Input or Output	Function
1	S0	Input	Port Selection Pin1 (TTL signals)
2	S1	Input	Port Selection Pin2 (TTL signals)
3	S2	Input	Port Selection Pin3 (TTL signals)
4	S3	Input	Port Selection Pin4 (TTL signals)
5	NC	N/A	No Connect
6	M0	Output	Monitor the Selected Pin1
7	M1	Output	Monitor the Selected Pin2
8	M2	Output	Monitor the Selected Pin3
9	M3	Output	Monitor the Selected Pin4
10	NC	N/A	No Connect
11	Vcc	Input	+5.0V Power Supply (TTL Power)
12	GND	Input	Power Ground
13	Vbb	Input	+5.0V Power Supply (OSW Power)
14	Vbb	Input	+5.0V Power Supply (OSW Power)
15	GND	Input	Power Ground
16	GND	Input	Power Ground

Operation of the optical switch

Input Signals				The Selected Path	Monitor Signals			
S3	S2	S1	S0		M3	M2	M1	M0
0	0	0	0	Input / Output Fiber 1	0	0	0	0
0	0	0	1	Input / Output Fiber 2	0	0	0	1
0	0	1	0	Input / Output Fiber 3	0	0	1	0
0	0	1	1	Input / Output Fiber 4	0	0	1	1
0	1	0	0	Input / Output Fiber 5	0	1	0	0
0	1	0	1	Input / Output Fiber 6	0	1	0	1
0	1	1	0	Input / Output Fiber 7	0	1	1	0
0	1	1	1	Input / Output Fiber 8	0	1	1	1

Logic Levels

Command	Minimum (V)	Maximum (V)
High Level Input Voltage, 1	2.0	-
Low Level Input Voltage, 0	0.0	0.8
High Level Output Voltage, 1	2.4	-
Low Level Output Voltage, 0	0.0	0.4

Operation

Operating sequences are listed below:

1. Connect the switch unit with power supply.
2. (Pin11 and Pin13,Pin14 connect to +5.0VDC, Pin12 ,Pin15, Pin16 connects to GND)Use the Pin1 to Pin4 (S0 ~ S3) to switch the switch unit to the selected path.
3. Use the Pin6 to Pin9 (M0 ~ M3) to monitor the selected path of the switch unit.

   Note:

   When Pin1, Pin2 are open, but the switch unit is connected to the power supply, the switch unit is in Input / Output Fiber8.

   The switch unit is in Input / Output Fiber 1 when the Non-Latching type switch unit without power supply.

Ordering Information

FOSW -	1 -	8-	□ -	□ -	□ -	□
Product Version	Input	Output	Operation Function	Fiber Type	Fiber Cabling	Connector Type
	No. of Input	No. of Output	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.