



LightBend™ Full 2x2 MultiMode OptoMechanical Fiberoptic Switch

(Protected by U.S. patent 6823102 and pending patents)

Product Description

The LB Series Full 2x2 multimode OptoMechanical Fiberoptic switch connects optical channels by redirecting incoming optical signals into selected output fibers. This is achieved using a patent pending opto-mechanical configuration and activated via an electrical control signal. Latching operation preserves the selected optical path after the drive signal has been removed. The switch has integrated electrical position sensors. This novel design significantly reduces moving part position sensitivity, offering unprecedented high stability as well as an unmatched low cost. Electronic driver is available for this series of switches.

We offer tight-bend-fiber version, which reduces the minimum bending radius from normal 15 mm to 7 mm. This feature enables smaller overall foot print.



Features

- Low Optical Distortions
- High Reliability
- Fail-Safe Latching
- Epoxy-Free Optical Path

Performance Specifications

LB Series Full MM 2x2 Switch	Min	Typical	Max	Unit
Operation Wavelength	850	1260-1360, 1510-1610		nm
Insertion Loss*, **		0.5	1.0	dB
Wavelength Dependent Loss			0.30	dB
Return Loss **, **	35			dB
Cross Talk **, **	35			dB
Switching Time		3	10	ms
Repeatability			±0.02	dB
Durability	10 ⁷			Cycle
Operating Voltage	5	5	7	VDC
Operating Current		30	60	mA
Voltage Pulse Width (Latching)		20		mS
Switching Type		Latching/Non-Latching		
Operating Temperature	-5		70	°C
Optical Power Handling		300	500****	mW
Storage Temperature	-40		85	°C
Package Dimension	30.0L x 30.0W x 8.5H			mm

* Insertion loss excludes connector loss

** Light source CPR<14dB

*** Our device is designed and optimized for certain laser launch condition which is characterized as CPR value. In general, if application exceeds the specified CPR value, optical performance will become worsen.

**** Continuous operation, for pulse operation call.

Applications

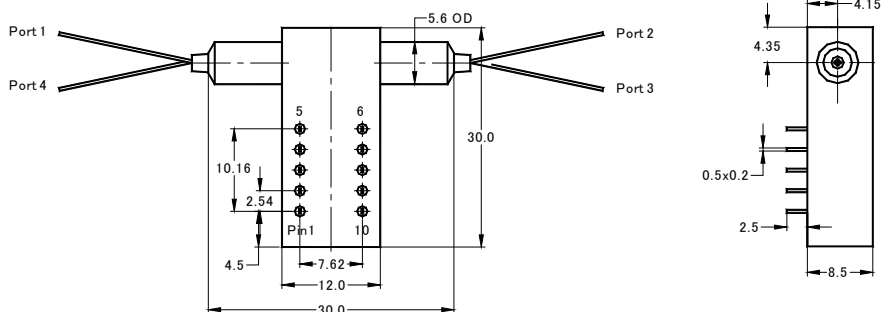
- Channel Blocking
- Configurable Add/Drop
- System Monitoring
- Instrumentation



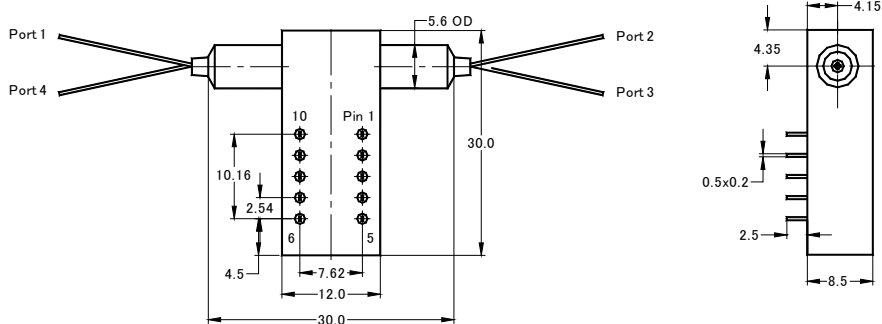
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Mechanical Dimensions (Unit: mm)

Latching Type



Non-Latching Type



Electrical Driving Requirements

The load is a resistive coil which is activated by applying 5V (draw ~ 40mA). Applying too long pulse for the latching version will heat up the device. Agiltron offers a computer control kit with TTL and RS232 interfaces and Windows™ GUI

Latching Type

Optical Path	Electric Drive		Status Sensor					
	Pin 1	Pin 10	Pin 5	Pin 6	Pin 2-3	Pin 3-4	Pin 7-8	Pin 8-9
Port 1 → Port 3 Port 2 → Port 4	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
Port 1 → Port 4 Port 2 → Port 3	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open

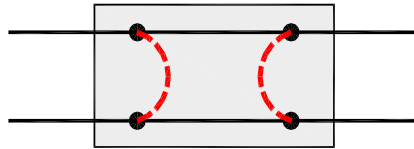
Non-Latching Type

Optical Path	Electric Drive		Status Sensor					
	Pin 1	Pin 10	Pin 5	Pin 6	Pin 2-3	Pin 3-4	Pin 7-8	Pin 8-9
Port 1 → Port 3 Port 2 → Port 4	5V	GND	N/A	N/A	Close	Open	Open	Close
Port 1 → Port 4 Port 2 → Port 3	No Power		N/A	N/A	Open	Close	Close	Open



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Functional Diagram



LB Full 2x2 MM Switch

Ordering Information

LBSW-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector	
	2x2=22 Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 650=6 780=7 850=8 1310 & 1550=9 Special=0	Latch=1 Non-latch=2	Standard=2 Special=0	50/125=5 62.5/125=6 Special=0	Bare fiber=1 900um tube=3 Special=0	0.25m=1 0.5m=2 1.0m=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Duplex LC=8 Special=0

