

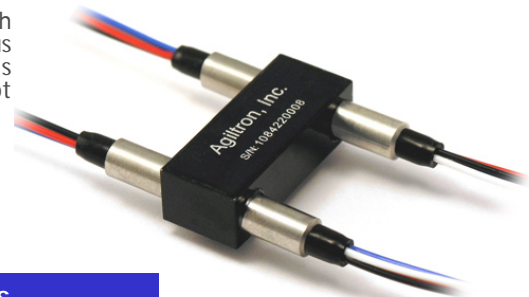
LightBend™ Octo 1x1 Single Mode Fiberoptic Switch

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

Product Description

The LB Series Octo 1x1 single mode OptoMechanical Fiberoptic switch integrated 8 simultaneously activated 1x1 switches in a single compact format. The device connects optical channels by redirecting incoming optical signals into selected output fibers. This is achieved using a patented 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.

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 Octo 1x1 Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Band	1260-1360 or 1510-1610		nm
	Dual Band	1260-1360 and 1510-1610		
	Broad Band	1260-1610		
Insertion Loss*		0.6	1.0	dB
Wavelength Dependent Loss		0.15	0.35(DW ₃)	dB
Polarization Dependent Loss			0.1	dB
Return Loss **	55			dB
Cross Talk **	55			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		28.0L x 27.0W x 8.0H		mm

Notes:

1. 23°C over operating wavelength and all SOP.
2. Excluding Connectors.
3. DW: Dual and Broad Band.

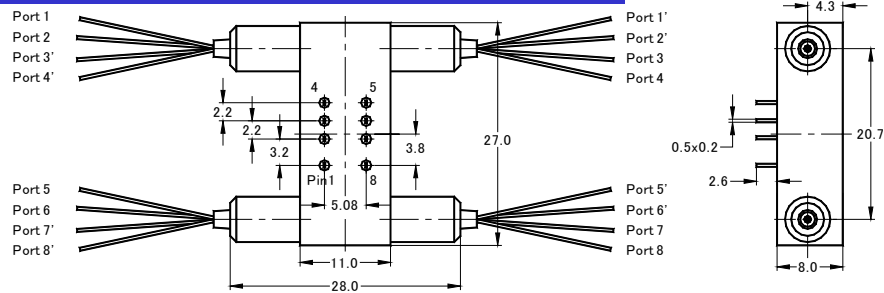
Applications

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



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Mechanical Dimensions (Unit:mm)



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

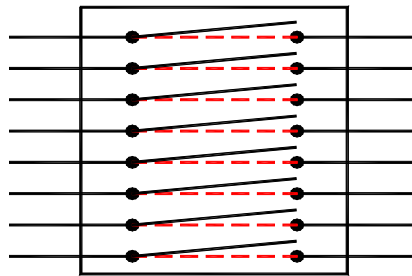
Latching Type

Optical Path	Electric Drive		Status Sensor			
	Pin 1	Pin 8	Pin 2-3	Pin 3-4	Pin 5-6	Pin 6-7
1→1', 2→2' 3→3', 4→4' 5→5', 6→6' 7→7', 8→8'	GND	5V Pulse	Close	Open	Open	Close
Block	5V Pulse	GND	Open	Close	Close	Open

Non-Latching Type

Optical Path	Electric Drive		Status Sensor			
	Pin 1	Pin 8	Pin 2-3	Pin 3-4	Pin 5-6	Pin 6-7
1→1', 2→2' 3→3', 4→4' 5→5', 6→6' 7→7', 8→8'	No Power		Close	Open	Open	Close
Block	5V	GND	Open	Close	Close	Open

Functional Diagram



LB Quad 1x1 MM Switch

Ordering Information

LBOC-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector
	1x1 Latching=11 1x1 N/O*=10 1x1 N/C**=1C Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 650=6 780=7 850=8 1310 & 1550= 9 Special=0	Latching=1 Non-Latching=2 Special=0	Standard=1 Special=0	SFM-28=1 Corning XB=2 Draka BBE=3 Special=0	Bare fiber=1 0.5m=2 1.0m=3 Special=0 900um tube=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

* N/O: LB Octo 1x1 MM Switch Non-Latching normally open.

** N/C: LB Octo 1x1 MM Switch Non-Latching normally close.

