

LightBend™ 1x8 Mini OptoMechanical Fiberoptic Switch

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

Product Description

The LB Series Mini 1x8 fiber optic switch connects optical channels by redirecting an incoming optical signal into a selected output fiber. This is achieved by using a patent pending opto-mechanical configuration 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, and the new material based advanced design significantly reduces moving part position sensitivity, offering unprecedented high stability as well as an unmatched low cost.

Features

- Unmatched Low Cost
- Low Optical Distortions
- High Isolation
- High Reliability
- Epoxy-Free Optical Path

Performance Specifications

LB Series Mini 1x8 SM Switch	Min	Typical	Max	Unit
Operation Wavelength	Dual Band	1260~1360 and 1510~1610		nm
	Single Band	1260~1360 or 1510~1610		nm
	Broad Band	1260 ~ 1610		nm
Insertion Loss ¹	0.5	0.8	1.2	dB
Wavelength Dependent Loss		0.2	0.4	dB
Polarization Dependent Loss	0.05	0.1	0.15	dB
Return Loss	55			dB
Cross Talk	50			dB
Switching Time		3	10	ms
Repeatability			±0.05	dB
Operating Voltage	4.5	5	5.5	VDC
Voltage Pulse Width (Latching)	12	20		ms
Switching Type	Latching / Non-Latching			
Operating Temperature ²	-5		70	°C
Optical Power Handling		300	500	mW
Storage Temperature	-40		85	°C
Fiber Type	SMF-28			
Package Dimension	67.0L x 25.0W x 10.0H			mm

Note:

1. Exclude connectors.

Applications

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



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Electrical Driving Requirements

Agiltron offers a computer control kit with TTL and RS232 interfaces and Windows™ GUI

Latching Type

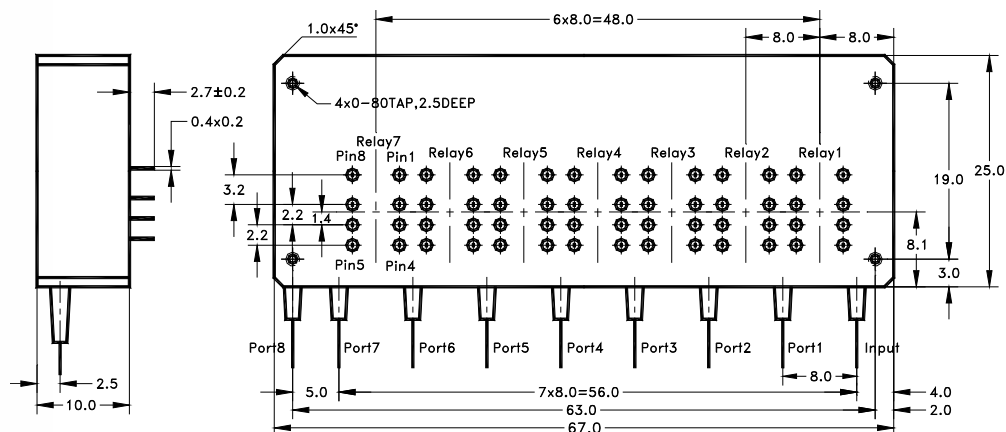
Optical Path	Relay	Electric Drive		Status Sensor			
		Pin 1	Pin 8	Pin 2-3	Pin 3-4	Pin 5-6	Pin 6-7
Input → Port 1	Relay1	5V Pulse	GND	Open	Close	Close	Open
	Relay 2, 3, 4, 5, 6, 7	N/A	N/A				
Input → Port 2	Relay 1	GND	5V Pulse	Close	Open	Open	Close
	Relay 2	5V Pulse	GND	Open	Close	Close	Open
	Relay 3, 4, 5, 6, 7	N/A	N/A				
Input → Port 3	Relay1, 2	GND	5V Pulse	Close	Open	Open	Close
	Relay 3	5V Pulse	GND	Open	Close	Close	Open
	Relay 4, 5, 6, 7	N/A	N/A				
Input → Port 4	Relay 1, 2, 3	GND	5V Pulse	Close	Open	Open	Close
	Relay 4	5V Pulse	GND	Open	Close	Close	Open
	Relay 5, 6, 7	N/A	N/A				
Input → Port 5	Relay 1, 2, 3, 4	GND	5V Pulse	Close	Open	Open	Close
	Relay 5	5V Pulse	GND	Open	Close	Close	Open
	Relay 6, 7	N/A	N/A				
Input → Port 6	Relay1, 2, 3, 4, 5	GND	5V Pulse	Close	Open	Open	Close
	Relay 6	5V Pulse	GND	Open	Close	Close	Open
	Relay 7	N/A	N/A				
Input → Port 7	Relay 1, 2, 3, 4, 5, 6	GND	5V Pulse	Close	Open	Open	Close
	Relay 7	5V Pulse	GND	Open	Close	Close	Open
Input → Port 8	Relay 1, 2, 3, 4, 5, 6, 7	GND	5V Pulse	Close	Open	Open	Close

Non-Latching Type

Optical Path	Relay	Electric Drive		Status Sensor			
		Pin 1	Pin 8	Pin 2-3	Pin 3-4	Pin 5-6	Pin 6-7
Input → Port 1	Relay 1	5V	GND	Open	Close	Close	Open
	Relay 2, 3, 4, 5, 6, 7	No Power		Close	Open	Open	Close
Input → Port 2	Relay 2	5V	GND	Open	Close	Close	Open
	Relay 1, 3, 4, 5, 6, 7	No Power		Close	Open	Open	Close
Input → Port 3	Relay 3	5V	GND	Open	Close	Close	Open
	Relay 1,2, 4, 5, 6, 7	No Power		Close	Open	Open	Close
Input → Port 4	Relay 4	5V	GND	Open	Close	Close	Open
	Relay 1, 2, 3, 5, 6, 7	No Power		Close	Open	Open	Close
Input → Port 5	Relay 5	5V	GND	Open	Close	Close	Open
	Relay 1, 2, 3, 4, 6, 7	No Power		Close	Open	Open	Close
Input → Port 6	Relay 6	5V	GND	Open	Close	Close	Open
	Relay1, 2, 3, 4, 5, 7	No Power		Close	Open	Open	Close
Input → Port 7	Relay 7	5V	GND	Open	Close	Close	Open
	Relay 1, 2, 3, 4, 5, 6	No Power		Close	Open	Open	Close
Input → Port 8	Relay 1, 2, 3, 4, 5, 6, 7	No Power		Close	Open	Open	Close

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Mechanical Dimension (Unit: mm)



Ordering Information

LBMN-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector
	1x8=18 8x1=81 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	Standard=1 Special=0	SMF-28 =1 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 Special= 0