

LightBend™ 1x8 PM OptoMechanical Fiberoptic Switch

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

Product Description

The LB Series 1x8 PM 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.



Performance Specifications

LB Series 1x8 PM Switch	Min	Typical	Max	Unit
Operation Wavelength	850±30,	1310±30,	1550±30	nm
Insertion Loss ^[1]		0.7	1.2	dB
Wavelength Dependent Loss		0.15	0.25	dB
Extinction Ratio	18			dB
Return Loss	50			dB
Cross Talk	50			dB
Switching Time		3	10	ms
Repeatability			±0.05	dB
Operating Voltage	5	5	7	VDC
Voltage Pulse Width (Latching)		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		Panda 400, Panda 250		
Package Dimension		65.0L x 53.0 W x 12.0H		mm

Note:

[1]. Exclude connectors.

[2]. -40 °C to 85 °C is also available.

Features

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

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 10	Pin 5	Pin 6	Pin 2-3	Pin 3-4	Pin 7-8	Pin 8-9
Input → Port 1	Relay 7	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
	Relay1	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
	Relay 2, 3, 4, 5, 6	N/A	N/A	N/A	N/A				
Input → Port 2	Relay 1, 7	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
	Relay 2	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
	Relay 3, 4, 5, 6	N/A	N/A	N/A	N/A				
Input → Port 3	Relay1, 2, 6, 7	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
	Relay 3	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
	Relay 4, 5	N/A	N/A	N/A	N/A				
Input → Port 4	Relay 1, 2, 3, 5, 6, 7	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
	Relay 4	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
Input → Port 5	Relay 1, 2, 3, 4, 5, 6, 7	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
Input → Port 6	Relay1, 2, 3, 4, 6, 7	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
	Relay 5	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
Input → Port 7	Relay 1, 2, 3, 7	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
	Relay 6	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
	Relay 4, 5	N/A	N/A	N/A	N/A				
Input → Port 8	Relay 1, 2	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
	Relay 7	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
	Relay 3, 4, 5, 6	N/A	N/A	N/A	N/A				

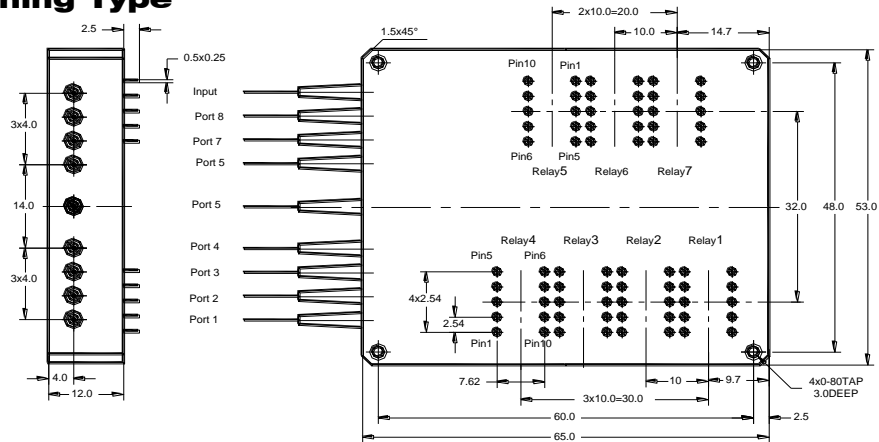
Non-Latching Type

Optical Path	Relay	Electric Drive		Status Sensor					
		Pin 1	Pin 10	Pin 5	Pin 6	Pin 2-3	Pin 3-4	Pin 7-8	Pin 8-9
Input → Port 1	Relay 1	5V	GND	N/A	N/A	Open	Close	Close	Open
	Relay 2, 3, 4, 5, 6, 7	No Power		N/A	N/A	Close	Open	Open	Close
Input → Port 2	Relay 2	5V	GND	N/A	N/A	Open	Close	Close	Open
	Relay 1, 3, 4, 5, 6, 7	No Power		N/A	N/A	Close	Open	Open	Close
Input → Port 3	Relay 3	5V	GND	N/A	N/A	Open	Close	Close	Open
	Relay 1,2, 4, 5, 6, 7	No Power		N/A	N/A	Close	Open	Open	Close
Input → Port 4	Relay 4	5V	GND	N/A	N/A	Open	Close	Close	Open
	Relay 1, 2, 3, 5, 6, 7	No Power		N/A	N/A	Close	Open	Open	Close
Input → Port 5	Relay 1, 2, 3, 4, 5, 6, 7	No Power		N/A	N/A	Close	Open	Open	Close
Input → Port 6	Relay 5	5V	GND	N/A	N/A	Open	Close	Close	Open
	Relay1, 2, 3, 4, 6, 7	No Power		N/A	N/A	Close	Open	Open	Close
Input → Port 7	Relay 6	5V	GND	N/A	N/A	Open	Close	Close	Open
	Relay 1, 2, 3, 4, 5, 7	No Power		N/A	N/A	Close	Open	Open	Close
Input → Port 8	Relay 7	5V	GND	N/A	N/A	Open	Close	Close	Open
	Relay 1, 2, 3, 4, 5, 6	No Power		N/A	N/A	Close	Open	Open	Close

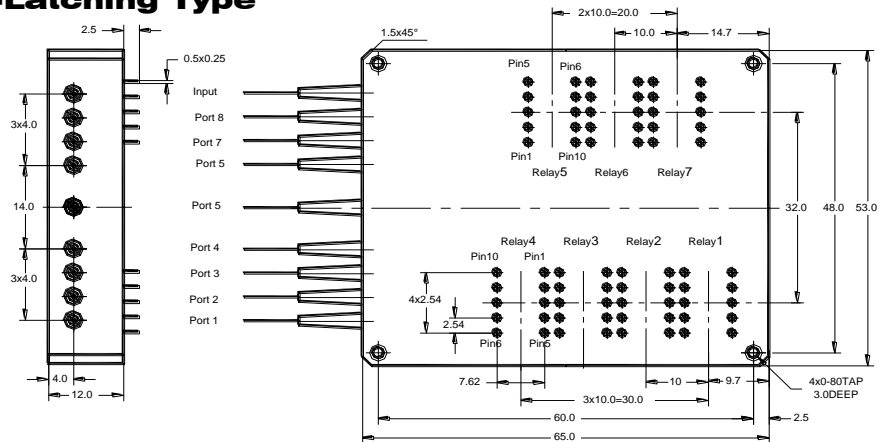
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Mechanical Dimension (Unit: mm)

Latching Type



Non-Latching Type



Ordering Information

LBPM-	Type	Wavelength	Grade	Package Type	Fiber Type	Fiber Length	Connector
<input type="checkbox"/>	1x8=18	1060=1	Latching=1	Standard=5	Panda 400=A	Bare fiber=1	None=1
<input type="checkbox"/>	8x1=81	1310=3	Non-latching=2	Special=0	Panda 250=B	0.5m=2	FC/PC=2
<input type="checkbox"/>	1x5=15	1410=4	Special=0		Special=0	1.0m=3	FC/APC=3
<input type="checkbox"/>	5x1=51	1550=5				Special=0	SC/PC=4
<input type="checkbox"/>	1x6=16	850 =8					SC/APC=5
<input type="checkbox"/>	6x1=61	Special=0					ST/PC=6
<input type="checkbox"/>	1x7=17						LC=7
<input type="checkbox"/>	7x1=71						Special= 0
<input type="checkbox"/>	Special=00						

