LightBend™ PM High Power 1x1, 1x2 OptoMechanical Fiberoptic Switch (Bidirectional)

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

Product Description

The LB series PM High Power 1x1, 1x2 fiber optic switch has a polarization-maintaining fiber switch, which connects optical channels by directing or blocking an incoming optical signal into the output fiber. This is achieved using a patent pending opto-machnical configuration and achieved via an electrical control signal. A latching version preserves the selected optical path after the drive signal has been removed, while the non-latching version defaults to either the open or close state when power is removed. The switches integrated electrical position sensors. The new material-based advanced 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. The switch is bidirectional.

Features

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

Performance Specification

LB PM High Power1x1, 1x2 Switch	Min	Typical	Max	Unit
Operation Wavelength		850, 1310, 1550		nm
Insertion Loss [1]		0.5	0.9	dB
Wavelength Dependent Loss			0.25	dB
Extinction Dependent Loss	18	25		dB
Return Loss [1]	55			dB
Cross Talk [1]	55			dB
Switching Time		4	10	ms
Repeatability			±0.02	dB
Durability	10^7			Cycle
Operating Voltage	4.5	5	6	VDC
Operating Current (Latching/Non-Latching)		30	60	mA
Voltage Pulse Width (Latching)		20		ms
Switching Type		Latching / Non Latching		
Operating Temperature	-5		70	°C
Optical Power Handling			10 [2]	W
Storage Temperature	-40		85	°C
Package Dimension		36.0L x 26.0W x 8.2H		mm

Note:
[1]. Exclude connectors.
[2]. Continuous operation, for pulse operation call.

Applications

- Fault Protection
- Channel Add/Drop
- Channel Switching
- Instrumentation

RoHS Compliant

Revision: 060-14
02-10-16

15 Presidential Way, Woburn, MA 01801 Tel: (781) 935-1200 Fax: (781) 935-2040

www.agiltron.com

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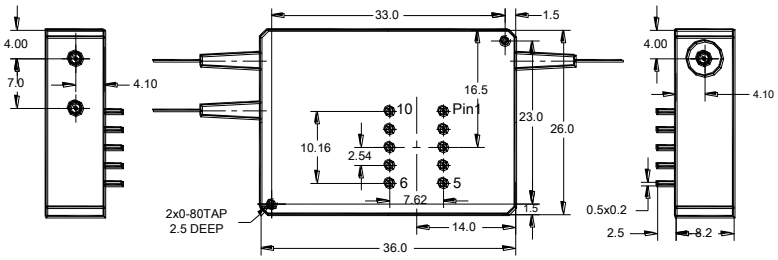
Mechanical Dimensions (Unit:mm)



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 USB interfaces and Windows™ GUI. We also offer RS232 interface as an option – please contact Agiltron sales.

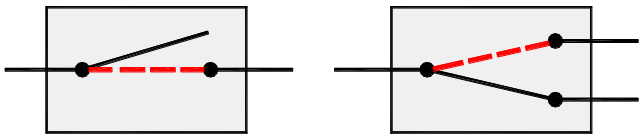
Latching Type

Optical Path	Electrical Drive				Status Sensor			
	Pin 1	Pin 10	Pin 5	Pin 6	Pin2-3	Pin3-4	Pin7-8	Pin 8-9
Port 1 → Port 2	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open
Port 1 → Port 3	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close

Non-Latching Type

Optical Path	Electrical Drive				Status Sensor			
	Pin 1	Pin 10	Pin 5	Pin 6	Pin2-3	Pin3-4	Pin7-8	Pin 8-9
Port 1 → Port 2	5 V	GND	N/A	N/A	Open	Close	Close	Open
Port 1 → Port 3	No Power		N/A	N/A	Close	Open	Open	Close

Function Diagram



LB PM High Power 1x1 Switch

LB PM High Power 1x2 Switch

Ordering Information

LBPH[1]-	☐☐	☐	☐	⌜	☐	☐	☐	[4]
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
	1x1 Latching=11 1x1 N/O[2]=10 1x1 N/C[3]=1C 1x2=12 2x1=21 Special=00	1310=3 1410=4 1550=5 850 =8 C+L= 2 1310 & 1550=9 Special=0	Latching=1 Non-latching=2	Latching=2 Non-Latching=3 Special=0	PM 1550=5 PM 1310=7 PM 850=8 PM 980=9 Special=0	Bare fiber=1 900um tube=3 Special=0	0.25m=1 0.5m=2 1.0m=3 Special=0	

1. **LB**: LightBend switch; **P**: PM; H: High Power.
2. N/O: LB 1x1 PM Switch, Non-Latching, Normally open.
3. N/C: LB 1x1 PM Switch, Non-Latching, Normally close.
4. Agiltron provide high power connector, please call.

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