LightBend™ 1x4 Series Fiber Optic Switch

(PM, PM High Power, High Power)

(Protected by U.S. pending patents)

Product Description

The LB 1x4 Series 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. Electronic driver is available for this series of switches.

Features

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

Applications

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

Performance Specifications

LB 1x4 PM Series Switch		Min	Typical	Max	Unit
Operation Wavelength		850, 980, 1060, 1310, 1550			nm
Insertion Loss [1]			0.7	1.1	dB
Extinction Ratio [1] (PM)		18			dB
Polarization Dependent Loss (SM, PM)				0.1	dB
Return Loss [1]	SM, PM	50			dB
	MM	35			dB
Cross Talk [1]	SM, PM	50			dB
	MM	35			dB
Switching Time			3	10	ms
Repeatability				±0.05	dB
Operating Voltage		4.5	5	6	VDC
Operating Current [2]	Latching			26	mA
	Non-Latching			36	
Switching Type		Latching / Non-Latching			
Operating Temperature		-5		70	°C
Storage Temperature		-40		85	°C
Optical Power Handling	Standard		300	500	mW
	High Power		3	5	W
Fiber Type	SM, MM	SMF-28, MM50/125, MM 62.5/125,			
	PM	Panda 400, Panda 250			
Package Dimension		54L x 31W x 12H			mm

[1]. Exclude connectors.
[2]. Tested at 5VDC for each coil actuation.
[3]. Measure at Light Source CPR<14 dB.

RoHS Compliant

Revision: 9-24-18

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

www.agiltron.com

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Electrical Driving Requirements

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

Latching Type

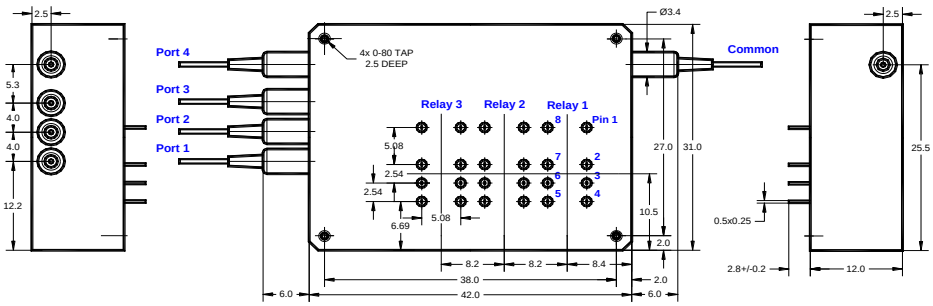
Application Note: Applying a constant driving voltage increases stability. The switches can also be driven by a pulse mode using Agiltron recommended circuit for energy saving.

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

Non-Latching Type

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

Mechanical Dimensions (Unit: mm)



Ordering Information

LB□□-	□□	□	□	□	□	□	□	□
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
PM [1] HP [2] PH [3]	1x4=14 4x1=41 Special=00	1060=1 1310=3 1550=5 780=7 850 =8 980=9 Special=0	Latching=1 Non-latching=2 Special=0	Standard=2 Special=0	SMF-28=1 MM 50/125=5 MM62.5/125=6 Panda 400=A Panda 250=B Special=0	Bare fiber=1 900m loose 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

[1]. LBPM: LB 1x4 PM Switch. [2]. LBHP: LB 1x4 High Power Switch. [3]. LBPH: LB 1x4 PM High Power Switch.

RoHS Compliant

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