LightBend™ High Power 1x1, 1x2 OptoMechanical Fiberoptic Switch

(Bidirectional)

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

Product Description

The LB series 1x1, 1x2 High Power OptoMechanical fiber optic switch can be configured as either a 1x1 switch or a 1x2 switch. Based on Agiltron's patent pending, it can work in high optical power up to 10 W. The switch is driven by a pulsed electrical signal, and the latching operation preserves the selected optical path after the drive signal has been removed. Its integrated status contacts to provide an electrical readout of the switch position. It is designed for high optical power and some specific applications. 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

Applications

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

Performance Specification

LB Series 1x1, 1x2 HP Switch	Min	Typical	Max	Unit
Operation Wavelength		530, 850, 980, 1060, 1310, 1550		nm
Insertion Loss [1]	>850nm:	0.5	0.8	dB
	530nm:	0.7	1.2	dB
Wavelength Dependent Loss			0.25	dB
Polarization Dependent Loss			0.1	dB
Return Loss [1]	55			dB
Cross Talk [1]	50			dB
Switching Time		3	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.
3. Light source CPR<14dB.

RoHS Compliant

Revision: 060-14
02-10-16

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

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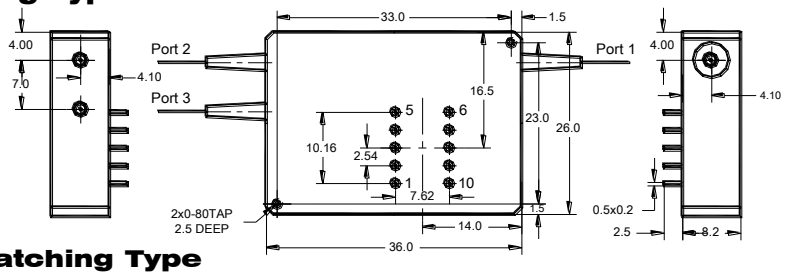
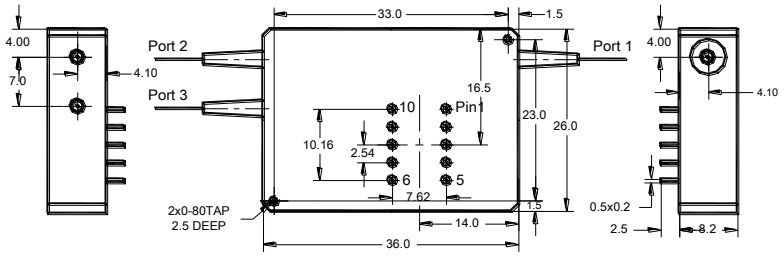
Mechanical Dimensions (Unit:mm)

Latching Type



Non-Latching Type



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	GND	5V Pulse	N/A	N/A	Close	Open	Open	Close
Port 1 → Port 3	5V Pulse	GND	N/A	N/A	Open	Close	Close	Open

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

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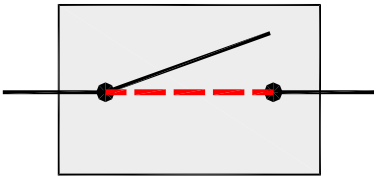
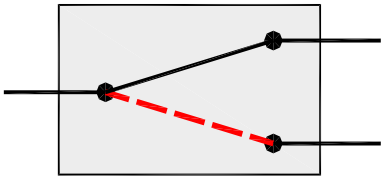
Functional Diagram



LB 1x1 HP Switch



LB 1x2 HP Switch

Ordering Information

LBHP-	□□	□	□	⌜	□	□	□	1*
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
	1x1 Latching=11 1x1 N/O[1]=1O 1x1 N/C[2]=1C 1x2=12 2x1=21 Special=00	1060=1 1310=3 1410=4 1550=5 650=6 780=7 850 =8 Special=0	Latching=1 Non-latching=2	Latching=2 Non-Latching=3 Special=0	SMF-28=1 MM50/125=5 MM62.5/125=6 Special=0	Bare fiber=1 900um tube=3 Special=0	0.25m=1 0.5m=2 1.0m=3 Special=0	

1. N/O: LB 1x1 High Power Switch, Non-Latching, Normally open.
2. N/C: LB 1x1 High Power Switch, Non-Latching, Normally close.

* Agiltron provide high power connector, please call.

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