LightBend™ 3 States OptoMechanical Fiberoptic Switch

(Bidirectional)

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

Product Description

The LB Series 3 states fiber optic switch connects optical channels by redirecting an incoming optical signal into a selected output fiber among the 3 fiber ports. It has 3-states to facilitate anyport to anyport connectivity in a bidirectional setting. This is achieved using a patented 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, which offers unprecedented high stability as well as an unmatched low cost. The switch is fully RoHS compliant. Electronic driver is available for this series of switches. The switch is bidirectional.

We offer tight-bend-fiber version, which reduces the minimum bending radius from normal 15 cm to 7 cm. This feature enables smaller overall foot print.

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 Series 3 States Switch	Min	Typical	Max	Unit
Operation Wavelength	850	1260~1360, 1510~1610		nm
Insertion Loss [1]		0.7	1.0	dB
Wavelength Dependent Loss			0.15	dB
Polarization Dependent Loss			0.15	dB
Return Loss	55			dB
Cross Talk	50			dB
Switching Time		3	10	ms
Repeatability			±0.05	dB
Operating Voltage	5	5	7	VDC
Operating Current (Latching/Non-Latching)		30	60	mA
Voltage Pulse Width (Latching Type)		20		ms
Switching Type		Latching / Non-Latching		
Operating Temperature	-5		70	°C
Optical Power Handling		300	500	mW
Storage Temperature	-40		85	°C
Package Dimension		40.0Lx12.5Wx13.5H		mm

Note:

1. Exclude connectors.

Revision: 060-12
02-17-12

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

www.agiltron.com

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Electrical Driving Requirements

1. Agiltron offers a computer control kit with TTL and RS232 interfaces and Windows™ GUI.
2. Agiltron offers another 3 States Switch (Port 1-Port 1, Port 1-Port 2 and Port 1-Port 3) using the same version.
3. 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.

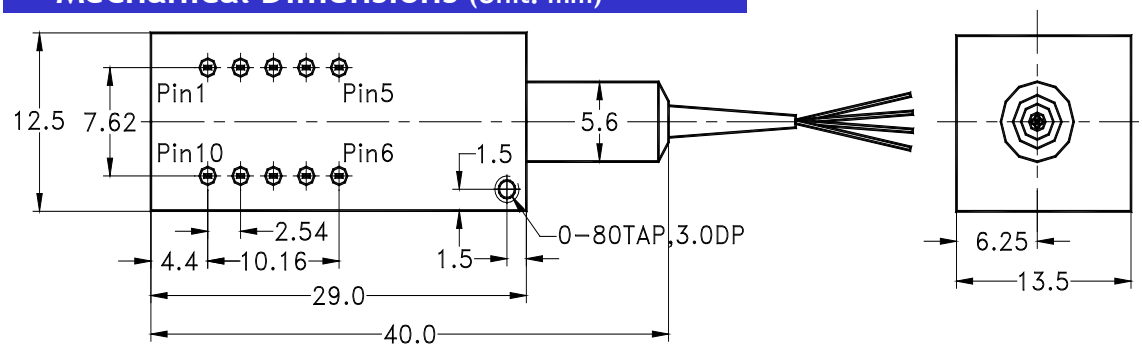
Latching Type

Optical Path	Electric Drive				Status Sensor			
	Pin 1	Pin 10	Pin 2	Pin 9	Pin 3-4	Pin 4-5	Pin 6-7	Pin 7-8
Port 1 → Port 2	5 V pulse	GND	GND	5 V pulse	Open	Close	Close	Open
Port 1 → Port 3	GND	5 V pulse	GND	5 V pulse	Open	Close	Close	Open
Port 2 → Port 3	5 V pulse	GND	5 V pulse	GND	Close	Open	Open	Close

Non-Latching Type

Optical Path	Electric Drive				Status Sensor			
	Pin 1	Pin 10	Pin 2	Pin 9	Pin 2-3	Pin 3-4	Pin 7-8	Pin 8-9
Port 1 → Port 2	No Power		No Power		Open	Close	Close	Open
Port 1 → Port 3	5V pulse	GND	No Power		Open	Close	Close	Open
Port 2 → Port 3	No Power		5V pulse	GND	Close	Open	Open	Close

Mechanical Dimensions (Unit: mm)



Ordering Information

LBSW-	3 0	□	□	1	□	□	□	□
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
		1060=1 C+L=2 1310=3 1410=4 1550=5 650=6 780=7 850=8 1310/1550=9 Special=0	Latch=1 Non-latch=2		SMF-28=1 Tightbend=2 Special=0	Bare fiber=1 900m 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

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