LightBend™ Quad 2x2 Bypass Fiberoptic Switch

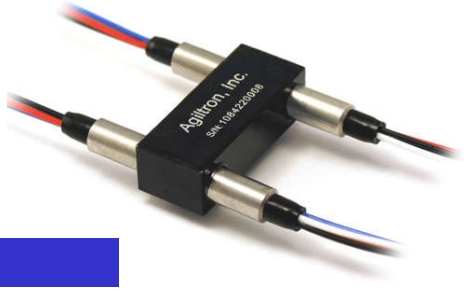
(Bidirectional)

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

Product Description

The LB Series Quad 2x2 Bypass Fiberoptic switch integrated 4 simultaneously activated 2x2 Bypass switches in a single compact format. The device connects optical channels by redirecting incoming optical signals into selected output fibers. This is achieved using a patented opto-mechanical configuration and 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. This novel design significantly reduces moving part position sensitivity, offering unprecedented high stability as well as an unmatched low cost. The switch is bidirectional.

We offer tight-bend-fiber version, which reduces the minimum bending radius. This feature enables smaller overall foot print.



Features

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

Applications

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

Performance Specifications

LB Quad 2x2 Bypass SM Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Band 1260~1360 0r 1510~1620			nm
	Dual Band 1260~1360 and 1510~1620			
	Broad Band 1260~1620			
Insertion Loss [1], [2]		0.6	1.1	dB
Wavelength Dependent Loss		0.15	0.30 [3]	dB
Polarization Dependent Loss			0.1	dB
Return Loss [1], [2]	55			dB
Cross Talk [1], [2]	55			dB
Switching Time		3	10	ms
Repeatability			±0.02	dB
Durability	10^7			Cycle
Operating Voltage	4.5	5	6	VDC
Operating Current		30	60	mA
Voltage Pulse Width (Latching)		20		mS
Switching Type	Latching/Non-Latching			
Operating Temperature	-5		70	°C
Storage Temperature	-40		85	°C
Optical Power Handling		300	500	mW

[1]. Within operating temperature and SOP.
[2]. Excluding Connectors.
[3]. Dual and Broad Band.

RoHS Compliant

Revision: 04-15-16

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

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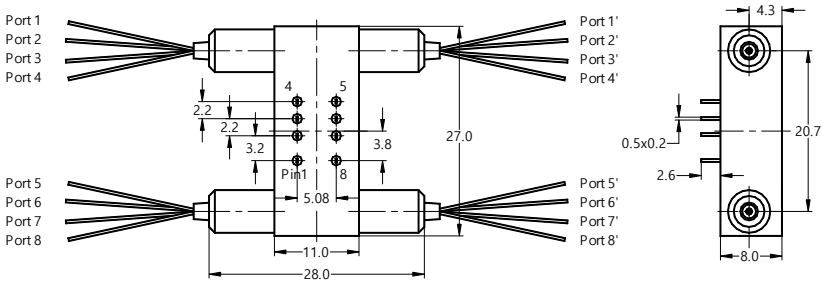
Mechanical Dimensions (Unit: mm)



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.

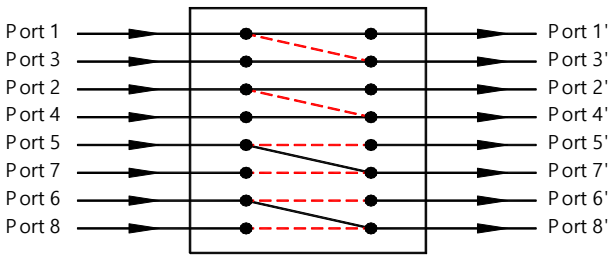
Latching Type

Optical Path	Electric Drive		Status Sensor			
	Pin 1	Pin 8	Pin 2-3	Pin 3-4	Pin 5-6	Pin 6-7
1→1', 2→2' 3→3', 4→4' 5→7', 6→8'	GND	5V Pulse	Close	Open	Open	Close
1→3', 2→4' 5→5', 6→6' 7→7', 8→8'	5V Pulse	GND	Open	Close	Close	Open

Non-Latching Type

Optical Path	Electric Drive		Status Sensor			
	Pin 1	Pin 8	Pin 2-3	Pin 3-4	Pin 5-6	Pin 6-7
1→1', 2→2' 3→3', 4→4' 5→7', 6→8'	No Power		Close	Open	Open	Close
1→3', 2→4' 5→5', 6→6' 7→7', 8→8'	5V	GND	Open	Close	Close	Open

Functional Diagram



Ordering Information

LBQB[1]-								
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
	Quad 2x2=22 Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 850=8 1310 & 1550= 9 1260~1620=B Special=0	Latching=1 Non-Latching=2 Special=0	Standard=1 Special=0	SMF-28=1 Special=0	Bare fiber=1 900um 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]. **LBQB**: **L**ight **B**end **Q**uad 2x2 **B**ypass Switch.

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