LightBend™ Octo 1x2 MultiMode Fiberoptic Switch
(Bidirectional)

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

Product Description

The LB Series Octo 2x2 Bypass multimode switch integrated 8 simultaneously activated 2x2 Bypass Switches in a single compact format. It is designed for 40G transceiver bypass application. 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 Octo 2x2 Bypass MM Switch		Min	Typical	Max	Unit
Operation Wavelength		850, 1310, 1550, 850 & 1310			nm
Insertion Loss[1, 3]			0.5	1.0	dB
Wavelength Dependent Loss				0.25	dB
Return Loss [2, 3]		35			dB
Cross Talk [2, 3]		35			dB
Switching Time			3	10	ms
Repeatability				±0.02	dB
Durability		10^7			Cycle
Operating Voltage		4.5	5	6	VDC
Operating Current [±10%]	Latching		45		mA
	Non-Latching		62		
Voltage Pulse Width (Latching)			20		mS
Switching Type		Latching/Non-Latching			
Operating Temperature		-5		70	°C
Storage Temperature		-40		85	°C
Optical Power Handling 4			300	500	mW
Package Dimension		30.0L x 27.0W x 14.0H			mm

1. Insertion loss excludes connector.
2. Light source CPR<14dB.
3. Our device is designed and optimized for certain laser launch condition which is characterized as CPR value. In general, if application exceeds the specified CPR value, optical performance will become worsen.
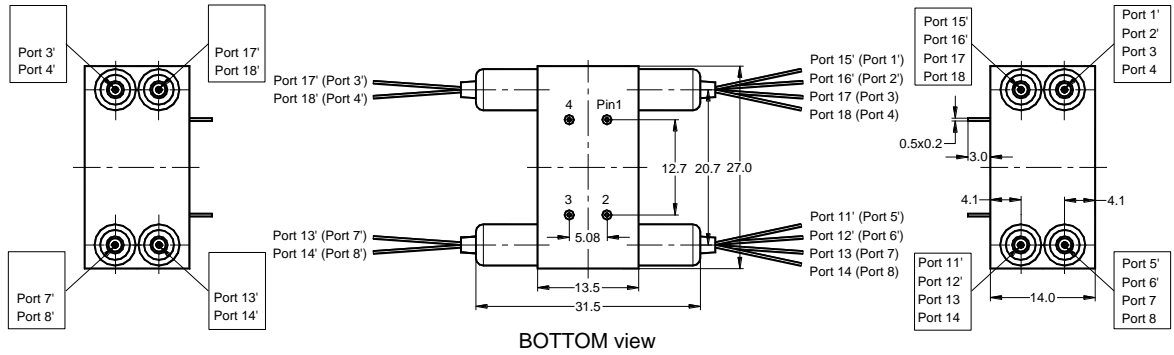4. Continuous operation, for pulse operation call.

RoHS Compliant

Revision: 12-7-16

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Mechanical Dimensions (Unit: mm)

BOTTOM view

Fiber or Loose tube colors:

[1]. Port 1', Port 11', Port 5', and Port 15' are Black.

[2]. Port 2', Port 12', Port 6', and Port 16' are Red.

[3]. Port 3, Port 3', Port 13, Port 13', Port 7, Port 7', Port 17 and Port 17' are Blue.

[4]. Port 4, Port 4', Port 14, Port 14', Port 8, Port 8', Port 18 and Port 18' are white.

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 RS232 interfaces and Windows™ GUI

Latching type

Optical Path	Electrical Drive		Status Sensor
	Pin 1	Pin 4	Pin 2-3
3→3', 4→4', 13→13', 14→14' 7→7', 8→8', 17→17', 18→18'	5V Pulse	GND	Open
3→2', 4→1', 13→12', 14→11' 7→6', 8→5', 17→16', 18→15'	GND	5V Pulse	Close

Non-Latching type

Optical Path	Electrical Drive		Status Sensor
	Pin 1	Pin 4	Pin 2-3
3→3', 4→4', 13→13', 14→14' 7→7', 8→8', 17→17', 18→18'	5V	GND	Open
3→2', 4→1', 13→12', 14→11' 7→6', 8→5', 17→16', 18→15'	No Power		Close

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Functional Diagram

LB Octo 1x2 MM Switch
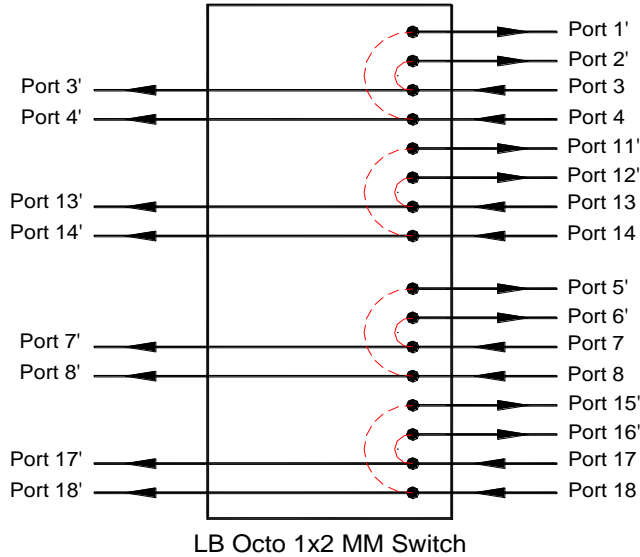
Ordering Information

LOMM*-	☐☐	☐	☐	☐	☐	☐	☐	☐
	Type	**Wavelength**	**Switch**	**Package**	**Fiber Type**		**Fiber Length**	**Connector**
	1x2=12 Special=00	1310=3 1550=5 850=8 850/1310=A Special=0	Latching=1 Non-Latching=2 Special=0	Standard=5 Special=0	50/125=5 62.5/125=6 OM4=7 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 MTP=9 Special=0

* LOMM: **L**ightBend **O**cto 1x2 **M**ulti**M**ode Switch.

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