

LightBend™ Octo Full 2x2 MultiMode Fiberoptic Switch

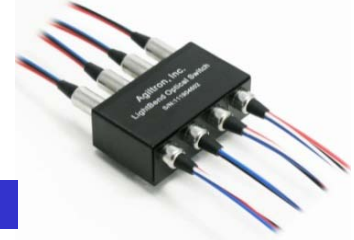
(Bidirectional)

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

Product Description

The LB Series Octo Fiberoptic switch integrated 8 simultaneously activated Dual Full 2x2 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 from normal 15 mm to 7 mm. This feature enables smaller overall foot print.



Performance Specifications

LB Octo Full 2x2 MM Switch	Min	Typical	Max	Unit
Operation Wavelength	850, 1310, 1550, 850 & 1310			nm
Insertion Loss ^{1, 3}	0.7		1.2	dB
Wavelength Dependent Loss	0.30			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	5	5	7	VDC
Operating Current [±10]	Latching		118	mA
	Non-Latching		166	
Voltage Pulse Width (Latching)	20			mS
Switching Type	Latching/Non-Latching			
Operating Temperature	-5	70		°C
Optical Power Handling ⁴	300		500	mW
Storage Temperature	-40	85		°C
Package Dimension	37.2L x 35.5W x 13.2H			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.

Features

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

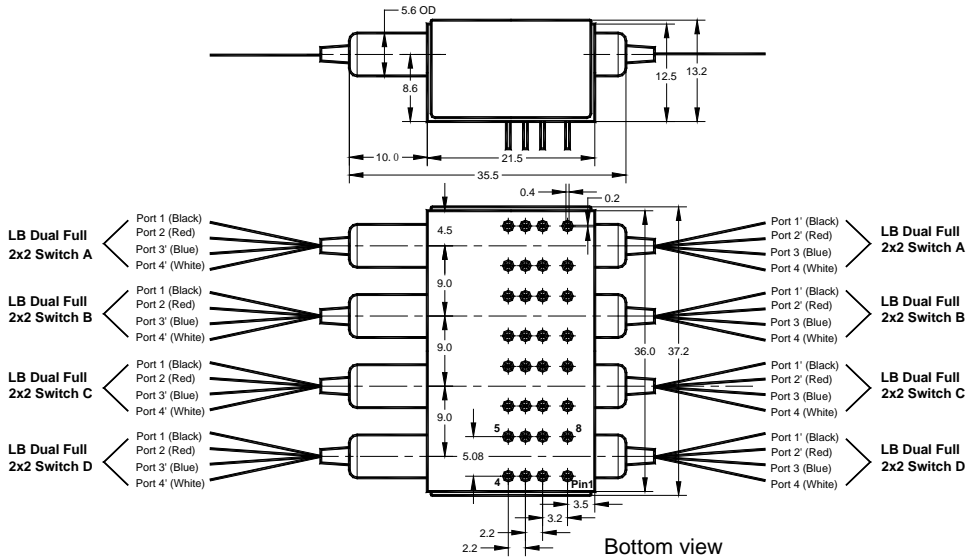
Applications

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



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Mechanical Dimensions (Unit: mm)



Electrical Driving Requirements

The loads are four resistive coils which are activated by applying 5V (draw-160mA). 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 (For LB Dual Full 2x2 MM Switch A, B, C and D)

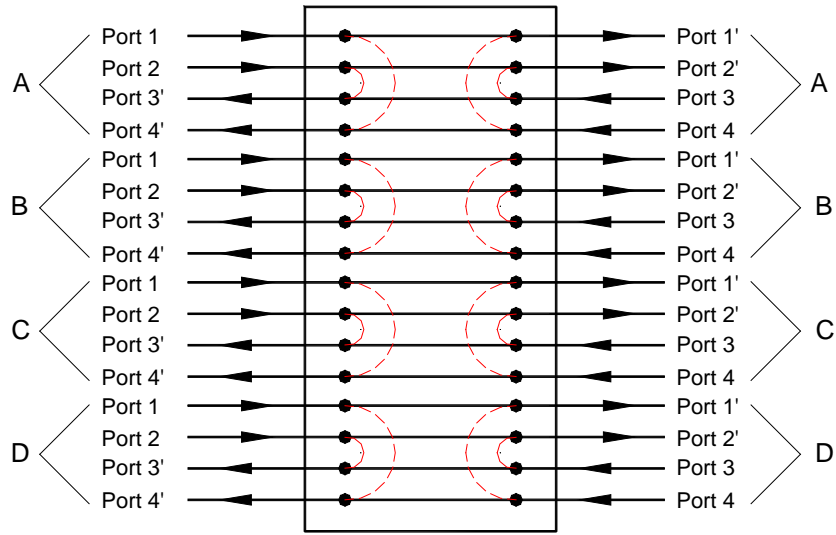
Optical Path	Electrical Drive		Status Sensor			
	Pin 1	Pin 8	Pin 2-3	Pin 3-4	Pin 5-6	Pin 6-7
Port 1 → Port 1' Port 2 → Port 2' Port 3 → Port 3' Port 4 → Port 4'	5V Pulse	GND	Open	Close	Close	Open
Port 1 → Port 4' Port 2 → Port 3' Port 3 → Port 2' Port 4 → Port 1'	GND	5V Pulse	Close	Open	Open	Close

Non-Latching type (For LB Dual Full 2x2 MM Switch A, B, C and D)

Optical Path	Electrical Drive		Status Sensor			
	Pin1	Pin8	Pin2-3	Pin3-4	Pin5-6	Pin 6-7
Port 1 → Port 1' Port 2 → Port 2' Port 3 → Port 3' Port 4 → Port 4'	5V	GND	Open	Close	Close	Open
Port 1 → Port 4' Port 2 → Port 3' Port 3 → Port 2' Port 4 → Port 1'	No Power		Close	Open	Open	Close

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Functional Diagram



LB Octo Full 2x2 MM Switch

Ordering Information

LOFM*-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector	
<input type="checkbox"/> <input type="checkbox"/>	2x2=22 Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 650=6 780=7 850=8 1310 & 1550= 9 Special=0	Latching=1 Non-Latching=2 Special=0	Standard=1 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

* LOFM: LightBend Octo Full Multimode Switch.

