

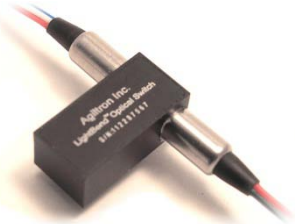
LightBend™ Dual Mini 2x2 Bypass Single Mode Fiberoptic Switch (Bidirectional)

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

Product Description

The LB Series Dual Mini 2x2 Bypass Single Mode OptoMechanical Fiberoptic switch integrated 2 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 from normal 15 mm to 7 mm. This feature enables smaller overall foot print.



Performance Specifications

LB Dual Mini 2x2 Bypass SM Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Band: 1260~1360 or 1510~1620			nm
	Dual Band: 1260~1360 & 1510~1620			
	Broad Band: 1260~1620			
Insertion Loss ^{1 2}		0.6	1.0	dB
Wavelength Dependent Loss		0.15	0.40 (DW ³)	dB
Polarization Dependent Loss			0.1	dB
Return Loss ^{1 2}	55			dB
Cross Talk ¹	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 Type)		20		ms
Switching Type		Latching/Non-Latching		
Operating Temperature	-5		70	°C
Optical Power Handling ⁴		300	500	mW
Storage Temperature	-40		85	°C
Fiber Type		SMF-28		
Package Dimension		28.0L x 20.7W x 8.0H		mm

1. Within operating temperature and SOP.

2. Excludes connector.

3. DW: Dual band and Broad band.

4. Continuous operation, for pulse operation call.

Features

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

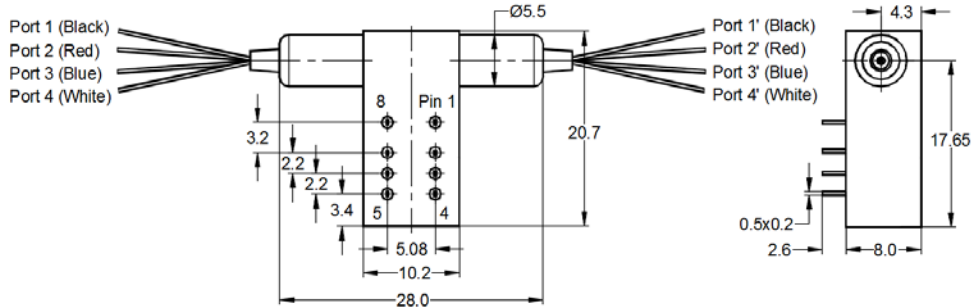
Applications

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



LightBend™ Dual Mini 2x2 Bypass Single Mode Fiberoptic Switch

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.

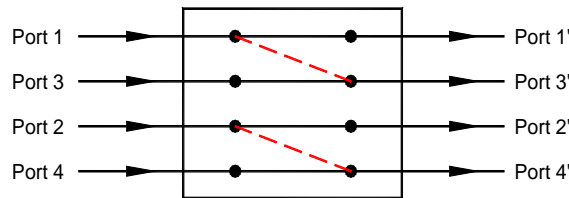
Latching Type

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'	5V Pulse	GND	Open	Close	Close	Open
1→3', 2→4'	GND	5V Pulse	Close	Open	Open	Close

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'	5V	GND	Open	Close	Close	Open
1→3', 2→4'	No Power		Close	Open	Open	Close

Functional Diagram



LB Dual Mini 2x2 Bypass SM Switch

Ordering Information

LMDB*-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Dual 2x2 Bypass=22 Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 650=6 780=7 850=8 1310 & 1550= 9 1260-1620=B Special=0	Latching=1 Non-Latching=2 Special=0	Standard=2 Special=0	SMF-28=1 Corning XB=2 Draka BBE=3 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

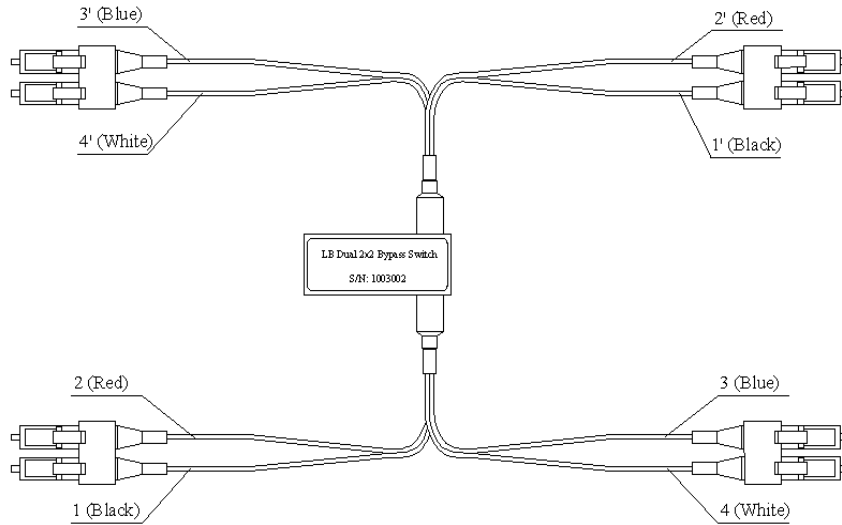
* LMDB: Light Bend Mini Dual Bypass Switch.



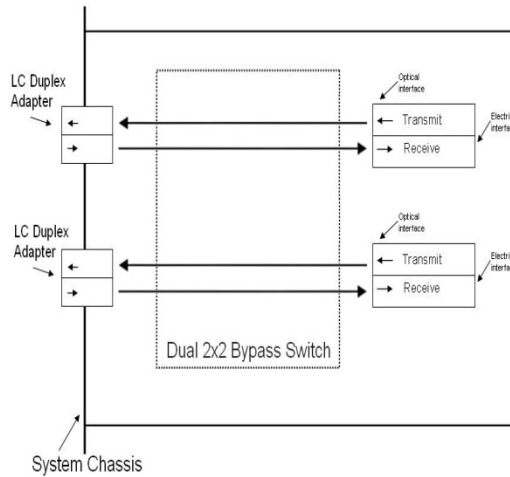
LightBend™ Dual Mini 2x2 Bypass Single Mode Fiberoptic Switch

Application

Prepared with 4 duplex LC connectors and customized fiber length for convenient installation



Normal Mode



Bypass Mode

