

## Features

- Unmatched Low Cost
- Low insertion Loss
- High Channel Isolation
- High Stability, High Reliability
- Epoxy-free on Optical Path
- Latching or Non-latching

## Mini 1x1 1x2 2x2Bypass Optical Switch



## Applications

- Optical Network
- Protection/Restoration
- Optical Singnal Routing
- Configurable Optical Add/Drop
- Transmitter and receiver protection
- Network Test System

## Description

The LB Series miniature fiber optic switch connects optical channels by redirecting incoming optical signals into selected output fibers, in 1x1, 1x2 and 2x2 (bypass) configurations. This is achieved using 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 status contacts to provide an electrical readout of switch position. The new material based advanced design significantly reduces moving part position sensitivity, offering unprecedented high stability as well as an unmatched low cost. It is designed for use in reconfigurable OADM, optical cross-connect system and network switching for fault protection applications. Electronic driver is available for this series of switches. The switch is bidirectional.

## Performance

Parameters			MINI-1X1 1X2 2×2Bypass	
Wavelength	Range	nm	650~1310	1260~1670
Testing	Wavelength	nm	650/780/850/980/1064/1310	1310/1490/1550/1625/1650
Insertion	Loss	dB	1X1	Typ:0.6,Max:1.0
			1X2	Typ:0.6,Max:1.0
			2X2B	Typ:0.8,Max:1.2
Return	Loss	dB	≥30	≥50
Crosstalk		dB	≥35	≥50
PDL		dB	≤0.05	
WDL		dB	≤0.25	
TDL		dB	≤0.25	
Repeatability		dB	≤±0.02	
Power supply		v	3.3 or 5.0	
Lifetime		Cycle	≥10 <sup>7</sup>	
Switch Time		ms	≤8	

Transmission Power	mW	≤500
Operation Temperature	°C	-30~+85
Storage Temperature	°C	-40~+85
Weight	g	16
Dimension	mm	(L)20.5×(W)10×(H)8(±0.2)

## Pins

### Latching Type

LB Ultra-Mini 1x2 Switch

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 2	5V Pulse	GND	Open	Close	Close	Open
Port 1 → Port 3	GND	5V Pulse	Close	Open	Open	Close

LB Ultra-Mini 2x2 Bypass Switch

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 2	5V Pulse	GND	Open	Close	Close	Open
Port 4 → Port 3						
Port 1 → Port 3	GND	5V Pulse	Close	Open	Open	Close

### Non-Latching Type

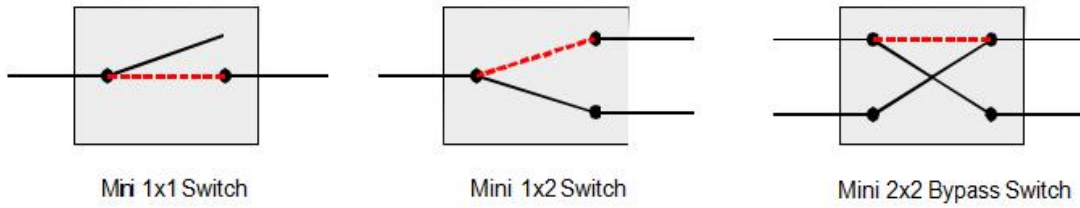
LB Ultra-Mini 1x2 Switch

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

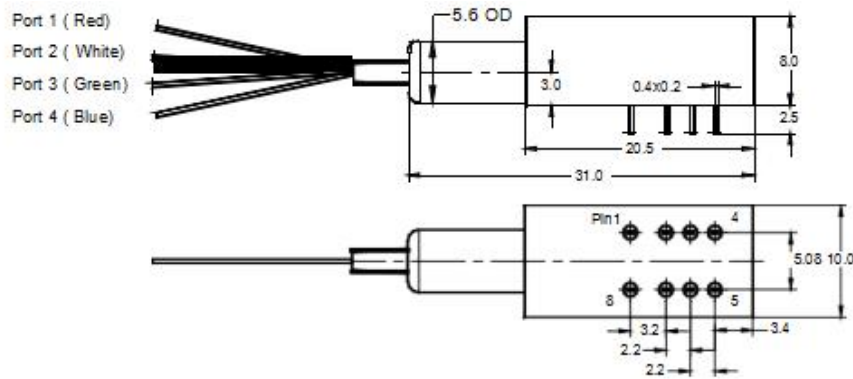
LB Ultra-Mini 2x2 Bypass Switch

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

### Optical Route



### Dimension



### Ordering Information

Mode	Wavelength	Voltage Type	Control Model	Fiber Type	Fiber Diameter	Fiber Length	Connector
1x1:1X1	85=850nm	3=3V	L=Latching	5=50/125	25=250um	1=1m	0=None
D1x1:D1	13/15=1310/1550	5=5V	N=Non-Latching	6=62.5/125	90=900um	2=1.5m	1=FC/PC
X1	nm			9=9/125	20=2.0mm	X=Others	2=FC/APC
1x2:1X2	X=Others			X=Others	30=3.0mm		3=SC/PC
2x2B:2X2					X=Others		4=SC/APC
Bypass							5=ST/PC
							6=ST/APC
							7=LC/PC
							8=LC/APC
							X=Others