LightBend™ 1x16 OptoMechanical Fiberoptical Switch

Product Description

The LB Series 1x16 fiber optic switch connects optical channels by redirecting an incoming optical signal into a selected output fiber. This is achieved by using a patent pending opto-mechanical configuration 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, and the new material based advanced design significantly reduces moving part position sensitivity, offering unprecedented high stability as well as an unmatched low cost.

Features

- Unmatched Low Cost
- Low Optical Distortions
- Low Cross Talk
- High Reliability
- Epoxy-Free Optical Path

Performance Specifications

LB Series 1x16 Switch		Min	Typical	Max	Unit
Operation Wavelength	Single Band	1260~1360 or 1510~1620			nm
	Dual Band	1260~1360 and 1510~1620			
	Broad Band	1260~1620			
Insertion Loss [1]			1.0	1.8 [2]	dB
Wavelength Dependent Loss			0.15	0.35 [2]	dB
Polarization Dependent Loss			0.1	0.15	dB
Return Loss		50			dB
Cross Talk		50			dB
Switching Time			3	10	ms
Repeatability				±0.05	dB
Operating Voltage		4.5	5	6	VDC
Switching Type		Latching / Non-Latching			
Current [3]	Latching			26	mA
	Non-Latching			36	
Optical Power Handling			300	500 [4]	mW
Operating Temperature		-5		70	°C
Storage Temperature		-40		85	°C
Fiber Type		SMF-28			
Package Dimension		152.0L x 60.0W x 24H			mm

Note:
[1]. Exclude connectors, higher loss for Dual and Broad band.
[2]. Dual band and Broad band.
[3]. Tested at 5VDC for each relay actuation.
[4]. Please call for high power switch.

Applications

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

RoHS Compliant

Revision: 09-24-18

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

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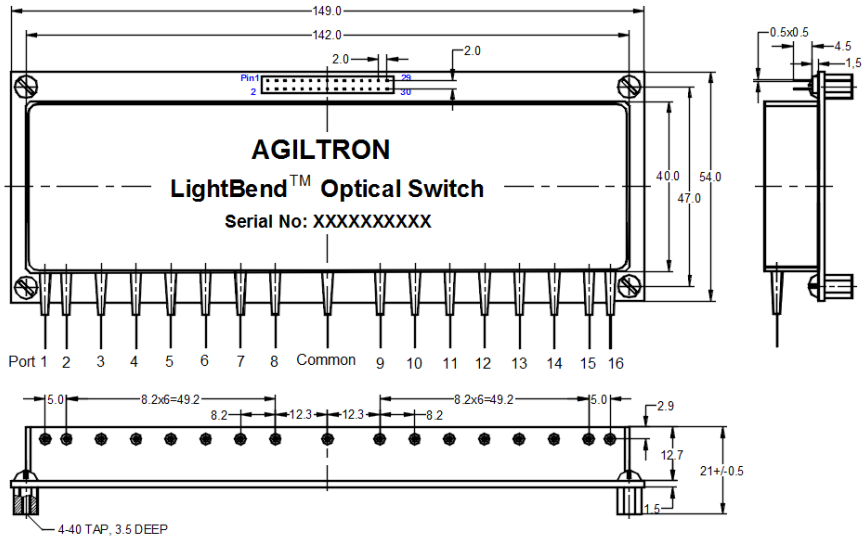
Mechanical Dimensions (Unit: mm)



Electrical Driving Requirements

Agiltron offers a computer control kit with TTL and RS232 interface and Windows™ GUI

Latching Type

Application Note: Applying a constant driving voltage increases stability. The switches can also be driven by a pulse mode using Agiltron recommended circuit for energy saving.

Optical Path	Connector Pin Number																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Comm↔1	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔2	+	-	-	+	-	+	-	+	-	+	-	+	-	+	-	+	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔3	NC	NC	+	-	-	+	-	+	-	+	-	+	-	+	-	+	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔4	NC	NC	NC	NC	+	-	-	+	-	+	-	+	-	+	-	+	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔5	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	-	+	-	+	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	`	NC
Comm↔6	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	-	+	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔7	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔11	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	+	-	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔12	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	-	+	+	-	NC	NC	NC	NC	NC	NC
Comm↔13	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	-	+	+	+	+	-	NC	NC	NC	NC
Comm↔14	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	-	+	+	+	+	+	+	-	NC	NC
Comm↔15	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	-	+	+	+	+	+	+	+	-	
Comm↔16	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	-	+	-	+	-	+	-	+	-	+	-	+	-	+

Note: "+" is DC 5V, "-" is GND.

RoHS Compliant

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Non-Latching Type

Optical Path	Connector Pin Number																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Comm↔1	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔2	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔3	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔4	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔5	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔6	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔7	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔11	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC
Comm↔12	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC
Comm↔13	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC
Comm↔14	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC
Comm↔15	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-
Comm↔16	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Note: "+" is DC 5V, "-" is GND.

Ordering Information

LBSW-	☐☐☐	☐	☐	☐	☐	☐	☐	☐
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
	1x16=116 Special=000	C+L=2 1310=3 1550=5 850=8 1310 & 1550=9 1260~1620=B Special=0	Latching=1 Non-latching=2 Special=0	Standard=2 Special=0	SMF-28=1 Special=0	Bare fiber=1 900μm loose 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

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