CrystaLatch™ 1x16 Bidirectional Solid State Fiberoptic Switch

(Protected by U.S. patents 7224860，6757101，6577430 and pending patents)

Product Description

The CL Series 1x16 Bidirectional Solid State fiberoptical switch connects optical channels by redirecting an incoming optical signal into a selected output fiber. This is achieved using patented non-mechanical configurations and activated via an electrical control signal. Latching operation preserves the selected optical path after the drive signal has been removed. The all solid sate CL 1x16 Bidirectional fiberoptic switch features low insertion loss, high extinction ratio, high channel isolation, and extremely high reliability and repeatability. It is designed to meet the most demanding switching requirements of continuous operation without failure, longevity, operation under shock/vibration environment and large temperature variations, and fast response time.

The switch also has build-in Circulator and isolator functions. Electronic driver is available for this series of switches.

Performance Specifications

CL Series 1x16 BD Switch	Min	Typical	Max	Unit
Operation Wavelength [1]	1520	1550	1580	nm
	1295	1310	1325	nm
Insertion Loss [2]		1.5	2.6	dB
Uniformity		0.7	1.0	dB
Cross Talk [2]	35	50		dB
Return Loss [2]	50			dB
Polarization Dependent Loss		0.15	0.35	dB
Polarization Mode Dispersion			0.2	ps
Switch Speed (Rise, Fall)		50	200	μs
Repetition Rate		2K		Hz
Durability	10^{11}			cycle
Optical Power Handling [3] [4]		300	500	mW
Switch type	Solid-State Latching			
Operating Temperature	-5		65	°C
Storage Temperature	-40		85	°C
Fiber Type	SMF-28 fiber			

[1]. L band available
[2]. Measured without connectors.
[3]. High power version available.
[4]. Average Continuous Power

RoHS Compliant

Revision: 11-14-16

15 Presidential Way , Woburn, MA 01801 Tel: (781) 9351200 Fax: (781) 935-2040

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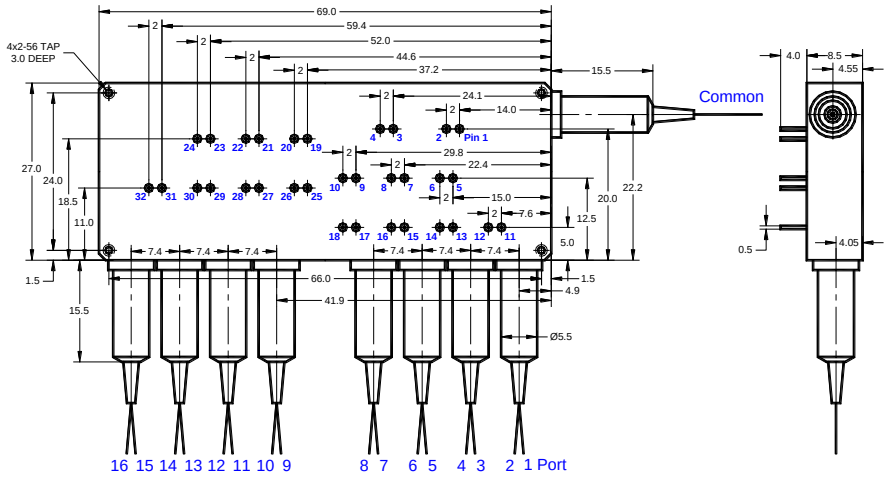
Mechanical Dimensions (Unit: mm)



Electrical Driving Information

Each switching point is actuated by applying a voltage pulse. Applying one polarity pulse, one light path will be connected and latched to the position. Applying a reversed polarity pulse, another light path will be connected and latched to the position after pulse removed.

Parameter	Minimum	Typical	Maximum	Unit
Resistance (each group)	15	18	22	Ω
Switch Voltage	2.5	2.5	2.75	V
Pulse Duration	0.2	0.3	0.5	ms

Driving kit with USB and TTL interfaces and Windows™ GUI is available. We also offer RS232 interface as an option – please contact Agiltron sales.

Electric Driving Table

Optical Path	PG1 *		PG2		PG3		PG4		PG5		PG6		PG7		PG8		PG9		PG10		PG11		PG12		PG13		PG14		PG15		PG16	
	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	31	32
C↔P1	+	-	+	-	+	-	+	-	+	-	+	-	-	+	-	+	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+
C↔P2	-	+	-	+	+	-	+	-	+	-	+	-	-	+	-	+	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+
C↔P3	+	-	+	-	-	+	+	-	+	-	-	+	+	-	-	+	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+
C↔P4	-	+	-	+	-	+	+	-	+	-	-	+	+	-	-	+	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+
C↔P5	+	-	+	-	-	+	-	+	+	-	-	+	-	+	+	-	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+
C↔P6	-	+	-	+	-	+	-	+	+	-	-	+	-	+	+	-	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+
C↔P7	+	-	+	-	-	+	-	+	-	+	-	+	-	+	-	+	+	-	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+
C↔P8	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	+	-	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+
C↔P9	+	-	-	+	NC**	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+	-	+	-	+	-	+	+	-	-	+	-	+	-	+
C↔P10	-	+	+	-	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+	-	+	-	+	-	+	+	-	-	+	-	+	-	+
C↔P11	+	-	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+	+	-	-	+	-	+	-	+	+	-	-	+	-	+
C↔P12	-	+	+	-	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+	+	-	-	+	-	+	-	+	+	-	-	+	-	+
C↔P13	+	-	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+	+	-	+	-	-	+	-	+	-	+	+	-	-	+
C↔P14	-	+	+	-	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+	+	-	+	-	-	+	-	+	-	+	+	-	-	+
C↔P15	+	-	-	+	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+	+	-	+	-	+	-	-	+	-	+	-	+	+	-
C↔P16	-	+	+	-	NC	NC	NC	NC	NC	NC	-	+	-	+	-	+	-	+	+	-	+	-	+	-	-	+	-	+	-	+	+	-

* PG1: Pin Group 1. ** NC: No electronic connection,

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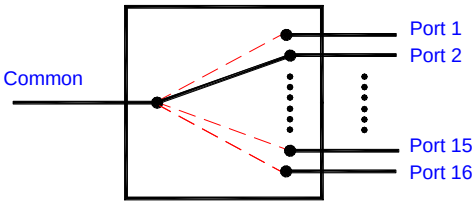
Functional Diagram



CL 1x16 PM Bidirectional Switch

Ordering Information

CLBD[1]-	☐☐☐	☐	☐	☐	☐	☐	☐	☐
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
	1x16=116 Special=000	1310=3 1550=5 Special=0	Dual Stage=2 Special=0	Standard=1 Special=0	SFM-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 MTP=9 Special=0

[1]. **CLBD**: **C**rysta**L**atch 1x16 **B**i-**D**irectional Switch.

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