

CrystaLatch™ Bidirectional 1x8 Solid State Fiberoptic Switch

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

Product Description

The CL Series true bidirectional 1x8 solid-state fiber optical 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. These switches are true bidirectional allowing light propagating in both directions simultaneously, a critical feature for sensing applications. The all solid state CL fiberoptic switch also 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 ultra-high reliability and fast response time.



Features

- Solid-State High Speed
- Non-Mechanical
- Ultra-High Reliability
- Fail-Safe Latching
- Low Insertion Loss
- Direct Low Voltage Drive
- Compact
- Low Cost

Performance Specifications

CL Series 1x8 BD Switch	Min	Typical	Max	Unit
Operation Wavelength ^[1]	1520	1550	1580	nm
	1295	1310	1325	
Insertion Loss ^[2]		1.2	2.2	dB
Cross Talk ^[2]	35	50		dB
Return Loss ^[2]	50	55		dB
Polarization Dependent Loss ^[2]		0.15	0.35	dB
Polarization Mode Dispersion		0.1	0.2	ps
Switch Speed (Rise, Fall)		50	200	µs
Repetition Rate		2K		Hz
Durability	10 ¹¹			cycle
Optical Power Handling ^[3]		300	500	mW
Operating Temperature	-5		70	°C
Storage Temperature	-40		85	°C
Fiber Type	Corning SMF-28			
Package Dimension	70.6L x 38.3W x 8.5H			mm

[1]. Agiltron can achieve same SPEC at L band.

[2]. Exclude connectors.

[3]. Continuous operation, for pulse operation call.

Applications

- Optical Signal Routing
- Network Protection/ Restoration
- Burst Switching
- Configurable Add/Drop
- Signal Monitoring
- Instrumentation

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Electrical Driving Information

The switch 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	2.25	2.5	2.75*	V
Pulse Duration	0.2	0.3	0.5	ms

*Over this value will damage the device.

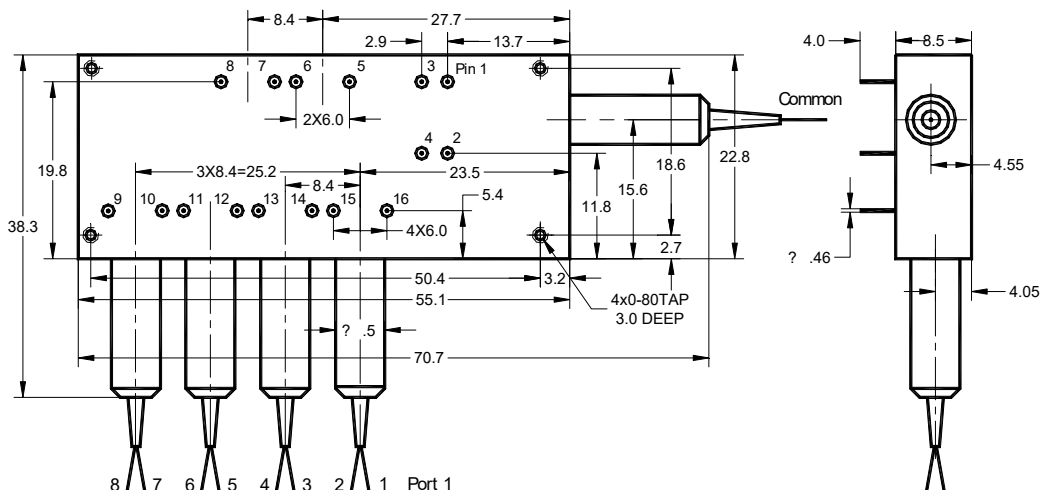
Driving kit with USB and TTL interfaces and Windows™ GUI is available. We also offer RS232 interface as an option - Please contact Agiltron sales.

Electric Driving Table

Optical Path	Pin Group 1		Pin Group 2		Pin Group 3		Pin Group 4		Pin Group 5		Pin Group 6		Pin Group 7		Pin Group 8	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Common→Port 1	+	-	+	-	-	+	-	+	+	-	+	-	-	+	+	-
Common→Port 2	-	+	-	+	-	+	-	+	+	+	-	-	-	+	+	-
Common→Port 3	+	-	-	+	-	+	-	+	+	-	+	-	+	-	-	+
Common→Port 4	-	+	+	-	-	+	-	+	+	-	+	-	+	-	-	+
Common→Port 5	+	-	-	+	+	-	+	-	+	-	-	+	-	+	-	+
Common→Port 6	-	+	+	-	+	-	+	-	+	-	-	+	-	+	-	+
Common→Port 7	+	-	-	+	+	-	-	+	-	+	+	-	-	+	-	+
Common→Port 8	-	+	+	-	+	-	-	+	-	+	+	-	-	+	-	+

[1]. +: 2.25~2.75V Pulse. [2]. -: Ground.

Mechanical Footprint Dimensions (Unit: mm)



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Ordering Information

CLBD-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector			
1X8=18 Special=00	1310=3 1550=5 Special=0	Dual Stage=2 Special=0	Standard=1 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		

* **CLB:** CrystaLatch 1x8 Bidirectional Switch.