

# CrystaLatch™ 2x2 Dual Stage Solid-State Fiberoptic Switch

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

## Product Description

The CL Series 2x2 Dual Stage 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. The all solid state CL 2x2 Dual Stage 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 2x2 Dual Stage Switch	Min	Typical	Max	Unit
Operation Wavelength <sup>[1]</sup>	1520	1550	1580	nm
	1295	1310	1325	nm
Insertion Loss <sup>[2]</sup>		0.7	1.2	dB
Cross Talk	38	50		dB
Polarization Dependent Loss		0.1	0.2	dB
Return Loss	50	55		dB
Polarization Mode Dispersion		0.1	0.2	ps
Switch Speed (rise, fall)	5	50	200	μs
Repetition Rate		2K		Hz
Durability	10 <sup>11</sup>			cycle
Operating Temperature	-5		70	°C
Storage Temperature	-40		85	°C
Optical Power Handling <sup>[3]</sup>		300	500	mW
Fiber Type	Corning SMF-28			
Package Dimension	68.6L x 11.0W x 8.4H			mm

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

[2]. Measured without connectors.

[3]. High power version available. Continuous operation, for pulse operation call.

## Features

- Solid-State high speed
- Ultra-high reliability
- Fail-safe latching
- Low insertion loss
- Direct low voltage drive
- Compact
- Low cost

## Applications

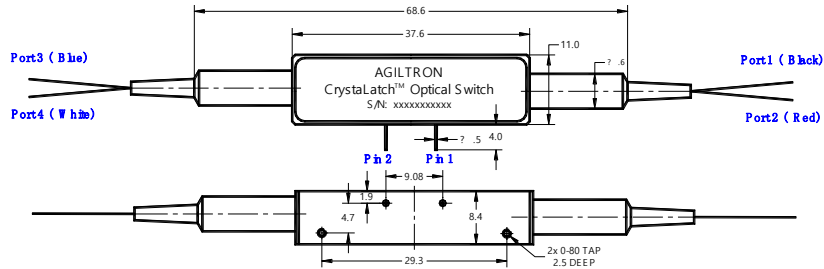
- Optical channel blocking
- Configurable Add/Drop
- System monitoring
- Instrumentation



Revision: 11-23-16

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## Mechanical Dimensions (Unit: mm)



## 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
Drive Voltage	2.25	5.0	2.75*	V
Drive Current	110	140	195	mA
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.

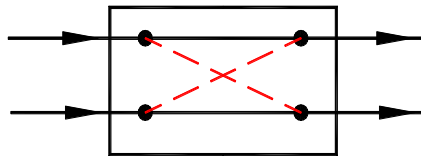
**Driving Table 1**

Optical Path	Pin 1	Pin 2
Port 1→3, Port 2→4	GND	5V Pulse
Port 1→4, Port 2→3	5V Pulse	GND

**Driving Table 2**

Optical Path	Pin 1	Pin 2
Port 3→1, Port 4→2	5V Pulse	GND
Port 3→2, Port 4→1	GND	5V Pulse

## Function Diagram



CL 2x2 Dual Stage Switch

## Ordering Information

CLSW-	2	2		2						
Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector				
2x2=22	1310=3 1550=5 Special=0	Dual stage=2	Standard=1 Special=0	SMF-28 =1 Special=0	Bare fiber=1 900um 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			

