

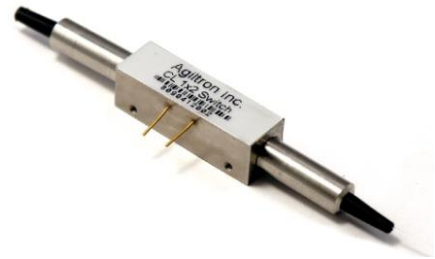
# CrystaLatch™ 1x1, 1x2 PM Series Fiber Optic Switch (PM, PM Bidirectional)

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

## Product Description

The CL Series 1x2 PM, PM Bidirectional 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 1x2 fiberoptic PM 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 1x2 PM Series Switch <sup>1</sup>		Min	Typical	Max	Unit
Operation Wavelength		1520	1550	1580	nm
		1295	1310	1325	nm
Insertion Loss <sup>2</sup>			0.6	1.0	dB
Cross Talk	PM	40	50		dB
	PM Bidirectional	35	50		dB
Switch Speed (rise, fall)		5	50	200	µs
Repetition Rate			2K		Hz
Durability		10 <sup>11</sup>			cycle
Extinction ratio		18			dB
Return Loss <sup>2</sup>		50			dB
Operating Temperature <sup>4</sup>		0		70	°C
Storage Temperature		-40		85	°C
Optical Power Handling <sup>3</sup>			300	500	mW
Fiber Type		PM 250, or equivalent			
Package Dimension		58.2L x 8.4W x 8.4H			mm

1. Agiltron can achieve same SPEC at L band.
2. Measured without connectors.
3. Continuous operation, for pulse operation call.
4. -40 °C version is also available.

## Features

- Solid-State High Speed
- Low Insertion Loss
- High Extinction Ratio
- High Isolation
- Fail-Safe Latching
- Non-Mechanical
- Compact & Rugged
- Direct Low Voltage Drive

## Applications

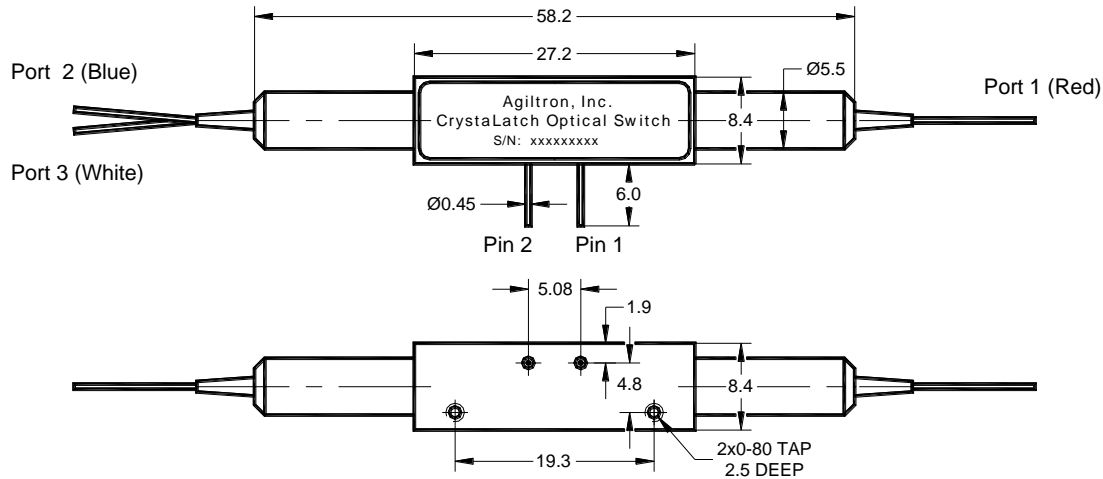
- Optical Signal Routing
- Network Protection/ Restoration
- Burst Switching
- Configurable Add/Drop
- Signal Monitoring
- Instrumentation



# CrystaLatch™ 1x1, 1x2 PM Series Fiber Optic Switch

(PM, PM Bidirectional)

## Mechanical Footprint 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	4.5	5	5.5	V
Drive Current	110	140	195	mA
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.

### CL 1x1 PM Switch

Optical Path	Pin 1	Pin 2
Port 1 ↔ Port 2	GND	5V Pulse
Dark	5V Pulse	GND

### CL 1x2 PM Switch

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

### CL 2x1 PM Switch

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

# CrystaLatch™ 1x1, 1x2 PM Series Fiber Optic Switch

(PM, PM Bidirectional)

## CL 1x1 PM Bidirectional Switch

Optical Path	Pin 1	Pin 2
Port 1 ↔ Port 2	GND	5V Pulse
Dark	5V Pulse	GND

## CL 1x2 PM Bidirectional Switch

Optical Path	Pin 1	Pin 2
Port 1 ↔ Port 2	GND	5V Pulse
Port 1 ↔ Port 3	5V Pulse	GND

## Ordering Information

	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector
CLPM <sup>[1]</sup>	1x1=11	1310=3	Dual stage=2	Standard=3	PM 250=B	0.25m=1	None=1
CLPB <sup>[2]</sup>	1x2=12	1550=5	Special=0	Special=0	Bare fiber=1	0.5m=2	FC/PC=2
	2x1=21	Special=0			900um loose tube=3	1.0m=3	FC/APC=3
					Special=0	Special=0	SC/PC=4
							SC/APC=5
							ST/PC=6
							LC=7
							Duplex LC=8
							Special=0

[1]. CLPM: CrystaLatch 1x2 PM Switch.

[2]. CLPB: CrystaLatch 1x2 PM Bidirectional Switch.