

# CrystaLatch™ 16x16 Fiberoptic Switch Module

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

## Product Description

The CL Series 16x16 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 16x16 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.



## Features

- High Speed
- Non-Mechanical
- High Reliability
- Fail-Safe Latching
- Low Insertion Loss
- Rugged
- Compact
- Cost Effective
- Direct Low Voltage Drive

## Performance Specifications

CL Series 16x16 Switch	Min	Typical	Max	Unit
Operation Wavelength	C Band and L Band			
Insertion Loss <sup>1</sup>		5	8	dB
Uniformity		0.7	3	dB
Cross Talk	20	25		dB
Switch Speed (Rise, Fall)	5	50	200	µs
Repetition Rate		2K		Hz
Durability	10 <sup>11</sup>			cycle
Repeatability			±0.02	dB
Polarization Dependent Loss		0.2	0.9	dB
Polarization Mode Dispersion			0.2	ps
Return Loss	50			dB
Drive Voltage	2.5		3	V
Operating Temperature*	-5		65	°C
Optical Power Handling		400		mW
Storage Temperature	-40		85	°C
Switch type	Solid-State Latching			
Fiber Type	Corning SMF28			
Package Dimension	mm			

\* -40°C version is also available

1. Excluding connectors

## Applications

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

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### 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
Switch Voltage	2.25	2.5	2.75	V
Resistance	15	18	22	Ω
Pulse Duration	0.2	0.3	0.5	ms

Driving kit with RS232 and TTL interfaces and Windows™ GUI is available

### Mechanical Footprint Dimensions (Unit:mm)

Standard version is a rack mount box with a dimension of 430mmx450mmx50mm

### Ordering Information

LCMS-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector	
<input type="checkbox"/> 1 <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		1310=3 1550=5	Single stage=1 Dual Stage=2		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