CrystaLatch™ 1x8 PM Fiberoptic Switch

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

Product Description

The CL Series 1x8 PM 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 sate CL 1x8 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.

Features

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

Applications

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

Performance Specifications

CL Series 1x8 PM Switch	Min	Typical	Max	Unit
Operation Wavelength [1]	1520	1550	1580	nm
	1295	1310	1325	
Insertion Loss [2]		1.3	2.5	dB
Uniformity		0.7	1.0	dB
Extinction Ratio [2]	18	25	30	dB
Cross Talk [3]	35	50		dB
Switch Speed (Rise, Fall)	5	50	200	µs
Repetition Rate		2K		Hz
Durability	10^{11}			cycle
Polarization Mode Dispersion			0.2	ps
Return Loss [2]	50			dB
Operating Temperature [3]	-5		65	^{o}C
Optical Power Handling [4, 5]		300		mW
Storage Temperature	-40		85	^{o}C
Switch type	Solid-State Latching			
Fiber Type	Corning PM Panda fiber			
Package Dimension	82.8L x 37.3W x 8.5H			mm

1. Agiltron can achieve same SPEC at L band
2. Measured without connectors
3. -40 ^{o}C version is also available.
4. High power version available.
5. Continuous operation. for pulse operation call.

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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.

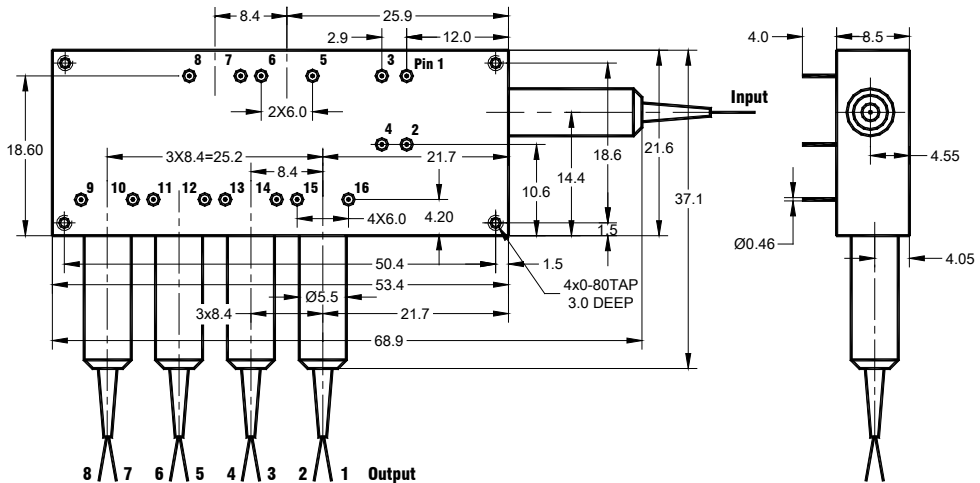| Parameter	Minimum	Typical	Maximum	Unit
Resistance (each group)	15	18	22	Ω
Switch Voltage	2.25	2.5	2.75*	V
Pulse Duration	0.2	0.3	0.5	ms

*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
Input- Output 1	+	-	+	-	-	+	-	+	+	-	+	-	-	+	+	-
Input- Output 2	-	+	-	+	-	+	-	+	+	-	+	-	-	+	+	-
Input- Output 3	+	-	-	+	-	+	-	+	+	-	+	-	+	-	-	+
Input- Output 4	-	+	+	-	-	+	-	+	+	-	+	-	+	-	-	+
Input- Output 5	+	-	-	+	+	-	+	-	+	-	-	+	-	+	-	+
Input- Output 6	-	+	+	-	+	-	+	-	+	-	-	+	-	+	-	+
Input- Output 7	+	-	-	+	+	-	-	+	-	+	+	-	-	+	-	+
Input- Output 8	-	+	+	-	+	-	-	+	-	+	+	-	-	+	-	+

"+": 2.5~3.0V Pulse; "-": Ground.

Mechanical Footprint Dimensions (Unit:mm)

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Ordering Information

CLPM-	☐☐☐	☐	☐	☐	☐	☐	☐	☐
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
	1x8=18 8x1=81 Special=0	1310=3 1550=5 Special=0	Dual stage=2 Special=0	Standard=2 Special=0	PM1300=1 PM14XX=2 PM1550=3	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