SelfAlign™
1xN Series Fiber Optic Switch

(all fiber type, all wavelength, Bidirectional, 20W power handling)

(Protected by U.S. patents 6823102 pending patents)

Product Description

The SelfAlign 1xN series Broadband Fiber Optical Switch connects optical channels using a patent-pending v-grove technology activated via an electrical control signal. The switch is a cost effective solution for sensor and spectroscopy applications. The unique design has no optical coating, offering low insertion loss and broad spectral band operation from 200 to 2000 nm with high power handling. MWIR and LWIR versions are also available. It accommodates all types of fibers including single mode and multimode with fiber core size from 50 to 1000 µm. The switch is bidirectional and has a large number of ports up to 300 fibers. We have verified the switch high reliability with continuous operation for several years.

The switch is controlled by RS232 or USB computer interface with a graphic Software. Labview version is also available. A fully packaged box module is available.

Features

- Low Cost
- High Reliability
- Low Insertion Loss
- Broad Band
- Compact Design
- Low Power Switching

Applications

- Optical Signal Routing
- Network Protection
- Wavelength Management
- Signal Monitoring
- Instrumentation

Performance Specifications

SelfAlign 1xN Switch		Min	Typical	Max	Unit
Operation Wavelength	UV-VIS	200		2000	nm
	MWIR	1000		5000	
	LWIR	7000		12000	
Insertion Loss [1]			0.3	1	dB
Port Uniformity			0.3	0.6	dB
Wavelength Dependence Loss			0.15	0.2	dB
Polarization Dependent Loss			0.05	0.1	dB
Cross Talk		50	60		dB
Return Loss[2]	APC	50			dB
	UPC	40			
Switch Time				200	ms
Switch type			Latching		
Durability		10^7			cycle
Optical Power Handling			0.3	5 [3]	W
Operating Temperature		-5		65	°C
Storage Temperature		-40		85	°C
Fiber Type	Single Mode	Corning SMF-28 or equivalent			
	Multimode	50		1000	µm
Package Dimension		192L x 102W x 60H			mm

[1]. Measured without connectors.
[2]. For SM. Larger core will reduce the value. High return index matching version is available
[3]. High power version is available.

Revised on 7/27/21

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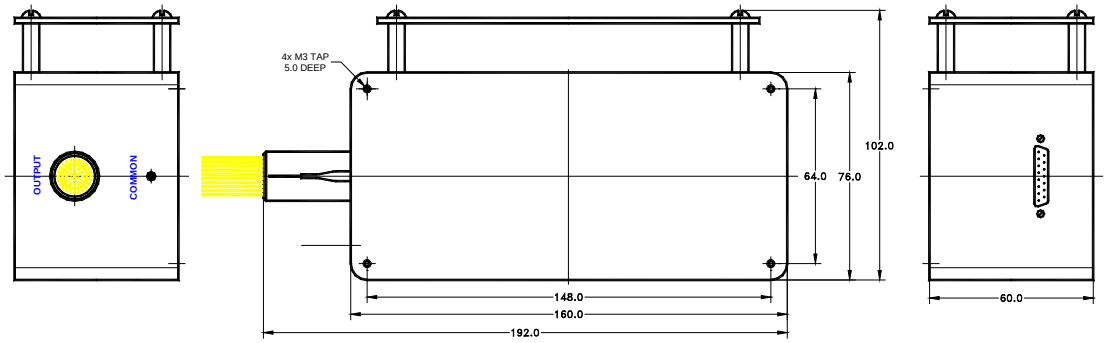
Electronic Control Requirements

The sub-module comes with a computer control kit with USB interfaces and Windows ™ GUI. It has a wall plug-in power suppler

Parameters	Min	Typical	Max	Unit
Operating Voltage		12	13	VDC
Operating Current	100		200	mA
Power Consumption		3.6	5	W

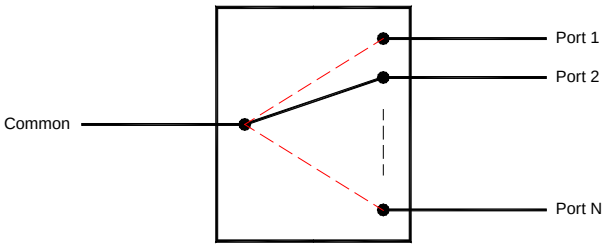
Mechanical Dimensions (Unit: mm)



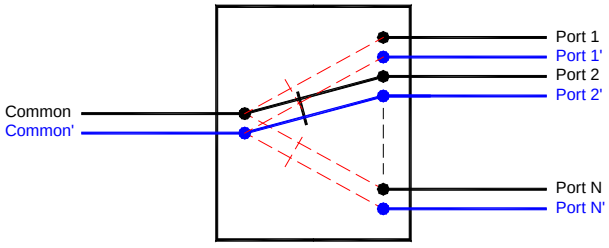
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Function Diagram

SelfAlign 1xN Series Switch



SelfAlign Dual 1xN Series Switch



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Ordering Information

LBSA-	☐☐☐	☐	☐	☐	☐	☐	☐	☐
	Type	**Wavelength**	**Configuration**	**Package**	**Fiber Type**		**Fiber Length**	**Connector**
	XXX [1]	1060=1 1310=3 1550=5 650=6 780=7 850=8 1310/1550=9 Special=0	Single=S Dual =D Special=0	Standard=1 Special=0	SMF-28 =1 MM 50/125=5 MM 62.5/125=6 PM 350 = 3 PM 405 = 4 PM 780 = 7 Special=0	Bare fiber=1 2 mm Jacket=2 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

[1]. **XXX:** 1x8 Switch, XXX=008; 1x9 Switch, XXX=009, 1x10 Switch, XXX=010, …, 1x128 Switch, XXX=128.

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