

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-groove 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.



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	APC	50		dB
	UPC	40		
Switch Time			200	ms
Switch type		Latching		
Durability		10 ⁷		cycle
Optical Power Handling		0.3	5 ^[2]	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]. High power version 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

SelfAlign™

1xN Series Fiber Optic Switch

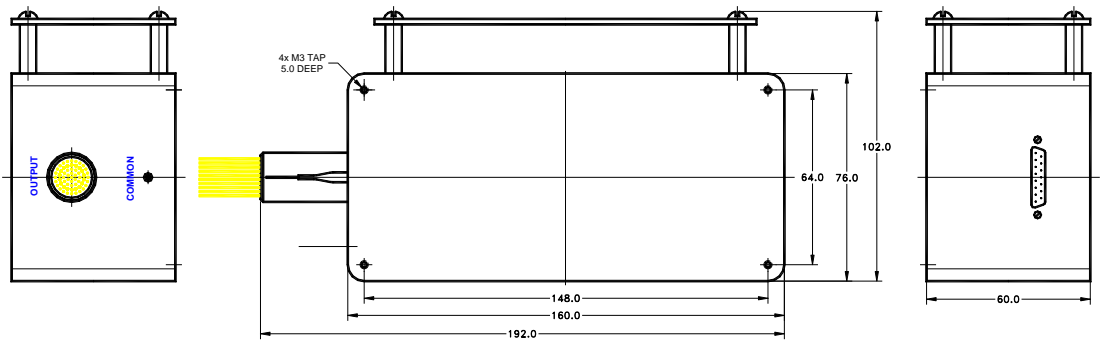
(all fiber type, all wavelength, Bidirectional, 20W power handling)

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 supplier

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

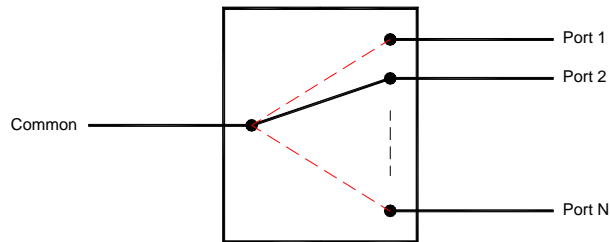
Mechanical Dimensions (Unit: mm)



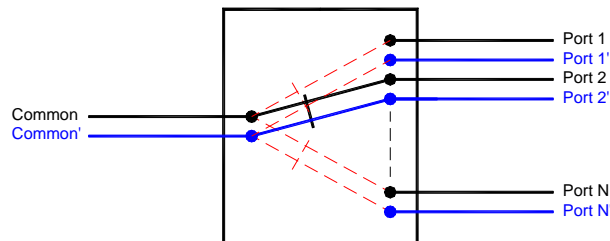
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Function Diagram

SelfAlign 1xN Series Switch



SelfAlign Dual 1xN Series Switch



SelfAlign™

1xN Series Fiber Optic Switch

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

Ordering Information

LBSA-	Type	Wavelength	Configuration	Package	Fiber Type	Fiber Length	Connector	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	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.

Driver Reference Design

