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SelfAlign™ Ultra-Low Loss 1xN/2xN Fiber Optic Switch

(all fiber type, all wavelength, Bidirectional, 10W power handling)

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

Product Description

The Ultra-Low Loss SelfAlign 1xN series Broadband Fiber Optical Switch mates fiber to fiber using a patent-pending v-groove technology activated via a motor. The switch is immersed inside an index matching liquid, provide ultra low loss and little reflection between interfaces. The unique design eliminates optical coating and air gaps, offering broad spectral band operation from 200 to 2500 nm with high power handling capability. 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 accommodates 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. Latch version is also available.



Performance Specifications

SelfAlign 1xN Switch	Min	Typical	Max	Unit
Operation Wavelength ^[1]	UV-NIR	300	2500	nm
	MWIR	2000	5000	
	LWIR	7000	12000	
Insertion Loss ^[2]	0.1	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]	45		60	dB
Switch Time	60		200	ms
Switch type (power on)		Latching		
Durability	10 ⁷			cycle
Optical Power Handling		0.3	5 ^[2]	W
Operating Temperature	-5		60	°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]. The transmission is ultra-broad solely limited by the fiber property.

[2]. Measured without connectors.

Features

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

Applications

- Spectroscopy
- Sensor
- Signal Monitoring
- Instrumentation

Revised on 7/29/21
(Click here for latest revision)

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

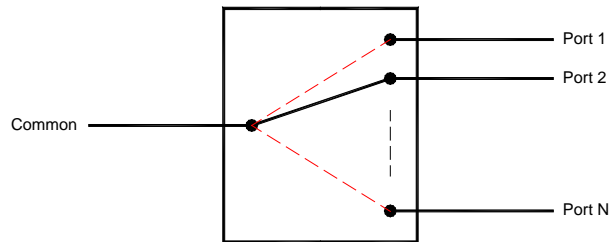
Parameters	Min	Typical	Max	Unit
Operating Voltage		12	13	VDC
Operating Current	100		200	mA
Power Consumption		3.6	5	W

Mechanical Dimensions (Unit: mm)

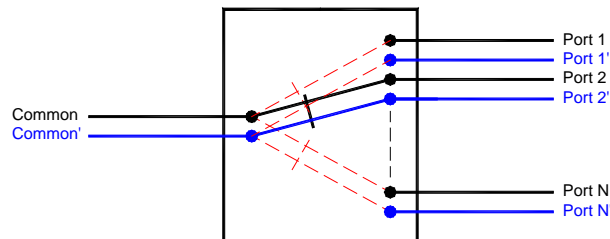
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Function Diagram

SelfAlign 1xN Series Switch



SelfAlign Dual 1xN Series Switch



Ordering Information

LBSA-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type	Test Wavelength ^[2]	Configuration	Package	Fiber Type		Fiber Length	Connector		
XXX ^[1]	1060=1 2000=2 1310=3 1550=5 410 =4 650=6 780=7 850=8 950=9 Special=0	Single=S Dual =D Special=0	Index Match=2 Special=0	SM-28 =1 50/125=5 62.5/125=6 105/125= 2 400µm=3 1000µm=4 Special=0	Bare fiber=1 2 mm Jacket=2 900µm 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 Special=0		

[1]. **XXX**: 1x8 Switch, XXX=008; 1x9 Switch, XXX=009, 1x10 Switch, XXX=010, ..., 1x128 Switch, XXX=128.
2x8 Switch, XXX=208; 2x9 Switch, XXX=209, 2x10 Switch, XXX=210, ..., 2x128 Switch, XXX=228.

[2]. **The transmission is solely the property of the fiber**