

NanoSpeed™ Dual-stage 1x1 Series Fiber Optical Switch (SM, PM, High Power)

(Protected by U.S. patent 7,403,677B1 and pending patents)

Product Description

The NS Series dual-stage 1x2 solid-state fiber optic switch connects optical channels by redirecting an incoming optical signal into a selected output optical fiber. This is achieved using patent pending non-mechanical configurations with solid-state all-crystal designs, which eliminates the need for mechanical movement and organic materials. The dual-stage series of NS fiber-optic switch is designed to meet the demand of high cross-talk in addition of ultra-high reliability, fast response time, and continuous switching operation. The device is bidirectional.

Agiltron's PCB driver listed in the web is recommended to operate this device, featuring high efficiency and low cost with 12V DC power and TTL control signal.

Features

- Solid-State
- High on-off ratio
- High speed
- Ultra-high reliability
- Low insertion loss
- Compact

Performance Specifications

NS Series Dual-stage 1x1 Switch		Min	Typical	Max	Unit
Central wavelength ^[1]		780		1650	nm
Insertion Loss ^[2]	1260-1650nm		0.6	1.0	dB
	960-1100nm		0.8	1.3	
	780-960nm (Normal power switch only)		1.0	1.5	
On-Off ratio		30	35	45	dB
PDL (SMF Switch only)			0.2	0.35	dB
PMD (SMF Switch only)			0.1	0.3	ps
ER (PMF Switch only)		18	25		dB
IL Temperature Dependency			0.25	0.5	dB
Return Loss		45	50	60	dB
Response Time (Rise, Fall)				300	ns
Fiber Type		SMF-28, Panda PM, or equivalent			
Repeat Rate	5kHz driver	DC	5		kHz
	100kHz driver	DC	100		
	500kHz driver	DC	500		
Optic power Handling ^[3]	Normal power switches		300		mW
	High power switches			5	W
Operating Temperature		-5		70	°C
Storage Temperature		-40		85	°C

[1] Operation bandwidth is +/- 25nm approximately at 1550nm.

[2] Measured without connectors. For other wavelength, please contact us.

[3] Defined at 1310nm/1550nm. For the shorter wavelength, the handling power may be reduced, please contact us for more information.

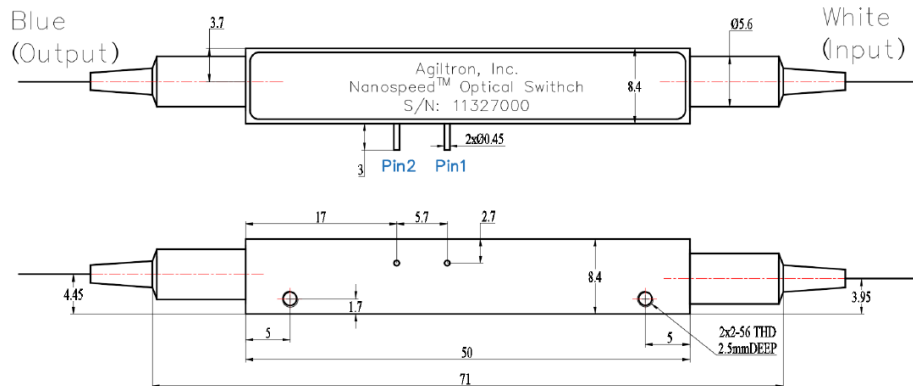
Applications

- Optical blocking
- Configurable operation
- Instrumentation

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Mechanical Dimensions (mm)



Optical Path Driving Table

Optical Path	Pin 1	Pin 2
Port 1→Port 2	No Power	
Port 1→ Port 3	H	GND
H: 360 ~ 420 V		

Ordering Information

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	Type	Wavelength ^[1]	Configuration	Fiber Type	Fiber Length	Connector ^[2]	
NSSW = Low power switch NHSW = High power switch	1x1=11	1060nm=1 L Band=2 1310nm=3 1410nm=4 1550nm=5 780nm=7 850nm=8 Special=0	Normally-on and Dual stage = 12 Normal off & dual-stage = 22	SMF-28=1 H11060=2 H1780=3 PM 1550/400=4 PM 1550/250=5 PM980=9 PM850=8 Special=0	Bare fiber=1 900um loose tube=3 Special=0	0.25m=1 0.5m=2 1.0 m=3 Special=0	None=1 FC/PC=2 FC/APC= 3 SC/PC=4 SC/APC=5 ST/PC=6 LC/PC=7 Duplex LC=8 LC/APC=9 Special=0

[1]. High power switch isn't available for the wavelength shorter than 960nm

[2]. There isn't any connector in high power switches. Please contact us for high power connectors.