

NanoSpeed™

Fiber Optical Polarization Modulator/Switch

(Low-Loss, Bidirectional, All Wavelengths)

(Protected by U.S. patents 7,403,677B1; 6,757,101B2; and pending patents)

Product Description

The NS Series fiber optical polarization modulator/switch is based on a patented electro-optical configuration, featuring low optical loss and wide temperature operation with built-in compensation. The device dynamically controls the optical phase of the transmitting light, meeting the most demanding requirements of continuous operations over 25 years and non-mechanical ultra-high reliability (passed Telcordia and space qualifications). The device is bidirectional in which the input and output ports are interchangeable.

This device is mounted on a specially designed electronic driver using a 5V TTL control signal through SMA input and a 12V power supply (wall pluggable). The maximum phase change can be adjusted by a pot on the board.



Performance Specifications

NanoSpeed P Series Switches		Min	Typical	Max	Unit
Insertion Loss ^[1]	1900-2200nm		0.8	1.8	dB
	1260-1650nm		0.6	1.0	
	960-1100nm		0.8	1.3	
	780-960nm		1.2	1.5	
	520 - 680nm		1.5	2.3	
IL Temperature Dependency			0.25	0.5	dB
Polarization Mode Dispersion (Non PM)			0.1	0.3	ps
Return Loss		45	50		dB
Polarization State Rotation				90	Degree
Analog Modulation rate ^[2]		DC	50	200	KHz
Digital Modulation Rate ^[3]		DC		1	MHz
Optic power Handling ^[4]	Normal power version		300		mW
	High power version			10	W
Operating Temperature	Standard	-5		75	°C
	Special version	-30		85	
Storage Temperature		-40		100	°C

[1] Measured without connectors.

[2] The phase change is proportionally to the 0-5V control signal

[3] The maximum phase change is set at a predetermined value

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

Features

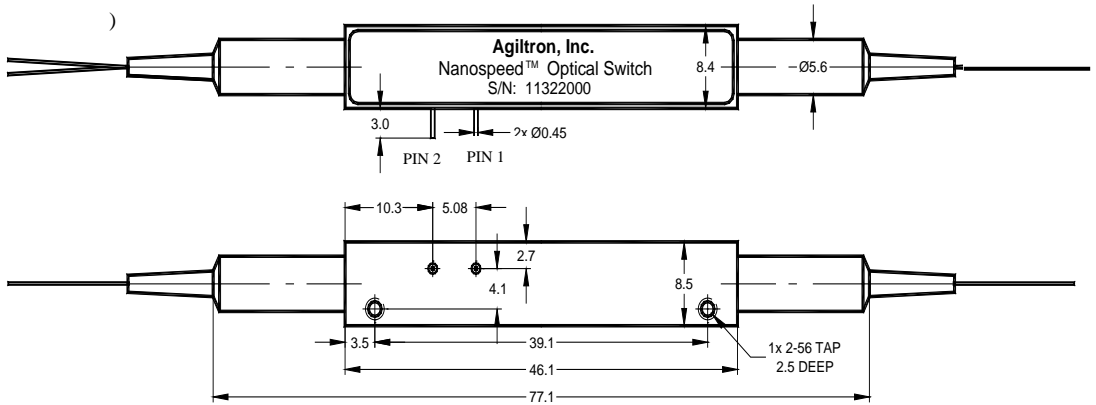
- High Reliability
- High Speed
- Low loss
- Compact

Applications

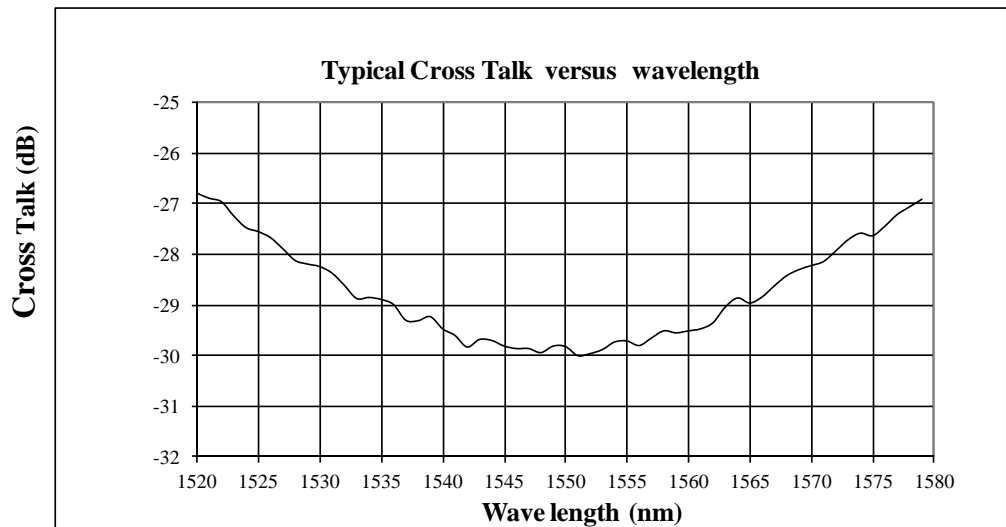
- Sensor
- Data process
- Instrumentation

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Mechanical Dimensions (Unit: mm)



Typical Wavelength Dependence Extinction Measurement

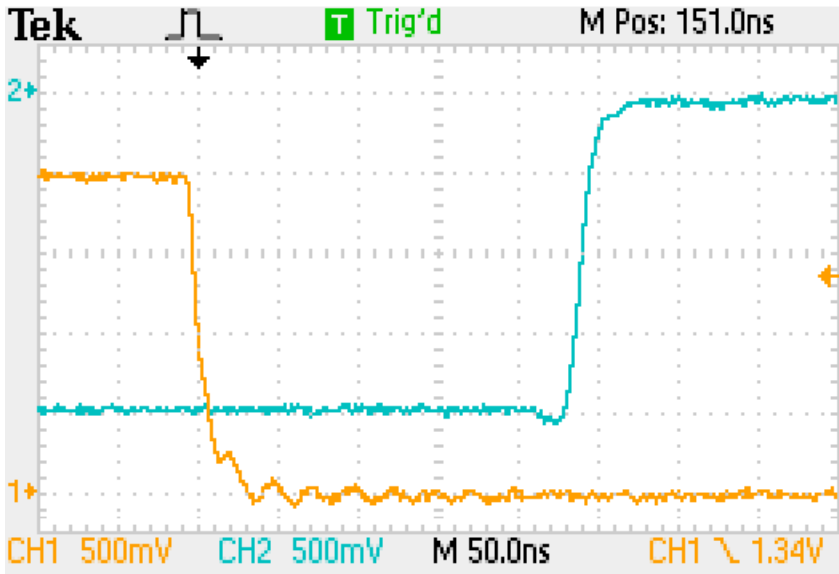


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Typical Speed Response Measurement



Ordering Information

NSPS-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type	Wavelength	Temperature range	Repetition Rate	Fiber Type (input/output)	Fiber Length	Connector	
	Standard = 11 1W = 01 5W = 05 10W = 10 20W = 20	1060=1 2000=2 1310=3 1480=4 1550=5 1625=6 780=7 850=8 650=E 550=F 400=G 1565-1620=L Special=0	Standard=1 Large = 2	100kHz=1 200KH =2 1MHz=6	SMF-28=1 HI1060=2 HI780=3 PM1550/400=4 PM1550/250=5 PM850=8 PM980=9 Special=0	Bare fiber=1 900um 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 LC/APC=8 Special=0