

Ultra-High Speed Polarization Scrambler (5MHz, 2MHz and 300kHz)

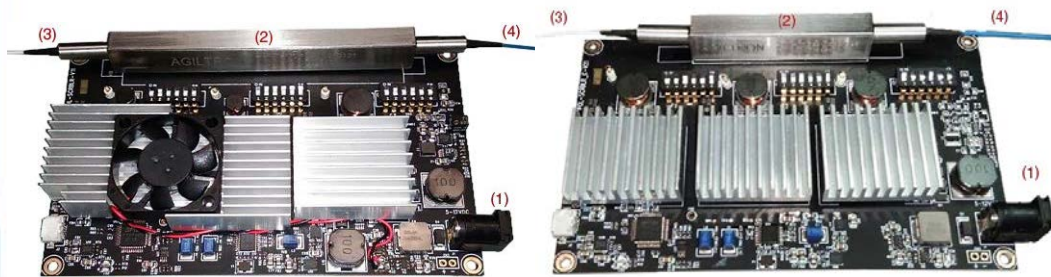
(patent pending)

Product Description

The polarization scrambler is a non-mechanical device having industrial leading performance of high speed and low optical loss, providing an ultimate solution for polarization randomization. The polarization scrambler is based on fast speed electro-optical materials functioning as phase retarder with three plates oriented at 0, 45 and 0 degrees and driven at three fixed frequencies, respectively. It converts any input state of polarization to randomly polarized states at high speed fully covering the Poincare sphere. The device needs no input control nor adjustments, just plugin the companied 12V supply.

Features

- No Moving Parts
- High Reliability
- High Speed
- Compact Size
- Bidirectional



5MHz & 2MHz of NOPS

300kHz of NOPS

Performance Specifications

Polarization Scrambler	Min	Typical	Max	Unit	
Center Operating Wavelength	800	1550	1800	nm	
Operating Wavelength Range		100		nm	
Insertion Loss ^[1]		0.8	1.5	dB	
Return Loss	45	50		dB	
Degree of Polarization (1000 AVG)		3	5	%	
		8	12 ^[2]	%	
Version ^[3]	(1)	270	2200	5000	kHz
	(2)	230	1100	2000	kHz
	(3)	70	210	300	kHz
Power Supply		12 V / 1A			
Power Consumption		4		W	
Operating Optical Power			500	mW	
Operating Temperature		-5 ~ 70		°C	
Storage Temperature		-40 ~ 85		°C	

[1] Excluding connectors.

[2] 5MHz Version

[3] The version is named by the maximum frequency, and the frequencies are approximate on the three EO plates respectively.

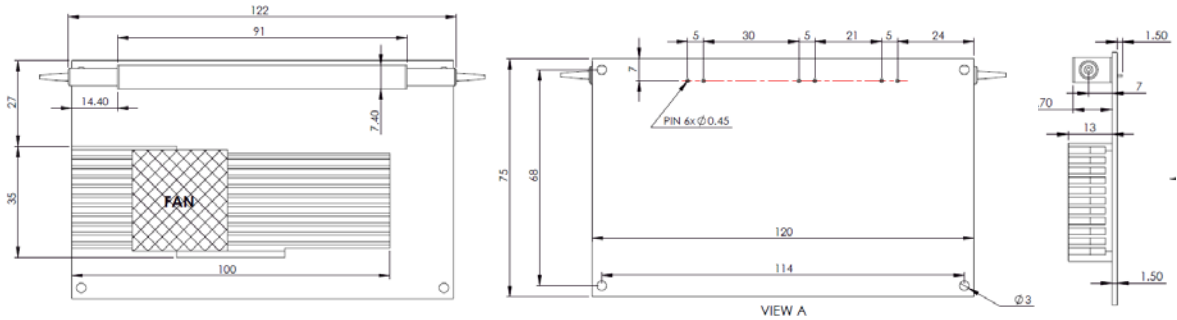
Applications

- Polarization scrambler
- Polarization Management
- Instrumentation

Ultra-High Speed Polarization Scrambler

Mechanical Dimensions (mm)

1) 5MHz & 2MHz NOPS: 120mm x 75mm x 20mm



2) OEM NOPS (300kHz) PCB driver: 120mm x 75mm x 15mm

3) NOPS (300kHz) in box: 135mm x 84mm x 19mm



Ordering Information

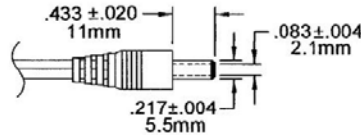
NOPS-	1	N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type	Wavelength	Maximum Frequency	Package	Fiber Type	Fiber Length	Connector	
		1060 nm = 1 1310 nm = 3 1550 nm = 5 Special = 0	5MHz = 1 2MHz = 2 300KHz = 3	W/ driver = 1 W/O driver = 2 Box = 3 ^[1]	SMF-28 = 1 HI1060 = 2 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 = 7 Special = 0

[1]: Only available for 300kHz of NOPS

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Power Connector

12V with a positive center (+)



Operation Instruction

1. Connect the two fibers (non-directional)
2. Plugin the accompanied 12VDC power supply. Do not use other power supply.
3. Self-operation automatically.
4. It has been finely tuned and tested prior shipping by using HP optical power meter and Polarimeter
5. Avoid static charge that damages the electronics by not trouncing the board with hand, not shorting it with conducting surfaces.
6. This is an OEM device for professional use. If having issue, please ask an expert with experience in fiber.