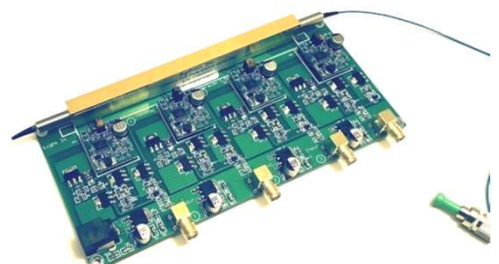


# Ultra-Fast Polarization Scrambler (5MHz)

## Product Description

The NOPS polarization scrambler provides an ultimate solution for polarization randomization. It converts any input state of polarization to randomly polarized states fully covering the Poincare sphere at an ultrafast 5MHz scrambling speed. The polarization scrambler is based on electro-optical materials functioning as phase retardation with three plates oriented at 0, 45 and 0 degrees. They are driving at slightly different frequencies. Unlike conventional polarization scramblers, it is non-mechanical, uniquely offering high reliability and longevity, as well as high speed.



## Features

- No Moving Parts
- High Reliability
- Solid-State High Speed
- Compact Size
- Low Power Consumption

## Performance Specifications

Polarization Scrambler	Min	Typical	Max	Unit
Center Operating Wavelength	1310	1550	1800	nm
Operating Wavelength Range		100		nm
Insertion Loss <sup>[1]</sup>		1.0	1.5	dB
Polarization Dependent Loss		0.05	0.15	dB
Return Loss	45	50		dB
Degree of Polarization (1000 AVG)			5	%
Modulation Frequency <sup>[2]</sup>		See note		
Power Supply		12 V		
Power Consumption		6		W
Operating Optical Power			500	mW
Operating Temperature		-5 ~ 70		°C
Storage Temperature		-40 ~ 85		°C

<sup>[1]</sup>. Excluding connectors.

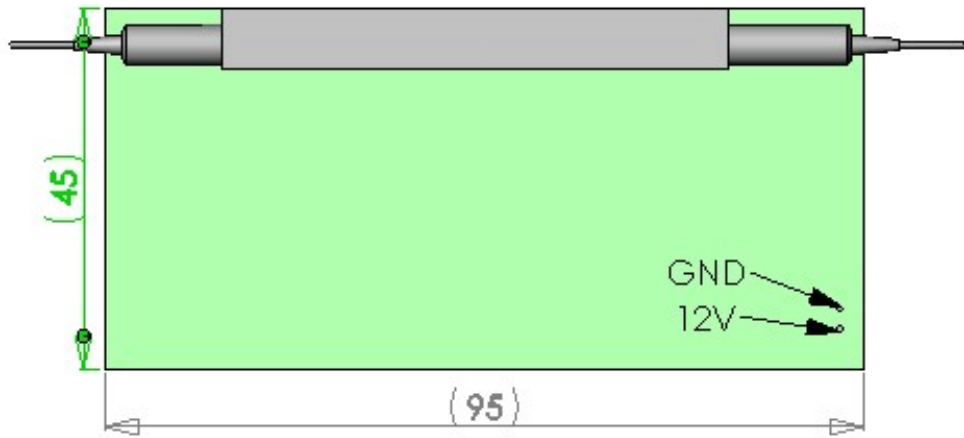
<sup>[2]</sup>. Frequencies on three EO waveplates are around 5MHz, 2.2MHz and 9.9kHz respectively

## Applications

- Polarization scrambler
- Polarization Management
- Instrumentation

# Polarization Scrambler

## Mechanical Dimensions (mm)



## Ordering Information

NOPS-	1 1	<input type="checkbox"/>	1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type	Wavelength	State	Package	Fiber Type		Fiber Length	Connector
		1310 = 3 1550 = 5 Special = 0			SMF-28 = 1 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