

# High Speed Polarization Scrambler

## Product Description

The polarization scrambler is designed to meet the most demanding operation requirements of ultra-high reliability, fast response, compact size to provide an ultimate solution for polarization randomization.

The polarization scrambler is based on fast speed electro-optical materials functioning as phase retardation with three plates oriented at 0, 45 and 0 degree. They are driving at slightly different frequencies. Unlike conventional polarization scrambler, it is non-mechanical, uniquely offering high reliability and longevity, as well as high speed. The scrambling speed can be varied from 0 to 100kHz or at a fixed 5MHz. It converts any input state of polarization to randomly polarized states fully covering the Poincare sphere.

## 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	300	1550	1800	nm
Operating Wavelength Range		100		nm
Insertion Loss		0.6	1.0	dB
Polarization Dependent Loss		0.05	0.15	dB
Return Loss	45	50		dB
Degree of Polarization (1000 AVG)			5	%
Modulation Frequency	0	20	5000*	KHz
Modulation Frequency Control Signal	0		5**	V
Control Signal-> Modulation Frequency		Linear		
Power Supply		5 V		
Power Consumption		3		W
Operating Optical Power			500	mW
Operating Temperature		-5 ~ 70		°C
Storage Temperature		-40 ~ 85		°C

\*5MHz is fixed

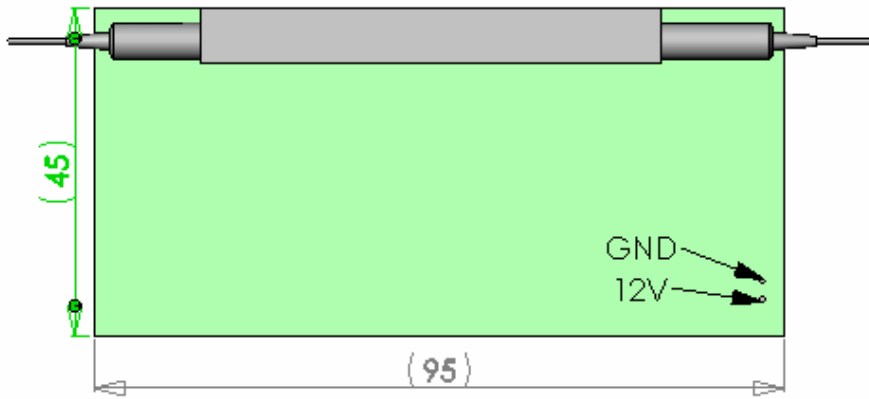
\*\*0 to 5V correspond to 0 to 20KHz

## 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	

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