

Micro Polarization Controller (PSM-003-C)



This OEM micro polarization controller integrates General Photonics' all-fiber dynamic polarization control technology with miniature electronic drive/control circuitry into a compact, self-contained device that provides full polarization control functionality while minimizing volume, power consumption, and cost. The state of polarization (SOP) of the output signal can be controlled via three analog 0 to 5V control voltages. This device is ideal for integration into OCT or sensor systems to maximize signal output. It requires only ± 12 VDC power supplies, and its low power consumption enables use in battery-powered handheld devices.

Specifications:

Operating Wavelength Range	1260 to 1650 nm standard, others specify
Number of Control Waveplates	$\times 3$
Control Voltage	0 – 5V
Rise and Fall Time	$< 5 \text{ ms/V}$ (or $12.5 \text{ ms} / V_{\pi}$)
V_{π}	2.5 V (typical), 3 V (max) @1550 nm
Frequency of Input Sine Wave	10 Hz max.
Insertion Loss	Control grade: 0.1 dB, excluding connectors Measurement grade: 0.05 dB, excluding connectors
Return Loss	$> 65 \text{ dB}$ excluding connectors
Activation Loss	Control grade: 0.1 dB Measurement grade: 0.01 dB
PDL	Control grade: $< 0.1 \text{ dB}$ Measurement grade: $< 0.01 \text{ dB}$
PMD	$< 0.05 \text{ ps}$
Optical Power Handling	300 mW
Fiber Pigtail	9/125 μm single mode fiber standard, others specify
Electrical Interface	8-wire flat cable
Power Supply	$\pm 12 \text{ VDC} / 25 \text{ mA}$
Power Consumption ¹	$< 0.6 \text{ W}$ typical
Operating Temperature	-10 to 70 °C
Storage Temperature	-40 to 85 °C
Dimensions	2.58"(L) \times 1.25"(W) \times 0.63"(H)

Notes:
1. 5 V input on all 3 axes at 25 °C.

Features:

- Compact
- Low power consumption
- Low cost
- Plug and play

Applications:

- Polarization control in OCT systems
- Polarization control in sensor systems
- Polarization control in measurement systems

Related Products:

- Polarization Controllers (PCD-M02, MPC-3/4X)
- Components

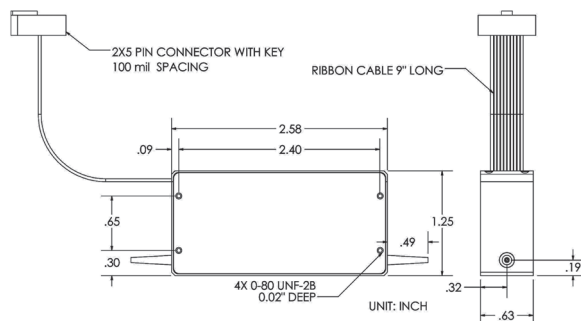
Tech Info:

- [What is Polarization?](#)

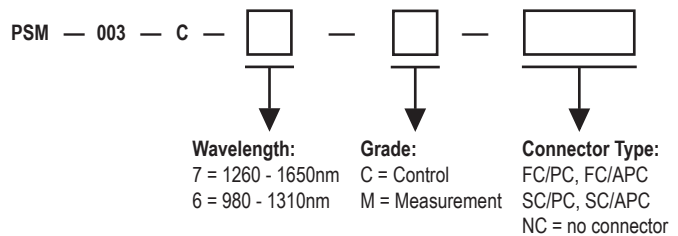
FAQ:

- [Polarization Controllers](#)

Dimensions (in inches):



Ordering Information:





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Micro Polarization Scrambler (PSM-003-S)



This OEM micro polarization scrambler integrates General Photonics' all-fiber dynamic polarization control technology with miniature electronic drive/control circuitry into a compact, self-contained device that provides full polarization control functionality while minimizing volume, power consumption, and cost. Two polarization scrambling options are available: random scrambling at a rate of up to 5 discrete points/s or smooth trace scrambling at a rate of up to 60π rad/s. Scrambling can be disabled with a 5-volt TTL high and enabled with a TTL low. This module is ideal for integration in a PDL measurement instrument or in a sensor system to minimize polarization related measurement uncertainties. It requires only ±12VDC power supplies, and its low power consumption enables use in battery-powered handheld devices.

Specifications:

Operating Wavelength Range	1260 to 1650 nm standard, others specify
Smooth Trace Scrambling Rate	0.0192π, 0.096π, 0.48π, 2.4π, 12π, 60π rad/s, please specify when ordering.
Discrete Scrambling Rate	0.1, 0.2, 1, 5 points/s; please specify when ordering.
Insertion Loss	Measurement grade: 0.05 dB, excluding connectors Control grade: 0.1 dB, excluding connectors
Return Loss	> 65 dB excluding connectors
Activation Loss	Measurement grade: 0.01 dB Control grade: 0.1 dB
PDL	Measurement grade: < 0.01 dB Control grade: < 0.1 dB
PMD	< 0.05 ps
Optical Power Handling	300 mW
Fiber Pigtail	9/125 μm single mode fiber standard, others specify
Electrical Interface	8-wire flat cable
Power Supply	±12 VDC/25 mA
Power Consumption ¹	< 0.6W typical
Operating Temperature	-10 to 70 °C
Storage Temperature	-40 to 85 °C
Dimensions	2.58" (L) × 1.25" (W) × 0.63" (H)
Note: 1. Continuous scrambling, 12π rad/s, at 23 °C.	

Features:

- Compact
- Low power consumption
- Low cost
- Plug and play

Applications:

- Minimize polarization related fluctuation in sensor systems
- Minimize polarization related fluctuation in measurement systems
- PDL or DOP measurement

Related Products:

- Polarization Controllers (PCD-M02, MPC-3/4X)
- Polarization Scrambler (PSM-002)
- Components

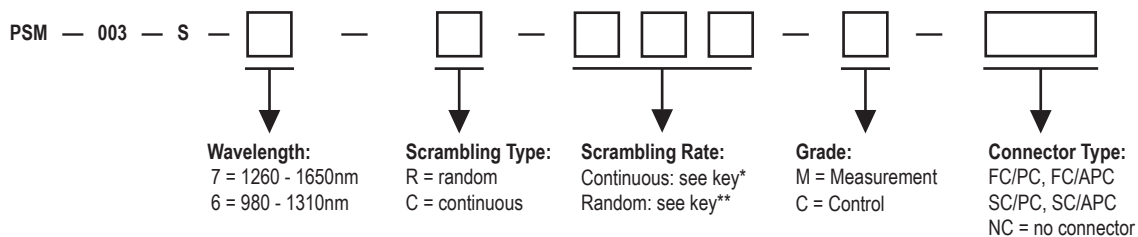
Tech Info:

- [What is Polarization?](#)

FAQ:

- [Polarization Controllers](#)
- [Scramblers](#)

Ordering Information:



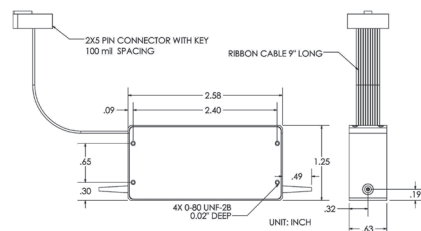
*Continuous Scrambling Rate Key:

- 000 = 0.0192 π rad/s
- 001 = 0.09 π rad/s
- 005 = 0.48 π rad/s
- 024 = 2.4 π rad/s
- 120 = 12 π rad/s
- 600 = 60 π rad/s

**Random Scrambling Rate Key:

- 001 = 0.1 points/s
- 002 = 0.2 points/s
- 010 = 1 point/s
- 050 = 5 points/s

Dimensions (in inches):



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