# Polarization Scrambler Module

## PS3300 / PS3400

**FIBERPRO**'s Polarization Scrambler Module performs polarization scrambling at high speed and make Degree Of Polarization (DOP) zero on time average.

It is based on all fiber technology that has enabled us to build practically zero insertion loss, back reflection free and a compact size. With reliable performance of PS3300 it can be used in long-haul system, PMD mitigation, component characterization test and sensor application, etc.

PS3400

PS3300

## Features

- High speed scrambling
- All single mode fiber configuration
- Input polarization independent
- Low loss and low PMD
- PMD mitigation
- Compact size

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# Specifications

| Optical Characteristics | | |
|---|---|---|
| **Model** | **PS3300** | **PS3400** |
| Output DOP | < 15% [1] | |
| Modulation Frequency | Factory set between 600KHz ~ 1.2MHz [2] | |
| Frequency Difference | Factory set between 100KHz ~ 300KHz [3] | |
| Center Wavelength | 1530nm, 1550nm, 1590nm | |
| Operating Wavelength Range | > 40 nm | > 80 nm |
| Max. Input Power | 1 W | |
| Insertion Loss | < 1.0 dB (without connectors) | |
| Average PMD | < 0.3 ps | |
| PDL | < 0.03 dB (without connectors) | |
| Return Loss | < 65 dB (without connectors) | |
| Input/Output Connectorization | 900um loose tube pigtail without connectors [4] | |
| Fiber Length from PZT Box | 1 ± 0.2 meter | |
| **Electrical / Physical / Environmental Characteristics** | | |
| **Model** | **PS3300** | **PS3400** |
| Power Input | +5V / +24V / ±12V & 5V | +5V / ±12V & 5V |
| Power Consumption | < 20VA | |
| Operating Temperature | 0 °C ~ 50 °C [1] (DOP < 15%) ( with non-condensing) | |
| Calibration Look-up Table Temperature Range | 0 °C ~ 50 °C | |
| Storage temperature | -40 °C ~ 70 °C | |
| External Control [5] | External control : enable/ disable | |
| | RS232 interface | |
| Dimensions (L×D×H) | 100mm×132mm×48mm | 160mm×135mm×48mm (Normal Type) |
| | | 202mm×148mm ×60mm (Housing Type) |
| Weight | approx. 0.6kg | 0.8kg |

1) The DOP value may be increased up to 25% temporarily if the temperature is changed 0.5 /min.
Typically the DOP value is less than 5% around room temperature (15 ~35 )
The warm up time 30~60 minutes in the static temperature is required for the specified DOP.
2) Modulation frequency for each birefringence modulator is fine-tuned for optimum operation at the factory.
3) The frequency difference decides the measurement bandwidth limit.
4) Users can specify other types of connectors at the time of order.
5) Both external controls must not be used at the same time.

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