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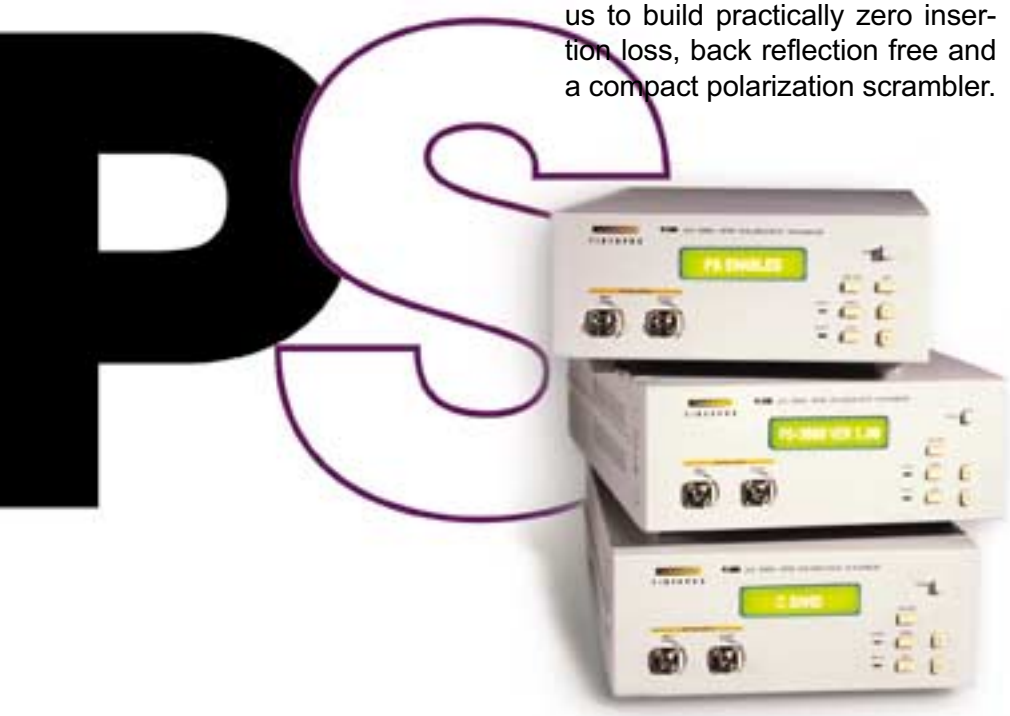
Find the *FiberPro PS-155-A* at our website: *Click HERE*

FIBERPRO

Polarization Scrambler

PS3000 series

FIBERPRO's Polarization Scramblers perform 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 polarization scrambler.



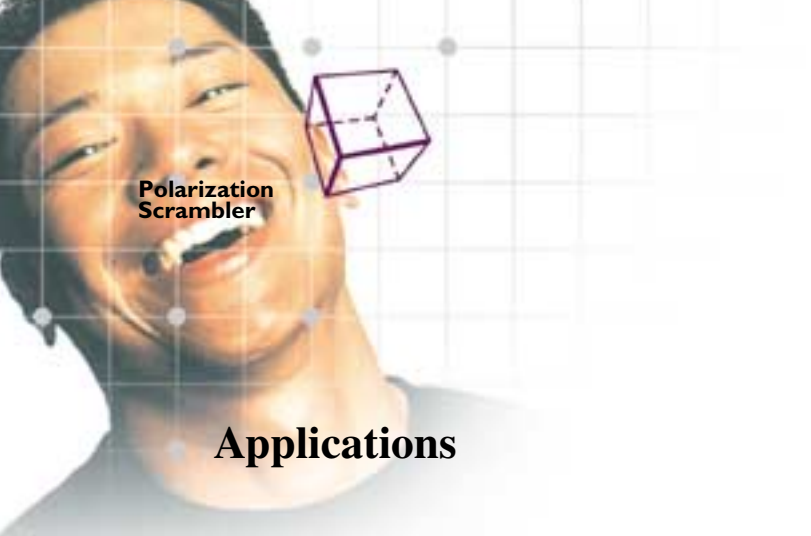
Polarization dependence is one of the biggest issues in fiber-optic measurement, communications and sensors. PDL in components and equipments, Polarization Dependent Gain (PDG) in EDFA are typical examples. Depolarizing is one of the solutions for the polarizing problems. Polarization Scrambler provides the best solution for most situations in which the depolarization is needed.

This equipment provides you with an excellent way to characterize / qualify optical property of optical devices. Furthermore, our PS can solve the problems associated with PDG of EDFAs by scrambling polarization of the optical signal.

Features

High Speed Scrambling
All single mode fiber configuration
Input polarization independent
Wide operating wavelength range : > 40 nm
Low loss (< 0.7 dB typical)
Low PMD (< 0.2 ps typical)
Rack mountable, module types are also possible
GPIB & RS232 remote interface
Plug & Play

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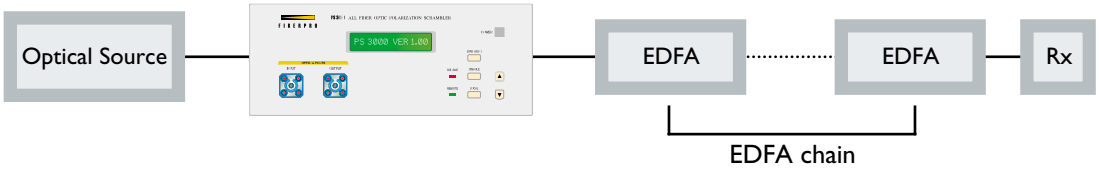
Applications

1. Communications

Solving PDG/PHB in long-haul systems

An EDFA has PDG induced by Polarization Hole Burning (PHB) of which the time constant is approximately 1msec. The PS can remove Polarization Dependent Gain (PDG) of a long EDFA chain. If the light signal is polarization scrambled faster than the response of the EDFA, PDG gets suppressed and so does the degradation of SNR.

[Figure 1]

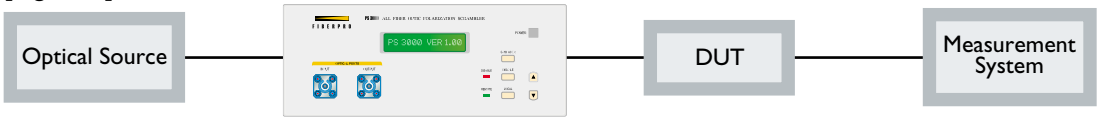


2. Measurement

Component characterization without polarization dependence.

An optical component has Polarization Dependant Loss (PDL) in itself. Due to the PDL, the optical component can be measured an erroneous value with the extent of the PDL. The PS is used to depolarize optical source for polarization independent measurement. The measurement system can interrogate accurate value of the DUT characteristics such as insertion loss, filter profile etc.

[Figure 2]



Removing PDL induced instrumental error

Some measuring instruments have polarization dependence. This creates serious errors increase in measurements. PS removes polarization dependence of the measuring instrument such as spectrum analyzer.

[Figure 3]

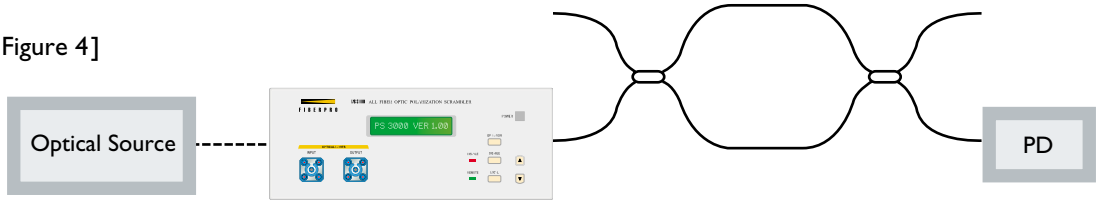


3. Sensors

Removing Polarization induced Phase Noise or Errors in Fiber Interferometers

The external polarization perturbation can induce phase noise and errors in fiber interferometers and sensor system. The PS can depolarize monochromatic optical source such as tunable LD or DFB LD. Because polarization is modulated very fast, sensor signal is clear and the physical quantity of the sensor system to be measured is very exact.

[Figure 4]

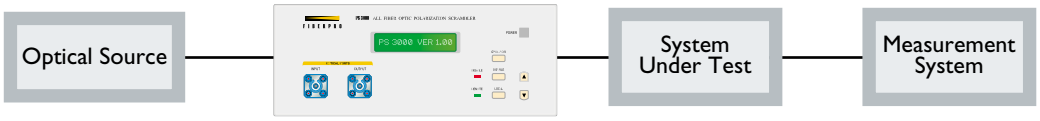


4. Others

Polarization perturbation for experiment.

The PS generates pseudo-random polarization states at high speed. This can be utilized in testing the system which is required to experiment under polarization variation.

[Figure 5]



● DUT:Device Under Test ● Rx:Receiver

Ordering Code

PS3000-(1)-(2)
1. wavelength → 1300 nm (130), 1550 nm (155), 1600 nm (160)
2. connector type → FC/SPC (F/P), FC/APC (F/A)

PS3100-(1)
1. connector type → FC/SPC (F/P), FC/APC (F/A)

PS3200-(1)-(2)
1. wavelength → 980 nm (098), 1550 nm (155)
2. connector type → FC/SPC (F/P), FC/APC (F/A)



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Specification

	PS3000	PS3100	PS3200
Output DOP	< 5% [1]		
Polarization modulation frequencies	~ 1 MHz [2]		
Center operating wavelength	1310,1480,1550, 1590 nm	1550 nm / 1590 nm	980 nm,1570 nm
Operating wavelength range	> 40 nm [3]	> 40 nm each	> 80 nm
Insertion loss	1.0 dB (with connectors)		
Average PMD	< 0.3 ps		
PDL	< 0.05 dB (with connectors)		
Back reflection	< -65 dB (with connectors)		
	< -50 dB (FC/SPC)		
	< -60 dB (FC/APC)		
Operating temperature range	5℃ ~ 35℃ [4] (DOP < 5%)		
Input / Output connectorization	FC/PC [5] (standard)		
Interface	GPIB / RS232		
Power input	100 ~ 125 V, 210 ~ 250 V, 50 Hz / 60 Hz Free Voltage		
Dimensions (W × H × D)	225 × 88 × 371 mm		

[1] at 10 KHz of measurement bandwidth for PS3100 and PS3000 at 3 KHz for PS3200. Typically, PS performs output DOP less than 5% over 10 KHz bandwidth.
[2] This value can be changed without notification.
[3] From center wavelength ±20 nm.
[4] In the range of 0℃ ~ 50℃, the output DOP slightly increases, however it is less than 10%.
[5] Other connectorization is available. Specify when you order.

The specifications and technical information contained herein are subject to change without notice and are furnished without charge or obligation. They are given and accepted at recipients sole risks.

We welcome your inquiry of OEM PS module.
Please contact us.

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