



多通道偏振消光比测试仪

Multi-channel Polarization Extinction Ratio Meter

PEM-100LN-X



产品特点 / Features

- ☑ 波长测量范围 900-1700 nm / Wavelength measurement range 900~1700 nm
- ☑ 基于旋转检偏器测量方法 / Based on rotating polarizer measurement method
- ☑ 同步测量消光比、光功率和偏振方位角 / Simultaneous measurement of PER, optical power and polarization azimuth angle
- ☑ 最高 50dB 偏振消光比动态测量范围 / PER dynamic measurement range up to 50 dB
- ☑ 0.06 ° 偏振方位角分辨率 / Polarization azimuth angle resolution 0.06°
- ☑ 0.01 dB 偏振消光比分辨率 / PER resolution 0.01 dB
- ☑ FC/SC/LC 光纤接口可互换 / Interchangeable optical fiber interfaces FC/SC/LC
- ☑ 支持 RS232 / Supports RS232

应用领域 / Applications

- ◇ 偏振消光比(PER)测量与光功率同步测量 / PER measurement with simultaneous optical power monitoring
- ◇ 光纤器件间偏振轴对准 / Polarization characteristic testing of fiber optic components
- ◇ 保偏光纤跳线检测 / PM fiber patchcord inspection
- ◇ 激光光源与保偏光纤偏振方位对准 / Polarization azimuth alignment between laser sources and PM fibers
- ◇ 保偏光纤熔接检测 / Polarization monitoring during PM fiber splicing

PEM-100LN-X 型偏振消光比 (PER) 测试仪采用旋转检偏器法, 可同步测量偏振消光比、光功率及偏振方位角, 专为偏振光学元件与保偏光纤的快速精密对准而设计。仪器覆盖 900 nm ~ 1700 nm 宽波长范围, 输入光功率动态范围宽达 -40 dBm ~ +10 dBm, 既适用于微弱信号检测, 也兼容较高功率测试。其 PER 动态范围随波长和输入功率优化: 在 1260 nm ~ 1650 nm 波段且输入功率 > -10 dBm 时, 动态范围可达 50 dB; 即使在 -40 dBm 的极低功率下, 仍能保持 20 dB 以上的有效动态范围。核心指标方面, PER 分辨率 0.01 dB, 准确度优于 ± 0.15 dB; 偏振方位角分辨率高达 0.06°, 确保高精度定向; 光功率分辨率为 0.01 dBm, 便于精细调节。设备支持 FC/SC/LC 多种光纤连接器, 并提供 4、8、10、12、16、20 通道灵活配置, 满足多通道并行测试需求。

The PEM-100LN-X Polarization Extinction Ratio (PER) Meter utilizes the rotating polarizer method to simultaneously measure PER, optical power, and polarization azimuth angle, specifically designed for rapid and precise alignment of polarized optical components and polarization-maintaining fibers. It covers a broad wavelength range from 900 nm to 1700 nm and an input optical power range of -40 dBm to +10 dBm, accommodating both weak and strong signal levels. The PER dynamic range is optimized over wavelength and input power: at 1260 nm–1650 nm with input power > -10 dBm, the dynamic range reaches up to 50 dB; even at as low as -40 dBm input power, it maintains a dynamic range better than 20 dB. Key specifications include a PER resolution of 0.01 dB and accuracy better than ± 0.15 dB, a polarization azimuth angle resolution of 0.06° for high-precision alignment, and an optical power resolution of 0.01 dBm for fine adjustments. The instrument supports FC/SC/LC fiber connectors and offers flexible channel configurations of 4, 8, 10, 12, 16, or 20 channels to meet multi-channel parallel testing requirements.



性能指标 / Specifications

性能参数 / Parameters		最小值 / Min	典型值 / Typ.	最大值 / Max
波长范围 / Wavelength range		900 nm	-	1700 nm
输入光功率范围 / Input optical power range		-40 dBm	-	+10 dBm
偏振消光比动态范围 / PER dynamic range		900 - 1100 nm		1260 - 1650 nm
		0 - 35 dB @ input > -10 dBm		0 - 50 dB @ input > -10 dBm
				0 - 40 dB @ input > -20 dBm
		0 - 30 dB @ input > -30 dBm		0 - 30 dB @ input > -30 dBm
		0 - 20 dB @ input > -40 dBm		0 - 20 dB @ input > -40 dBm
偏振消光比分辨率 / PER resolution		0.01 dB		
偏振消光比准确度 / PER accuracy		+/-0.15 dB		
偏振方位角分辨率 / Polarization azimuth angle resolution		0.06 °		
光功率分辨率 / Optical power resolution		0.01 dBm		
测量参数 / Measurement parameters		偏振消光比、偏振角、光功率 / PER, Polarization azimuth and Optical power		
输入光纤连接器 / Input fiber connector		FC / SC / LC		
通道数 / Channel quantity		4 / 8 / 10 / 12 / 16 / 20 channels		
规格配置 / Configuration		19英寸标准机架 / Standard 19-inch Rack		
电源类型 / Power supply		AC 100-240 V 50/60 Hz		
通讯接口 / Communication interface		RS-232		
指示灯 / Indicator		电源灯 / Power indicator		
操作模式 / Operating mode		软件控制 / Software-controlled		
尺寸 / Dimensions (L×W×H)	4U机架 / Rack	53 x 40 x 20 cm		
	6U机架 / Rack	53 x 40 x 30 cm		
工作温度范围 / Operating temperature range		5 °C	-	45 °C
储存温度范围 / Storage temperature range		0 °C	-	55 °C
相对湿度 / Relative humidity		-	-	75%

注 / Note:

- 校准波长为 1064 / 1310 / 1550 / 1590 nm
Calibrated at 1064 / 1310 / 1550 / 1590 nm.
- 4 / 8 / 10 通道的消光比测试仪的尺寸结构为 4U 机架, 12 / 16 / 20 通道的消光比测试仪的尺寸结构为 6U 机架。
The 4 / 8 / 10 channels device feature a 4U rack mount chassis, while the 12 / 16 / 20 channels are housed in a 6U rack mount chassis.