LUNA

FES

MEASUREMENT AND CHARACTERIZATION

Polarization Extinction Ratio Meter (ERM-202)



The ERM-202 is a dual channel polarization extinction ratio (PER) meter specifically designed to simultaneously measure the PER and power ratio of a device with two polarization maintaining (PM) outputs, such as a Y-branch fiber gyro IOC, PM coupler (PMC), or polarization beam splitter (PBS), as well as evaluate the performance (output DOP) of depolarizers. A lower-cost single-channel version, which can later be upgraded to dual-channel, is also an option. An analog electrical PER output for each channel is provided. With a PER dynamic range of 50 dB and an angular resolution of 0.06°, this instrument outperforms all competitors in its class. Its bright graphic OLED display allows information to be comfortably seen at large viewing angles and at a distance. The instrument has 4 measurement speeds ranging from 0.1 to 1 second/cycle, with the high speed for live alignment and the low speed for accuracy. PER, axis angle, power ratios, and optical power are automatically measured and displayed on the OLED screen. The measurement data can also be stored and recalled at the touch of a button for comparison purposes. The ERM-202 is ideal for PM fiber pigtailing of modulators, waveguides, and laser diodes, as well as for PMC and PBS manufacturing, PM fiber connectorization, depolarizer characterization, PM fiber fusion splicing, PM fiber coil production and quality assurance for fiber gyros.

Specifications[1]:

Operating Wavelength Range[2]	1260 to 1620 nm	960 to 1160 nm	600-850 nm
Calibrated Wavelengths[2]	1550 and 1310 nm	980 and 1064 nm	630 and 830 nm
PER Dynamic Range	> 50 dB	> 40 dB	> 40 dB
PER Ranges[3]	0 to 50 dB for input power -5 to 10 dBm 0 to 30 dB for input power -25 to -5 dBm	0 to 40 dB for input power 0 to 10 dBm 0 to 30 dB for input power -20 to 0 dBm	0 to 40 dB for input power 0 to 10 dBm 0 to 30 dB for input power -20 to 0 dBm
Input Optical Power Range	-30 dBm to 10 dBm	-20 dBm to 10 dBm	-20 dBm to 10 dBm
PER Resolution	0.1 dB		
PER Accuracy	±0.15 dB for ER < 30 dB		
Angular Resolution	0.06°		
Angular Accuracy	±1°		
Power Measurement Accuracy	±0.5 dB		
Power Resolution	0.02 dB (PER < 30 dB) 0.2 dB (PER > 30 dB)		
Measurement Speeds	0.1, 0.2, 0.4, 1 seconds (Single channel version also has 10s measurement speed and manual polarizer control mode)		
Connector Type[2]	Free space adapter for FC connector		
Optical Power Damage Threshold	300 mW		
Operating Temperature	0 °C to 40 °C		
Storage Temperature	-20 °C to 60 °C		
Display	OLED graphic display		
Communication Interfaces	USB, RS-232, Ethernet, and GPIB		
Analog Output	0-5V (max range) monitor voltage scales with log of instantaneous power after rotating polarizer.		
Electrical Power Supply	100 – 240 VAC, 50 – 60 Hz		
Dimensions	2U 19” half rack width 14” (L) x 8.5 “ (W) x 3.5” (H)		

Notes:
1. Specifications given at 23±5 °C.
2. Other wavelength ranges and connector types may be available.
3. Other calibrated wavelengths available.
4. For measurement at or slower than 0.4 s/cycle

Ordering Information:

ERM — 202 — □ — □ — □

Channel Option:
1 = Single channel
2 = Dual channel

Wavelength:
13/15 = 1260 - 1620nm
98/10 = 960 - 1160nm
63/83 = 600 - 850nm

Connector Type:
FC = FC free space adapter

Features:

- Two measurement channels
- Simultaneous PER & power ratio testing
- > 50 dB PER range
- Bright OLED display
- High angular resolution
- Store and recall functions

Applications:

- IOC PER & coupling ratio tests
- PMC & PBS PER & coupling ratio tests
- Laser diode PM fiber pigtailing
- PM fiber patch cord production
- PM fiber fusion splicing QA
- PM fiber coil and fiber gyro QA monitoring / measurement

Related Products:

- Distributed Polarization Crosstalk Analyzer (PXA-1000)
- Polarimeter (PSY-201, POD-201)
- Bare Fiber Adapter (PEZ)
- Rack Mount Kit (RCK-001)

FAQ:

- ER Measurement

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