

# 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. 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 pigtailed 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

Operating Wavelength Range <sup>1</sup>	1260 to 1620 nm	960 to 1160 nm
Calibrated Wavelengths <sup>2</sup>	1550 and 1310 nm	980 and 1064 nm
PER Dynamic Range	>50 dB	>40 dB
PER Ranges <sup>3</sup>	0 ~ 50 dB for input power of -5 to 10 dBm 0 ~ 30 dB for input power >-25 to -5 dBm	0 ~ 40 dB for input power of 0 to 10 dBm 0 ~ 30 dB for input power >-20 to 0 dBm
Input Optical Power Range	-30 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 dBm (PER < 30) 0.2 dBm (PER > 30)	
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 <sup>1</sup>	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	
Front Panel Display	OLED graphic display	
Communication Interfaces	USB, RS-232, Ethernet, GPIB	
Analog Output <sup>4</sup>	0-5V via BNC for each channel	
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. Other wavelength ranges and connector types may be available.
2. Other calibrated wavelengths available.
3. For measurement at or slower than 0.4 s/cycle.
4. Analog output voltage scales with log of measured power after polarizer.

## Applications:

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

## Unique Features:

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

## Ordering Information:

ERM - 202 - X - XXXX - XX

Channel option  
1 = Single channel  
2 = Dual channel

Wavelength  
13/15 = 1260-1620nm  
98/10 = 960-1160nm

Connector  
FC free space adapter

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