

# PM-1000

## In-line Optical Power Meter



### Key Features

- In-line optical power monitoring with low insertion loss
- Powered directly from USB interface or using supplied adapter
- USB GUI runs on Windows platform
- Also provides 10/100BaseT Ethernet interface
- Embedded browser based GUI used for Ethernet control
- User selections for Relative vs. Absolute power
- Min/Max power detection and display in both modes
- Allows one or up to 12 optical inputs to be monitored
- Optional data logging over time
- Small footprint of 6.3" x 3.0" x 1.3"



**PM-1012: MTP Connectors with 12 Inputs/Outputs**



**PM-1001: FC Connectors with 1 Input/Output**

### Applications

- Remote power monitoring using Ethernet connection
- Laser or receiver component testing
- In-line power monitoring for all fibers of MTP cables
- EDFA or Raman amplifier power monitoring
- Optical signal power stability testing

### Overview

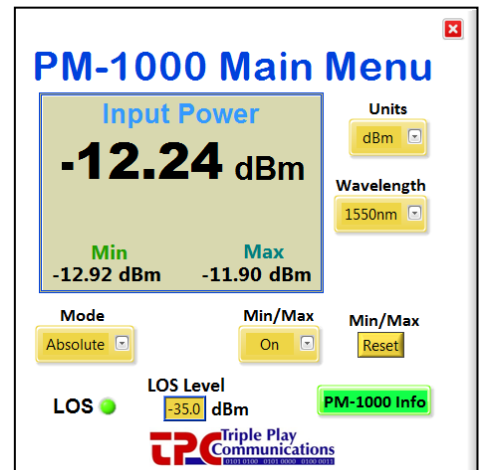
The PM-1000 series provides in-line optical power monitoring for one or up to 12 optical signals in a small, portable, cost-effective solution for use in R&D as well as production test applications. The single mode fiber configuration of this power monitor is calibrated at 1310 nm, 1550 nm, and 1625 nm wavelengths allowing the user to easily select any one of those bands. The input optical power level is measured using a 1% tap to

minimize insertion loss (less than 0.3 dB excluding connector losses). An onboard temperature sensor allows the power monitoring circuitry to be calibrated during production test to provide measurement resolution of  $\pm 0.01$  dB and linearity (relative accuracy) of  $\pm 0.1$  dB over an operating temperature range of 0°C to 40°C.

The user can switch from Absolute to Relative power display mode in order to compensate for a specific amount of loss in a given test setup. When Relative mode is selected, the reference power level is displayed in dBm under the Relative offset power on the GUI. Both in Absolute and Relative modes, the user can also select to display the minimum and maximum power detected at the input. This is useful for detecting power variations during unattended operation.

The standard PM-1000 configuration is USB powered (<300 mA max) and connects directly to a Windows based computer which runs the graphical user interface (GUI) software. The GUI provides complete control and status of all optical power monitoring functions and also has an optional capability allowing the user to perform time stamped data logging which includes capturing the input optical power level(s) and writing this information to a .csv file.

An optional Ethernet communications hardware interface can be provided to allow the PM-1000 to be controlled via a 10/100BaseT link using either Static or Dynamic IP addressing. In this configuration, a standard HTML browser (e.g. Firefox, Chrome, Internet Explorer) provides the user interface and the various control and status HTML pages are integrated into the microcontroller's firmware.



**Triple Play Communications**  
250 East Drive, Suite F  
Melbourne, FL 32904

#### Ordering Information:



800 Village Walk #316  
Guilford, CT 06437  
Ph: 203-401-8093

Email orders to: [sales@xsoptix.com](mailto:sales@xsoptix.com)  
Fax orders to: 800-878-7282

321-243-2671

[www.3playcomm.com](http://www.3playcomm.com)  
[sales@3playcomm.com](mailto:sales@3playcomm.com)

### Optical Power Meter Specifications

Parameter	Minimum	Typical	Maximum
Dynamic Measurement Range <sup>1</sup>	-50 dBm		+10 dBm
Resolution	±0.01 dB		
Relative Accuracy/Linearity	±0.1 dB		
Absolute Accuracy (at calibrated wavelengths)	±1.0 dB		
Insertion Loss (excluding connector losses)			0.3 dB
Calibration Wavelengths	1310 nm	1550 nm	1625 nm
Fiber Type		SM or MM	
Optical Connectors (standard, others available)		FC or MTP	

Note 1: This 60 dB dynamic range can be shifted lower or higher based on the customer's desired range.

### Electrical, Mechanical, and Environmental Specifications

Parameter	Minimum	Typical	Maximum
Power Interface		USB (+5V)	
Alternate Operating Voltage (DC Adapter Input)		+5V	
Operating Current (USB, max while tuning)		230 mA	300 mA
Standard Communications Interface		USB 2.0	
Optional Communications Interface		10/100BaseT	
User Interface		Custom GUI	
User Platform		Windows	
Operating Temperature Range	0 °C		40 °C
Dimensions		6.3" x 3.0" x 1.3"	

### Part Numbers for Ordering

Description	Part Number
PM-1000 In-line Optical Power Meter	PM-10□□□□-□□□□
Single Input and Output: <b>1</b> , Twelve Inputs and Outputs: <b>12</b>	
Single Mode Fiber: <b>S</b> , Multimode Fiber: <b>M</b>	
USB: <b>U</b> , or Ethernet (plus USB): <b>E</b>	
Data logging: <b>D</b> , No Data logging: <b>N</b>	
FC/UPC: <b>U</b> , FC/APC: <b>A</b>	
Two digits indicate min pwr monitor level, Std (-50dBm): <b>50</b>	

