

# High-Speed Power Meter

PM-1600



Excellent  $\pm 0.015$  dB linearity

Up to 4096 samples per second

12 ms stabilization time over the entire dynamic range

Wide Area Detector option available



## Fast System Monitoring

With its fast stabilization time and high sampling rate, the PM-1600 High-Speed Power Meter is ideal for system monitoring. To start your data acquisition and take full advantage of the high sampling rates, synchronize acquisitions using the two available synchronization trigger types.

## Two Operation Modes. Versatility.

In automatic gain range mode, power fluctuations of up to 95 dB will stabilize in 12 ms and a continuous rate of up to 256 samples per second can be produced. Or, manually select the gain range for individual channels. In this mode of operation, the PM-1600 stabilizes in less than 1 ms, with rates as high as 4096 samples per second.

## Advanced Detector Option

Select EXFO's Wide Area Detector option for excellent repeatability of in-process testing of passive components long before they are connectorized. The advanced detector option provides fast stabilization time of 6 ms. Combined with our family of bare fiber adapters, the PM-1600 High-Speed Power Meter will allow you to take precise and efficient measurements in the S-, C- and L-bands.

## Ease-of-Use. Engineered.

The PM-1600 was designed with the user in mind. A menu-driven interface guides you through the operation, displaying results clearly. The external trigger connection enables you to start an acquisition with a TTL voltage (electrical) trigger. Control your unit remotely with the GPIB and RS-232 interface and control codes from any compatible PC or test station. LabVIEW™ drivers available upon request.



Select the FOA-8100 utility adapter for compatibility with industry bare fiber adapters.

Specifications<sup>1</sup>

## Ordering Information

Model	PM-1613/1623	PM-1613W/1623W
Number of detectors	1/2	1/2
Detector type	InGaAs	InGaAs
Detector size (mm)	1	3
Wavelength range (nm)	800 to 1700	800 to 1700
Power range <sup>2</sup> (dBm)	9 to -80	8 to -70
Uncertainty <sup>3</sup> (%)	± 5 (0 to -55 dBm)	± 5 (0 to -50 dBm)
Linearity <sup>4</sup> (dB)	± 0.015 (0 to -55 dBm)	± 0.015 (0 to -50 dBm)
Noise (peak-to-peak) <sup>5</sup> (pW)	3	20
Power resolution (dB)	0.001 (9 to -40 dBm)	0.001 (8 to -40 dBm)
Wavelength resolution (nm)	0.01	0.01
Stabilization time (ms)		
automatic range	12 (9 to -85 dBm)	6 (8 to -75 dBm)
automatic range	3 (9 to -49 dBm)	3 (8 to -49 dBm)
fixed range (1 to 4)	1	1
Sampling rate (sample/s/channel)		
fast acquisition mode	up to 4096	up to 4096
continuous measurement mode	up to 256	up to 256
Fiber type (µm)	5/125 to 62.5/125	5/125 to 62.5/125
Analog output bandwidth <sup>6</sup> (Hz) (ranges 1 to 6)	700 k; 700 k; 30 k; 30 k; 150; 150; typical	50 k; 7.5 k; 5 k; 7 k; 1 k; 1 k; typical
output voltage (V)	between 0 and 2.15, typical	between 0 and 2.15, typical
output impedance (Ω)	640	640

## PM-1600 High-Speed Power Meter

## PM-16XX

## Number of channels

1 = One channel

2 = Two channels

## Detector code

3 = InGaAs

3W = InGaAs wide area (3 mm)

Specify the model number and the connector adapter you wish to obtain.

## Connector adapter code

FOA-216 = SMA 906 low reflection

FOA-222 = FC low reflection:

FC, FC (/PC/SPC/UPC/APC, NEC-D3)

FOA-228 = DIN 47256 (LSA) low reflection:

DIN 47256 (/PC/APC)

FOA-232 = ST low reflection: ST, ST (/PC/SPC/UPC)

FOA-240 = Diamond HMS-0, HFS-3 (3.5 mm)

low reflection

FOA-254 = SC low reflection: SC, SC

(/PC/SPC/UPC/APC)

FOA-276 = FSMA HMS-10/AG, HFS-10/AG

low reflection

FOA-284 = Diamond HMS-10, HFS-13 low reflection

FOA-296 = E-2000 low reflection: E-2000 (PC/APC)

FOA-298 = LC low reflection

FOA-299 = MU low reflection

FOA-8100 = Utility adapter

## General Specifications

External trigger input voltage (V)	0 to 5 (TTL)
Size (H x W x D)	11.7 cm x 22.2 cm x 33.3 cm (4 5/8 in x 8 3/4 in x 13 1/8 in)
Weight	2.8 kg (6.2 lb)
Temperature operating	0 °C to 40 °C (32 °F to 104 °F)
storage	-35 °C to 70 °C (-31 °F to 158 °F)
Relative humidity <sup>7</sup>	0 to 80 % non-condensing

## Notes

- All specifications are measured at 1310 nm (unless otherwise specified) with an FC/non-angled connector and a warmup time of 20 minutes (30 minutes for PM-16X3W), followed by an offset nulling.
- From 18 °C to 32 °C
- Measured at 23 °C ± 1 °C with FOA-222 between 1000 and 1640 nm. Add 1 % to uncertainty below 1000 nm and 6 % over 1640 nm. All uncertainties are valid on the day of calibration.
- Averaged measurement at constant temperature in 0 to 40 °C range.
- Averaging time 0.25 s, observation time 50 s at 23 °C ± 1 °C, from 1200 nm to 1640 nm.
- Bandwidth corresponds to each electrical scale from the lowest to the highest gain.
- Measured in 0 °C to 40 °C range.

## Standard Accessories

Instruction manual, 1 or 2 connector adapters

Certificate of calibration

Certificate of Compliance

AC power cord

## MT-RJ Connectors

Connector adapter for MT-RJ: For use with singlemode fiber on PM-16X3W, FOA-93 can be ordered separately (uncertainty is not guaranteed with the FOA-93)

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EXFO is certified ISO 9001 and attests to the quality of these products, which come with a 12-month warranty and after-sales support service. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices.

Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.

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