



Virginia Diodes, Inc.
virginiadiodes.com

PM5 Specifications

Typical PM5 Performance		
Scale	90% Response Time*	RMS Noise
200 mW	0.15 sec	~0.02 μ W
20 mW	0.2 sec	~0.08 μ W
2 mW	0.6 sec	0.03 μ W
200 μ W	12 sec	0.003 μ W

*Response time is given as the time from the application of an input to a response at the analog output of 90% of the final reading.

PM5 Specifications Summary	
Description	Specification
Signal Input	WR10 Waveguide UG387 Precision Flange
Input Loss	<0.15 dB (at 90 GHz)
Maximum VSWR	<1.15:1 (80-110 GHz)
Frequency Response	75 GHz to >3 THz
Input Power Range	1 μ W - 200 mW
Maximum Input Power	200 mW (Average)
Cal Factor Adjustment	\pm 29.9 dB using digi-switches
Calibration Check	Internal, All Ranges
Temperature Drift Compensation	<2 μ W/ $^{\circ}$ C
Data Port	USB 2.0
Display	4 1/2 Digit LED
Analog Output	0-10 V (BNC Connector)
AC Power Input	90-240 V, 50-60 Hz
Sensor Size	5.1 x 4.8 x 7.6 cm
Power Meter Size	~8.9 x 15.2 x 26.7 cm
Operating Temperature Range	10-30 $^{\circ}$ C
PM5 Option List	
-Sensor prepared for use in vacuum (operation in vacuum will alter calibration and other specifications)	
-Transitions to other standard waveguide bands are available	



Readout and Sensor



Readout (Rear Panel)

VDI - Erickson Power Meters

The VDI Erickson PM5 Power Meter is a calibrated calorimeter-style power meter for 75 GHz to > 3 THz applications.

It offers power measurement ranges from 1 μ W up to 200 mW.

The PM5 is the de facto standard for > 100 GHz power measurement.

The sensor head has a WR10 input and VDI sells a variety of input waveguide tapers for use at other frequencies.

PM5 Features

- Extremely wide bandwidth
- Excellent input match
- Low Noise
- High Sensitivity
- USB interface with open source software

Measurements Above 110GHz:

For measurements above the WR10 band (75-110GHz), VDI recommends purchasing waveguide tapers. Waveguide tapers transition from a smaller waveguide to a WR10 waveguide. The basic layout of this power measurement is:

[DUT] + [WRX.X to WR10 Taper] + [WR10 Waveguide on Power Meter] + [Power Meter]
The WRX.X denotes the waveguide band that best matches the output waveguide of the DUT.

