rf/microwave instrumentation

Model PM2003
Power Meter
10kHz–40GHz

The Model PM2003 is a three channel high performance power meter that features high speed measurement capability and wide dynamic range.

SPECIFICATIONS

Frequency Range	10kHz-40GHz, power head dependent
Power Measurement Range	-70dBm to +44dBm, power head dependent
Number of Channels	Three (2 simultaneously viewable)
Measurement Speed	1 channel: 200 readings/sec. 2 channels: 100 readings/sec.
Power Heads	Select from a large number of diode and thermocouple Power Heads. The linearity and frequency calibration factors for the heads are provided in an EEPROM contained in a Head Data Adapter shipped with the Power Head.
Dynamic Range	Up to 90dB with diode heads, 50dB with thermocouple heads. See Power Head Specifications.
Inputs	Rear panel HEAD connectors and rear panel IEEE-488 connector standard.
Outputs	Rear panel PWR/REF connector, 0dBm, 50MHz. Rear panel RECORDER BNC connector, 0 to 10V into 1MΩ. Output impedance is 9.09kΩ. May be operated into 1kΩ or 1V fs.
Emulation	HP437, HP438 and Boonton 4230, SCPI
Displays	Menu-driven 20 character x 4 line LCD display. Simultaneous display of dual channels with bar graph proportional to data display.
Display Units	Absolute, watts and dBm. Relative, dBr
Display Resolution	5 digits, nW, μW, mW and W; 4 digits dBm
Measurement Accuracy	Total accuracy is the sum of the following uncertainties: (errors are ± worst case).
Instrumentation Accuracy	0.23% of full scale. 0.46% of 1/10 full scale
Power Reference Uncertainty	
Output Frequency:	50MHz ±0.005%.
Output Level:	-60 to +20 dBm
Resolution	0.1 dB steps
Accuracy, 0°-20°C, NIST Traceable	At 0 dBm ±0.055 dB (1.27%) +20 to -39 dBm ±0.075 dB (1.74%) -40 to -60 dBm ±0.105 dB (2.45%)
Source Impedance:	50 ± 1 ohm. SWR: <1.05
Harmonic Output	<-50dBc.
Other Uncertainties	For Head, Noise, High Frequency Calibration Uncertainty See Power Head Specifications
Calibration Factors	+3dB to -3dB in 0.01dB steps. These calibration factors are stored in non-volatile memory. When a frequency other than that stored is used, the meter linearity interpolates between the calibration factor above and below the frequency entered to obtain a calibration factor.

SPECIFICATIONS, MODEL PH2003

Ranging	Automatic or Manual
Filtering	Filter times in 0.05 second intervals to 20 seconds.
Zeroing	Automatic function to calculate, store and apply zero corrections to each range
Display Offset	-99.99 to 99.99 in 0.01dB steps (dBr)
Power Consumption	90 to 260 VAC (±10%), 47-63Hz, 24 VA maximum
Operating Temperature	0° to +55°C
Weight	4.9 lbs (2.2 kg)
Dimensions	8.25 in (21.0 cm) wide, 3.5 in (8.9 cm) high, 13.5 in (34.3 cm) deep
Interfaces	IEEE-488 and RS-232
Accessories Required	One or more of the available power heads and a 5 ft. power head cable (supplied with each head ordered) are both required.

Accessories available, See PH2000 Specification Sheet.