

POWER METER - MODEL 3200

SMART SENSOR

The Model 3200 smart sensor power meter is specifically designed to be integrated into test systems. It features highly accurate complex signal measurement and is controlled with an RS/232 serial interface.



You get the flexibility of a power meter that can accurately measure all digital modulations schemes, such as QPSK 3/4 Coding, QPSK 7/8 Coding, Turbo-coding, 256 QAM, CDMA, and more..., without the fancy packaging or price.

SPECIFICATIONS

Frequency Range: 10 MHz to 3 GHz

Power Range: -60 to -20 dBm

True Average Power Measurement Bandwidth: 20 MHz

Relative Measurement Accuracy¹ (after temperature stabilization)
 -20 dBm to -50 dBm: 0.1 dB
 50 dBm to -55 dBm: 0.2 dB
 -55 dBm to -60 dBm: 0.4 dB

Measurement Resolution: 0.1 dB

Display Resolution: Selectable log mode 1, 0.1, 0.01, 0.001 dB
 Selectable lin mode 2, 3, 4, or 5 significant digits

RF Interface: SMA Connector (Optional Type N)

Digital Interface: RS-232 interface with hardware handshake and a baud rate of 9600.

Power Requirements²: +15V @ 10mA typ, 25mA max.
 -15V @ 10mA typ, 25mA max.
 +5V @ 80mA typ, 200mA max.
 -5V @ 1mA typ, 5mA max.

Dimensions: 3.7"W x 5.75"L x 1.5"D

Temperature Range: 0°C to 50°C

Temperature Slew Rate: Considered temperature stabilized when temperature shifts have been less than 0.1°C/min. for more than 15 minutes.

Notes:

¹Spectral energy above 10 MHz.

Relative to reference reading taken within past 15 minutes or 3°C temperature change. Sensor zeroing performed every 1 minute or following 1°C temperature change for input measurements below -40 dBm.

²Power and grounding arrangement must not induce common mode offset voltage at RF connector of greater than 5mv dc or an ac signal greater than 20 dB below the minimum signal to be measured.

MICRONETICS
TEST SOLUTIONS

Smart Sensor Command Syntax

Table 1. Power Meter Alpha Command Set

Code	Meaning	Output ¹
ID?	Instrument identification	{G-3200}
VR?	Version number	{VR=1.0}
AV?	Average number	{AV=A}
AV=x	Average. x=A,0 thru 5; =2 ^x	{OK}
UT?	Units, dBm or pico Watts 2	{UT=0}
UT=x	Units,0=dBm, l=picoWatts	{OK}
MS=x	Take measurement	measured power
ZE	External Zero	{OK}
CA=x	External Calibration 4	{OK}
ER?	Error status'	{OK} no system error or {Exx}

All Commands terminate in <CR><LF>

Table 2. Output Format

Byte #	Data sent	Meaning
1	Digit 1 (ASCII)	Most Significant Data Byte
2	Digit 2 (ASCII)	Data Byte 2
...
n-2	Digit x (ASCII)	Least Significant Data Byte
n-1	ASCII "CR"	Carriage Return
n	ASCII "LF"	Line Feed

¹Incorrect syntax or out of range parameters will result in an error.

²Linear power is reported as an integer number of picoWatts. Log power is reported in negative dBm with resolution to the 0.1 dBm. The decimal point and the tenths digit are required.

³0=current measurement, 1=begin new reading using set averaging, 2=continue output

⁴The =x is optional. If not sent, power is assumed as -20. Else, command is CA=-42.1 Parameters to be in format identical to measurement output and consistent with the units selected

⁵See attached error code list. Read, {Exx} where xx is error number

Table 3. Error Code Listing

Error Code	Meaning
04	Input Exceeds system input range
31	Serial input rate too high
32	FPGA download failed
33	RAM test failed
34	RAM clear failed
61	Invalid command
62	Invalid command syntax
63	Invalid command input parameter
65	Attempt to measure before calibration