

Wideband Power Sensor

WPS Series



- Measures True Average Power, Peak Power, and Duty Cycle directly with exceptional accuracy
- Calculates VSWR, Return Loss, Reflection Coefficient, Crest Factor, Average Burst Power, and CCDF
- Works with any Modulation scheme
- Compatible with all analog, digital, and multi-carrier signals
- Sensor plugs and plays with 5000-XT meter
- Virtual Power Meter software is also included for free
- No field calibration required
- NIST traceable calibration

Connectors	N Female (Both)
Power Supply	USB Port: Less than one low-power USB load DC Input Connector: 7-18 VDC at less than 0.1A
Impedance	50 Ohms (nominal)

INTERFACES

DPM	DB9 proprietary interface
PC Interface (1)	RS -232, 9600 Baud, no parity, 8 data bits, 1 stop bit, DB9
PC Interface (2)	USB 2.0 Type B
Data Logging	Requires 5000-XT or VPM2

ENVIRONMENTAL SPECIFICATIONS

Weight	1.2 lb. maximum
Dimensions HxWxD [inches (mm)]	4.8" x 4.6" x 1.3" (122 mm x 117 mm x 33 mm)
Operating Temps [°C(°F)]	-10° to +50°C (+14° to +122°F)
Storage Temps [°C(°F)]	-40° to +80°C (-40° to +176°F)
Mechanical Shock & Vibration	IAQ MIL-PRF-28800F Class 3
CE	EMC EN 61326-1:2006
Compatible Devices	SH-36S, SH-361S, SH-362, SH-362S, SA-3600XT, SA-6000XT, 5000-XT, VPM2

OPTIONAL ACCESSORIES

Precision Test Adapter Male N to Male N	PTA-MNMN	Power Supply, US	5A2229
Male N to Male 7/16 (DIN)	PTA-MNME	USB Cable, 10'	5A2653-10
Male N to Female 7/16 (DIN)	PTA-MNFE	DB9 Cable, 10'	5A2264-09-MF-10
Power Supply, Intl	5A2226		

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WPS Series

	5012B	5016B	5017B	5018B	5019B
Frequency Range	350 MHz - 4.0 GHz	350 MHz - 4.0 GHz	25MHz - 1.0 GHz	150MHz - 4.0 GHz	25MHz - 1.0 GHz
Power Range	150mW - 150 W Avg, 400 W Peak	25mW - 25 W Avg, 60 W Peak	500mW - 500 W Avg, 1300 W Peak	100mW - 25 W Avg, 60 W Peak	100mW - 100 W Avg, 260 W Peak
Insertion VSWR	<1.05 from 0.35 to 2.5 GHz, <1.10 from 2.5 to 4 GHz	<1.05 from 0.35 to 2.5 <1.10 from 2.5 to 4 GHz	<1.05	<1.05 from 0.35 to 2.5 <1.10 from 2.5 to 4 GHz	<1.05
Insertion Loss	<0.05 dB from 0.35 to 1.0 <0.1 dB from 1 to 4 GHz	<0.05 dB from 0.35 to 1.0 <0.1 dB from 1 to 4 GHz	<0.05 dB	<0.05 dB from 0.35 to 1.0 <0.1 dB from 1 to 4 GHz	<0.05 dB
Directivity	30 dB up to 3.0 GHz, 28dB up to 4.0 GHz	30 dB up to 3.0 GHz, 28dB up to 4.0 GHz	28dB up to 100 MHz, 30dB from 100-1000 MHz	30 dB up to 3.0 GHz, 28dB up to 4.0 GHz	28dB up to 100 MHz, 30dB from 100-1000 MHz
Average Power					
Average Forward Power Range	150 mW - 150 W Avg, 400 W Peak	25 mW - 25 W Avg, 60 W Peak	500 mW - 500 W Avg, 1300 W Peak	Peak 100 mW - 25 W Avg, 60 W Peak	100 mW - 100 W, 260 W Peak
*Accuracy, Average Forward Power	± 4% of reading, + 0.05 W	± 4% of reading, + 0.008 W	± 4% of reading, + 0.17 W	± 4% of reading, + 0.008 W	± 4% of reading, + 0.04 W
Minimum Forward Power for Reflected Measurement	0.5 W	0.1 W	0.5 W	0.1 W	0.3 W
Return Loss	0.0 to 23 dB				
VSWR	1.15 to 99.9				
Rho	1.2 lb. maximum				
Burst Average Power					
Burst Average Power Range	4 W - 150 W Avg	.7 W - 25 W Avg	13.5 W - 500 W Avg	.7 W - 25 W Avg	2.7 W - 100 W Avg
Burst Width	1 µs to 50 ms	1 µs to 50 ms			
Repetition Rate	200 Hz, Min	200 Min	200 Hz, Min	200 Min	200 Min
Duty Cycle (D)	.001 to 1.0				
*Accuracy, Burst Average Power	± 4% of reading, + 0.05/D W	± 4% of reading, + 0.008/D W	± 4% of reading, + 0.17/D W	± 4% of reading, + 0.008/D W	± 4% of reading, + 0.04/D W
Peak Envelope Power					
Peak Envelope Power Range	4.0 - 400 W	0.7 - 60 W	13.5 - 1300 W	0.7 - 60 W	2.7 - 260 W
*Accuracy, Peak Envelope Power					
Burst Width > 200 µs	± 7% of reading, + 0.20 W	± 7% of reading, + 0.05 W	± 7% of reading, + 0.70 W	± 7% of reading, + 0.05 W	± 7% of reading, + 0.13 W
1 µs < Burst Width < 200 µs	± 10% of reading, + 0.40 W	± 10% of reading, + 0.10 W	± 10% of reading, + 1.40 W	± 10% of reading, + 0.10 W	± 10% of reading, + 0.26 W
0.5 µs < Burst Width < 1 µs	± 15% of reading, + 0.40 W	± 15% of reading, + 0.10 W	± 15% of reading, + 1.40 W	± 15% of reading, + 0.10 W	± 15% of reading, + 0.26 W
Burst Width < 0.5 µs	± 20% of reading, + 0.40 W	± 20% of reading, + 0.10 W	± 20% of reading, + 1.40 W	± 20% of reading, + 0.10 W	± 20% of reading, + 0.26 W
Crest Factor					
Crest Factor Measurement Range	150 mW - 150 W Avg	25 mW - 25 W Avg	500 mW - 500 W Avg	25 mW - 25 W Avg	100 mW - 100 W
*Accuracy, Crest Factor	Linear Sum of Peak and Average Power Accuracies				
Complementary Cumulative Distribution Function (CCDF)					
CCDF Measurement Range	0.1 to 100%				
Threshold Measurement Range	4.0 - 400 W	0.7 - 25 W	13.5 - 500 W	0.7 - 25 W	2.7 - 100 W
Measurement Uncertainty	± 0.2%				
Threshold Measurement Range	As Peak Envelope Power Accuracy + 2.0%				

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