



Bird Technologies®

Wideband Power Sensor 5017D-AV

The **Bird® 5017D-AV** wide band RF power sensor is the world's first RF power sensor dedicated to measuring most avionics radio system generally found at an airport. A "one sensor does all" approach allows measurement on VHF AM / FM, UHF AM/ FM, IFF, DME and TACAN systems and will return forward power, reflected power and other important factors, such as VSWR, Return Loss, Reflection Coefficient, Crest Factor, Average Burst Power, Modulation depth and CCDF.

Bird's® Wideband Power Sensor (WPS) never requires field calibration, only requires factory calibration once per year and is traceable to National Institute of Standards and Technology (NIST).

Used in conjunction with our FREE VPM3 software data can be displayed in analogue or digital format with data logging.

And now with our FREE app can even use an Android phone.

FEATURES & BENEFITS

- ▶ Monitor and perform maintenance checks while the radio system is in-service.
- ▶ Measure forward and reflected power to troubleshoot system failures.
- ▶ Modulation independent measurements
- ▶ Works with analogue and digital radio signals
- ▶ Tight budgets
- ▶ USB connectivity, no meter required
- ▶ Varying field tech skill levels
- ▶ Sensor plugs and plays with 5000-XT meter
- ▶ Need greater confidence in measurement
- ▶ No field calibration required
- ▶ NIST traceable calibration



**Works with the
Bird RF Meter App!**
Free download from Google Play Store

APPLICATIONS

WPS measures: Analog Cellular, Digital Cellular, 3G, 4G, Tetra, DMR, MOTOTRBO, APCO/P25 Phase 1 & 2, Trunking, CDMA, TDMA, WCDMA, GSM, Transportation, Tactical Military, Radar, Avionics, Marine, LMR, Analog Broadcast, Digital Broadcast, GSM, GPRS, EDGE, UMTS, HSDPA, Bluetooth, Fire, GPS, NPSPAC, Paging, Public Safety, Telematics, Utilities, WIMAX and WLAN.

Measurements performed: Peak power, true average power and Duty Cycle.

Calculations Performed: VSWR, Return Loss, Reflection Co-efficient, Crest Factor, Average Burst Power and CCDF.



Wideband Power Sensor

5017D-AV

GENERAL SPECIFICATIONS

Connector	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)
Weight	1.2 lb. maximum
Dimensions HxWxD	4.8" x 4.6" x 1.3"
[inches (mm)]	(122 mm x 117 mm x 33 mm)
Data Logging	Requires 5000-XT, VPM3 or Bird RF Meter App
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 class3
CE	EMC EN 61326-1-2006
Frequency Range	100 MHz - 1.3 GHz
Power Range	500mW - 500 Watts Avg 1300 Watts Peak
Insertion VSWR	<1.05
Insertion Loss	<0.05 dB
Directivity	28 dB up to 100 MHz, 30 dB from 100 to 1300 MHz

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

AVERAGE POWER

Average Forward Power Range	500 mW - 500 Watts Avg, 1300 Watts Peak
*Accuracy, Average Forward Power	± 4% of reading, + 0.17 W
Minimum Forward Power for Reflected Measurement	0.5 W
Return Loss	0.0 to 23 dB
VSWR	1.15 to 99.9

BURST AVERAGE POWER

Burst Average Power Range	13.5 W - 500 W Avg
Burst Width	1 µs to 5 ms

Repetitions Rate	5 Hz, Min
Duty Cycle (D)	.002 to 1.0
*Accuracy, Burst Average Power	± 6% of reading, + 0.17 W

PEAK ENVELOPE POWER

Peak Envelope Power Range	13.5 - 1300 W
*PEAK ENVELOPE POWER ACCURACY	
Burst width > 200 µs	± 7% of reading, + 0.70 W
1 µs < burst width < 200 µs	± 10% of reading, + 1.40 W
0.5 µs < burst width < 1 µs	± 15% of reading, + 1.40 W
Burst width < 0.5 µs	± 20% of reading, + 1.40 W

CREST FACTOR

Crest Factor Measurement Range	500 mW - 25 mW
*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	13.5 - 500 W
Measurement Uncertainty	± 2%
*Level Set Accuracy	As Peak Envelope Power Accuracy + 2.0%

STANDARD ACCESSORIES

5A2653-10	USB Cable
VPM3	Virtual Power Meter
920-5012S	Instruction Book
920-VPM3	Instruction Book

OPTIONAL ACCESSORIES

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

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