

POWER SENSOR

Directional Thruline® Power Sensor

±5% ACCURACY

5014 SENSOR



Flexible, Dual-Socket Power Measurement

Bird's 5014 Thruline directional power sensor is a flexible, power measurement solution that can be tailored to a multitude of applications. This dual-socket device measures true average power and peak power when paired with Bird elements for a measurement of a wide range of frequencies and power levels. Input and output RF connectors are field changeable and provide flexibility. Sensor operates with the 5000-NG Power meter display or via a PC with the VPM3 software as well as the Android RF Meter App.

No field calibration is required and factory calibration is only suggested once per year. Calibration is traceable to the National Institute of Standards and Technology (NIST), providing additional confidence in sensor measurements.

Pair with Bird Elements to
measure a wide range of
frequencies & power levels

PRODUCT FEATURES

- Measures forward and reflected power to troubleshoot system failures
- Monitor and perform maintenance for monitoring while DUT is in-service
- Interchangeable input and output connections
- Operate with a PC or Android device
- Utilizes the complimentary Virtual Power Meter (VPM3) application
- Use APM or 43 series elements

COMPATIBLE DEVICES

5014 (USB 1.1 Type B)

5000-NG
SK-4500-TC
SK-6000-TC
RF Meter App
VPM3

DIRECTIONAL THRU LINE POWER SENSOR

5014

Specifications

MEASUREMENT

Frequency Range	Element dependent, 2 MHz to 1000 MHz
Power Range	Element dependent, 125 mW to 1 kW full
Accuracy	True Average Power: ± 5% of reading (15 °C to 35 °C); ± 7% of reading (-10 °C to 50 °C) Peak Power: ±8% of full scale
Peak/Average Ratio	10 dB maximum with DPM elements
Insertion VSWR	1.05:1 from 0.45 to 1000 MHz (with N connectors)
Impedance	50 Ohms
Directivity	30 dB typical (element dependent)
Dynamic Range	16 dB
Pulse Width Parameters	>100 MHz: 800 ns minimum 26 to 99 MHz: 1.5 µs minimum 2 to 25 MHz: 15 µs minimum
Pulse Rep. Rate Peak	15 pps minimum
Pulse Duty Factor	1 x 10 ⁻⁴ minimum

CONNECTORS

RF Connectors	QC Type. Female N normally supplied
Display Interface	5014: USB 1.1 Type 'B'

SYSTEM

Settling Time	<2.5 seconds
Recommended Calibration Interval	1 year
Power Supply	From host instrument via cable connection

ENVIRONMENTAL

Operating Temperature	-10 °C to 50 °C (14°F to 122 °F)
Storage Temperature	-40 °C to 75 °C (-40 °F to 167 °F)
Humidity	95% max (non-condensing)

PHYSICAL

Size (excluding connectors)	2.3 in x 2.1 in x 3.5 in (58 mm x 53 mm x 89 mm)
Weight	1.12 lb (0.51 kg)

ELEMENT SELECTION GUIDE

Frequency Range	Forward Power Range	Reflected Power Range	Forward Element	Reflected Element
25 to 60 MHz	1.25 to 50 W	125 mW to 5 W	DPM-50A	DPM-5A
	12.5 to 500 W	1.25 to 50 W	DPM-500A	DPM-50A
50 to 125 MHz	1.25 to 50 W	125 mW to 5 W	DPM-50B	DPM-5B
	12.5 to 500 W	1.25 to 50 W	DPM-500B	DPM-50B
	25 to 1.0 kW	25 to 100 W	DPM-1000B	DPM-100B
100 to 250 MHz	1.25 to 50 W	125 mW to 5 W	DPM-50C	DPM-5C
	12.5 to 500 W	1.25 to 50 W	DPM-500C	DPM-50C
	62.5 to 2.5 kW	6.25 to 250 W	DPM-2500C	DPM-250C
200 to 500 MHz	125 mW to 5 W	12.5 mW to 500 mW	DPM-5D	DPM-5D
	1.25 to 50 W	125 mW to 5 W	DPM-50D	DPM-5D
	12.5 to 500 W	1.25 to 50 W	DPM-500D	DPM-50D
400 to 800 MHz	125 mW to 5 W	12.5 mW to 500 mW	DPM-5E-400	DPM-5E-400
	1.25 W to 50 W	125 mW to 5 W	DPM-50E-400	DPM-5E-400
	2.5 W to 100 W	250 mW to 10 W	DPM-100E-400	DPM-10E-400
	12.5 W to 500 W	1.25 W to 50 W	DPM-500E-400	DPM-50E-400
	25 W to 1 kW	2.5 W to 100 W	DPM-1000E-400	DPM-100E-400
800 to 1000 MHz	125 mW to 5 W	12.5 mW to 500 mW	DPM-5E-800	DPM-5E-800
	1.25 W to 50 W	125 mW to 5 W	DPM-50E-800	DPM-5E-800
	2.5 W to 100 W	250 mW to 10 W	DPM-100E-800	DPM-10E-800
	12.5 W to 500 W	1.25 W to 50 W	DPM-500E-800	DPM-50E-800
	25 W to 1 kW	2.5 W to 100 W	DPM-1000E-800	DPM-100E-800

birdrf.com/products

The RF Experts | USA Sales : 30303 Aurora Rd, Solon, OH 44139 | www.birdrf.com
Phone: +1 440.248.1200 / 866.695.4569 [Toll Free] | Fax: +1 440.248.5426 / 866.546.4306 [Toll Free]

Bird is not responsible for omissions or errors. Specifications subject to change without notice.
©2022 Bird • Directional-Power-Sensor-5014-05102022

