

# The *DPS-100* Power Sensor Series

## ***DPS-100 Key Features:***

***True RMS to DC conversion***

***Dual 50 ohm RF Ports***

***D.C. Output or RS-485 Output Version Available - DPS-100D***

***Temperature Sensor Plug in for use with TMP-100 Sensor***

***Interlock Connection Plug in - Accepts any SPST switch closure for interlock protection***



## ***DPS-100 Basic Description:***

*The DPS-100 Power Sensor series from Broadcast Devices, Inc.. provide a true RMS to D.C. conversion of R.F. samples taken from standard directional couplers or R.F. sample elements. These high quality sensors are designed to provide accurate measurement of power over a 50 dB dynamic range which makes the DPS-100 series well suited for analog and digital power measurement. Sensor input is a standard B.N.C. connector and is terminated in 50 ohms. The DPS-100 supplies an accurate D.C. representation of power output of both ports. The DPS-100D provides a standard RS-485 protocol interface for connection to serial communication devices. The DPS-100D provides power VSWR, temperature and interlock status contained in the serial data stream for direct interrogation by external serial devices. The DPS-100 supplies power and temperature information with D.C. voltage representations and a switch closure is passed through to the signal connector.*

*The DPS-100 series sensors are an improvement over thermal power and diode detector measurement techniques. The DPS-100 series maintain better temperature stability and are designed to measure power in multi carrier situations such as master antenna and wireless applications. The DPS-100 series is also designed to handle waveforms with high crest factors such as typically found in digital TV/radio broadcast and wireless protocols.*

*The DPS-100 series sensors interface to any standard R.F. directional couplers such as the ERI CD series coupler. A nominal 0 dBm signal is recommended for best linearity and stability.*

*The DPS-100 series sensors are supplied with a mounting bracket for mounting on rigid transmission line directional couplers. The DPS series is part of a family of RF monitor and protection devices available from BDI. Visit our web site or contact an BDI authorized dealer for more information about all BDI products and services.*



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**Technical Specifications****RF Specifications**

Measurement Frequency:	500khz to 1Ghz Standard. Contact Factory for higher frequency versions. Specify Frequency at time of order
Measurement Power Range:	-50dbm to +3.5dbm
Maximum Input:	+23dbm (No damage to sensor)
Linearity:	+/-0.5dB within measurement range (-40 to +85C) +/-0.20db -45dbm to +3.5dbm @ 25C

**Interface Specifications****DC Output Models - PWR-100**

DC Output (RF PWR):	0-5v DC
DC Output Zero Intercept:	-62dbm
DC Output Slope:	76.3mv/ db over measurement range
DC Output Typical Levels:	-55dbm = 0.534V, 0dbm = 4.730v
Temperature Sensor Option:	0-5v DC over 0 to 100C
Connector Type - RF Input	B.N.C.
Connector Type - Output Signal	DB9 Male
Connector Type - Temp/Interlock Input	Screw Crimp - Supplied with Sensor

**Digital Output Models - DPS-100D**

Serial Interface:	RS-485 (Standard), RS-232 / RS-422 (Special) Up to 255 sensors per RS-485 node.
Communications Protocol:	ASCII Modbus.
Available Data:	Fwd Pwr, Ref Pwr, Temperature (Optional TMP-100 Temperature Sensor Available) Switch closure input status (Open / Closed)

**Power Supply Input**

Supply Voltage:	9 - 28v DC Regulated
Supply Current:	250ma max

**Environmental**

Temperature:	-40 to +85C
Humidity:	0 to 95% (@ 25C, Non-condensing)

**Physical**

Size:	130mm (5.25 in.) x 70mm (2.75 in.) x 43mm (1.70 in.) (without mounting bracket)
Weight:	0.340 kg (0.75 lb.)