DPS-100D Generation II Series Power Meter

True RMS Power Measurement System

DPS-100D Generation II Series True RMS Power Measurement System, model DPS-100D-1-5/8, RF Power Meter with 1-5/8" Precision Coupler is pictured. Versions with Coaxial Direction Couplers from Type N through 8-3/16 inch are available as standard products. Other transmission line sizes, including versions with waveguide precision directional couplers, are available.

DPS-100D Key Features

- Simultaneous Forward/Reflected Power Indication
- Onboard Backlit LCD Display with proprietary 3-Strike VSWR Protection™ system for sustained high VSWR conditions
- Transmission Line Surface Temperature Indication
- Second Temperature Sensor input is available with the purchase of the required TMP-100 temperature sensor
- Transmission Line Pressure indication with the purchase of the PSW-100 pressure sensor. Also requires a suitable gas termination, such as a gas barrier assembly.
- DPS-100D Generation II Windows APP is provided at no additional charge
- Interfaces to BDI SWP-200/206D/300 Motorized Switch Controllers, Antenna Monitor Products, and Remote Controls
- On-board web server for convenient remote display and control of parameters using HTML5
- SNMP v2 compatible – Interfaces directly to Burk, Davicom, Relio, Rohde & Schwarz and other SNMP compatible remote control systems
- Analog 0-5 VDC scaled outputs of forward and reflected power indications for legacy remote-control input
- Six (6) Programmable General-Purpose inputs for interlock lock out tag out status, remote reset etc.
- Two (2) Form C programmable relays for interlock and alarm indication
- Additional Forward/Reflected Sample Ports can be ordered as an option, specifying coupling level from -40 to -70 dB

Product Description

The DPS-100DSeries True RMS Power Meter provides true RMS RF Power measurement capability with pinpoint accuracy. The DPS-100D Power Monitor System is a completely self-contained RMS Power measurement system with an accompanying RF transmission line section. The system can measure RF power in the forward and reflected directions simultaneously and can be configured for power levels from 1 watt to 1 megawatt and frequencies from 50 MHz to 1 GHz, depending on the RF transmission line section. The reflected power sample can be configured to detect a threshold dependent on a high reflected power condition or a VSWR condition. The unit can be programmed to open one or two relays upon sustained RF fault conditions. These relays can be used to interface to a transmitter to turn it off or for an external alarm if desired.

The DPS-100D provide phantom powered RS-485 communications via the "BDI bus" for easy interconnection of other sensors using industry standard CAT5 cabling powered from the BDI available accessories including the RMD-100 Remote

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Meter Display, the SWP Series motorized switch controllers/remote controls and the SWP-206D Antenna Monitor System available from BDI Operates as a standalone meter or part of a larger system with up to 8 additional DPS-100D sensors.

Technical Specifications

Electrical Specifications:

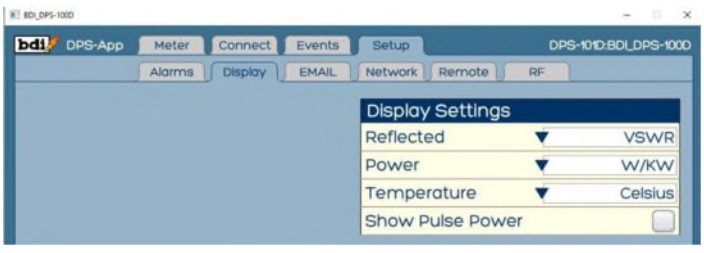
Frequency Range:	Sensor: 0.5 MHz—4GHz—Model Dependent
Through Line VSWR:	1.05:1 or better Coupled Port
Directivity:	30 dB or better
Impedance:	50 ohms through the port
Measurement Type:	True RMS – Suitable for CW, multi-carrier, and high crest factor digital RF signals such as AM/FM, 8 VSB (ATSC 1.0/3.0), DVB-T, ISDB-T, DTMB, IDRM, IBOC (in-band on-channel Ibiquity standard). DAB, etc.
Accuracy:	+/- 5% of the indicated reading maximum error within the instrument's dynamic range. Dynamic Range: 40db or better Linear dynamic Range.
Power Measurement Range:	0 – 2.5-Megawatt, Model and Coupler Line Size Dependent
Measurement Capabilities:	Forward and Reflected RF Power: Transmission line temperature (Deg F / Deg C user selectable) One each: External Temperature and line pressure sensors Six (6) each: User configurable closure inputs. (typically patch panels, lock-out/tag-out) Integrated Digital Display: 2 Line x 16 character LCD display of FWD/REF RF Power, Temperature (x2), Line Pressure Dedicated Icons for VSWR fault, Alert Status, Communications Status, RF Power High/Low thresholds, DC power input status, and LAN connection status.
Communications Interfaces:	Ethernet, RS-485, Network Protocols: SNMP, SMTP, TCP/IP, UDP, SNTP Two (2): Configurable VDC proportional power outputs Two (2): Form C configurable interlock/status relays On/Off Two (2): Configurable External GP inputs for fault reset Twelve (12) Position Terminal Block Six (6): Configurable General-Purpose Inputs for lock out tag out, patch panel, external interlock strings, etc. Three (3): Position terminal block mates with BDI TMP-100 Temperature Sensor Three (3): Position terminal block mates with BDI PSW-100 Pressure Sensor

Physical Specifications:

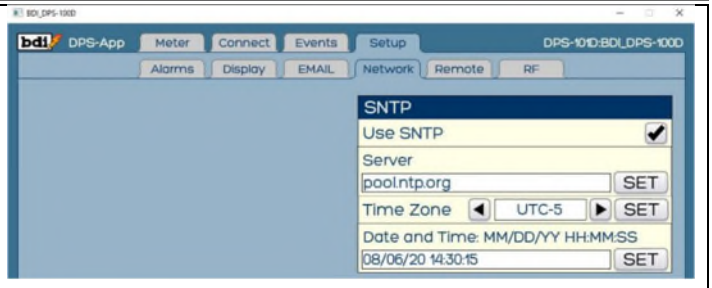
Sizes:	N, DIN, 7/8” 1-5/8”, 3-1/8” EIA, 4-1/16” Myat standard, 4-1/16” Dielectric standard, 6-1/8”, 9” and 12” special order. Flanged – One fixed, one swivel

Environmental Specifications:

Operating Temperature:	-25°C to +55°C
Storage Temperature:	-60°C to +85°C
Humidity:	95% Non-Condensing



DPS-100D Windows App Display Settings Tab.



DPS-100D Windows App Network Settings Tab.

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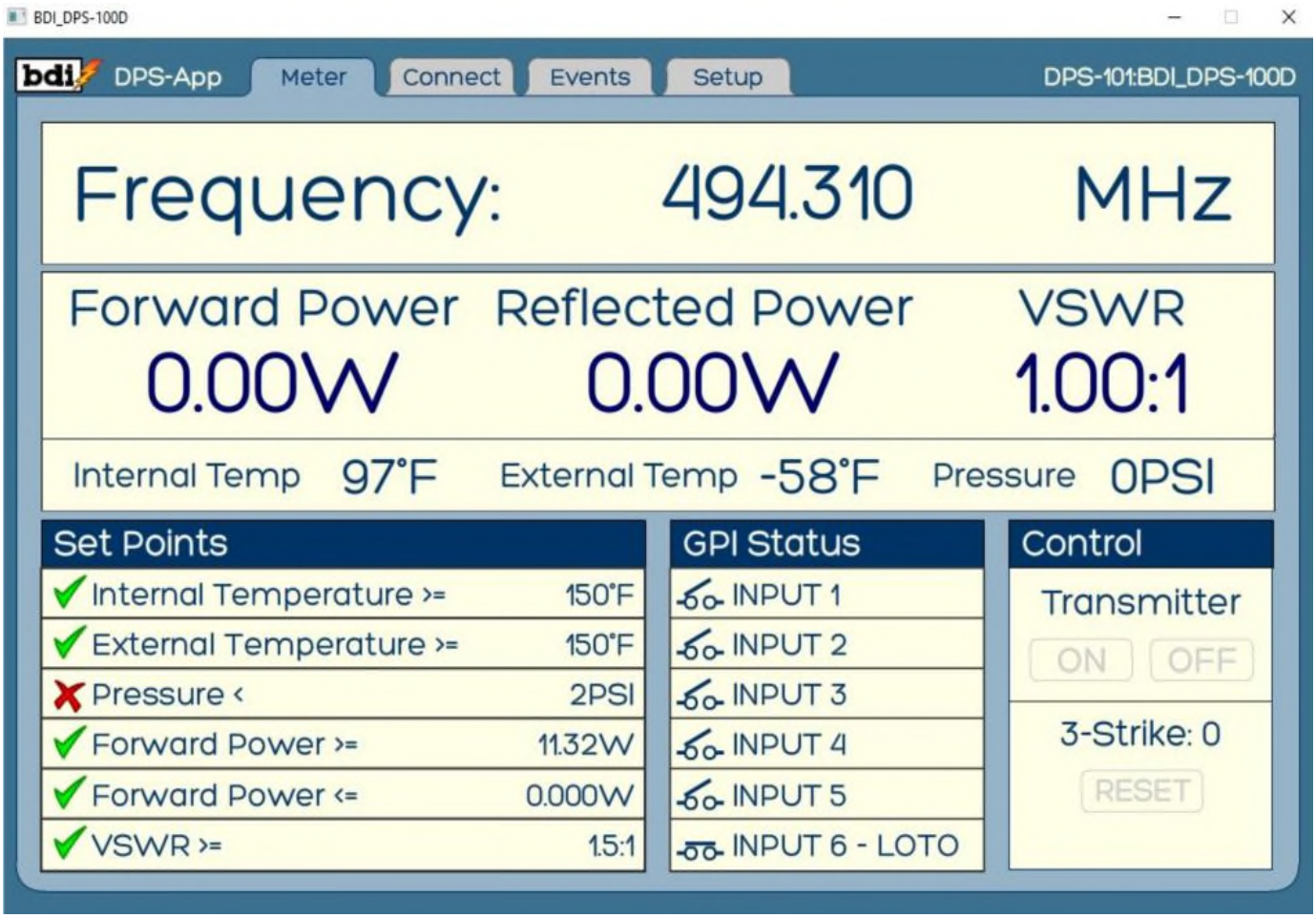
Graphical User Interface



DPS-100D Main Screen from the included Windows App.

The DPS-100D Series power meters are supplied with an easy-to-read main screen for all important parameters, including power, VSWR, general-purpose input status, the 3-Strike VSWR Protection System™, two temperature indications, and a transmission line pressure indication. All of this on a single, easy-to-read screen. There is also a provision to control the On/Off function of a transmitter using the two available programmable relays. Of course, the DPS-100D series power meters are SNMP v2 compatible, so they interface seamlessly with all modern remote-control systems and third-party SNMP software packages.

Available Accessories

Part Number	Description
DPS-100D OPT#1	Passive Power Over Ethernet Adapter. A Passive Power over Ethernet injector for use with all DPS-100D power meters with the BDI-provided 9VDC power supply
SWP Option #10	Additional coupler port for DPS-100D Series Power Meters Second RF coupling port for all DPS-100D power meters supplied with 2 - N female connectors, -40 - - 70 dB nominal coupling Forward/Reflected samples standard. Specify at time of order.
TMP-100	An optional additional temperature sensor for use with any DPS-100D True RMS Power Meter, which provides the sensor with the DC power required. -50 to + 150 degree C. Range. It may also be used as a sensor for other remote control systems with a user-furnished DC power supply.
PSW-100-5	Pressure Sensor 0-15 lbs./in2 (5 volts) 0-15 PSI pressure sensor for use with all DPS-100D models, which provides the sensor with the DC power required

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Part Number	Description
RMD-100	Remote Meter Panel - For one DPS-100D Series Power Meter 1 RU Panel with all DPS-100D power meters sold to date. RMD-100 provides a convenient rack display of forward/reflected power, temperature, and line pressure of the connected DPS-100D power meter. The unit also displays the interlock status and any fault conditions. The unit provides a second set of interlock and alarm relays on the rear panel. Fault reset is provided on the front panel as well. The RMD-100 interfaces directly to any DPS-100D with a single supplied 25 Ft. CAT-5E cable. The RMD-100 provides phantom power for the connected DPS-100D power meter.
RMD-100-2	Remote Meter Panel - For 2 DPS-100D Series Power Meters 1 RU Panel for use with all DPS-100D power meters sold to date. RMD-100-2 provides a convenient rack display of forward/reflected power, temperature, and line pressure of two connected DPS-100D power meters. The unit also displays the status of interlocks and fault conditions. The unit provides a second set of interlock and alarm relays on the rear panel. A fault reset is also provided on the front panel. The RMD-100-2 interfaces directly to any DPS-100D with a single supplied 25 Ft. CAT-5E cable. The RMD-100-2 provides phantom power for the connected DPS-100D power meters.
IOX-24S	SNMP Remote Control and Expansion Panel provides Twenty-Four (24) Control Relays, Twenty-Four (24) Status Inputs, and Eight (8) Analog Metering Inputs. Includes Windows App with graphical user interface or can connect to the serial port of the ISC-200, PCC-300, PDC-300, or SPW Series Switch Controllers.
ICP-800	Interlock Consolidation Panel for Master Antenna Applications with RF Presence Indication: A two-rack-unit panel that consolidates up to 16 DPS-100D series power meter interlock connections, along with SWP-206D chassis, into a single interlock connection for each station on a master antenna system.
RFS-120	12 Channel RF Status/Alarm Annunciator Chassis EIA Rack Mounted. Provides up to 12 channels of individual RF presence status and relay interconnection to external alarm devices, such as warning lights and/or aural annunciators. Simple relay closure inputs from BDI DPS-100D power monitors or any device providing RF presence drives a series of front panel LED indicators providing indication of the On/Off status of RF. Excellent for use as part of an RF Safety Plan at tower sites or combined antenna installations where local RF status is essential to provide safety for tower and RF crews.
SWP Option #24	The HVS-100 High Voltage RF Switch Interface enables connection to controllers and older RF motorized switches that use 120/240 VAC control and status. Isolate high-voltage AC to a low-voltage 12/24 VDC interface and status.
RLY-120-12	Utility Relay Module– 12 Individual Relays or 12 Relay T-Bar Style Output - 12 VDC Relays 12 – 12 VDC relays that can be individually controlled or bussed together to form a T-BAR all relay control from a single closure
RLY-120-24	Utility Relay Module– 12 Individual Relays or 12 Relay T-Bar Style Output - 24 VDC Relays 12 – 24 VDC relays that can be individually controlled or bussed together to form a T-BAR all relay control from a single closure
RLY-120-12P	Same as RLY-12 but mounted on a 2 RU EIA Rack Panel
RLY-120-24P	Same as RLY-24 but mounted on a 2 RU EIA Rack Panel
RPS-24V	24 VDC Redundant Power Supply System for use with up to 24 DPS-100D Series Power Meters. 24 VDC Dual power supply with two power cords and failure switchover circuitry for use with up to 24 DPS-100D series power meters when used with a Passive Power over Ethernet Switch. PPOE Switch (DPS-100D OPT#1) not included, purchase separately.
Coupler Option #11	1-5/8-inch hardware kit for 1-5/8-inch directional coupler, includes O-ring, silicone lubricant, nuts, bolts, and lock washers for one flange joint.
Coupler Option #12	3-1/8-inch hardware kit for a 3-1/8-inch directional coupler, including an O-ring, silicone lubricant, nuts, bolts, and lock washers for one flange joint. Formerly Part Number: 69226-2
Coupler Option #13	4-1/16-inch hardware kit for 4-1/16-inch directional coupler, including O-ring, silicone lubricant, nuts, bolts, and lock washers for one flange joint.
Coupler Option #14	6-1/8-inch hardware kit for 6-1/8-inch directional coupler, includes O-ring, silicone lubricant, nuts, bolts, and lock washers for one flange joint.