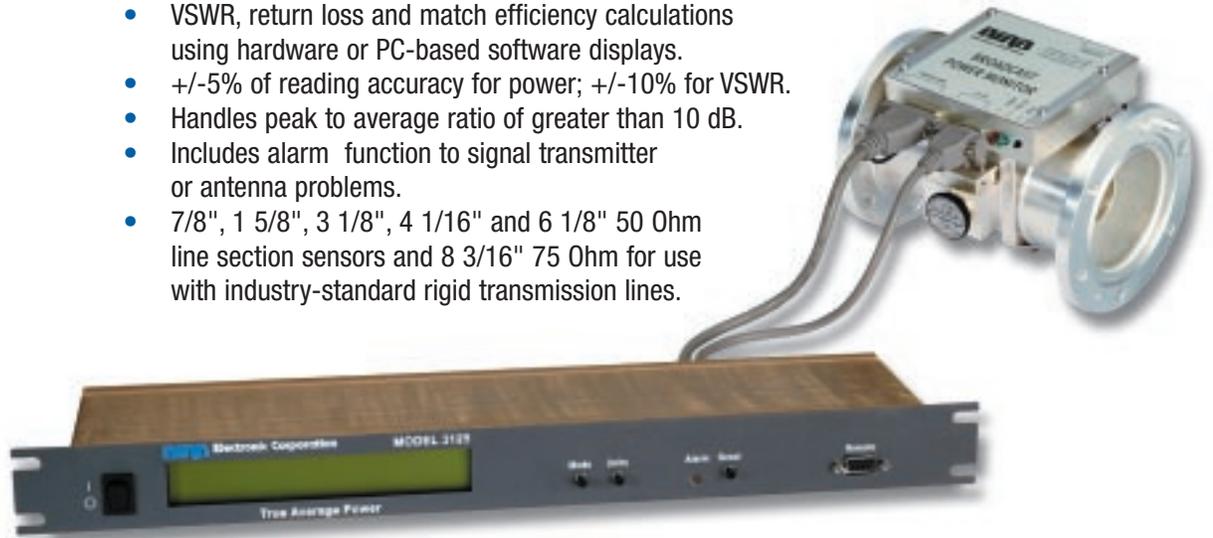


BROADCAST POWER MONITORS

FOR DIGITAL AND ANALOG APPLICATIONS

BPM SERIES

- Accurately measures power in digitally modulated and multi-carrier systems.
- VSWR, return loss and match efficiency calculations using hardware or PC-based software displays.
- +/-5% of reading accuracy for power; +/-10% for VSWR.
- Handles peak to average ratio of greater than 10 dB.
- Includes alarm function to signal transmitter or antenna problems.
- 7/8", 1 5/8", 3 1/8", 4 1/16" and 6 1/8" 50 Ohm line section sensors and 8 3/16" 75 Ohm for use with industry-standard rigid transmission lines.



As more broadcasters convert to digital technology, digital-ready test and measurement equipment will become critical to maintaining efficient, safe station operation. As a pioneer in RF equipment, Bird Electronic Corporation again is leading the way with new digital power instruments and loads offering uncompromising Bird quality and performance.

RF Power Monitors for DTV

Bird's Broadcast Power Monitor products comprise several true average-responding sensors that attach to a Multi-function Power Meter or directly to a personal computer (PC) via an RS-232 cable.

True average responses with a minimum of 10 dB operating headroom means that power indications are stable and accurate for all digitally-modulated signals having high peak-to-average ratio, including VSB and COFDM.

Unique to the BPM sensors are additional alarm functions that attach to an external alarm panel to signal an operator in the event of an antenna/feeder malfunction. The alarm operates for zero forward power, high VSWR, and high forward power.

Display Options

Hardware: When power sensors are used with the 3129 BPM Display Panel Meter, alarms are also available at the display panel. The forward and reflected power analog outputs and the relay contacts are available at the back of the rack panel convenient to other site monitoring equipment.

Software: Sensors used with the PC-based software display option provide a variety of measured and calculated parameters:

- Simultaneous display of forward power, reflected power, VSWR, match efficiency, and return loss.
- Display of RF power in watts or dBm.
- Selectable analog or digital display formats.

This software is compatible with MS Windows 3.1, 95, or NT operating systems.

SPECIFICATIONS

BROADCAST POWER MONITOR

Operating Characteristics

Frequency Range:*	54 MHz-890 MHz
Forward/Reflected Power Range:*	depends on line section and sensor element
Measured type:	In-line, true average power
Peak/Average Ratio:	10 dB maximum
Coupler Directivity:	>25 dB
Settling Time:	<1 second
Measurement Uncertainty:	
Forward Power:	+/-5% of reading
Reverse Power:	+/-5% of reading
VSWR:	Calculated from Power Accuracy
Alarms:	
VSWR:	User selectable 1.3:1 to 1.8:1 in .1 steps
No Forward Power:	User selectable, on/off
High Forward Power:	User programmable, any value in watts from 0 to 120% of forward element value
Outputs:	SPDT relay contacts and open collector
Used with Model 3129:	
Display:	4 digit forward and 4 digit reflected power display, LCD with switchable backlight
Power:*	100 mW to 150.0 kW full scale
VSWR:*	1.00 to 199.9
Return Loss:	0.0 to 99.9
Power Requirements:	
Voltage:	115/230 VAC @ 50/60 Hz
Power:	Less than 10 watts
Physical Specifications:	
Dimensions:	5.25" X 19" X 1.75" (133.35 X 483 X 44.5 mm)
Weight:	Approximately 2 lb (0.85 kb)
Supplied with:	50 feet of cable to connect RS-232 and serial ports between 3129 and line section, and serial interface cable
Options:	RS-232 extender kit: RS-232 repeater and 50' cable
Used with Personal Computer:	
Display:	"virtual meter" software display
Forward Power:*	1 W to 150.0 kW full scale
Reflected Power:*	100 mW to 15.0 kW full scale
VSWR:	1.00 to 99.9
Return Loss:	0.0 to -99.9
Match Efficiency:	0.0 to 100%
Remote Interface Port Connector:	Female DB-9, compatible with IBM PC AT serial port
Protocol:	Serial RS-232, with selectable baud rate, parity, and handshake

Line Section Only

Power Requirements:	
Voltage:	+12 VDC (+12 to +24 VDC)
Current:	less than 0.10 amps
Analog Outputs:	
Forward Power:	0 to 2 volts EMF, 1 kohm source resistance
Reflected Power:	0 to 2 volts EMF, 1 kohm source resistance
Environmental Specifications:	
Operating Temperature:	-10 to +50° C (14 to 122° F)
Storage Temperature:	-40 to + 80° C (-40 to 176° F)
Humidity:	95% +/-5% maximum (noncondensing)
Altitude:	up to 10,000 feet (3,048 m)
General EMC:	Designed to carry CE mark (with immunity exception noted below)
Emissions:	EN-55011:1991, Class B
Immunity:	EN-61010:1993 in accordance with Council Directives 73/23/EEC and 93/68/EEC
Calibration cycle:	>1 year
Recommended Calibration Interval:	User defined
Line Sections:	
50 Ohm:	
BPM7	7/8" Line, Type N connectors std., length 6 7/32" (158 mm), 1.25 lb (0.52 kg)
BPM1	1 5/8 EIA Flanged, length 6.75" (171.45 mm), 3.25 lb (1.5 kg)
BPM1U	1 5/8 EIA Unflanged, length 6.38" (162.05 mm), 1.5 lb (0.62 kg)
BPM3	3 1/8 EIA Flanged, length 7.03" (259.6 mm), 7.25 lb (3.3 kg)
BPM3U	3 1/8 EIA Unflanged, length 6.5" (165.1 mm), 4.25 lb (1.76 kg)
BPM4D	4 1/16 Dielectric Flange, length 8.38" (212.8 mm), 8.88 lb (4.0 kg)
BPM4DU	4 1/16 Dielectric Unflanged, length 7.5" (190.50 mm), 2.88 lb (1.19 kg)
BPM4M	4 1/16 Myat Flange, length 8.38" (212.8 mm), 8.88 lb (4.0 kg)
BPM4MU	4 1/16 Myat Unflanged, length 9" (228.60 mm), 3.25 lb (1.34 kg)
BPM6	6 1/8 EIA Flange, length 10.22" (178.50 mm), 17 lb (7.7 kg)
BPM6U	6 1/8 EIA Unflanged, length 9.63" (244.60 mm), 12.75 lb (5.27 kg)
75 Ohm:	
BPM8	8 3/16" EIA Flange, length 18" (457.20mm), 33 lb (6.68 kg)

* Other models available, please consult the factory.

PRELIMINARY

Specifications subject to change without notice or obligation

*Frequency and power level depend on line section, sensor element, and selected display option. While designed for digital broadcast, the Broadcast Power Monitor can be used for a wide range of frequencies, power levels, and applications. Please contact the factory to discuss your application and requirements.

BIRD

Electronic Corporation

A Member of Bird Technologies Group

Corporate:

30303 Aurora Road, Cleveland, OH 44139-2794

Tel: 440-248-1200

Fax: 440-248-5426

Email: sales@bird-electronic.com

Website: <http://www.bird-electronic.com>