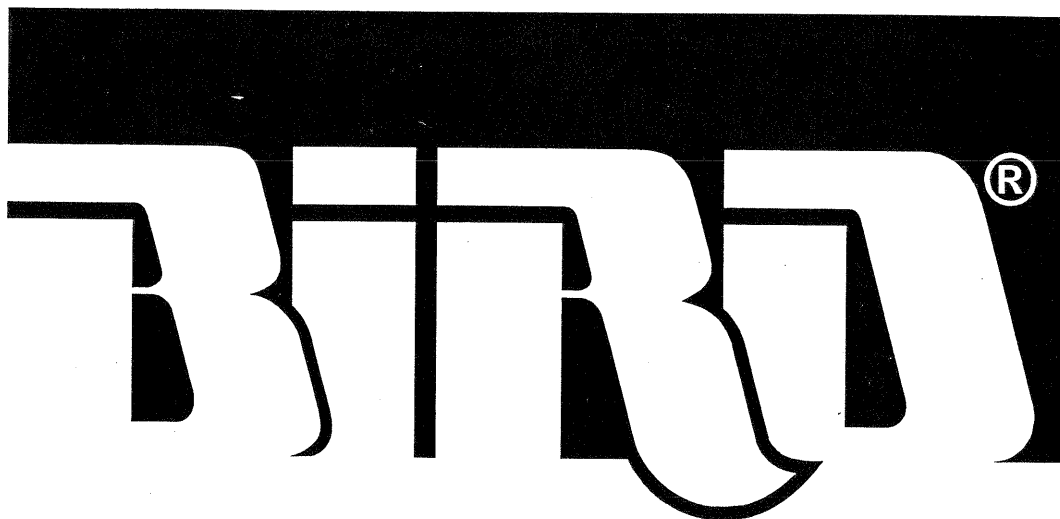




INSTRUCTION SHEET

**RF DIRECTIONAL THRULINE®
POWER SENSORS
4020 SERIES**

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Instruction Book Part Number 920-4020S Rev. E

Specifications

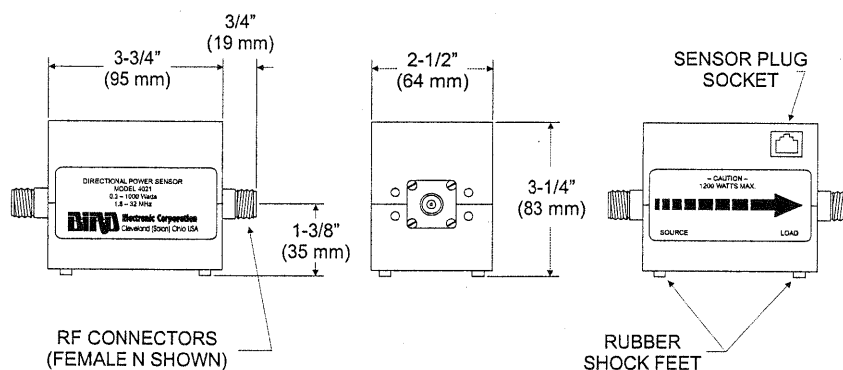
CAUTION

Changing the sensor's connectors will invalidate calibration data, and may reduce the maximum power rating of the unit.

Power Range	
4021, 4022	300 mW – 1 kW
4024, 4025	3 W – 10 kW
Frequency Range	
4021	1.8 – 32 MHz
4022	25 MHz – 1 GHz
4024	1.5 – 32 MHz
4025	100 kHz – 2.5 MHz
Accuracy, Fwd	±3 %
Impedance	50 ohms nominal
Insertion VSWR (Insertion Loss)*	
4021, 4024, 4025	1.05 (0.05 dB) max
4022	1.05 (0.05 dB) max, 25 – 512 MHz
	1.10 (0.13 dB) max, 512 MHz – 1 GHz
Directivity, Minimum	
4021, 4022	30 dB
4024	30 dB (2.5 – 25 MHz), 28 dB (1.5 – 32 MHz)
4025	30 dB (125 – 2500 kHz), 28 dB (100 – 125 kHz)
VSWR Range	1.00 to 2.00 (40.0 to 9.5 dB Return Loss)
Signal Purity	For rated accuracy no more than 1% AM Harmonics –50 dB or less
Sampling Rate	Approximately 2 readings/second
Calibration Technique	Calibration vs. frequency curve stored in nonvolatile memory in each sensor. Sensor output corrected at frequency of measurement within rated range.

Operating Power	Supplied by power meter via sensor cable
Connectors*	Customer specified
Emissions/Immunity	EMC Directive 89/336/EEC
Safety	Low Voltage Directive 73/23/EEC
Humidity	95% $\pm$ 5% maximum (noncondensing)
Altitude	Up to 10,000 feet (3,048 m)
Temperature	
Operating	32 to 122 °F (0 to 50 °C)
Storage	-4 to +158 °F (-20 to +70 °C)
Dimensions	5.4"L x 2.5"W x 3.25"H (137 x 64 x 83 mm)
Weight, Nominal	1 lb. 13 oz. (0.8 kg)

* Due to the wide variety of connectors, frequency range and maximum power may be reduced. Insertion loss is specified with female N connectors. Choose connectors appropriate for the frequency and power of operation.



DECLARATION OF CONFORMITY

Manufacturer: Bird Electronic Corporation
30303 Aurora Road
Cleveland, Ohio 44139-2794

Product: RF Power Sensors

Models: 4021 4022 4024 4025

The undersigned hereby declares, on behalf of Bird Electronic Corporation of Cleveland, Ohio, that the above referenced product, to which this declaration relates, are in conformance with the provisions of the following standards.

- European Standard EN 61326-1:1997 - Electronic Equipment for Measurement, Control and Laboratory Use - EMC Requirements

These standards are in accordance with EMC Directive (89/336/EEC).

- European Standard EN 61010-1:1993 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use: Including Amendment 2: 1995

This standard is in accordance with Low Voltage Directive (73/23/EEC), 1973 Including Amendment (93/68/EEC), 1993

The technical documentation supporting compliance with these directives is maintained at Bird Electronic Corporation, 30303 Aurora Road, Cleveland, Ohio 44139.



Bob Gardiner
Director of Quality
Bird Electronic Corporation

Special Lifetime Warranty – Series 4020 Power Sensor Head

In addition to its standard warranty, the Bird Electronic Corporation warrants its Series 4020 Thruline® Power Sensor Heads for lifetime to original purchaser. This extended warranty is against burnout. For the warranty to apply, the Sensor Head must be used with the correct Bird Electronic Corporation Display Unit, the maximum power rating of the Sensor must not be exceeded, the Sensor RF circuit must be properly terminated and the Sensor not subjected to physical abuse.

Bird Electronic Corporation, at its option, will repair or replace the defective Sensor at its world Headquarters at 30303 Aurora Road, Solon, Ohio 44139.

The customer is responsible to pay transportation charges to return the defective sensor to Bird.