INSTRUCTION SHEET

RF DIRECTIONAL THRULINE® POWER SENSOR MODEL 5010

Instruction Book Part Number 920-5010 Rev. E

Connecting Sensor

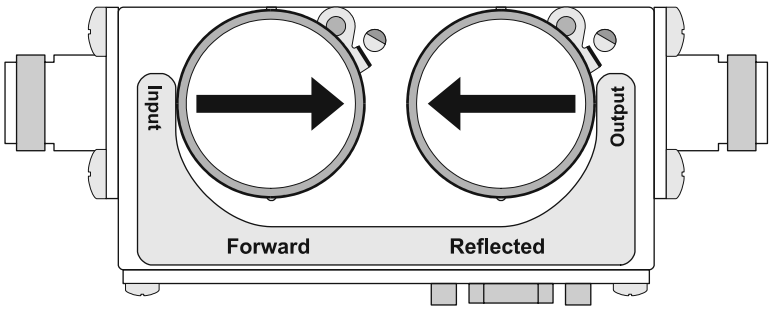
CAUTION
Do not connect or disconnect sensor interface cable to the DPS while the DPM or SA is on. Always turn off the power meter before connecting or disconnecting a sensor.

Although unlikely, it is possible to corrupt the firmware in the power sensor (DPS) by connecting it to a power meter, such as the Bird Model 5000 (DPM) or a Bird Site Analyzer (SA), while the power meter is turned on. To prevent this, make sure that the power meter is turned off before connecting it to the power sensor. When you are done making measurements, turn the power meter off before disconnecting the power sensor.

Element Orientation

WARNING
Leaking RF energy is a potential health hazard.
Never attempt to connect or disconnect equipment from the transmission line while RF power is being applied. Severe burns, electrical shock, or death can occur.

The element in the Forward socket should be inserted with its arrow pointing in the direction of forward power, as shown below. The element in the Reflected socket should be inserted with its arrow pointing in the direction of reverse power. The forward element must have a power rating 10x the reverse element power rating for optimum results.



Element Contact Alignment

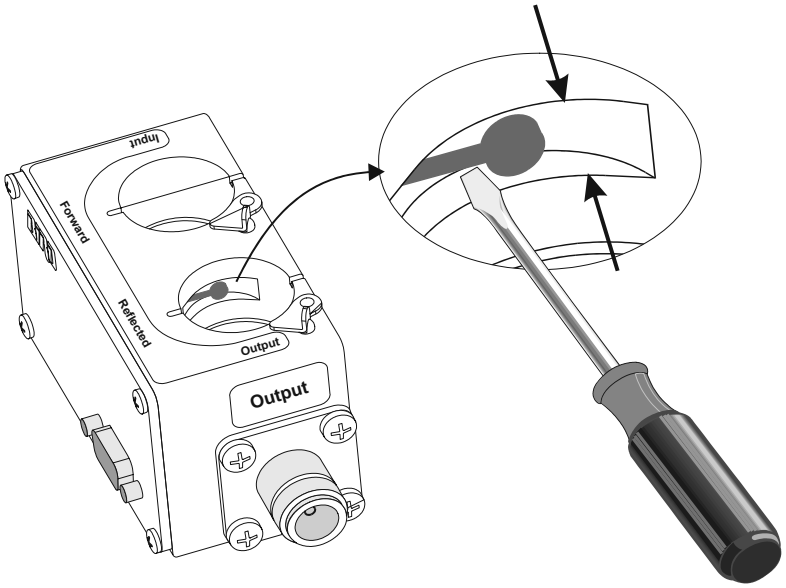
With continuous insertion or rotation of the element sensor, the element contact spring may change position slightly within the element socket. In some cases, this change of position may result in intermittent contact with the element giving erratic power readings.

The position of the contact spring may be adjusted with a small screwdriver in order to reestablish contact.

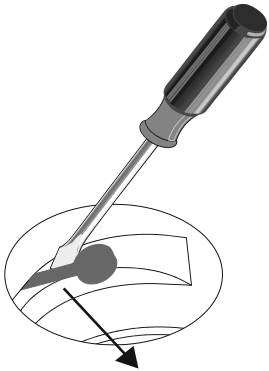
CAUTION
If the element stops short of full insertion, do not force the element into the socket. Damage to the element or the sensor could result.

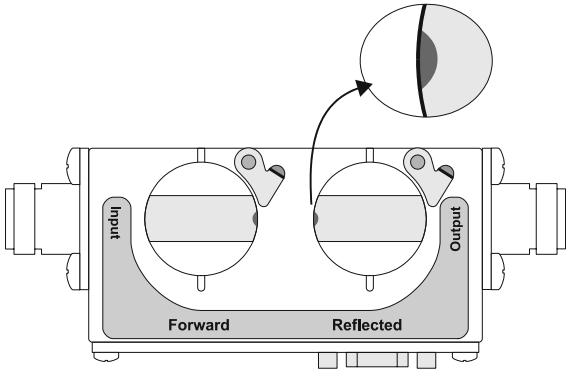
The design of the DPS provides the ability for easy adjustments of the contact if it becomes necessary by following these steps:

1. Using a small flat head screwdriver, place the flat side of the screwdriver behind the contact bar as indicated and bend the contact bar so that the contact rests in the center of the slot adjacent to the element socket.



2. After centering the contact, bend the contact bar slightly toward the center of the element socket bore, so that the profile of the element contact is visible when viewing the element socket from the top of the socket bore.





3. If the contact is accidently moved too far, the element will not slide into the socket. Move the contact back into the recessed area and repeat the process.

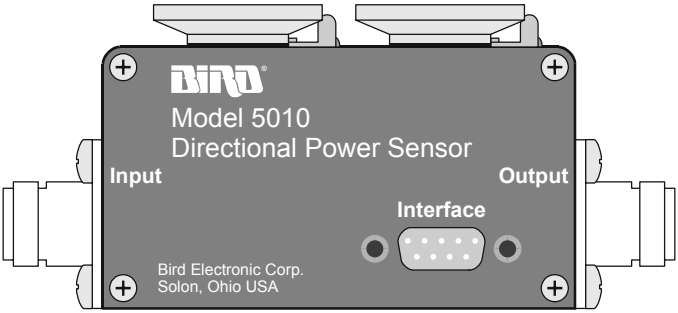
Specifications

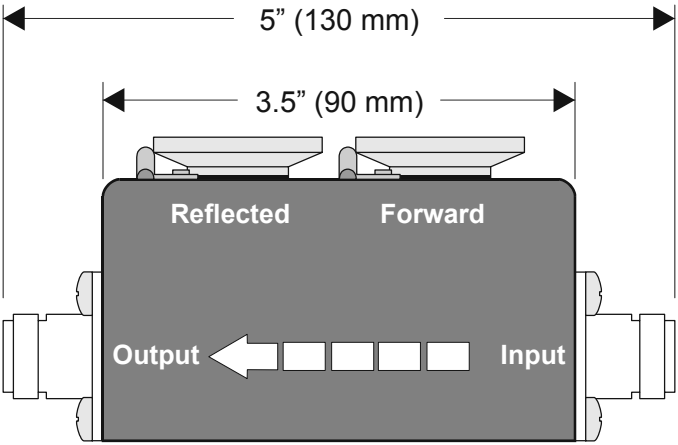
Power Measurement Characteristics

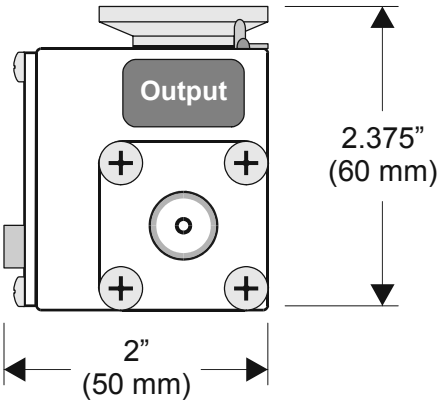
Frequency Range:	2 – 3600 MHz (based upon element)
Power Measurement Range:	0.1 – 1,000 Watts (based upon element)
Peak/Average Ratio:	10 dB maximum (DPM Elements)
Accuracy:	5% of reading, 15 to 35 °C RSS 7% of reading, –10 to 50 °C RSS
Settling time:	< 2.5 second.
Connectors:	QC Type (Female N normally supplied)
VSWR:	1.05:1 up to 1 GHz. (N connectors)
VSWR Range:	1 – 10
Power Supply:	From host instrument via cable connection

Physical and Environmental Specifications

General:	Thruline two-element line section
Operating Temperature:	0 to 50 °C
Storage Temperature:	–40 to 75 °C
Mechanical Shock:	In accordance with MIL-T-28800D Class 3
Vibration:	In accordance with MIL-T-28800D Class 3
Humidity:	95% ± 5% maximum (non-condensing)
EMC:	Complies with directive 89/336/EEC with exceptions noted. Emissions, EN55011 Immunity, EN-50082-2 at 10 V/m.
Safety:	Complies with EN-61010-1:1993 with amendment # 2: 1995.
Dimensions:	2.5" H x 5" W x 2" D Nominal (including elements & "N" connectors)
Weight:	< 1 1/4 lbs. (with elements)
Elements:	Select two elements in 10:1 power ratio from DPM element table.
Options:	Computer interface adapter and cable.


Model 5010
Directional Power Sensor
Input
Output
Interface
Bird Electronic Corp.
Solon, Ohio USA


5” (130 mm)
3.5” (90 mm)
Reflected
Forward
Output
Input


Output
2.375”
(60 mm)
2”
(50 mm)

DECLARATION OF CONFORMITY

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

Product: Digital Power Meter and Power Sensor
Models: 5000 5010

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

- European Standard EN 55011:1991 - Emissions: Class B
- European Standard EN 61000-3-2:1995 - Emissions
- European Standard EN 61000-3-3:1995 - Emissions
- European Standard EN 50082-2:1997 - Immunity

These standards are in accordance with Council Directive 89/336/ EEC, on Electromagnetic Compatibility, as amended by Council Directive 92/31/EEC.

- European Standard EN 61010-1:1993 - Safety, Group II Including Amendment 2:1995

This standard is in accordance with Council Directive 73/23/EEC and 93/68/EEC.

The technical documentation file required by this directive is maintained at the corporate headquarters of Bird Electronic Corporation, 30303 Aurora Road, Cleveland, Ohio.

Bob Gardiner
Director of Quality
Bird Electronic Corporation