

### **Description**

The BPS Bidirectional RF Power Sensor can continuously monitor forward and reflected power and can be permanently installed between the transmitter and the antenna. The sensor output voltages are proportional to the forward and reflected powers, and two internal trimmer potentiometers allow field calibration of the voltages.

The sensor comes in two versions. The Model BPS1050 has a 100-500 MHz frequency range while the Model BPS5095 has a 500-950 MHz frequency range. Detailed specifications are available on the Davicom web site in the product accessories section.

### **Connections**

The sensor terminal block on the side of the unit has three screw-terminals, which are labelled FORWARD, GROUND (center terminal), and REFLECTED. Signal connections to the terminals should be made using a three-conductor shielded cable. The center ground-return terminal must also be connected to the cable shield in environments where RF interference may be present. The two other signal wires are to be connected to the FORWARD and REFLECTED terminals.

### **Calibration**

The BPS1050/5090 units are factory calibrated. However, if they require recalibration, carefully follow the instructions below. An RF power source, an in-line power meter (BIRD, or equivalent), and a suitable low-VSWR load are required for proper calibration. Note that you must remove the covers (silver plugs) on the side of the unit to access the trimmer potentiometers.

Step 1: Connect the in-line power meter to the power source.

Step 2: Connect the TRANSMITTER end of the BPS to the power meter.

Step 3: Connect the load to the ANTENNA end of the BPS.

Step 4: Turn on the RF power, adjust to your operation frequency (100-500 MHz for the BPS1050, or 500-900 MHz for the BPS5090), and then set the output level to 35 W.

Step 5: Measure the output voltage between the FORWARD and GROUND terminals.

Step 6: Adjust the FORWARD trimmer pot to read 1.25 V.

Step 7: Turn off the RF power.

Step 8: Reverse the power sensor. The TRANSMITTER end should now be connected to the load and the ANTENNA end to the in-line power meter.

Step 9: Turn on the RF power.

Step 10: Adjust the REFLECTED trimmer pot to read 1.25 V between the REFLECTED and GROUND terminals..

Step 11: Turn of the RF power. The sensor is now calibrated.