

Model 5010B Dual-Socket Thruline® Directional Power Sensor

Bird's® Most Sophisticated Thruline® Sensor System is the Heart of the MODEL 5000-EX (Requires Bird® MODEL 5000-EX, SA-4000, SA-2500A, or SA-1700-P)

- Dual-element THRULINE® design for simultaneous forward and reflected power readings.
- Measures true average power.
- Peak power measurement (using 43 elements**)
- ±5% of reading accuracy rivals thermal wattmeters in actual field use.
- Small, easily-remoted sensor facilitates convenient hand-held operation.

The **Model 5010B Dual-Socket THRULINE® Power Sensor** is a precision 50-ohm 7/8-inch "Smart" Line Section which accepts Bird® digital-ready Plug-in DPM Elements. The **Model 5010B Sensor** provides true average and peak power readings for digital as well as traditional analog RF systems.

The **Model 5010B Power Sensor** is compatible with many existing Bird® accessories for 7/8" line, including signal samplers, and over 20 types of QC connectors. QC Connectors can be changed rapidly and conveniently in the field by removing four screws from the connector.



Model 5010B
Thruline® Directional
Power Sensor

*DPM Element Guide

| Frequency Range | Forward Power Range | Reflected Power Range | Forward Element | Reflected Element |
|-----------------|--|--|--|---|
| 2 - 30 MHz | 1.25 W to 50 W 12.5 W to 500 W | 125 mW to 5 W 1.25 W to 50 W | DPM-50H DPM-500H | DPM-5H DPM-50H |
| 25 - 60 MHz | 1.25 W to 50 W 12.5 W to 500 W | 125 mW to 5 W 1.25 W to 50 W | DPM-50A DPM-500A | DPM-5A DPM-50A |
| 50 - 125 MHz | 1.25 W to 50 W 12.5 W to 500 W 25 W to 1 kW | 125 mW to 5 W 1.25 W to 50 W 2.5 W to 100 W | DPM-50B DPM-500B DPM-1000B | DPM-5B DPM-50B DPM-100B |
| 100 - 250 MHz | 1.25 W to 50 W 12.5 W to 500 W 62.5 W to 2.5 kW | 125 mW to 5 W 1.25 W to 50 W 6.25 W to 250 W | DPM-50C DPM-500C DPM-2500C | DPM-5C DPM-50C DPM-250C |
| 200 - 500 MHz | 125 mW to 5 W 1.25 W to 50 W 12.5 W to 500 W | 12.5 mW to 500 mW 125 mW to 5 W 1.25 W to 50 W | DPM-5D DPM-50D DPM-500D | DPM-.5D DPM-5D DPM-50D |
| 400 - 960 MHz | 125 mW to 5 W 1.25 W to 50 W 2.5 W to 100 W 12.5 W to 500 W 25 W to 1 kW | 12.5 mW to 500 mW 125 mW to 5 W 250 mW to 10 W 1.25 W to 50 W 2.5 W to 100 W | DPM-5E DPM-50E DPM-100E DPM-500E DPM-1000E | DPM-.5E DPM-5E DPM-10E DPM-50E DPM-100E |
| 950 - 1260 MHz | 125 mW to 5 W 1.25 W to 50 W | 12.5 mW to 500 mW 125 mW to 5 W | DPM-5J DPM-50J | DPM-.5J DPM-5J |
| 1100 - 1800 MHz | 125 mW to 5 W 1.25 W to 50 W | 12.5 mW to 500 mW 125 mW to 5 W | DPM-5K DPM-50K | DPM-.5K DPM-5K |
| 1700 - 1990 MHz | 125 mW to 5 W 1.25 W to 50 W 12.5 W to 500 W | 12.5 mW to 500 mW 125 mW to 5 W 1.25 W to 50 W | DPM-5L1 DPM-50L1 DPM-500L1 | DPM-.5L1 DPM-5L1 DPM-50L1 |
| 1900 - 2200 MHz | 1.25 W to 50 W 125 mW to 5 W | 125 mW to 5 W 12.5 mW to 500 mW | DPM-5L2 DPM-5L2 | DPM-5L2 DPM-5L2 |
| 2200 - 2300 MHz | 625 mW to 25 W 125 mW to 5 W | 62.5 mW to 2.5 W 12.5 mW to 500 mW | DPM-25M DPM-5M | DPM-2.5M DPM-.5M |
| 2300 - 2500 MHz | 125 mW to 5 W | 12.5 mW to 500 mW | DPM-5N | DPM-.5N |
| 2500 - 2700 MHz | 125 mW to 5 W | 12.5 mW to 500 mW | DPM-5R | DPM-.5R |

SPECIFICATIONS

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|---------------------------------|--|
| Sensor Type | Bird® THRULINE® directional dual-element line section |
| Frequency Range | Element limited. Please view element guide for current listing. |
| Power Range | Element limited. Please view element guide for current listing. 1 W to 1000 W* |
| Pulse with Parameters | >100 MHz 800 ns min. 26-99 MHz 1.5 µs min. 2-25 MHz 15 µs min. |
| Pulse Rep. Rate | 15 pps min. |
| Peak Pulse Duty Factor | 1 x 10 ⁻⁴ min. |
| Accuracy | TRUE AVERAGE POWER, ±5% of reading (15°C to 35°C), ±7% of reading (-10°C to 50°C) PEAK POWER, ±8% of full scale |
| Dynamic Range | 40:1 (E.G. 50 W element measure 1.25 W to 50 W). |
| Peak/Average Power Ratio | 10 dB maximum with DPM elements |
| Settling Time | < 2 seconds |
| Connectors | QC Type. Female N normally supplied. (with N connectors) |
| Insertion VSWR | 1.05:1 from 0.45 to 1000 MHz |
| Dimensions | 1.875" H x 1.875" W x 3.5" D (47.7 mm x 47.7 mm x 88.9 mm) excluding connectors |
| Weight | 1.12 lbs. (0.51 kg) |
| Operating Temp. | -10°C to +50°C |
| Storage Temp. | -40°C to +75°C |
| Humidity | 95% max. (non-condensing) |
| Note | The Bird® Model 5000-EX or the Bird® Site Analyzer® Series (SA-4000, SA-2500A, or SA-1700-P) is required. |



* Note: 5010B supercedes 5010

**Note: For average power readings, use the elements listed above in the DPM Element Guide. For peak power readings, use elements from Tables 1-6 pages 37 & 38.