



Precision Power Sensors

4027F Series



The RF Experts

Bird's® Precision power sensors for precision laboratory applications. The 4027F series power sensors are designed specifically for use in semiconductor processing and other precision process applications where the effects of amplitude modulation and harmonics need to be eliminated from the measurement. At the calibrated frequency and power level, these sensors are capable of 1% accuracy. With calibration traceable to the National Institute of Standards and Technology, you can be confident of the measurements these sensors provide.

PROBLEM/SOLUTIONS

Poor production yields

- 1% accuracy at specified frequencies and power levels

Lack of confidence in measurements

- Calibration traceable to NIST

Complex tools requiring calibration each time

- Plug and Play with 4421 Meter
- Unit does not need to be field calibrated before use
- Calibrate only once every six months

Harmonic content interfering with measurements

Wide range of applications requiring various input and output connectors

- Dozens of connector options available

APPLICATIONS

Bird's new 4027F Series Power Sensors represent a family of sensors for use in semiconductor processing and other precision process applications. Intended for use with the industry standard Bird precision Laboratory Power Meter Model 4421, these products provide a threefold improvement in long term unit to unit accuracy.

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SPECIFICATIONS

| | |
|---------------------------------------|---|
| Accuracy | ±1% at calibration frequencies and power levels ±2 % at other frequency and power levels Add 2% to uncertainty outside 25 ± 10 °C |
| Calibration Power Level | 1700W |
| Uniformity | 2 % maximum unit to unit, at calibration frequency and power levels |
| Speed | 2 readings per second |
| Maximum Power | 10 kW units - 12 kW max. 6 kW units - 7.2 kW max. |
| VSWR Range | 1.0-2.0 |
| Directivity | 28 dB |
| Insertion Loss | <0.05 dB |
| Connectors | *Customer Specified |
| Power Requirements External DC | 12 VDC, supplied from Bird 4421 Power Meter |
| Dimensions | 5.2" L x 2.5" W x 3.25" H |
| Weight | 1 lbs. 13 oz. (0.8 kg) |
| Operating Temperature | 15°C to 35°C (59°F to 95°F) |
| Storage Temperature | -40°C to 80°C (-40°F to 176°F) |
| Humidity | 95% maximum (non-condensing). |
| Altitude | Up to 10,000 feet (3,048 m) |
| General EMC | Designed to carry CE mark |
| Emissions | EN-55011, 1991, Class B |
| Immunity | EN-50082-1, 1995 |
| Safety | EN-61010, 1993 in accordance with Council Directives 73/23/EEC and 93/68/EEC |
| Calibration Cycle | 6 month. Performance before and performance after data to be supplied for units |

| Models | Power Range | Frequency |
|-----------|--------------|-------------|
| 4027F 2M | 100W to 10kW | 1.8-2.2 MHz |
| 4027F 10M | 100W to 10kW | 12-15 MHz |
| 4027F 60M | 100W to 6kW | 57-63 MHz |

If you need assistance in selecting products from our standard 4020-series sensor line, please contact a sales engineer at Bird.

*For connector options, please refer to our catalog or contact sales at 866.695.4569 / sales@birdrf.com.

