The **RF** Experts

PRECISION RF POWER SENSOR

CW & Pulse Measurements

7037 SERIES - 0.5% Accuracy
7027 SERIES - 1% Accuracy

Superb Accuracy!

The 7037 and 7027 Series in-line RF Power Sensor brings first-to-market, traceable measurement accuracy to applications requiring precise RF power measurement, such as in the semiconductor, medical and laser industries. Bird's advanced CW & Pulse sensors, minimize RF process variability, improve plasma chamber-to-chamber matching and provide critical insight in your RF delivery system.

Highest Accuracy Across the Operating Range

With Bird's cutting-edge, calibration technology, 0.5% accuracy is guaranteed across the dynamic range, ensuring unit-to-unit repeatability and reducing process varability.

CW & Pulse Power Measurements without Switching Modes

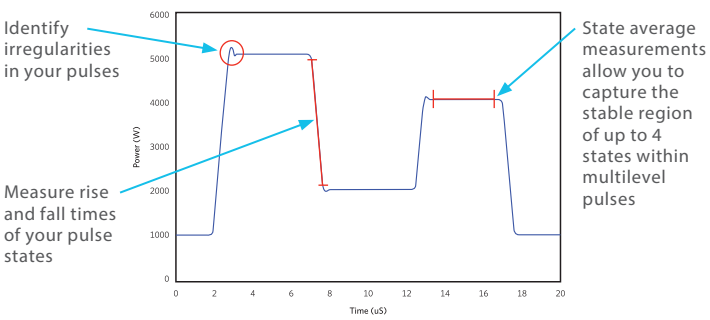
Regardless of whether you are using CW or Pulsed RF, both measurements are automatically displayed using Bird's power meter without the need for switching modes.

Multilevel Pulse Measurements

Customize your complex process recipe measurements with up to 4 intervals within each pulse.

ANALYZE COMPLEX RF PULSE WAVEFORMS

Utilize up to four sets of gates to analyze complex pulses



PRODUCT FEATURES

- Time Domain Display
- NIST traceable calibration
- Harmonic filtering
- External sync input
- RF Interlock (optional)
- Programmable with SCPI command set

BENEFITS

- With RF generator calibration and verification, these high-accuracy sensors deliver confidence in the RF generator output.
- Use the VPM3 to log and analyze the RF power data from experimental recipes for more streamlined process development.
- In-situ processes monitoring allows for real time monitoring of processes at runtime to detect anomalies.
- Time domain analysis of RF pulse waveforms provide a closer look at high power RF pulses.

Bird

PRECISION RF POWER SENSORS

7037 SERIES, 7027 SERIES

Specifications

MEASUREMENT

Measurement Type	CW and Multi-State Pulsed RF Power
Impedance, Nominal	50 Ohms
7037 Series Power Measurement Accuracy	0.5% at calibrated frequencies, over entire power range 1.5% at all other frequencies within sensor bandwidth
7027 Series Power Measurement Accuracy	1% at calibrated frequencies,over entire power range 2% at all other frequencies within sensor bandwidth
VSWR Range	1.0:1 to 2.0:1
Insertion Loss	<0.05 dB max
Insertion VSWR	1.05 max
Directivity	28 dB min
Calibration	NIST Traceable

CONNECTION OPTIONS*

Input Connector (xx)	Output Connector (yy)
12 = HN(f)	12 = HN(f)
13 = HN(m)	13 = HN(m)
14 = 7/16(f)	14 = 7/16(f)
15 = 7/16(m)	15 = 7/16(m)
16 = SQS(m)	16 = SQS(m)
17 = SQS(f)	17 = SQS(f)
19 = QRM(f)	19 = QRM(f)
23 = QRM(m)	23 = QRM(m)

* Contact factory for additional connector options.

SYSTEM

Recommended Calibration Interval	6 months
Interface	USB 2.0
Power Supply	Via supplied USB Cable
External Sync Input	TTL High, 2-5V; TTL Low, 0-0.85V
Compatible With	Virtual Power Meter (VPM3) software

ENVIRONMENTAL

Operating Temperature	15 °C to 35 °C (59 °F to 95 °F)
Storage Temperature	-20 °C to 70 °C (-4 °F to 158 °F)
Humidity	95% maximum (non-condensing)
Altitude	15,000 ft max (4,500 m max)

PHYSICAL

Size	6.0 in x 1.9 in x 3.7 in (155 mm x 50 mm x 95 mm) Not including QC connectors
Weight	Less than 3 lb, 1.4 kg

CERTIFICATIONS

Mechanical Shock & Vibration	Designed to meet MIL-PRF-28800F class 3
EMC	**EMC Directive (2004/108/EC)** European Standard: EN 61326—Electrical Equipment for measurement, control & laboratory use; **EMC Requirements** Test Spec (for radiated immunity): EN 61000-4-3—Testing and measurement techniques - 10V/meter
CE Mark	Compliant
RoHS	Compliant

7037 SERIES - 0.5% ACCURACY - SELECTION GUIDE

Model Number	Frequency (MHz)	Power Range	Pulse Rep Rate
7037-1-524001-xxyy	0.4 ± 10%	25 W to 25 kW	10 Hz to 11.25 kHz
7037-1-544301-xxyy	2.0 ± 10%	10 W to 10 kW	10 Hz to 50 kHz
7037-1-595701-xxyy	13.56 ± 5%	100 W to 10 kW	100 Hz to 100 kHz
7037-1-605801-xxyy	27.12 ± 5%	60 W to 6 kW	100 Hz to 100 kHz
7037-1-616101-xxyy	40.68 ± 5%	75 W to 7.5 kW	100 Hz to 100 kHz
7037-1-625801-xxyy	60.0 ± 5%	60 W to 6 kW	100 Hz to 100 kHz

Connector Options (xxyy): see above

7027 SERIES - 1% Accuracy - SELECTION GUIDE

Model Number	Frequency (MHz)	Power Range	Pulse Rep Rate
7027-1-524001-xxyy	0.4 ± 10%	25 W to 25 kW	10 Hz to 11.25 kHz
7027-1-544601-xxyy	2.0 ± 10%	10 W to 5 kW	10 Hz to 50 kHz
7027-1-594301-xxyy	13.56 ± 5%	10 W to 10 kW	100 Hz to 100 kHz
7027-1-604801-xxyy	27.12 ± 5%	10 W to 3 kW	100 Hz to 100 kHz
7027-1-615501-xxyy	40.68 ± 5%	75 W to 7.5 kW	100 Hz to 100 kHz
7027-1-624901-xxyy	60.0 ± 5%	30 W to 6 kW	100 Hz to 100 kHz

Connector Options (xxyy): see above

Note: The Pulse Power Sensor can measure 4 states within a single pulse
Depending on the rep rate, the minimum state width is approximately 1% of the pulse rep rate period
Depending on the rep rate, the maximum state width is approximately 99% of the pulse rep rate period
For applications with rep rates near the low or high extremes of the spec, consult the user manual for the exact limits

birdrf.com/products

The **RF** Experts | USA Sales : 30303 Aurora Rd, Solon, OH 44139 | www.birdrf.com
Phone: +1 440.248.1200 / 866.695.4569 [Toll Free]