

POWER SENSORS

Precision Directional RF

4027A SERIES



Accuracy and Precision for Laboratory Applications

The 4027A Series Power Sensors from Bird bring superb accuracy and ease of use together for the laboratory engineer. In semiconductor processing and other precision process applications where accuracy is critical, these sensors are capable of 1% accuracy at the calibrated frequency and power level. Calibration is traceable to the National Institute of Standards and Technology (NIST), providing additional confidence in sensor measurement.

PRODUCT FEATURES

- 1% accuracy at specified frequencies and power levels minimizing poor production yields
- Models do not need to be field calibrated before use and only need to be calibrated once every six months
- Plug and Play with the 4421A Multifunction Meter
- Dozens of connector options available
- Calibration traceable to the National Institute of Standards and Technology

FOR USE WITH

- 4421A Multifunction Power Meters
- SCC7 Calibration Cart
- MSCC7 Calibration Cart

4027A SERIES

Specifications

MEASUREMENT

Accuracy	±1% at calibration frequencies and power levels ±2% at other frequency and power levels Add 2% to uncertainty outside 25 ± 10 °C
Uniformity	2% maximum unit to unit, at calibration frequency and power levels
Speed	2 readings per second
Harmonic Content	-50 dBc max
VSWR Range	1.00 to 2.00
Directivity	28 dB
Insertion Loss	<0.05 dB
Calibration Power Level	1000 W units: 700 watts Other units: 1700 watts
Maximum Power	Sensor Frequency Dependent

CONNECTORS

RF Connectors	Customer specified
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SYSTEM

Recommended Calibration Interval	6 month. Performance before and performance after data supplied with recalibrations
Power Supply	External DC, 12 VDC, supplied from Bird 4421A Power Meter

SENSOR SELECTION GUIDE

Sensor	Power Range	Frequency (MHz)
4027A12M	300 mW to 1 kW	10-15 MHz
4027A250K	3 W to 10 kW	250-400 kHz
4027A400K	3 W to 10 kW	400-550 kHz
4027A800K	3 W to 10 kW	800-950 kHz
4027A2M	3 W to 10 kW	1.5-2.5 MHz
4027A3M	3 W to 10 kW	3-5 MHz
4027A10M	3 W to 10 kW	10-15 MHz
4027A25M	3 W to 9 kW	25-30 MHz
4027A35M	3 W to 7.5 kW	35-45 MHz
4027A60M	3 W to 6 kW	45-65 MHz
4027A100M	3 W to 4 kW	95-105 MHz
4027A150M	3.75W to 3.75 kW	150-170 MHz

ENVIRONMENTAL

Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-20 °C to 70 °C (-4 °F to 158 °F)
Humidity	95% max (non-condensing)
Altitude	Up to 10,000 ft (3,048m)

PHYSICAL

Size	5.2 in x 2.5 in x 3.25 in (137 mm x 64 mm x 83 mm)
Weight	1 lb 13 oz (0.8 kg)

CERTIFICATIONS

EMC	Designed to carry CE mark
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ORDERING GUIDE

Example: 4027A10M-0102

4027A10M with a N(f) Input Connector and a N(m) Output Connector

Sensor	-	Input Connector	Output Connector
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Sensor	Input / Output Connector
4027A12M	01= 4240-062, N(f)
4027A250K	02= 4240-063, N(m)
4027A400K	04= 4240-100, C(f)
4027A800K	11= 4240-096, (1 5/8 fixed)
4027A2M	12= 4240-268, HN(f)
4027A3M	13= 4240-278, HN(f)
4027A10M	14= 4240-344, 7/16(f)
4027A25M	15= 4240-363, 7/16(m)
4027A35M	16= 4240-370, SQS(m)
4027A60M	17= 4240-371, SQS(f)
4027A100M	18= 4240-372, SQS(m-p)
4027A150M	19= 4240-376, QRM(f)
	20= 4240-374, QDS-UL(m)
	21= 4240-375, SQS(f-p)
	22= 4240-373, QDS-UL(f)
	23= 4240-377, QRM(m)
	24= 4240-377-2, QRM(f-p)
	25= 4240-378, QRM(m-p)
	26= 4240-376-20, GQL(f)
	27= 4240-377-20, GQL(m)
	28= 4240-376-10, GQM(f)
	29= 4240-377-10, GQM(m)
	30= 4240-208, 1-5/8 Swivel
	34= 4240-031, LC(f)
	35= 4240-025, LC(m)
	36= 4240-002, 7/8
	39= 4240-373-2, QDS(f)
	40= 4240-374-2, QDS(m)

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