

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N1923A

The Keysight N1923A is a P-Series wideband power sensor operating from 50 MHz to 18 GHz. Featuring an integrated 3.0-meter (10 ft) cable, it is designed for use with Keysight N1911A and N1912A P-Series power meters to perform high-speed peak, average, and time-gated power measurements. The sensor supports internal zeroing and calibration to eliminate the need for an external reference source.

SPECIFICATIONS

General

Interfaces	Integrated P-Series sensor cable (3.0 m)
------------	--

Physical

Power Supply	Powered directly from the host P-Series power meter
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	40 mm × 27 mm × 135 mm mm
Weight	0.226 kg
Cable Configuration	Fixed/integrated cable

Measurement Ranges & Power Specifications

Frequency Range	50 MHz to 18 GHz
Power Measurement Range (Average Mode)	-35 dBm to +20 dBm
Power Measurement Range (Normal Mode)	-35 dBm to +20 dBm
Maximum Continuous Input Power	+23 dBm (200 mW)
Maximum Peak Input Power	+30 dBm (1 W) for < 10 µs duration
Maximum DC Input Voltage	5 VDC

Sensor Technology & Architecture

Sensor Detection Type	Diode-based
Measurement Modes Supported	Normal (Peak, Average, Time-gated, Rise/Fall time, Pulse width) and Average-only
Video Bandwidth	≥ 30 MHz
Rise Time	≤ 13 ns (for power levels > -15 dBm)
Fall Time	≤ 13 ns (for power levels > -15 dBm)
Minimum Pulse Width	50 ns

RF Port Characteristics

Input Impedance	50 Ω nominal
RF Connector Type	Type-N
Connector Sex	Male
Maximum SWR (50 MHz to 2 GHz)	1.12
Maximum SWR (2 GHz to 10 GHz)	1.16
Maximum SWR (10 GHz to 16 GHz)	1.21
Maximum SWR (16 GHz to 18 GHz)	1.29

Triggering & Sampling

Maximum Sampling Rate	100 MSamples/s continuous sampling
Trigger Delay Range	-1.0 s to +1.0 s
Time Resolution	100 ps

Meter Compatibility & System Integration

Compatible Power Meters	Keysight N1911A (Single Channel) and N1912A (Dual Channel) P-Series Power Meters
Calibration Factor Storage Type	Internal EEPROM
Internal Calibration Support	Yes (Internal Zero and Calibration, no external reference needed)

Environmental Parameters

Storage Temperature Range	-40 °C to +70 °C
Operating Humidity Range	95% RH at 40 °C (non-condensing)
Storage Humidity Range	90% RH at 65 °C (non-condensing)
Maximum Operating Altitude	4,600 meters (15,000 feet)
Maximum Storage Altitude	15,000 meters (50,000 feet)

Physical Dimensions & Weight

Cable Length	3.0 meters (10 feet)
--------------	----------------------

Accuracy & Calibration

Zero Set (Average Mode)	$\pm 0.17 \mu\text{W}$
Zero Set (Normal Mode)	$\pm 1.4 \mu\text{W}$
Zero Drift (Average Mode)	$\pm 0.035 \mu\text{W}$
Zero Drift (Normal Mode)	$\pm 0.15 \mu\text{W}$

Performance

Measurement Noise (Average Mode)	≤ 240 nW
Measurement Noise (Normal Mode)	≤ 1.6 μW
Video Bandwidth Settings	High (30 MHz), Medium (15 MHz), Low (5 MHz), Off (300 kHz)
System Rise Time	≤ 13 ns (with N1911A/N1912A)
System Fall Time	≤ 13 ns (with N1911A/N1912A)
Trigger Jitter	1 ns rms
Power Linearity (Normal Mode, -32 to -20 dBm)	±4.5% (Normal Mode, -35 to -20 dBm)
Power Linearity (Normal Mode, -20 to +20 dBm)	±4.0%
Power Linearity (Average Mode, -35 to -20 dBm)	±4.5%
Power Linearity (Average Mode, -20 to +20 dBm)	±4.0%

Triggering

Internal Trigger Level Range	-20 dBm to +20 dBm
------------------------------	--------------------

Calibration

Internal Zero and Cal Support	Yes, without disconnecting RF input (internal RF switch)
Zeroing Time	11 s (typical)
Calibration Time	19 s (typical)

Inputs & Outputs

Connector to Power Meter	P-Series multi-pin sensor connector
--------------------------	-------------------------------------

EMC & Safety

EMC Compliance	IEC 61326-1 / EN 61326-1, CISPR 11 / EN 55011 Class A
Safety Compliance	IEC 61010-1 / EN 61010-1

TECHNOLOGY

Diode-based wideband power sensor

APPLICATIONS

RF and microwave pulse profiling, peak and average power measurements

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.