

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N8487A

The Keysight N8487A is a high-accuracy thermocouple RF power sensor designed to operate over a wide frequency range from 50 MHz to 50 GHz. Replaced and upgraded from the legacy 8480 series, the N8487A features built-in EEPROM for automated calibration factor loading, eliminating manual entry and reducing setup errors. It delivers excellent linearity, SWR, and repeatability for precise power measurements in R&D, manufacturing, and calibration applications.

SPECIFICATIONS

General

Interfaces	Keysight/Agilent 11730 series power sensor cable interface
Display	None (results displayed on connected power meter)
Sensor Type	Thermocouple
Recommended Calibration Cycle	1 year

Physical

Power Supply	Powered directly via connection to compatible power meter
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	38 mm × 30 mm × 121 mm mm
Weight	0.18 kg (0.4 lb) kg

RF & Performance Specifications

Frequency Range	50 MHz to 50 GHz
Power Measurement Range (Standard Mode)	-35 dBm to +20 dBm
Power Measurement Range (Option CFT Mode)	-30 dBm to +20 dBm
Maximum Average Power Damage Threshold	+25 dBm (300 mW)
Maximum Peak Power Damage Threshold	+25 dBm (300 mW) average, 15 VDC max
Nominal Impedance	50 Ω
VSWR (0.05 to 0.1 GHz)	< 1.15
VSWR (0.1 to 2.0 GHz)	< 1.10
VSWR (2.0 to 12.4 GHz)	< 1.15
VSWR (12.4 to 18.0 GHz)	< 1.18
VSWR (18.0 to 26.5 GHz)	< 1.25
VSWR (26.5 to 40.0 GHz)	< 1.33
VSWR (40.0 to 50.0 GHz)	< 1.45
Power Linearity (-35 to +15 dBm, 15 to 35 °C)	$\pm 0.52\%$
Power Linearity (-35 to +15 dBm, 0 to 55 °C)	$\pm 0.80\%$
Power Linearity (+15 to +20 dBm, 15 to 35 °C)	$\pm 1.66\%$
Power Linearity (+15 to +20 dBm, 0 to 55 °C)	$\pm 2.24\%$
Zero Set (Standard Mode)	± 25 nW
Zero Set (Option CFT Mode)	± 50 nW
Zero Drift (Standard Mode)	< ± 3 nW
Zero Drift (Option CFT Mode)	< ± 10 nW
Measurement Noise	< 110 nW

Electrical and Compatibility

Compatible Power Meters	Keysight EPM (N1913A/14A, E4418B/19B), EPM-P (E4416A/17A), P-Series (N1911A/12A)
Internal EEPROM Calibration Table	Yes (pre-loaded with calibration factors; disabled in Option CFT)
Cable Requirements	Keysight 11730 series power sensor cables

Physical & Mechanical

RF Connector Type	2.4 mm male
Connector Coupling Nut Torque Limit	0.9 N·m (8 lb·in)

Environmental

Storage Temperature Range	-40 to +70 °C
Relative Humidity (Operating)	Up to 95% RH at 40 °C (non-condensing)
Relative Humidity (Storage)	Up to 90% RH at 65 °C (non-condensing)
Maximum Operating Altitude	4,600 meters (15,000 feet)
Maximum Storage Altitude	15,240 meters (50,000 feet)
Shock	1000 G, 0.5 ms half-sine
Vibration	10 to 500 Hz, 3.2 G rms

Product Options & Accessories

Option CFT	Legacy 8480 series emulation (no EEPROM, calibration chart on label)
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Compliance

Safety Compliance	IEC 61010-1, EN 61010-1, CAN/CSA-C22.2 No. 61010-1, UL 61010-1
EMC Compliance	IEC 61326-1, EN 61326-1, CISPR 11 Class A, AS/NZS CISPR 11, ICES/NMB-001

Power

Maximum Input DC Voltage	10 V
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Performance

Warm-up Time	30 minutes
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TECHNOLOGY

Thermocouple

APPLICATIONS

RF and Microwave Power Measurement

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