

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

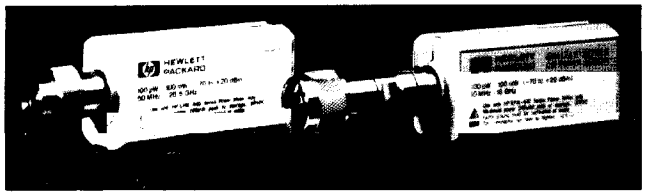
Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

NEW

- Operates with the new HP E4418B and HP E4419B power meters
- Wide dynamic range sensors
- Fast measurement speed (up to 200 readings per second, over the HP-IB, with the HP E4418B power meter)
- Calibration factors stored in EEPROM



HP E Series Power Sensors

HP E-Series Power Sensors

The HP E-series power sensors are wide dynamic range (up to 90dB) sensors which operate with the HP EPM series power meters.

The HP E-series power sensors provide fast measurement speed (up to 200 readings per second with the HP E4418B single channel power meter) and sensor calibration factors stored in EEPROM.

The HP E4412A (10MHz to 18GHz) and HP E4413A (50MHz to 26.5GHz) are designed for measuring CW signals over the power range –70 dBm to +20dBm.

The HP E9300A (10MHz to 18GHz) and HP E9301A (10MHz to 6GHz) power sensors measure the average power of RF and microwave signals, regardless of modulation format, over a wide 80dB dynamic range (–60dBm to +20dBm)

Specifications

Wide Dynamic Range Sensors:
100 pW to 100 mW (–70 dBm to +20 dBm): E4412A, E4413A
1nW to 100mW (–60dBm to + 20dBm): E9300A, E9301A

Frequency Range	Maximum SWR[1]	Maximum Power	Connector Type
HP E4412A			
10 MHz to 18 GHz	10 MHz to 30 MHz: 1.22* 30 MHz to 2 GHz: 1.15 2 GHz to 6 GHz: 1.17 6 GHz to 11 GHz: 1.2 11 GHz to 18 GHz: 1.27	200 mW (+23 dBm)	N (m)
HP E4413A			
50 MHz to 26.5 GHz	50 MHz to 100 MHz: 1.21 100 MHz to 8 GHz: 1.19 8 GHz to 18 GHz: 1.21 18 GHz to 26.5 GHz: 1.26	200 mW (+23 dBm)	APC-3.5 mm (m)
HP E9301A			
10MHz-6GHz	10MHz-30MHz: 1.21 (1.15) 30MHz-2GHz: 1.15 (1.13) 2GHz-6GHz: 1.20 (1.19)	320mW (+25dBm) avg. 2W (+33dBm) peak (<10usec)	N(m)
HP E9300A			
10MHz to 18GHz	10MHz-30MHz: 1.21 (1.15) 30MHz-2GHz: 1.15 (1.13) 2GHz-6GHz: 1.20 (1.19) 6GHz-11GHz: 1.23 (1.22) 11GHz-18GHz: 1.27 (1.26)	320mW (+25dBm) avg. 2W (+33dBm) Peak (<10usec)	N(m)

*Applies to sensors with serial prefix US3848 or greater.
[1]Specifications in brackets apply over temperature range 25+10°C. All other specifications apply over temperature range 0 to 55°C, unless otherwise stated.

Power Linearity: E4412A/13A
100 pW to 10 mW (–70 dBm to +10 dBm)
Temperature: (25° C ± 5° C): ±4%; (0 to 55° C): ±8%
10 mW to 100 mW (+10 dBm to +20 dBm)
Temperature: (25° C ± 5° C): ±5.5%; (0 to 55° C): ±11%
Power Linearity: E9300A/E9301A
–60dBm to 10dBm: Temperature (25 ± 10°C): ± 3%; (0 to 55°C) :± 3.5%
–10dBm to 0dBm: Temperature (25 ± 10°C): ± 2.5%; (0 to 55°C): ± 3%
0dBm to +10dBm: Temperature (25 ± 10°C): ± 2%; (0 to 55°C): ± 2.5%

HP 8480 Power Sensor Family

The HP 8480 power sensors are designed for use with the E4418B, E4419B, HP 435B, 436A, 437B, 438A, 70100A and E1416A power meters. These thermocouple and diode power sensors provide extraordinary accuracy, stability, and SWR over a wide range of frequencies (100 kHz to 110 GHz) and power levels (–70 to +44 dBm).

Best SWR in the Industry

Mismatch uncertainty is usually the largest single source of error in power measurements. The HP 8480 power sensor family gives you extremely low SWR even at mm-wave frequencies. For example, the HP W8486A power sensor has a specified SWR of less than 1.08:1 over its entire 75 to 110 GHz frequency range. This low SWR translates into minimum mismatch uncertainty and optimum measurement accuracy.

Accurate Calibration and Traceability

Each power sensor in the HP 8480 family is individually calibrated and traceable to the U.S. National Institute of Standards and Technology (NIST, formerly NBS). The uncertainty in this calibration factor is your link to NIST. The cal factor measurement system used by HP Standards Lab provides you with minimum cal factor uncertainty.

Millimeter-Wave Sensor Calibration

A 50 MHz calibration port is included in HP waveguide power sensors for calibration with the power meter. This calibration provides traceability to NIST at millimeter-wave frequencies, and it eliminates the uncertainties due to temperature changes and the variance in making measurements with different meter/sensor combinations.

HP 11683A Range Calibrator

The HP 11683A range calibrator is specifically designed for use with the E4418A/B, E4419A/B, HP 435B, 436A, 437B, 438A, 70100A and E1416A power meters. It allows verification of full-scale meter readings on all ranges, as well as meter tracking. Simply connect the cable between the power meter and calibrator. The CAL ADJ control on the power meter is used to set the meter to full scale on the 1 mW range. The calibrator and meter are then stepped through the other ranges verifying accuracy within ±1 percent plus noise and drift. The HP 11683A also has a polarity switch that tests the auto-zero circuit. The HP 11683A is not GPIB compatible.

Key Literature

Technical Specifications, p/n 5965-6382E
Brochure, p/n 5965-6380E
Configuration Guide, p/n 5965-6381E
HP E-Series E9300 Power Sensors, Product Overview, p/n 5968-4960E

Ordering Information	Price
HP E4412A CW Power Sensor (10MHz to 18GHz)	$1315
Opt A6J ANSI/NCSL Z540-1-1994 Certificate of Calibration	$190
HP E4413A CW Power Sensor (50MHz to 26.5 GHZ)	$1770
Opt A6J ANSI/NCSL Z540-1-1994 Certificate of Calibration	$190
HP E9301A Power Sensor (10MHz to 6GHz)	$1300
Opt A6J ANSI/NCSL Z540-1-1994 Certificate of Calibration	$190
HP E9300A Power Sensor (10MHz to 18GHz)	$1785
Opt A6J ANSI/NCSL Z540-1-1994 Certificate of Calibration	$225

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP