

# Keysight Technologies

## P-Series Power Meters and P-Series Wideband Power Sensors

### Configuration Guide



#### P-Series Power Meters:

N1911A Power Meter (single channel)  
N1912A Power Meter (dual channel)

#### P-Series Power Sensors:

N1921A Power Sensor (50 MHz to 18 GHz)  
N1922A Power Sensor (50 MHz to 40 GHz)

## Introduction

This configuration guide describes standard configurations, options and compatible accessories. Contact your local Keysight Technologies, Inc. representative for additional information.

## P-Series Power Meters

The P-Series power meters provide peak, average, peak-to-average ratio power measurements, time-gated and free run modes, rise time, fall time and pulse width measurements.

The P-Series power meters are compatible with the 8480, E-Series and new P-Series power sensors. The P-Series power meters have a different sensor input connector than the EPM and EPM-P Series power meters, so it is necessary to use adapter cables. These adapter cables come in three different lengths. When using the 8480 or E-Series sensors, refer to the Cable Accessories section in this guide. For additional information, refer to the Literature References section.

The standard P-Series power meters include:

- Single-channel power meter, order N1911A or dual-channel power meter, order N1912A
- Input sensor connector(s) on the front panel
- Reference calibrator (1 mW, 50 MHz) connector on the front panel
- Printed copy of Installation Guide <sup>1</sup>
- Printed copy of English-language User's Guide
- CD-ROM, contains the English-language and localized User's Guides and the English-language Programming Guide
- Supplied accessories: power cord (plug matches country destination requirements)
- USB adapter cable (part number 8121-1354) (CA-ASSY USB type A-B plugs 4 - cond 6.0 ft.)

## P-Series Wideband Power Sensors

The P-Series wideband power sensors are designed specifically for operation with the P-Series power meters for wide bandwidth power and time measurements. These sensors are the only Keysight power sensors that have their cable permanently wired (hard-wired) into the sensor. This provides better wide bandwidth specifications compared to having a removable cable. Refer to the Sensor Cable Lengths section in this guide for part number and cable length information.

The standard P-Series power sensors include:

- Power sensor 50 MHz to 18 GHz, order N1921A
- Power sensor 50 MHz to 40 GHz, order N1922A
- English-language Operating and Service Manual (part number N1920-90007)

1. The Installation Guide is in English, French, and Japanese languages (part number N1912-90009).



## Compatibility

### Power sensor compatibility

The P-Series power meters are E932x and P-series for peak and average power measurements and E9300, (N)8480, and all USB power sensors for average power measurements. Refer to the Accessories section, P-Series meter cable adaptors N1917A/B and C.

### Connector options for P-Series power meters

The following options are available on the P-Series power meters. <sup>1</sup>

Table 1. Connector options for P-Series power meters.

| Option     | Description   |
|------------|---|
| N1911A-003 | Rear panel sensor and power reference connectors (single channel) |
| N1912A-003 | Rear panel sensor and power reference connectors (dual channel)   |

### Video output option (H01)

The video output provides a DC voltage proportional to the measured input power through a BNC connector on the rear panel. The DC voltage can be displayed on an oscilloscope for time measurement. This option replaces the recorder output on the rear panel. The video output impedance is 50  $\Omega$ .

- Video rise time: 13 ns
- Frequency range: 50 MHz to 40 GHz <sup>2</sup>

1. The P-Series power meters are configured for either front panel connectors (both sensor and power reference) or rear panel connectors. There are no options for parallel front and rear panel sensor inputs.
2. Need to turn off the auto-zero feature; otherwise, this will appear as a glitch in the video output signal.



## P-Series Power Meter Accessories

Standard accessories are available, for example, rack mount kits.

Table 2. P-Series power meter accessories.

| Accessory part number    | Description                      |
|--------------------------|----------------------------------|
| N1911A-908<br>N1912A-908 | Rack mount kit (one instrument)  |
| N1911A-909<br>N1912A-909 | Rack mount kit (two instruments) |
| 34131A                   | Basic instrument transit case    |
| 34161A                   | Accessory pouch                  |

## Cable Accessories

Power sensor adapters for use with 8480 and E-Series power sensors:

Table 3. Cable accessories for use with 8480 and E-Series power sensors.

| Accessory part number | Description                                |
|-----------------------|--|
| N1917A                | P-Series meter cable adaptor, 1.5 m (5 ft) |
| N1917B                | P-Series meter cable adaptor, 3 m (10 ft)  |
| N1917C                | P-Series meter cable adaptor, 10 m (31 ft) |

## Software Accessories

### Keysight BenchVue software

Keysight BenchVue software for the PC accelerates testing by providing intuitive, multiple instrument measurement visibility and data capture with no programming necessary. You can derive answers faster than ever by easily viewing, capturing and exporting measurement data and screen shots. The N1911A/12A Power Meters are supported by Keysight BenchVue software's BV0007B Power Meter/Sensor Control and Analysis app.

For more information, [www.keysight.com/find/BenchVue](http://www.keysight.com/find/BenchVue)

## P-Series Wideband Power Sensor Cable Lengths

Three fixed cable length options are available for the P-Series power sensors at 1.5 m, 3.0 m and 10 m. Option 105 is the standard (default) option.

Table 4. P-Series wideband power sensor cable lengths.

| Option                   | Description                     |
|--------------------------|---------------------------------|
| N1921A-105<br>N1922A-105 | Fixed 1.5 m (5 ft) cable length |
| N1921A-106<br>N1922A-106 | Fixed 3 m (10 ft) cable length  |
| N1921A-107<br>N1922A-107 | Fixed 10 m (31 ft) cable length |



## Calibration Option

The P-Series power meters and sensors are available with Option 1A7 (ISO17025 compliant calibration) or Option A6J (ANSI Z540 compliant calibration).

## Documentation

The P-Series power meters are supplied with a printed copy of Installation Guide, a printed copy of English language User's Guide (Option ABA), and a Product Reference CD which contains the User's Guide and Programming Guide. The following tables supply the option number as well as the Keysight part number (where appropriate) to order the documentation. The localized options for the P-Series power meters provide a printed copy of the localized User's Guide and an English-language printed copy of the Programming Guide.

The P-Series power sensors provide a printed copy of the Operating and Service Manual as standard.

Table 5. Documentation.

| Option                   | Description  |
|--------------------------|--|
| N1911A-OB0<br>N1912A-OB0 | Delete manual set  |
| N1911A-OBK<br>N1912A-OBK | Additional English language manual set (User's Guide, part number N1912-90002 and Programming Guide part number N1912-90009) |
| N1911A-OBF<br>N1912A-OBF | English-language Programming Guide (part number N1912-90009)   |
| N1911A-OBW<br>N1912A-OBW | Service Guide (part number N1912-90015)  |
| N1911A-ABJ<br>N1912A-ABJ | Japanese localization, User's Guide part number N1912-90007  |
| N1921A-OB1<br>N1922A-OB1 | Additional English language manual set, Operating and Service Manual, part number N1920-90007                                |

## Literature References

| Publication title   | Publication number |
|---|--------------------|
| <i>P-Series Power Meters and P-Series Wideband Power Sensors – Technical Overview</i>                         | 5989-1049EN        |
| <i>N1911A/N1912A P-Series Power Meters and N1921A/N1922A Wideband Power Sensors - Data Sheet</i>              | 5989-2471EN        |
| <i>E4416A/E4417A EPM-P Series Power Meters and E-Series E9320 Peak and Average Power Sensors – Data Sheet</i> | 5980-1469E         |
| <i>EPM Series Power Meters E-Series and 8480 Series Power Sensors - Data Sheet</i>                            | 5965-6382E         |
| <i>Fundamentals of RF and Microwave Power Measurements (Part 1) - Application Note</i>                        | 5988-9213EN        |
| <i>Fundamentals of RF and Microwave Power Measurements (Part 2) - Application Note</i>                        | 5988-9214EN        |
| <i>Fundamentals of RF and Microwave Power Measurements (Part 3) - Application Note</i>                        | 5988-9215EN        |
| <i>Fundamentals of RF and Microwave Power Measurements (Part 4) - Application Note</i>                        | 5988-9216EN        |
| <i>4 Steps for Making Better Power Measurements - Application Note</i>  | 5965-8167E         |
| <i>Choosing the Right Power Meter and Sensor - Application Note</i>   | 5968-7150E         |



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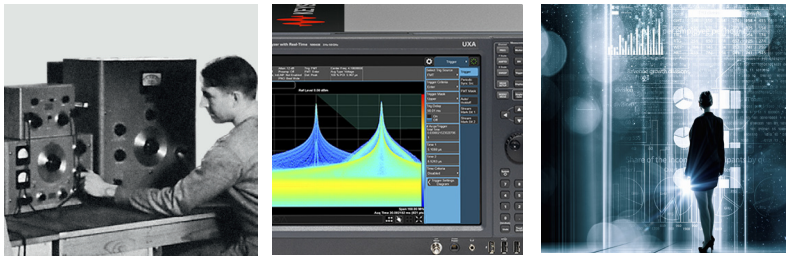
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| United Kingdom | 0800 0260637  |

For other unlisted countries:

[www.keysight.com/find/contactus](http://www.keysight.com/find/contactus)  
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