

# Keysight U2000 Series USB Power Sensors

## Configuration Guide

### U2000 Series USB Power Sensor

- U2000A (10 MHz to 18 GHz)
- U2001A (10 MHz to 6 GHz)
- U2002A (50 MHz to 24 GHz)
- U2004A (9 kHz to 6 GHz)
  
- U2000H (10 MHz to 18 GHz)
- U2001H (10 MHz to 6 GHz)
- U2002H (50 MHz to 24 GHz)
  
- U2000B (10 MHz to 18 GHz)
- U2001B (10 MHz to 6 GHz)



## Introduction

This configuration guide describes the standard configurations, options, and compatible accessories for the U2000 Series USB power sensors. Contact your local Keysight Technologies, Inc. representative for more information.

## U2000 Series Models

| Sensor model | Description   |
|--------------|---|
| U2000A       | 10 MHz to 18 GHz, -60 dBm to +20 dBm USB Power Sensor, N-type (m) |
| U2001A       | 10 MHz to 6 GHz, -60 dBm to +20 dBm USB Power Sensor, N-type (m)  |
| U2002A       | 50 MHz to 24 GHz, -60 dBm to +20 dBm USB Power Sensor, 3.5 mm (m) |
| U2004A       | 9 kHz to 6 GHz, -60 dBm to +20 dBm USB Power Sensor, N-type (m)   |
| U2000H       | 10 MHz to 18 GHz, -50 dBm to +30 dBm USB Power Sensor, N-type (m) |
| U2001H       | 10 MHz to 6 GHz, -50 dBm to +30 dBm USB Power Sensor, N-type (m)  |
| U2002H       | 50 MHz to 24 GHz, -50 dBm to +30 dBm USB Power Sensor, 3.5 mm (m) |
| U2000B       | 10 MHz to 18 GHz, -30 dBm to +44 dBm USB Power Sensor, N-type (m) |
| U2001B       | 10 MHz to 6 GHz, -30 dBm to +44 dBm USB Power Sensor, N-type (m)  |

## Standard Shipped Components

- USB power sensor unit
  - Power sensor cable: 1.5 m, 3.0 m, or 5.0 m length (Option 301, 302, or 303) <sup>1</sup>
  - Trigger Cable BNC male to SMB female 50 W, 1.5 m length
  - Certificate of Calibration
  - Documentation CD-ROM
  - Keysight Instrument Control DVD
    - IO libraries suite
    - Command expert
    - BenchVue software platform
    - 30-day free trial of BenchVue power meter/sensor control and analysis app
1. A 1.5 m (Option 301) USB 2.0 compliant (power sensor) cable with USB Mini-B connector and locking mechanism to the sensor is provided. The default 1.5 m cable can be replaced with 3.0 m (Option 302) or 5.0 m (Option 303) for fee.



## Options and Accessories

### Special options

| Option number | Description  |
|---------------|--|
| U2001A-H03    | U2001A sensor with extended frequency range, 3 MHz to 6 GHz  |
| U2001A-H16    | With 1 K ohms input trigger impedance. Higher impedance is typically required when several instruments' input trigger ports are connected in parallel for triggering purpose. Standard option has 50 ohms input trigger impedance. |
| U2001A-H25    | U2001A sensor with extended power range, -60 dBm to +25 dBm  |
| U2002A-H26    | U2002A sensor with extended frequency range, 10 MHz to 26.5 GHz  |

### Calibration certificates

| Option number     | Description  |
|-------------------|--|
| Option U200xx-A6J | ANSI Z540 compliance calibration test data including measurement uncertainties |
| Option U200xx-1A7 | ISO17025 compliance calibration test data including measurement uncertainties  |

## Software Application

The U2000 Series is supported by the Keysight BenchVue software and BV0007B Power Meter/Sensor Control and Analysis app. Once you plug the USB power sensor into a PC and run the software you can see measurement results in a wide array of display formats and log data without any programming.

| Option number | Description                                 |
|---------------|---|
| BV0007B       | Power Meter/Sensor Control and Analysis app |

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



## Additional Documentation

Selection can be made for the localized languages of the operating and service guide. The table below lists out the available languages.

| Option number | Description                                   |
|---------------|---|
| U200xx-0B1    | English language operating and service guide  |
| U200xx-ABJ    | Japanese language operating and service guide |

## Additional cables

| Option number | Description  |
|---------------|--|
| U2031A        | USB 2.0 compliance cable with USB Mini-B connector and locking mechanism, length 1.5 m (5 ft)  |
| U2031B        | USB 2.0 compliance cable with USB Mini-B connector and locking mechanism, length 3 m (10 ft)   |
| U2031C        | USB 2.0 compliance cable with USB Mini-B connector and locking mechanism, length 5 m (16.7 ft) |
| U2032A        | Trigger cable BNC male to SMB female 50 W, length 1.5 m (5 ft)                                 |

## Accessories

| Option number                 | Description   |
|-------------------------------|---|
| U2000A-201 Transit Case       | To fit in 4 USB sensors, operating and service guide, programming guide, cables |
| U2000A-202 Soft Carrying Case | To carry the sensor for field applications                                      |
| U2000A-203 Holster            | To mount on test systems  |
| U2000A-204 Soft Carry Pouch   | To carry the sensor for field applications                                      |



## Warranty and Calibration

Each of the U2000 Series USB Power Sensors comes with a standard 12-month return to Keysight warranty. For an extension of the initial warranty and service plan to 3 or 5 years, order from the listed options below:

### R1280A Return-to-Keysight warranty and service plan

| Option number | Description  |
|---------------|--|
| R-51B-001-C   | 1 year Return-to-Keysight warranty                     |
| R-51B-001-3C  | 1 year Return-to-Keysight warranty extended to 3 years |
| R-51B-001-5C  | 1 year Return-to-Keysight warranty extended to 5 years |

### R1282A Return-to-Keysight calibration plan <sup>1</sup>

| Option number | Description  |
|---------------|--|
| R-50C-011-3   | Keysight Calibration Upfront Support Plan 3 years coverage |
| R-50C-011-5   | Keysight Calibration Upfront Support Plan 5 years coverage |
| R-50C-021-3   | Z540 Calibration Upfront Support Plan 3 years coverage     |
| R-50C-021-5   | Z540 Calibration Upfront Support Plan 5 years coverage     |
| R-50C-016-3   | 17025 Calibration Upfront Support Plan 3 years coverage    |
| R-50C-016-5   | 17025 Calibration Upfront Support Plan 5 years coverage    |

1. Only applicable for U2000A, U2001A, U2002A, and U2004A models.

## For More Information

Keysight provides free, detailed product and application notes:

1. Fundamentals of RF and Microwave Power Measurements (Part 1), Application Note, literature number 5988-9213EN
2. Fundamentals of RF and Microwave Power Measurements (Part 2), Application Note, literature number 5988-9214EN
3. Fundamentals of RF and Microwave Power Measurements (Part 3), Application Note, literature number 5988-9215EN
4. Fundamentals of RF and Microwave Power Measurements (Part 4), Application Note, literature number 5988-9216EN
5. 4 Steps for Making Better Power Measurements, Application Note, literature number 5965-8167E
6. Choosing the Right Power Meter and Sensor, Application Note, literature number 5968-7150E

## Related Literature

| Publication title   | Publication number |
|---|--------------------|
| <i>U2000 Series USB Power Sensors - Data Sheet</i>                                  | 5989-6278EN        |
| <i>U2000 Series USB Power Sensor - Technical Overview</i>                           | 5989-6279EN        |
| <i>U2000 Series USB Power Sensors - Configuration Guide</i>                         | 5989-6281EN        |
| <i>USB Power Sensors: Single/Multi-Channel Power Measurement - Application Note</i> | 5989-6280EN        |



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### Americas

|               |                  |
|---------------|------------------|
| Canada        | (877) 894 4414   |
| Brazil        | 55 11 3351 7010  |
| Mexico        | 001 800 254 2440 |
| United States | (800) 829 4444   |

### Asia Pacific

|                    |                |
|--------------------|----------------|
| Australia          | 1 800 629 485  |
| China              | 800 810 0189   |
| Hong Kong          | 800 938 693    |
| India              | 1 800 11 2626  |
| Japan              | 0120 (421) 345 |
| Korea              | 080 769 0800   |
| Malaysia           | 1 800 888 848  |
| Singapore          | 1 800 375 8100 |
| Taiwan             | 0800 047 866   |
| Other AP Countries | (65) 6375 8100 |

### Europe & Middle East

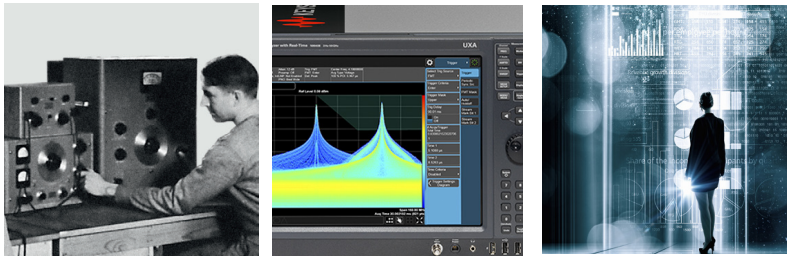
|                |               |
|----------------|---------------|
| Austria        | 0800 001122   |
| Belgium        | 0800 58580    |
| Finland        | 0800 523252   |
| France         | 0805 980333   |
| Germany        | 0800 6270999  |
| Ireland        | 1800 832700   |
| Israel         | 1 809 343051  |
| Italy          | 800 599100    |
| Luxembourg     | +32 800 58580 |
| Netherlands    | 0800 0233200  |
| Russia         | 8800 5009286  |
| Spain          | 800 000154    |
| Sweden         | 0200 882255   |
| Switzerland    | 0800 805353   |
|                | Opt. 1 (DE)   |
|                | Opt. 2 (FR)   |
|                | Opt. 3 (IT)   |
| United Kingdom | 0800 0260637  |

For other unlisted countries:  
[www.keysight.com/find/contactus](http://www.keysight.com/find/contactus)  
 (BP-6-20-17)

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