Agilent
U2000 Series USB Power Sensors

Configuration Guide

U2000 Series USB Power Sensors

- ✔ **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)**

Agilent Technologies

Introduction

This configuration guide describes the standard configurations, options, and compatible accessories for the U2000 Series USB power sensors. Contact your local Agilent 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)

Options and Accessories

Special Options

Option Number	Description
U2001A-H03	U2001A sensor with extended frequency range, 3 MHz to 6 GHz
U2001A-H16	With 1K 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 Documentation

- **Option U200xx-A6J**: ANSI Z540 compliance calibration test data including measurement uncertainties
- **Option U200xx-1A7**: ISO17025 compliance calibration test data including measurement uncertainties

Documentation

A hard copy and CD version of the English language operating and service guide, programming guide, and the N1918A Power Analysis Assembly are shipped together with the USB power sensor as standard items.

Additional documentation

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

U200xx-0B1	English language operating and service guide
U200xx-ABD	German language operating and service guide
U200xx-ABE	Spanish language operating and service guide
U200xx-ABF	French language operating and service guide
U200xx-ABJ	Japanese language operating and service guide
U200xx-ABZ	Italian language operating and service guide
U200xx-AB2	Simplified Chinese operating and service guide

Standard Cables

- A 1.5 m (**Option 301**) USB 2.0 Compliance cable with USB Mini-B connector and locking mechanism to the sensor is provided as standard (The 1.5 m cable can be replaced with 3.0 m (**Option 302**) or 5.0 m (**Option 303**) USB 2.0 Compliance cable length, charges applied)
- A 1.5 m trigger cable BNC male to SMB female 50 Ω

Additional cables

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 Ω, length 1.5 m (5ft)

Accessories

U2000A-201 Transit Case	To fit in 4 USB sensors, operating & 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 Agilent 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-Agilent warranty and service plan

R-51B-001-C	1 year Return-to-Agilent warranty
R-51B-001-3C	1 year Return-to-Agilent warranty extended to 3 years
R-51B-001-5C	1 year Return-to-Agilent warranty extended to 5 years

R1282A Return-to-Agilent calibration plan[1]

R-50C-011-3	Agilent Calibration Upfront Support Plan 3 years coverage
R-50C-011-5	Agilent 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

Standard Shipped Components

- USB power sensor unit
- Power sensor cable: 1.5 m, 3.0 m, or 5.0 m length (**Option 301**, **302**, **303**)
- Trigger Cable BNC Male to SMB female 50 Ω, 1.5 m length
- Certificate of Calibration
- N1918A Power Analysis Assembly[2]
- Agilent IO Libraries Suites CD
- U2000 Series USB Power Sensors Operating and Service Guide
- U2000 Series USB Power Sensors Programming Guide
- U2000 Series USB Power Sensors Documentation CD

Software Application

The basic version of the Power Analysis Manager, Power Panel, is bundled with the purchase of Agilent U2000 Series USB power sensors. The Power Panel offers an easy-to-use standard graphical user interface (GUI) for the USB sensor. For more information on the Power Panel, please refer to *N1918A Power Analysis Manager Data Sheet*, literature number 5989-6612EN.

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1   Only applicable for U2000A, U2001A, U2002A, and U2004A models.
2   The N1918A Option 100 license is required to operate the Power Analyzer; it needs to be purchased separately.

Complementary Equipment

- Agilent E5813A: NETWORKED 5-PORT USB-to-LAN hub, for multi-channels and long distance operation. User can connect an extended long LAN cable from the USB-to-LAN hub to a computer.
- Commercially available active USB hub, for multi-channel operations

Instrument Compatibility

Compatible Model	Compatible Firmware Revision
PNA-X: N5242A PNA: E8361A/C, E8362B/C, E8363B/C, E8364B/C PNA-L: N5230A/C	A.07.50.13 and above
Handheld Spectrum Analyzer: N9340A/B	A.01.05 and above
MXG: N5181A/82A/83A, N5161A/62A	A.01.31 and above
RF Spectrum Analyzer: N9320B	B.02.20 and above
FieldFox RF Analyzer: N9912A	A.02.05 and above
Handheld Cable Antenna Tester: N9330	A.01.05 and above
ENA: E5071C	9.2 and above

For More Information

Agilent provides free, detailed product and application notes:

[1] *Fundamental of RF and Microwave Power Measurements (Part 1), application notes 1449-1,* literature number 5988-9213EN

[2] *Fundamental of RF and Microwave Power Measurements (Part 2), application notes 1449-2,* literature number 5988-9214EN

[3] *Fundamental of RF and Microwave Power Measurements (Part 3), application notes 1449-3,* literature number 5988-9215EN

[4] *Fundamental of RF and Microwave Power Measurements (Part 4), application notes 1449-4,* literature number 5988-9216EN

[5] *Steps for Making Better Power Measurements, application note 64-4D,* literature number 5965-8167EN

[6] *Choosing the Right Power Meter and Sensor, product note,* literature number 5968-7150E

Related Literature

[1] *U2000 Series USB power sensor datasheet,* literature number 5989-6278EN

[2] *U2000 Series USB power sensor technical overview,* literature number 5989-6279EN

[3] *U2000 Series USB power sensor configuration guide,* literature number 5989-6281EN

[4] *U2000 Series USB power sensor demo guide,* literature number 5989-6280EN

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Agilent offers a wide range of additional expert test and measurement services for your equipment, including initial start-up assistance, onsite education and training, as well as design, system integration, and project management.

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