

## Keysight Technologies

### U2500A Series USB Modular Simultaneous Sampling Multifunction DAQ Devices

Data Sheet



## Introduction

The Keysight Technologies, Inc. U2500A Series USB modular simultaneous sampling multifunction data acquisition (DAQ) devices are high-performance modules that consist of three models – the U2531A, U2541A and U2542A. The U2500A Series has up to four channels with resolutions of 14-bit and 16-bit. The U2531A can sample up to 2 MSa/s for each channel with a resolution of 14 bits, while the U2541A and U2542A can sample up to 250 kSa/s and 500 kSa/s for each channel respectively with a resolution of 16 bits.

### Features

- Simultaneous sampling with up to 2 MSa/s sampling rate for each channel
- Multifunction DAQ solution – AI, AO, DIO, counter
- Dedicated ADC per channel
- 14-bit or 16-bit resolution
- 24-bit programmable digital input/output
- Functions as a standalone or modular unit
- Supports SCPI and IVI-COM
- Compatible with a wide range of ADEs
- Easy-to-use bundled software
- Command logger function
- USB 2.0 and USBTMC-USB488 standards

### Various features of the U2500A Series

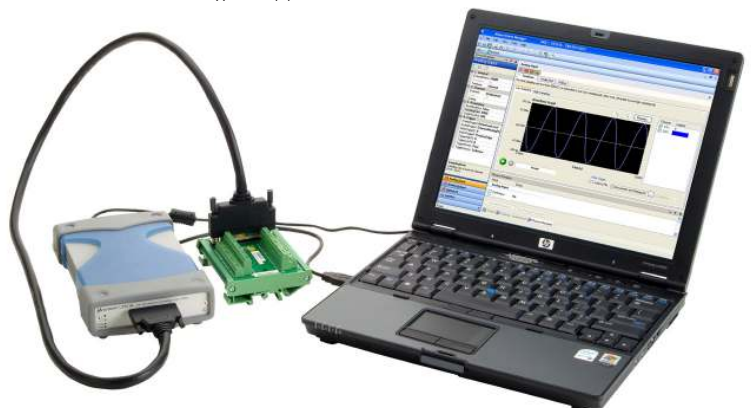
- Quick and easy USB setup
- High sampling rate of up to 2 MSa/s for each channel
- Dedicated analog-to-digital (ADC) that allows simultaneous sampling of data
- Flexible standalone or modular capability that enables lower startup cost
- SCPI and IVI-COM supported with a wide range of ADE compatibility that minimizes work time and increases software choices
- Easy-to-use application software and command logger function for easy SCPI command conversion into snippets of VEE, VB, C++, and C# code

### High sampling rate of up to 2 MSa/s

The U2500A Series provides a high analog input sampling rate coverage of up to 2 MSa/s for each channel. The high sampling rate coverage offered is ideal for transient signal applications such as sonar analysis.

### Simultaneous sampling of data

The U2500A Series has dedicated ADCs that enable simultaneous signals acquisition, which makes the U2500A Series suitable for your phase-sensitive applications.



## Product outlook and dimensions



### Standard shipped accessories

- AC/DC Power adapter
- Power cord
- USB extension cable
- L-Mount kit (used with modular product chassis)
- Keysight USB Modular Products Quick Start Guide
- Keysight Measurement Manager for U2500A Series Quick Start Guide
- Keysight USB Modular Products Reference CD-ROM
- Keysight Automation-Ready CD-ROM (contains the Keysight IO Libraries Suite)
- Certificate of Calibration

### Optional accessories

- U2901A Terminal block and SCSI-II 68-pin connector with 1-meter cable
- U2902A Terminal block and SCSI-II 68-pin connector with 2-meter cable

## Product characteristics and General Specifications

### REMOTE INTERFACE

- Hi-Speed USB 2.0
- USBTMC-USB488<sup>1</sup>

### POWER REQUIREMENT

- +12 VDC (TYPICAL)
- 2 A (MAX) input rated current
- Installation Category II

### POWER CONSUMPTION

+12 VDC, 480 mA maximum

### OPERATING ENVIRONMENT

- Operating temperature from 0 °C to +55 °C
- Relative humidity at 15% to 85% RH (non-condensing)
- Altitude up to 2000 meters
- Pollution Degree 2
- For indoor use only

### STORAGE COMPLIANCE

–20 °C to 70 °C

### SAFETY COMPLIANCE

Certified with:

- IEC 61010-1:2001/EN 61010-1:2001 (2nd Edition)
- USA: ANSI/UL 61010-1:2004
- Canada: CSA C22.2 No.61010-1:2004

### EMC COMPLIANCE

- IEC 61326-1:2002/EN 61326-1:1997+A2:2001+A3:2003
- CISPR 11: 1990/EN 55011:1990-Group 1 Class A
- Canada: ICES-001:2004
- Australia/New Zealand: AS/NZS CISPR 11:2004

### SHOCK AND VIBRATION

Tested to IEC/EN 60068-2

### IO CONNECTOR

68-pin female VHDCI Type

### DIMENSION (W × D × H)

Module dimension:

- 120.00 mm × 182.40 mm × 44.00 mm (with plastic casing)
- 105.00 mm × 174.54 mm × 25.00 mm (without plastic casing)

Terminal block dimension:

- 103.00 mm × 85.20 mm × 42.96 mm

### WEIGHT

- 565 g (with plastic casing)
- 400 g (without plastic casing)

### WARRANTY

Three years for U2500A series DAQ devices  
Three months for standard shipped accessories

1. Compatible with Microsoft Windows operating systems only. Requires a direct USB connection to the PC so the appropriate driver can be installed in the USB DAQ module.

## Product specifications

| Model number                                  | U2531A  | U2541A    | U2542A    |
|---|---|-----------|-----------|
| Analog input                                  |   |           |           |
| Resolution                                    | 14 bits   | 16 bits   |           |
| Number of channels                            | 4 differential input channels (software selectable/channel)                           |           |           |
| Maximum sampling rate                         | 2 MSa/s   | 250 kSa/s | 500 kSa/s |
| Programmable bipolar input range <sup>1</sup> | ± 10 V, ± 5 V, ± 2.5 V, ± 1.25 V  |           |           |
| Programmable unipolar input range             | 0 to 10 V, 0 to 5 V, 0 to 2.5 V, 0 to 1.25 V  |           |           |
| Input coupling                                | DC  |           |           |
| Input impedance                               | 1 GΩ/100 pF   |           |           |
| Operational common mode voltage range         | ± 8.0 V maximum   |           |           |
| Overvoltage range                             | Power-on: Continuous ± 30 V, Power-off: Continuous ± 15 V                             |           |           |
| Trigger sources                               | External analog/digital trigger, SSI/star trigger <sup>2</sup>                        |           |           |
| Trigger modes                                 | Pre-trigger, delay-trigger, post-trigger, and middle-trigger                          |           |           |
| FIFO buffer size                              | Up to 8 MSa   |           |           |
| Analog output                                 |   |           |           |
| Resolution                                    | 12 Bits   |           |           |
| Number of channels                            | 2   |           |           |
| Maximum update rate                           | 1 MSa/s   |           |           |
| Output ranges                                 | 0 to 10 V, ±10 V, 0 to AO_EXT_REF, ±AO_EXT_REF <sup>3</sup>                           |           |           |
| Output coupling                               | DC  |           |           |
| Output impedance                              | 0.1 Ω Typical   |           |           |
| Stability                                     | Any passive load up to 1500 pF  |           |           |
| Power-on state                                | 0 V steady state  |           |           |
| Trigger sources                               | External analog/digital trigger, SSI/star trigger <sup>2</sup>                        |           |           |
| Trigger modes                                 | Delay trigger, post trigger   |           |           |
| FIFO buffer size                              | 1 Channel used: Maximum 8 MSa<br>4 Channels used: Maximum 2 MSa/ch                    |           |           |
| Glitch energy                                 | 5 ns-V (Typical), 80 ns-V (Maximum)   |           |           |
| Driving capability                            | 5 mA  |           |           |
| Function generation mode                      | Sine, square, triangle, sawtooth, and noise waveforms                                 |           |           |
| Digital input/output                          |   |           |           |
| Number of bits                                | 24-bit programmable input/output  |           |           |
| Compatibility                                 | TTL   |           |           |
| Input voltage                                 | VIL = 0.7 V maximum; IIL = 10 μA maximum<br>VIH = 2.0 V minimum; IIH = 10 μA maximum  |           |           |
| Input voltage range                           | −0.5 V to +5.5 V  |           |           |
| Output voltage                                | VOL = 0.45 V maximum; IOL = 8 mA maximum<br>VOH = 2.4 V minimum; IOH = 400 μA maximum |           |           |
| General purpose digital timer/counter         |   |           |           |
| Maximum count                                 | (231 − 1) bits  |           |           |
| Number of channels                            | 2 Independent up/down counter   |           |           |
| Compatibility                                 | TTL   |           |           |
| Clock source                                  | Internal or external  |           |           |
| Base clock available                          | 48 MHz  |           |           |
| Maximum clock source frequency                | 12 MHz  |           |           |
| Input frequency range <sup>4</sup>            | 0.1 Hz to 6 MHz at 50% duty cycle   |           |           |
| Pulse width measurement range                 | 0.167 μs to 178.956 s ± 0.0833 μs   |           |           |

## Product specifications (continued)

| Model number                  | U2531A   | U2541A         | U2542A |
|-------------------------------|--|----------------|--------|
| Analog input                  |  |                |        |
| Trigger source                | All analog input channels, External analog trigger (EXTA_TRIG)   |                |        |
| Trigger level                 | ± Full scale for internal<br>± 10 V for external   |                |        |
| Trigger conditions            | Above high, below low, and window (software selectable)  |                |        |
| Trigger level resolution      | 8 bits   |                |        |
| Bandwidth                     | 400 kHz  |                |        |
| Input impedance for EXTA_TRIG | 20 kΩ  |                |        |
| Coupling                      | DC   |                |        |
| Overvoltage protection        | Continuous for ± 35 V maximum  |                |        |
| Digital trigger               |  |                |        |
| Compatibility                 | TTL/CMOS   |                |        |
| Response                      | Rising or falling edge   |                |        |
| Pulse width                   | 20 ns minimum  |                |        |
| Calibration <sup>5</sup>      |  |                |        |
| On board reference voltage    | 5 V  |                |        |
| Temperature drift             | ± 2 ppm/°C   |                |        |
| Stability                     | ± 6 ppm/1000 hours   |                |        |
| Power consumption             |  |                |        |
| Input voltage (DC)            | +12 VDC  |                |        |
| Input current                 | 480 mA maximum   | 390 mA maximum |        |
| Physical attributes           |  |                |        |
| Dimensions (W × D × H)        | 120.00 mm × 182.40 mm × 44 mm (with plastic casing)<br>105.00 mm × 174.54 mm × 25.00 mm (without plastic casing) |                |        |
| IO connector                  | 68-pin female VHDCI type   |                |        |
| Weight                        | 565 g with plastic casing<br>400 g without plastic casing  |                |        |
| Environmental condition       |  |                |        |
| Operating temperature         | 0 to 55 °C   |                |        |
| Storage temperature           | −20 °C to 70 °C  |                |        |
| Relative humidity             | 15% to 85% RH (non-condensing)   |                |        |
| General                       |  |                |        |
| Remote interface              | Hi-Speed USB 2.0   |                |        |
| Device class                  | USBTMC-USB488  |                |        |
| Programmable interface        | SCPI and IVI-COM   |                |        |

1. Maximum input voltage for analog input is ± 10 V.
2. System Synchronous Interface (SSI) and star trigger commands are applicable when modular devices are used in modular product chassis (U2781A).
3. Maximum external reference voltage for analog output (AO\_EXT\_REF) is ± 10 V.
4. Measurement frequency's resolution:  
= 12 MHz/n, n = 2, 3, 4, 5, ..., 120 M  
= 6 MHz, 4 MHz, 3 MHz, 2.4 MHz, 2.0 MHz, ..., 0.1 Hz (up to six decimal points)
5. Recommended for 20 minutes warm-up time.

## Electrical Specifications and Characteristics

### Analog input characteristics<sup>1</sup>

| Model number                                 | U2531A       |                                 | U2541A       |                                 | U2542A       |                                 |
|--|--------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|
|  | 23 °C ± 5 °C | 0 °C to 18 °C<br>28 °C to 55 °C | 23 °C ± 5 °C | 0 °C to 18 °C<br>28 °C to 55 °C | 23 °C ± 5 °C | 0 °C to 18 °C<br>28 °C to 55 °C |
| Offset error <sup>2</sup>                    | ± 2 mV       | ± 2 mV                          | ± 1 mV       | ± 1 mV                          | ± 1 mV       | ± 1 mV                          |
| Gain error <sup>2</sup>                      | ± 6 mV       | ± 6 mV                          | ± 2 mV       | ± 2.5 mV                        | ± 2 mV       | ± 2.5 mV                        |
| –3 dB Small signal bandwidth                 | 1.2 MHz      |                                 | 600 kHz      |                                 | 1.0 MHz      |                                 |
| 1% THD Large signal bandwidth                | 400 kHz      |                                 | 400 kHz      |                                 | 400 kHz      |                                 |
| System noise <sup>3</sup>                    | 2.0 mVrms    |                                 | 0.5 mVrms    |                                 | 0.5 mVrms    |                                 |
| CMRR (DC to 60 Hz)                           | 64 dB        |                                 | 80 dB        |                                 | 80 dB        |                                 |
| Spurious-Free Dynamic Range (SFDR)           | 76 dB        |                                 | 88 dB        |                                 | 86 dB        |                                 |
| Signal-to-Noise and Distortion Ratio (SINAD) | 70 dB        |                                 | 82 dB        |                                 | 80 dB        |                                 |
| Total Harmonic Distortion (THD)              | –72 dB       |                                 | –86 dB       |                                 | –84 dB       |                                 |
| Signal-to-Noise Ratio (SNR)                  | 72 dB        |                                 | 84 dB        |                                 | 82 dB        |                                 |
| Effective Number of Bits (ENOB)              | 11.3-bit     |                                 | 13.3-bit     |                                 | 13.0-bit     |                                 |
| Channels crosstalk <sup>4</sup>              | 66 dB        |                                 | 84 dB        |                                 | 80 dB        |                                 |

### Analog output characteristics<sup>1</sup>

| Model number                        | U2531A       |                | U2541A       |                | U2542A       |                |
|-------------------------------------|--------------|----------------|--------------|----------------|--------------|----------------|
|                                     | 23 °C ± 5 °C | 28 °C to 55 °C | 23 °C ± 5 °C | 28 °C to 55 °C | 23 °C ± 5 °C | 28 °C to 55 °C |
| Offset error                        | ± 1 mV       | ± 3 mV         | ± 1 mV       | ± 3 mV         | ± 1 mV       | ± 3 mV         |
| Gain error                          | ± 3 mV       | ± 4 mV         | ± 2 mV       | ± 4 mV         | ± 2 mV       | ± 4 mV         |
| Slew rate                           | 15 V/μs      |                | 15 V/μs      |                | 15 V/μs      |                |
| Rise time                           | 1.1 μs       | 1.2 μs         | 1.1 μs       | 1.2 μs         | 1.1 μs       | 1.2 μs         |
| Fall time                           | 1.1 μs       | 1.2 μs         | 1.1 μs       | 1.2 μs         | 1.1 μs       | 1.2 μs         |
| Settling time(s) to 1% output error | 2 μs         |                | 2 μs         |                | 2 μs         |                |

1. Specifications are based on 20 minutes warm-up, self-calibration temperature at 23 °C, and bipolar input range of ± 10 V.

2. The measurements are calculated with 100 points averaging of data.

3. The noise rms value is the standard deviation of 20000 points.

4. The crosstalk measurements are tested up to input frequency of  $f_{in} = \text{MaxSamplingRate}/2$ .

## Test Condition

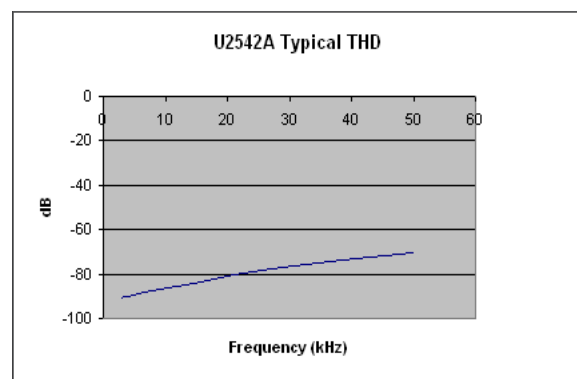
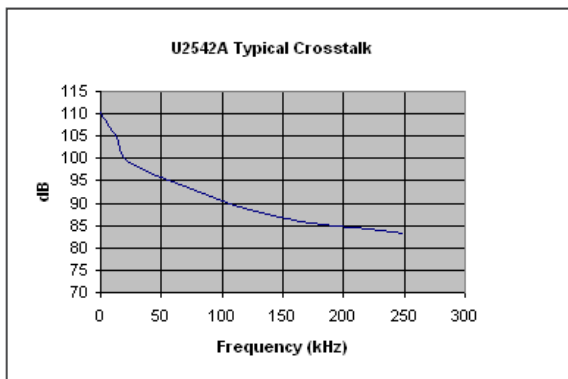
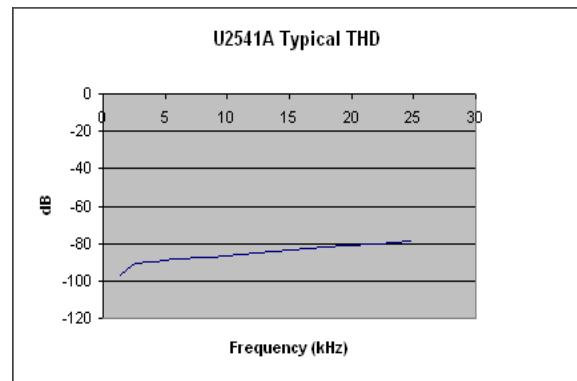
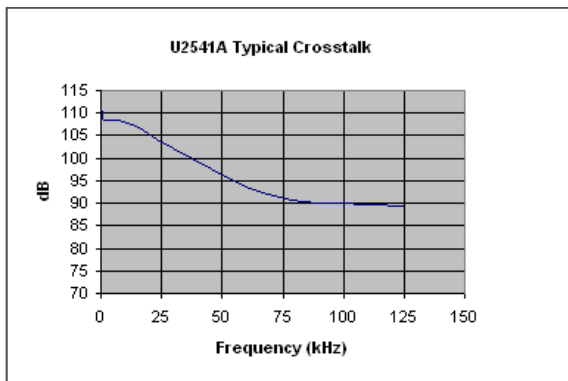
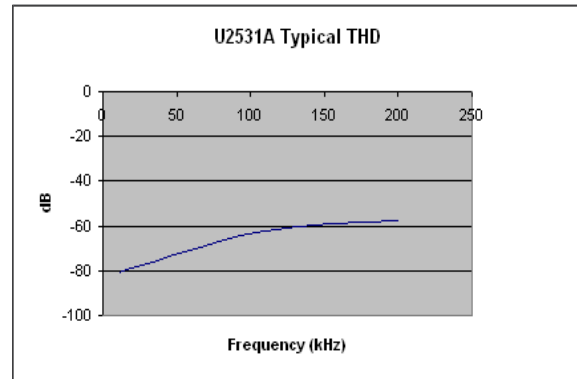
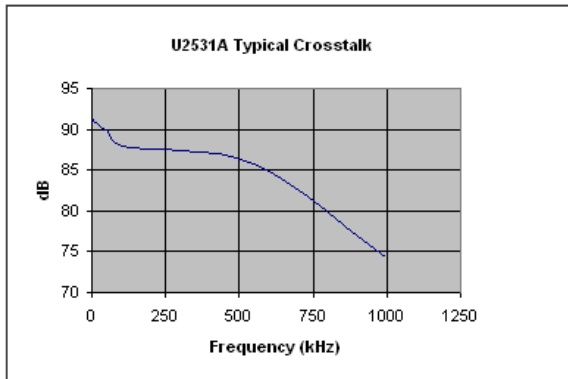
### Dynamic range test for U2500A Series DAQ devices

| Dynamic range test          | Model  | Test conditions (DUT setting at $\pm 10$ V bipolar) |              |
|-----------------------------|--------|---|--------------|
| SFDR, THD, SINAD, SNR, ENOB | U2531A | – Sampling rate:                                    | 2 MSa/s      |
|                             |        | – Fundamental frequency:                            | 19.927 kHz   |
|                             |        | – Number of points:                                 | 65536        |
|                             |        | – Fundamental input voltage:                        | FSR –1 dB FS |
|                             | U2541A | – Sampling rate:                                    | 250 kSa/s    |
|                             |        | – Fundamental frequency:                            | 2.4109 kHz   |
|                             |        | – Number of points:                                 | 8192         |
|                             |        | – Fundamental input voltage:                        | FSR –1 dBFS  |
|                             | U2542A | – Sampling rate:                                    | 500 kSa/s    |
|                             |        | – Fundamental frequency:                            | 4.974 kHz    |
|                             |        | – Number of points:                                 | 16384        |
|                             |        | – Fundamental input voltage:                        | FSR –1 dBFS  |

### Bandwidth test for U2500A Series DAQ devices

| Bandwidth test  | Model  | Test conditions (DUT setting at $\pm 10$ V bipolar) |             |
|---|--------|---|-------------|
| –3 dB Small signal bandwidth:<br>1% THD Large signal bandwidth: | U2531A | Sampling rate:                                      | 2 MSa/s     |
|   |        | Input voltage                                       |             |
|   |        | – –3 dB Small signal bandwidth:                     | 10% FSR     |
|   |        | – 1% THD Large signal bandwidth:                    | FSR –1 dBFS |
|   | U2541A | Sampling rate:                                      | 250 kSa/s   |
|   |        | Input voltage                                       |             |
|   |        | – –3 dB Small signal bandwidth:                     | 10% FSR     |
|   |        | – 1% THD Large signal bandwidth:                    | FSR –1 dBFS |
|   | U2542A | Sampling rate:                                      | 500 kSa/s   |
|   |        | Input voltage                                       |             |
|   |        | – –3 dB Small signal bandwidth:                     | 10% FSR     |
|   |        | – 1% THD Large signal bandwidth:                    | FSR –1 dBFS |

## Typical Performance



## DC Characteristics

### Accuracy specifications<sup>1</sup>

| Model              |                                | U2541A, U2542A  |   |
|--------------------|--------------------------------|-----------------|---|
| Analog input       |                                |                 |   |
| Unipolar range (V) | Offset error (mV) <sup>2</sup> | Gain error (mV) | Accuracy (% of reading + offset error) <sup>3</sup> |
| 10                 | 1.0                            | 1.0             | 0.02% + 1.0 mV                                      |
| 5                  | 1.0                            | 1.0             | 0.04% + 1.0 mV                                      |
| 2.5                | 1.0                            | 1.0             | 0.08% + 1.0 mV                                      |
| 1.25               | 1.0                            | 1.0             | 0.16% + 1.0 mV                                      |
| Bipolar range (V)  |                                |                 |   |
| 10                 | 1.0                            | 2.0             | 0.02% + 1.0 mV                                      |
| 5                  | 1.0                            | 1.0             | 0.02% + 1.0 mV                                      |
| 2.5                | 1.0                            | 1.0             | 0.04% + 1.0 mV                                      |
| 1.25               | 1.0                            | 1.0             | 0.08% + 1.0 mV                                      |
| Model              |                                | U2531A          |   |
| Unipolar range (V) | Offset error (mV) <sup>2</sup> | Gain error (mV) | Accuracy (% of reading + offset error) <sup>3</sup> |
| 10                 | 2.0                            | 3.0             | 0.06% + 2.0 mV                                      |
| 5                  | 1.5                            | 1.5             | 0.06% + 1.5 mV                                      |
| 2.5                | 1.0                            | 1.0             | 0.08% + 1.0 mV                                      |
| 1.25               | 1.0                            | 1.0             | 0.16% + 1.0 mV                                      |
| Bipolar range (V)  |                                |                 |   |
| 10                 | 2.0                            | 6.0             | 0.06% + 2.0 mV                                      |
| 5                  | 1.5                            | 3.0             | 0.06% + 1.5 mV                                      |
| 2.5                | 1.0                            | 2.0             | 0.08% + 1.0 mV                                      |
| 1.25               | 1.0                            | 1.0             | 0.08% + 1.0 mV                                      |
| Model              |                                | U2541A, U2542A  |   |
| Analog output      |                                |                 |   |
| Unipolar range (V) | Offset error (mV) <sup>2</sup> | Gain error (mV) | Accuracy (% of reading + offset error) <sup>4</sup> |
| 10                 | 1.0                            | 2.0             | 0.02% + 1.0 mV                                      |
| Bipolar range (V)  |                                |                 |   |
| 10                 | 1.0                            | 2.0             | 0.02% + 1.0 mV                                      |
| Model              |                                | U2531A          |   |
| Unipolar range (V) | Offset error (mV) <sup>2</sup> | Gain error (mV) | Accuracy (% of reading + offset error) <sup>4</sup> |
| 10                 | 1.0                            | 3.0             | 0.03% + 1.0 mV                                      |
| Bipolar range (V)  |                                |                 |   |
| 10                 | 1.0                            | 3.0             | 0.03% + 1.0 mV                                      |

1. Specifications are based on 20 minutes warm-up, and self-calibration temperature at 23 °C.

2. Offset error is measured at 0 V.

3. Accuracy =  $\pm$  % of Gain error / (Measured value – Midscale) + Offset error

4. Accuracy =  $\pm$  (% of Gain error / Output value + Offset error)

## Keysight Measurement Manager

The Keysight Measurement Manager (KMM) is an application data viewer software that comes with the standard purchase of the U2500A Series USB modular data acquisition. This software is designed to help you perform quick device configuration, data logging and data acquisition using the products.

Supported features found in the U2500A Series USB modular simultaneous sampling multifunction DAQ device:

- Averaging
- Command logger
- Self-test
- Self-calibration
- Option to save the current instrument configuration to a file
- Data logging and export feature to CSV, HTML and text only format files that can be printed
- Data viewer to load and review previously logged data
- Trigger settings between modules in the instrument chassis with Star trigger and Master/Slave trigger
- Synchronization display and data logging for modules in the instrument chassis

### Keysight measurement manager prerequisites

Prior to installing the Keysight Measurement Manager software, ensure that your PC meets the following minimum system requirements for installation and operations.

| Requirement                                | Windows XP operating systems                      | Windows Vista operating systems   | Windows 7 operating systems   |
|--|---|---|---|
| Operating system                           | Windows XP Service Pack 3 (or later) <sup>1</sup> | Windows Vista (32-bit) Service Pack 1 and 2 <sup>2</sup>                            | Windows 7 (32-bit and 64-bit) <sup>3,4</sup>  |
| Processor speed                            | 600 MHz or higher required, 800 MHz recommended   | 1 GHz 32-bit (x86)  | 3 GHz 32-bit (x86)  |
| Memory                                     | 256 MB minimum (1 GB or greater recommended)      | 1 GB minimum  | 2 GB minimum  |
| Hard-disk space                            | 1.5 GB minimum                                    | 1.5 GB minimum  | 1.5 GB minimum  |
| Video                                      | Super VGA (800 × 600) 256 colors or more          | Support for DirectX 9 graphics with 128 MB graphics memory recommended <sup>5</sup> | Support for DirectX 9 graphics with 128 MB graphics memory recommended <sup>5</sup> |
| CD-ROM drive or DVD-ROM drive <sup>6</sup> | Required  | Required  | Required  |
| Browser                                    | Microsoft Internet Explorer 5.01 or greater       | Microsoft Internet Explorer 7 or greater  | Microsoft Internet Explorer 7 or greater  |

1. Supported Windows XP editions — Home or Professional

2. Supported Windows Vista (32-bit) editions — Home Basic, Home Premium, Business, or Ultimate

3. Supported Windows 7 (32-bit and 64-bit) editions — Home Basic, Home Premium, Professional, Enterprise, or Ultimate

4. Keysight Measurement Manager for Windows 7 64-bit support is a 32-bit application running on a WOW64 (Windows-on-Windows 64-bit) emulator.

5. Super VGA graphics is supported for Windows Vista and Windows 7.

6. The type of media provided with the product determines whether a CD-ROM drive or DVD-ROM drive is required.

### Software requirements

Keysight IO Libraries Suite 15.1 and above <sup>1</sup>

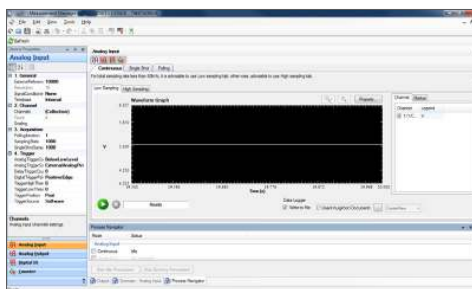
Keysight T&M Toolkit Runtime version 2.1 <sup>2</sup>

Keysight T&M Toolkit Redistributable Package 2.1 patch <sup>2</sup>

Microsoft .NET Framework version 2.0 <sup>2</sup>

1. Available on the Keysight Automation-Ready CD-ROM

2. Bundled with Keysight Measurement Manager software application installer



## Other products in the Keysight USB Modular Data Acquisition (DAQ) Family



### U2300A Series USB Modular Multifunction DAQ

#### Features:

- High analog input sampling rate coverage of up to 3 MSa/s for a single channel
- High analog input up to 64 channels
- High speed USB 2.0
- Multifunction capabilities — analog input (AI), analog output (AO), digital input output (DIO), and counter

For more information: <http://www.keysight.com/find/U2300A>



### U2600A Series USB Modular Isolated Digital I/O

#### Features:

- 64 opto-isolated lines that can meet demand up to 24 V
- High speed USB 2.0
- Isolation voltage of 1250 Vrms for protection from transient voltage spikes

For more information: <http://www.keysight.com/find/U2600A>



### U2781A USB modular product chassis

#### Features:

- Expansion of channels for each modular product
- Multiple instrument synchronization
- Internal and external 10 MHz reference clock
- High-speed USB 2.0
- SSI/Star trigger bus synchronization between external trigger source and modules

For more information: <http://www.keysight.com/find/U2781A>

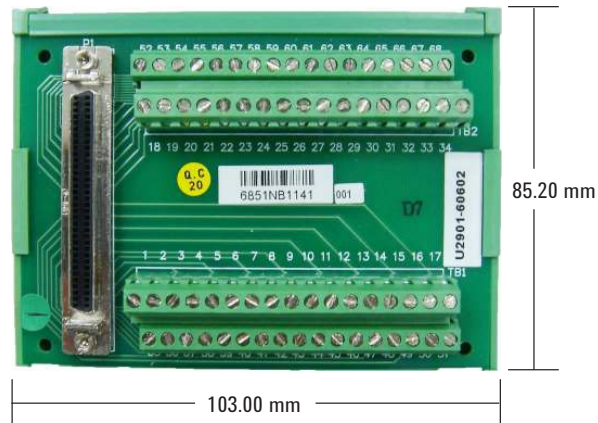
## Optional Accessories

### U2901A/U2902A - Terminal block and SCSI-II 68-pin connector with 1-meter/2-meter cable

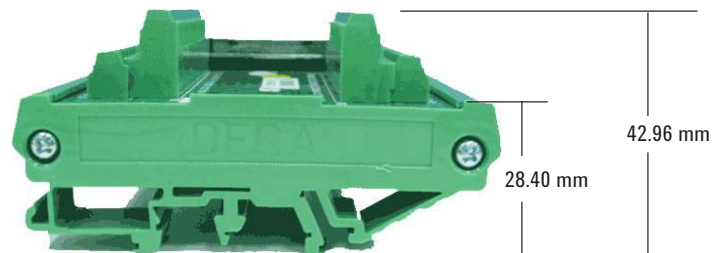
The U2901A/U2902A is a terminal block and SCSI-II 68-pin connector with 1 meter cable or 2 meter cable that can be used conjunction with the U2300A Series and U2500A Series.

#### Terminal block overview

##### Front view



##### Side view



## Ordering Information

| Model  | Description   |
|--------|---|
| U2541A | 250 kSa/s USB modular simultaneous sampling multifunction DAQ |
| U2542A | 500 kSa/s USB modular simultaneous sampling multifunction DAQ |
| U2531A | 2 MSa/s USB modular simultaneous sampling multifunction DAQ   |

## Optional accessories

| Model  | Description  |
|--------|--|
| U2901A | Terminal block and SCSI-II 68-pin connector with 1-meter cable |
| U2902A | Terminal block and SCSI-II 68-pin connector with 2-meter cable |