## SDS1000X-U

## Digital Oscilloscope

## SSIGLENT ${ }^{\circledR}$

Data Sheet
Rev. DS010AH _E01A Sept. 2020


## SDS1104X-U

## Product Overview

SIGLENT's SDS1000X-U Series Super Phosphor Oscilloscopes is available in one bandwidth, 100 MHz . It has a maximum sample rate of $1 \mathrm{GSa} / \mathrm{s}$ and a maximum record length of 14 Mpts. For ease-of-use, the most commonly used functions can be accessed with its user-friendly front panel design. The SDS1000X-U series employs a new generation of SPO (Super -Phosphor Oscilloscope) technology that provides excellent signal fidelity and performance. It comes with an innovative digital trigger system with high sensitivity and low jitter, and a waveform capture rate of 400,000 frames/sec (sequence mode). The SDS1000X-U also employs a 256-level intensity grading display function and a color temperature display mode not found in other models in this class. SIGLENT's latest oscilloscope offering supports multiple powerful triggering modes including serial bus triggering. Serial bus decoding for IIC, SPI, UART, CAN, and LIN bus types are included. The X-U models also include History waveform recording and sequential triggering that enable extended waveform recording and analysis. Another powerful addition is the new 128k point FFT math function that gives the SDS1000X-U very high frequency resolution when observing signal spectra. The new digital design includes a hardware co-processor that delivers measurements quickly and accurately without slowing acquisition and front-panel response. SDS1000X-U also supports searching and navigating. The features and performance of SIGLENT's new SDS1000X-U cannot be matched anywhere else in this price class.

## Key Features

- 100 MHz bandwidth

W- Real-time sampling rate up to $1 \mathrm{GSa} / \mathrm{s}$

- The newest generation of SPO technology

■ Waveform capture rates up to $100,000 \mathrm{wfm} / \mathrm{s}$ (normal mode) and 400,000 $\mathrm{wfm} / \mathrm{s}$ (sequence mode)
■ Supports 256-level intensity grading and color temperature display modes
■ Record length up to 14 Mpts
■ Digital trigger system

- Intelligent trigger: Edge, Slope, Pulse Width, Window, Runt, Interval, Time out (Dropout), Pattern

Serial bus triggering and decoding (Standard), supports protocols IIC, SPI, UART, CAN, LIN
$\square$ Video trigger, supports HDTV

- 10 types of one-button shortcuts, supports Auto Setup, Default, Cursors, Measure, Roll, History, Display/Persist, Clear Sweep, Zoom and Print
$\downarrow$ Segmented acquisition (Sequence) mode, divides the maximum record length into multiple segments (up to 80,000 ), according to trigger conditions set by the user, with a very small dead time segment to capture the qualifying event
N History waveform record (History) function (maximum recorded waveform length is 80,000 frames)
W. Automatic measurement function for 38 parameters as well as Measurement Statistics, Zoom, Gating, Math, History and Reference functions

128k pts FFT, supports Peaks and Markers

- Math and measurement functions use all sampled data points (up to 14 Mpts )
- Math functions (FFT, addition, subtraction, multiplication, division, integration, differential, square root)
- Preset key can be customized for user settings or factory "defaults"
- Security Erase mode

W High Speed hardware-based Pass/ Fail function
Search and navigate
L- Large 7-inch TFT-LCD display with 800 * 480 resolution
$\downarrow$ Multiple interface types: USB Host, USB Device (USB TMC), LAN, Pass / Fail, Trigger Out

- Supports SCPI remote control commands
V. VXI-11+SCPI, Telnet (Port 5024) +SCPI and Socket (Port 5025) +SCPI programming over LAN
- Supports Multi-language display and embedded online


## Models and Key Specifications

| Model | SDS1104X-U |
| :--- | :--- |
| Bandwidth | 100 MHz |
| Sample rate (Max.) | $1 \mathrm{GSa} / \mathrm{s}$ (One channel), 500 MSa/s(Two channels), $250 \mathrm{MSa} / \mathrm{s}$ (Four channels) |
| Channels | 4 |
| Memory depth (Max.) | 14 Mpts |
| Waveform capture rate (Max.) | $100,000 \mathrm{wfm} / \mathrm{s}$ (normal mode), 400,000 wfm/s (sequence mode) |
| Trigger type | Edge, Slope, Pulse Width, Window, Runt, Interval, Dropout, Pattern, Video |
| Serial Trigger and decoder | IIC, SPI, UART, CAN, LIN |
| (Std) | USB Host, USB Device, LAN, Pass/Fail, Trigger Out |
| I/O | 4 pcs passive probe PP510 |
| Probe (Std) | 7-inch TFT-LCD (800x480) |
| Display | Without package 2.6 kg; With package 3.8 kg |
| Weight |  |

## Functions \& Characteristics

- 7 Inch TFT-LCD Display and 10 One-button Menus

- 7 -inch TFT -LCD display with 800 * 480 resolution
- Most commonly used functions are accessible using 10 different one-button operation keys: Auto Setup, Default, Cursor, Measure, Roll, History, Persist, Clear Sweep, Zoom, Print

N Record Length of up to 14 Mpts


Using hardware-based Zoom technologies and max record length of up to 14 Mpts , users are able to oversample to capture for longer time periods at higher resolution and use the zoom feature to see more details within each signal.

W Waveform Capture Rate up to $400,000 \mathrm{wfm} / \mathrm{s}$


With a waveform capture rate of up to $400,000 \mathrm{wfm} / \mathrm{s}$ (sequence mode), the oscilloscope can easily capture the unusual or low-probability events.

256-Level Intensity Grading and Color Temperature Display


SPO display technology provides fast refresh rates. The resulting intensity-graded trace is brighter for events that occur with more frequency and dims when the events occur with less frequency.

## Serial Bus Decoding Function (Standard)



SDS1000X-U displays the decoding through the events list. Bus protocol information can be quickly and intuitively displayed in a tabular format.


The color temperature display is similar to the intensitygraded trace function, but the trace occurrence is represented by different colors (color "temperature") as opposed to changes in the intensity of one color. Red colors represent events that occur more frequently, while blue is used to mark points that occur less frequently
$\square$ History Waveforms (History) Mode and Segmented Acquisition (Sequence)


Playback the latest triggered events using the history function. Segmented memory collection will store trigger events into multiple (Up to 80,000) memory segments, each segment will store triggered waveforms and timestamp of each frame.
T. True measurement to 14 M points


SDS1004X-U can measure all sampled data points up to 14 Mpts. This ensures the accuracy of measurements while the math co-processor decreases measurement time and increases ease-of-use.

128k points used to calculate the FFT


The new math co-processor enables FFT analysis of incoming signals using up to 128k samples per waveform. This provides high frequency resolution with a fast refresh rate. The FFT function also supports a variety of window functions so that it can adapt to different spectrum measurement needs. Four-channel series support Peaks, Markers, a variety of numbers.

G Gate and Zoom Measurement


Through Gate and Zoom measurement, the user can specify an arbitrary interval of waveform data analysis and statistics. This helps avoid measurement errors that can be caused by invalid or extraneous data, greatly enhancing the measurements' validity and flexibility.
4. Hardware-Based High-Speed Pass/Fail


The SDS1000X-U utilizes a hardware-based Pass/Fail function, performing up to 40,000 Pass / Fail decisions each second. Easily generate user defined test templates provide trace mask comparison making it suitable for longterm signal monitoring or automated production line testing.

N Customizable Default Key


The current parameters of the oscilloscope can be preset to Default Key through the Save menu.

Wearch and Navigate


The SDS1000X-U can search events specified by the user in a frame. It can also navigate by time (delay position) and historical frames.

4- Complete Connectivity


SDS1000X-U supports USB Host, USB Device (USB-TMC), LAN (VXI-11), Pass/Fail and Trigger Out

## Specifications

## Acquisition System

| Sampling Rate (Max.) | $1 \mathrm{GSa} / \mathrm{s}$ (One channel), $500 \mathrm{MSa} / \mathrm{s}$ (Two channels), $250 \mathrm{MSa} / \mathrm{s}$ (Four channels) |
| :--- | :--- |
| Memory Depth (Max.) | 14 Mpts |
| Peak Detect | 2 ns |
| Average | Averages: $4,16,32,64,128,256,512,1024$ |
| ERES | Enhance bits: $0.5,1,1.5,2,2.5,3$ |
| Waveform <br> interpolation | $\operatorname{Sin}(x) / x$, Linear |


| Input |  |
| :--- | :--- |
| Channels | 4 |
| Coupling | $\mathrm{DC}, \mathrm{AC}, \mathrm{GND}$ |
| Impedance | $\mathrm{DC}:(1 \mathrm{M} \Omega \pm 2 \%) \\|(15 \mathrm{pF} \pm 2 \mathrm{pF})$ |
| Max. Input voltage | $1 \mathrm{M} \Omega: \leq 400 \mathrm{Vpk}(\mathrm{DC}+$ Peak $\mathrm{AC}<=10 \mathrm{kHz})$ |
| CH to CH Isolation | $\mathrm{DC}-\mathrm{Max} \mathrm{BW}:>40 \mathrm{~dB}$ |
| Probe attenuation | $1 \mathrm{E}-6 \mathrm{X} \sim 1 \mathrm{E} 6 \mathrm{X}$ |


| Vertical System |  |
| :---: | :---: |
| Bandwidth (-3dB) | 100 MHz |
| Vertical Resolution | 8-bit |
| Vertical Scale (Probe 1X) | $1 \mathrm{mV} / \mathrm{div}-10 \mathrm{~V} / \mathrm{div}$ (1-2-5 sequence) |
| Offset Range (Probe 1X) | $\begin{aligned} & 1 \mathrm{mV}-200 \mathrm{mV}: \pm 2 \mathrm{~V} \\ & 206 \mathrm{mV}-10 \mathrm{~V}: \pm 100 \mathrm{~V} \end{aligned}$ |
| Bandwidth limit | $20 \mathrm{MHz} \pm 40 \%$ |
| Bandwidth Flatness | $\begin{aligned} & \text { DC- } 10 \% \text { (BW): } \pm 1 \mathrm{~dB} \\ & 10 \%-50 \% \text { (BW): } \pm 2 \mathrm{~dB} \\ & 50 \%-100 \% \text { (BW): }+2 \mathrm{~dB} /-3 \mathrm{~dB} \end{aligned}$ |
| Low frequency response (AC coupling -3 dB) | $\leq 2 \mathrm{~Hz}$ (at input BNC) |
| Noise | $\begin{aligned} & \text { ST-DEV } \leq 0.2 \text { division ( }<2 \mathrm{mV} / \mathrm{div} \text { ) } \\ & \text { ST-DEV } \leq 0.1 \text { division ( } \geq 2 \mathrm{mV} / \mathrm{div} \text { ) } \end{aligned}$ |
| SFDR including harmonics | $\geq 35 \mathrm{~dB}$ |
| DC Gain Accuracy | $\begin{aligned} & \leq \pm 3.0 \%: 5 \mathrm{mV} / \mathrm{div}-10 \mathrm{~V} / \mathrm{div} \\ & \leq \pm 4.0 \%: \leq 2 \mathrm{mV} / \mathrm{div} \end{aligned}$ |
| Offset Accuracy | $\begin{aligned} & \pm\left(1 \%^{*} \text { Offset+1.5\%*8*div+2 mV): } \geq 2 \mathrm{mV} / \mathrm{div}\right. \\ & \pm\left(1 \%^{*} \text { Offset+1.5\%*8*div+500 uV): } 1 \mathrm{mv} / \mathrm{div}\right. \end{aligned}$ |
| Rise time | Typical 3.5 ns |


| Overshoot (500 ps <br> Pulse) | $<10 \%$ |
| :--- | :--- |
|  |  |
| Horizontal System |  |
| Timebase Scale | $2 \mathrm{~ns} / \mathrm{div}-100 \mathrm{~s} / \mathrm{div}$ |
| Channel Skew | $<100 \mathrm{ps}$ |
| Waveform Capture <br> Rate | Up to 100,000 wfm/s (normal mode), 400,000 wfm/s (sequence mode) |
| Intensity grading | 256 Levels |
| Display Format | $\mathrm{Y}-\mathrm{T}, \mathrm{X}-\mathrm{Y}$, Roll |
| Timebase Accuracy | $\pm 25 \mathrm{ppm}$ |
| Roll Mode | $50 \mathrm{~ms} / \mathrm{div}-100 \mathrm{~s} /$ div (1-2-5 sequence) |

## Trigger System

| Mode | Auto, Normal, Single |
| :---: | :---: |
| Level | Internal: $\pm 4.5$ div from the center of the screen |
| Hold off range | 80 ns- 1.5 s |
| Coupling | AC DC <br> LFRJ <br> HFRJ <br> Noise RJ |
| Coupling Frequency Response | DC: Passes all components of the signal <br> AC: Blocks DC components and attenuates signals below 8 Hz <br> LFRJ: Blocks the DC component and attenuates the low-frequency components below 2 MHz <br> HFRJ: Attenuates the high-frequency components above 1.2 MHz |
| Accuracy (typical) | Internal: $\pm 0.2$ div |
| Sensitivity | DC - Max BW 0.6 div |
| Jitter | <100 ps |
| Displacement | Pre-Trigger: 0-100\% Memory <br> Delay Trigger: 0 to 10,000 div |
| Edge Trigger |  |
| Slope | Rising, Falling, Rising \& Falling |
| Source | All channels/AC Line |
| Slope Trigger |  |
| Slope | Rising, Falling |
| Limit Range | <, >, < > , > < |
| Source | All channels |
| Time Range | 2ns-4.2s |
| Resolution | 1ns |
| Pulse Width Trigger |  |
| Polarity | +wid, -wid |
| Limit Range | $<,>,<>$, > < |

SDS1000X-U Series Digital Oscilloscope

| Source | All channels |
| :---: | :---: |
| Pulse Range | 2 ns -4.2s |
| Resolution | 1 ns |
| Video Trigger |  |
| Signal Standard | NTSC, PAL, 720p/50, 720p/60, 1080p/50, 1080p/60, 1080i/50, 1080i/60, Custom |
| Source | All channels |
| Sync | Any, Select |
| Trigger condition | Line, Field |
| Window Trigger |  |
| Window Type | Absolute, Relative |
| Source | All channels |
| Interval Trigger |  |
| Slope | Rising, Falling |
| Limit Range | $<,>,<>,><$ |
| Source | All channels |
| Time Range | $2 \mathrm{~ns}-4.2 \mathrm{~s}$ |
| Resolution | 1 ns |
| Dropout Trigger |  |
| Timeout Type | Edge, State |
| Source | All channels |
| Slope | Rising, Falling |
| Time Range | 2 ns -4.2 s |
| Resolution | 1 ns |
| Runt Trigger |  |
| Polarity | +wid, -wid |
| Limit Range | $<,>,<>,><$ |
| Source | All channels |
| Time Range | $2 \mathrm{~ns}-4.2 \mathrm{~s}$ |
| Resolution | 1 ns |
| Pattern Trigger |  |
| Pattern Setting | Invalid, Low, High |
| Logic | AND, OR, NAND, NOR |
| Source | All channels |
| Limit Range | $<,>,<>,><$ |
| Time Range | $2 \mathrm{~ns}-4.2 \mathrm{~s}$ |
| Resolution | 1 ns |
| Serial Trigger |  |
| I2C Trigger |  |
| Condition | Start, Stop, Restart, No Ack, EEPROM, 7-bits Address \& Data, 10-bits Address \& Data, Data Length |
| Source(SDA/SCL) | All channels |
| Data format | Hex |
| Limit Range | EEPROM: =, >, < |
| Data Length | EEPROM: 1byte |

## WWW.SIGLENT.COM

|  | Addr \& Data: 1-2byte |
| :---: | :---: |
|  | Data Length: 1-12byte |
| R/W bit | Addr \& Data: Read, Write, Do not care |
| SPI Trigger |  |
| Condition | Data |
| Source(CS/CL/Data) | All channels |
| Data format | Binary |
| Data Length | 4-96-bit |
| Bit Value | 0, 1, X |
| Bit Order | LSB, MSB |
| UART Trigger |  |
| Condition | Start, Stop, Data, Parity Error |
| Source(RX/TX) | All channels |
| Data format | Hex |
| Limit Range | $=, \gg$ |
| Data Length | 1 byte |
| Data Width | 5, 6, 7, 8-bits |
| Parity Check | None, Odd, Even, Space, Mark |
| Stop Bit | 1, 1.5, 2-bits |
| Idle Level | High, Low |
| Baud Rate(Selectable) | 600/1200/2400/4800/960019200/38400/57600/115200 bit/s |
| Baud Rate (Custom) | 300-5000000 bit/s |
| CAN Trigger |  |
| Condition | Start, Remote, ID, ID + Data, Error |
| Source | All channels |
| ID | STD (11-bits), EXT (29-bit) |
| Data Format | Hex |
| Data Length | 1-2 byte |
| Baud Rate | 5k/10k/20k/50k/100k/125k/250k/500k/800k/1 Mbit/s |
| LIN Trigger |  |
| Condition | Break, Frame ID, ID+Data, Error |
| Source | All channels |
| ID | 1byte |
| Data Format | Hex |
| Data Length | 1-2byte |
| Baud Rate (Selectable) | 600/1200/2400/4800/9600/19200 bit/s |
| Baud Rate (Custom) | $300 \mathrm{bit} / \mathrm{s}-20 \mathrm{kbit} / \mathrm{s}$ |

## Search

| Event | Edge, Slope, Pulse, Interval, Runt |
| :--- | :--- |
| Event Number | Y-T: 700 |

ROLL: No limitation
Stop After ROLL: 700

## Serial Decoder

| Decoders | 2 |
| :--- | :--- |
| I'C $^{2}$ | SCL, SDA |
| Signal | 7,10 bits |
| Address | $-4.5-4.5$ div |
| Threshold | $1-7$ lines |
| List | SCL,MISO, MOSI |
| SPI | Rising, Falling |
| Signal | Low, High |
| Edge Select | MSB, LSB |
| Idle Level | $-4.5-4.5$ div |
| Bit Order | $1-7$ lines |
| Threshold | RX, TX |
| List | $5,6,7,8$ bits |
| UART | None, Odd, Even, Space, Mark |
| Signal | $1,1.5,2$ bits |
| Data Width | Low, High |
| Parity Check | $-4.5-4.5$ div |
| Stop Bit | $1-7$ lines |
| Idle Level | CAN_H, CAN_L |
| Threshold | CAN_H, CAN_L |
| List | $-4.5-4.5$ div |
| CAN | Ver1.3, Ver2.0 |
| Signal |  |
| Source | Lines |
| Threshold | List |

## Measurement

## Source

Number of
Measurements
Measurement Range
Measurement

All channels, All channels in Zoom, Math, All References, History
Display 4 measurements at the same time. 5 measurements displayed in statistics table.
Screen or Gate region
38Types

| Parameters |  |  |
| :---: | :---: | :---: |
| Vertical | Max | Highest value in input waveform |
|  | Min | Lowest value in input waveform |
|  | Pk-Pk | Difference between maximum and minimum data values |
|  | Ampl | Difference between top and base in a bimodal signal, or between max and min in an unimodal signal |
|  | Top | Value of most probable higher state in a bimodal waveform |
|  | Base | Value of most probable lower state in a bimodal waveform |
|  | Mean | Average of all data values |
|  | Cmean | Average of data values in the first cycle |
|  | Stdev | Standard deviation of all data values |
|  | Cstd | Standard deviation of all data values in the first cycle |
|  | VRMS | Root mean square of all data values |
|  | Crms | Root mean square of all data values in the first cycle |
|  | FOV | Overshoot after a falling edge;(base -min)/Amplitude |
|  | FPRE | Overshoot before a falling edge;(max -top)/Amplitude |
|  | ROV | Overshoot after a rising edge;(max -top)/Amplitude |
|  | RPRE | Overshoot before a rising edge;(base -min)/Amplitude |
|  | Level@X | the voltage value of the trigger point |
| Horizontal | Period | Time between the middle threshold points of two consecutive, likepolarity edges |
|  | Freq | Reciprocal of period |
|  | +Wid | Width measured at 50\% level and positive slope |
|  | -Wid | Width measured at 50\% level and negative slope |
|  | Rise Time | Duration of rising edge from $10-90 \%$ |
|  | Fall Time | Duration of falling edge from $90-10 \%$ |
|  | Bwid | Time from the first rising edge to the last falling edge, or the first falling edge to the last rising edge at the $50 \%$ crossing |
|  | +Dut | Time difference between the $50 \%$ threshold of a rising edge to the $50 \%$ threshold of the next falling edge of the pulse |
|  | -Dut | Time difference between the $50 \%$ threshold of a falling edge to the $50 \%$ threshold of the next rising edge of the pulse |
|  | Delay | Time from the trigger to the first transition at the 50\% crossing |
|  | Time@Level | Time from the trigger to each rising edge at the $50 \%$ crossing. <br> When Statistics is Off, it shows the time from the trigger to the last rising edge at the $50 \%$ crossing. <br> When Statistics is On, it shows the Current, Mean, Min, Max, Standard Deviation of time from the trigger to each rising edge at the $50 \%$ crossing in multiple frames (number = Count). |
| Delay | Phase | Phase difference between two edges |
|  | FRR | Time from the first rising edge of channel $A$ to the following first rising edge of channel B |
|  | FRF | Time from the first rising edge of channel $A$ to the following first falling |

SDS1000X-U Series Digital Oscilloscope

|  |  | edge of channel B |
| :---: | :---: | :---: |
|  | FFR | Time from the first falling edge of channel $A$ to the following first rising edge of channel B |
|  | FFF | Time from the first falling edge of channel $A$ to the following first falling edge of channel B |
|  | LRR | Time from the first rising edge of channel $A$ to the last rising edge of channel B |
|  | LRF | Time from the first rising edge of channel $A$ to the last falling edge of channel B |
|  | LFR | Time from the first falling edge of channel $A$ to the last rising edge of channel B |
|  | LFF | Time from the first falling edge of channel $A$ to the last falling edge of channel B |
|  | Skew | Time of source $A$ edge minus time of nearest source $B$ edge |
| Cursors | Man <br> Volta <br> Track | $\text { , (X1 -X2), (1/ } \Delta T)$ <br> Y2) X1 -X2) |
| Statistics | Curre | Max, Stdev, Count |
| Counter | Hard | unter (channels are selectable) |


| Math |  |
| :--- | :--- |
| Operation | $+, \quad-, \quad *, \quad /, \quad$ FFT $, \quad \mathrm{d} / \mathrm{dt}, \int \mathrm{dt}, \sqrt{ }$ |
| FFT window | Rectangular, Blackman, Hanning, Hamming, Flattop |
| FFT display | Full Screen, Split, Exclusive |


| I/O |  |
| :--- | :--- |
| Standard | USB Host, USB Device, LAN, Pass/Fail, Trigger Out |
| Pass/Fail | $3.3 V$ TTL Output |

Display(Screen)

| Display Type | 7-inch TFT LCD |
| :--- | :--- |
| Display Resolution | $800 \times 480$ pixels |
| Display Color | 24 -bit |
| Contrast(Typical) | $500: 1$ |
| Backlight | 300 nits |
| Range | $8 \times 14$ divisions |

## Display(Waveform)

| Display Mode | Dot, Vector |
| :--- | :--- |
| Persist Time | Off, $1 \mathrm{Sec}, 5 \mathrm{Sec}, 10 \mathrm{Sec}, 30 \mathrm{Sec}$, Infinite |
| Color Display | Normal, Color |
| Screen Saver | $1 \mathrm{~min}, 5 \mathrm{~min}, 10 \mathrm{~min}, 30 \mathrm{~min}, 1$ hour, Off |

## WWW.SIGLENT.COM

| Language | Simplified Chinese, Traditional Chinese, English, French, Japanese, Korean, German, Russian, <br> Italian, Portuguese |
| :--- | :--- |
| Environments | Operating: $0^{\circ} \mathrm{C}-+40^{\circ} \mathrm{C}$ <br> Non-operating: $-20^{\circ} \mathrm{C}-+60^{\circ} \mathrm{C}$ |
| Temperature | Operating: $85 \% \mathrm{RH}, 40^{\circ} \mathrm{C}, 24$ hours <br> Non-operating: $85 \% \mathrm{RH}, 65^{\circ} \mathrm{C}, 24$ hours |
| Humidity | Operating: $\leq 3000 \mathrm{~m}$ <br> Non-operating: $\leq 15,000 \mathrm{~m}$ |
| Height |  |

## Standards

| Electromagnetic compatibility | Meets EMC directive (2014/30/EU), meets or exceeds IEC 61326-1:2012/EN61326-1:2013 (Basic) |  |  |
| :---: | :---: | :---: | :---: |
|  | Conducted disturbance | CISPR 11/EN 55011 | $\begin{aligned} & \text { CLASS A group } 1,150 \mathrm{kHz}- \\ & 30 \mathrm{MHz} \end{aligned}$ |
|  | Radiated disturbance | CISPR 11/EN 55011 | $\begin{aligned} & \text { CLASS A group } 1, \quad 30 \mathrm{MHz}- \\ & 1 \mathrm{GHz} \end{aligned}$ |
|  | Electrostatic discharge (ESD) | IEC 61000-4-2/EN 61000-4-2 | 4.0 kV ( Contact), 8.0 kV ( Air) |
|  | Radio-frequency <br> electromagnetic field Immunity | IEC 61000-4-3/EN 61000-4-3 | $\begin{aligned} & 10 \mathrm{~V} / \mathrm{m}(80 \mathrm{MHz} \text { to } 1 \mathrm{GHz}) \text {; } \\ & 3 \mathrm{~V} / \mathrm{m}(1.4 \mathrm{GHz} \text { to } 2 \mathrm{GHz}) ; \\ & 1 \mathrm{~V} / \mathrm{m}(2.0 \mathrm{GHz} \text { to } 2.7 \mathrm{GHz}) \end{aligned}$ |
|  | Electrical fast transients (EFT) | IEC 61000-4-4/EN 61000-4-4 | 2kV (Input AC Power Ports) |
|  | Surges | IEC 61000-4-5/EN 61000-4-5 | 1 kV (Line to line) <br> 2kV (Line to ground) |
|  | Radio-frequency continuous conducted Immunity | IEC 61000-4-6/EN 61000-4-6 | $3 \mathrm{~V}, 0.15-80 \mathrm{MHz}$ |
|  | Voltage dips and interruptions | $\begin{aligned} & \text { IEC 61000-4-11/EN 61000-4- } \\ & 11 \end{aligned}$ | Voltage Dips: <br> 0\% UT during 1 cycle; <br> 40\% UT during 10/12 cycles; <br> $70 \%$ UT during 25/30 cycles <br> Voltage interruptions: 0\% UT during 250/300 cycles |

## Safety

UL 61010-1:2012/R: 2018-11; CAN/CSA-C22.2 No. 61010-1:2012/A1:2018-11.
UL 61010-2-030:2018; CAN/CSA-C22.2 No. 61010-2-030:2018.

## Power Supply

Input Voltage

```
100 ~ 240 Vrms 50/60Hz
```

100 ~ 120 Vrms 400Hz

## Power

50 W Max

| Mechanical | Length: 312 mm |
| :--- | :--- |
| Dimensions | Width: 132.6 mm |
|  | Height: 151 mm |
| Weight | N.W: $2.6 \mathrm{~kg} ; \mathrm{G.W}: 3.8 \mathrm{~kg}$ |

Frobes and Accessories

| Probe | Specifications \&Description |
| :--- | :--- | :--- |$|$| Passive |  |
| :--- | :--- |


|  |  | CP5150 | Bandwidth: 12 MHz, Max. continuous current: 150Arms, Peak current: 300A <br> Switch Ratio: $100 \mathrm{mV} / \mathrm{A}, 10 \mathrm{mV} / \mathrm{A}$, Accuracy: $100 \mathrm{mV} / \mathrm{A}$ $( \pm 1 \% \pm 10 \mathrm{~mA}), 10 \mathrm{mV} / \mathrm{A}( \pm 1 \% \pm 100 \mathrm{~mA}), \mathrm{DC} 12 \mathrm{~V} / 1.2 \mathrm{~A}$ power adapter |
| :---: | :---: | :---: | :---: |
|  |  | CP5500 | Bandwidth: 5 MHz, Max. continuous current: 500Arms, Peak current: 750A <br> Switch Ratio: $100 \mathrm{mV} / \mathrm{A}, 10 \mathrm{mV} / \mathrm{A}$, Accuracy: $100 \mathrm{mV} / \mathrm{A}$ $( \pm 1 \% \pm 10 \mathrm{~mA}), 10 \mathrm{mV} / \mathrm{A}( \pm 1 \% \pm 100 \mathrm{~mA}), \mathrm{DC} 12 \mathrm{~V} / 1.2 \mathrm{~A}$ power adapter |
| Differential Probe |  | DPB4080 | Bandwidth: 50MHz, Differential Range: 800V (DC + Peak AC), <br> 100X/200X/500X/1000X, Accuracy: $\pm 1 \%$, DC 9V/1A power adapter |
|  |  | DPB5150 | Bandwidth: 70MHz, Differential Range: 1500V (DC + Peak AC),50X/500X <br> Accuracy: $\pm 2 \%$, DC 5V/1A USB adapter |
|  |  | DPB5150A | Bandwidth: 100MHz, Differential Range: 1500V (DC + Peak AC), <br> 50X/500X , Accuracy: $\pm 2 \%$ <br> DC 5V/1A USB adapter |
|  |  | DPB5700 | Bandwidth: 70MHz, Differential Range: 7000V (DC + Peak AC), <br> 100X/1000X , Accuracy: $\pm 2 \%$, <br> DC 5V/1A USB adapter |
|  |  | DPB5700A | Bandwidth: 100MHz <br> Differential Range: 7000V (DC + Peak AC), 100X/1000X <br> Accuracy: $\pm 2 \%$ <br> DC 5V/1A USB adapter |
| High Voltage |  | HPB4010 | ```Bandwidth: 40MHz Differential Range: DC 10kV, AC (rms): 7kV (sine), AC (Vpp): 20kV (Pulse) 1000X``` <br> Accuracy: $\leq 3 \%$ |
| Isolated front end |  | ISFE | Provides isolation between standard oscilloscope channels, isolation between the measured signal and ground. Uses USB 5V power supply, plug and play. <br> The maximum input voltage allowed is up to $\pm 600 \mathrm{Vpk}$. |



## Ordering Information



## SSIGLENT ${ }^{\circledR}$


#### Abstract

About SIGLENT SIGLENT is an international high-tech company, concentrating on R\&D, sales, production and services of electronic test \& measurement instruments.

SIGLENT first began developing digital oscilloscopes independently in 2002. After more than a decade of continuous development, SIGLENT has extended its product line to include digital oscilloscopes, isolated handheld oscilloscopes, function/arbitrary waveform generators, RF/MW signal generators, spectrum analyzers, vector network analyzers, digital multimeters, DC power supplies, electronic loads and other general purpose test instrumentation. Since its first oscilloscope was launched in 2005, SIGLENT has become the fastest growing manufacturer of digital oscilloscopes. We firmly believe that today SIGLENT is the best value in electronic test \& measurement.


## Headquarters:

SIGLENT Technologies Co., Ltd Add: Bldg No. 4 \& No.5, Antongda Industrial Zone, 3rd Liuxian Road, Bao'an District, Shenzhen, 518101, China
Tel: + 8675536887876
Fax: + 8675533591582
Email: sales@siglent.com
Website: int.siglent.com

## USA:

SIGLENT Technologies America, Inc 6557 Cochran Rd Solon, Ohio 44139 Tel: 440-398-5800
Toll Free: 877-515-5551
Fax: 440-399-1211
Email: info@siglent.com
Website: www.siglentna.com

## Europe:

SIGLENT Technologies Germany GmbH Add: Staetzlinger Str. 70 86165 Augsburg, Germany Tel: +49(0)-821-666 01110
Fax: +49(0)-821-666 011122
Email: info-eu@siglent.com
Website: www.siglenteu.com

## ОФИЦИАЛЬНЫЙ ДИЛЕР В УКРАИНЕ:

storgom.ua

ГРАФИК РАБОТЫ:
Пн. - Пт.: с 8:30 по 18:30
Сб.: с 09:00 по 16:00
Вс.: с 10:00 по 16:00

## KOHTAKTЫ:

+38 (044) 360-46-77
+38 (066) 77-395-77
+38 (097) 77-236-77
+38 (093) 360-46-77

Детальное описание товара: https://storgom.ua/product/siglent-166773.html Другие товары: https://storgom.ua/oscillografy.html

