

SDS1000X-U

Digital Oscilloscope



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 GSa/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

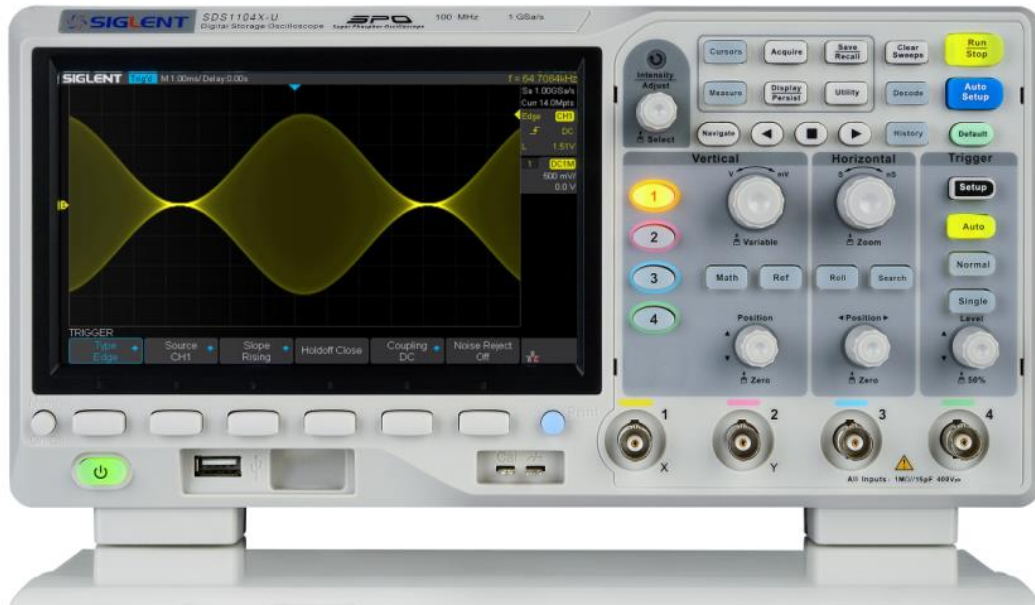
-  100MHz bandwidth
-  Real-time sampling rate up to 1 GSa/s
-  The newest generation of SPO technology
 - Waveform capture rates up to 100,000 wfm/s (normal mode) and 400,000 wfm/s (sequence mode)
 - Supports 256-level intensity grading and color temperature display modes
 - Record length up to 14 Mpts
 - 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
-  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
-  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
-  History waveform record (History) function (maximum recorded waveform length is 80,000 frames)
-  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
-  High Speed hardware-based Pass/ Fail function
-  Search and navigate
-  Large 7-inch TFT-LCD display with 800 * 480 resolution
-  Multiple interface types: USB Host, USB Device (USB - TMC), LAN, Pass / Fail, Trigger Out
-  Supports SCPI remote control commands
-  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 GSa/s (One channel), 500 MSa/s(Two channels), 250 MSa/s(Four channels)
Channels	4
Memory depth (Max.)	14 Mpts
Waveform capture rate (Max.)	100,000 wfm/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 (Std)	IIC, SPI, UART, CAN, LIN
I/O	USB Host, USB Device, LAN, Pass/Fail, Trigger Out
Probe (Std)	4 pcs passive probe PP510
Display	7-inch TFT-LCD (800x480)
Weight	Without package 2.6 kg; With package 3.8 kg

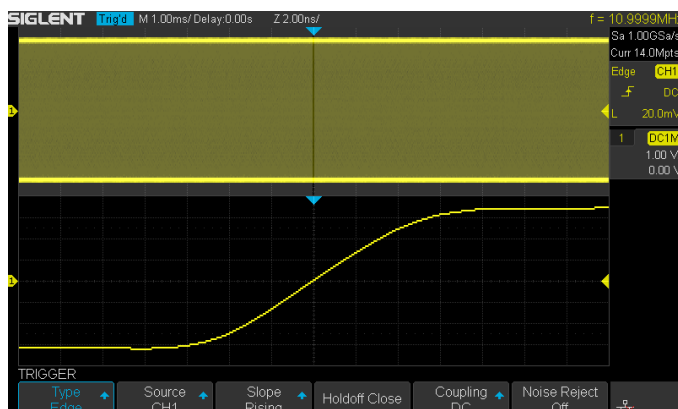
Functions & Characteristics

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

Record Length of up to 14 Mpts



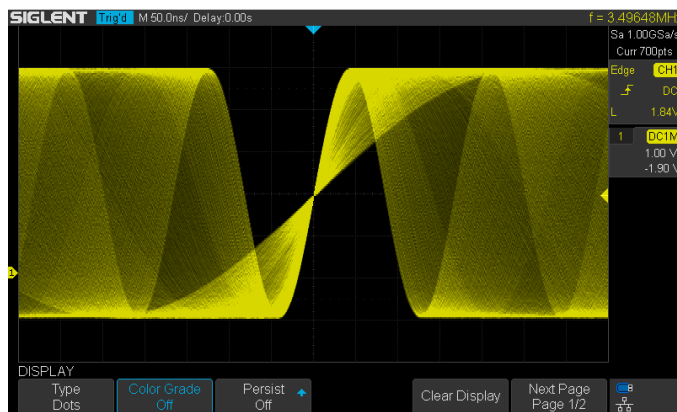
Using hardware-based Zoom technologies and max record length of up to 14 Mpts, users are able to oversample to capture for longer time periods at higher resolution and use the zoom feature to see more details within each signal.

Waveform Capture Rate up to 400,000 wfm/s

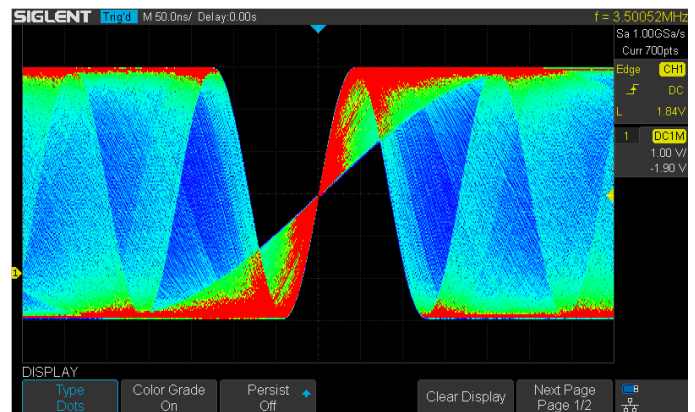


With a waveform capture rate of up to 400,000 wfm/s (sequence mode), the oscilloscope can easily capture the unusual or low-probability events.

256-Level Intensity Grading and Color Temperature Display

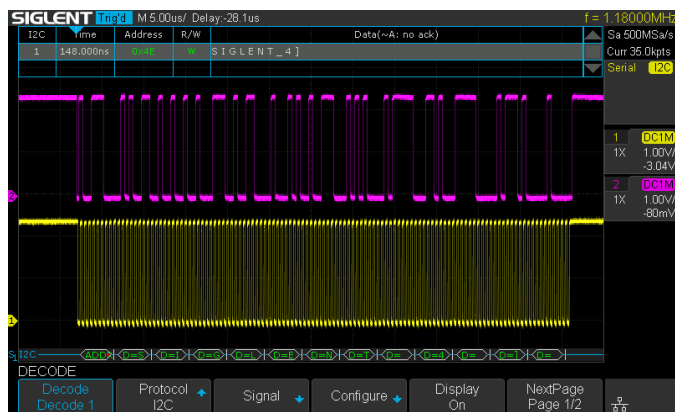


SPO display technology provides fast refresh rates. The resulting intensity-graded trace is brighter for events that occur with more frequency and dims when the events occur with less frequency.



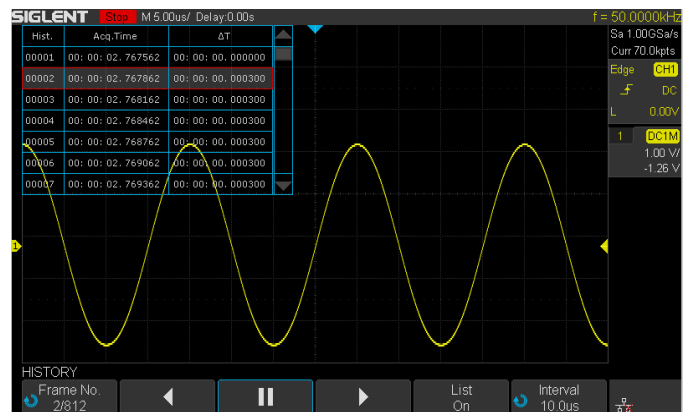
The color temperature display is similar to the intensity-graded trace function, but the trace occurrence is represented by different colors (color "temperature") as opposed to changes in the intensity of one color. Red colors represent events that occur more frequently, while blue is used to mark points that occur less frequently.

Serial Bus Decoding Function (Standard)



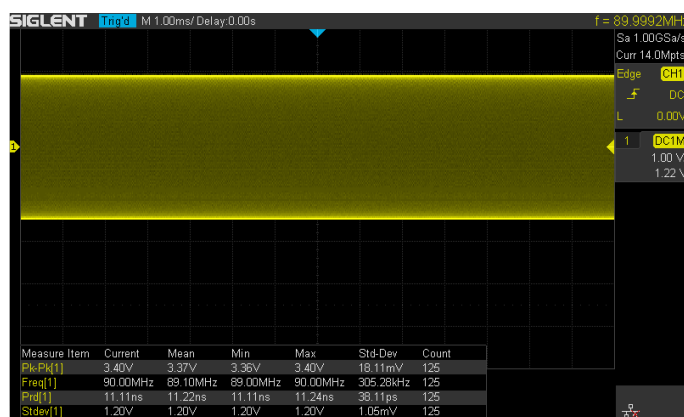
SDS1000X-U displays the decoding through the events list. Bus protocol information can be quickly and intuitively displayed in a tabular format.

History Waveforms (History) Mode and Segmented Acquisition (Sequence)



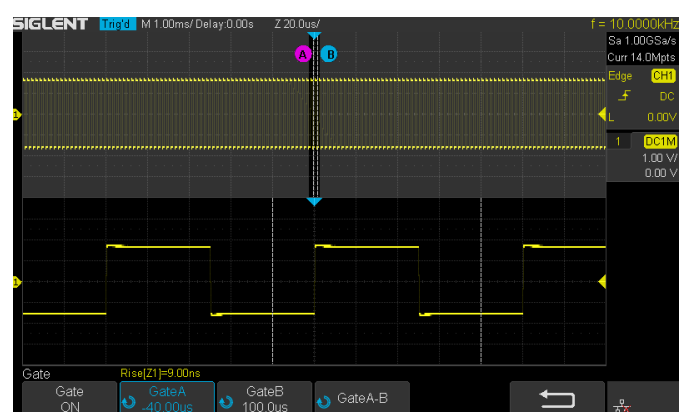
Playback the latest triggered events using the history function. Segmented memory collection will store trigger events into multiple (Up to 80,000) memory segments, each segment will store triggered waveforms and timestamp of each frame.

True measurement to 14 M points



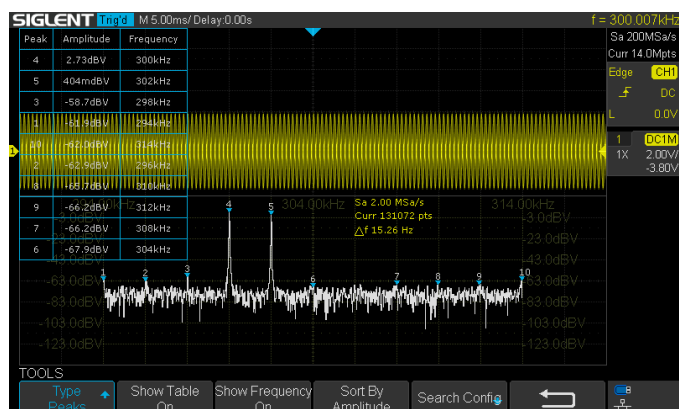
SDS1004X-U can measure all sampled data points up to 14 Mpts. This ensures the accuracy of measurements while the math co-processor decreases measurement time and increases ease-of-use.

Gate and Zoom Measurement



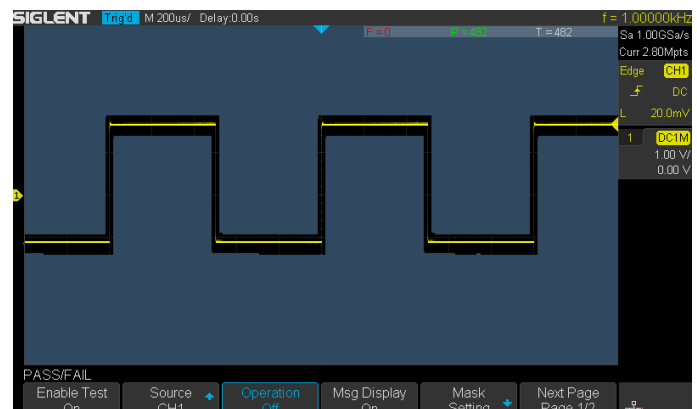
Through Gate and Zoom measurement, the user can specify an arbitrary interval of waveform data analysis and statistics. This helps avoid measurement errors that can be caused by invalid or extraneous data, greatly enhancing the measurements' validity and flexibility.

128k points used to calculate the FFT



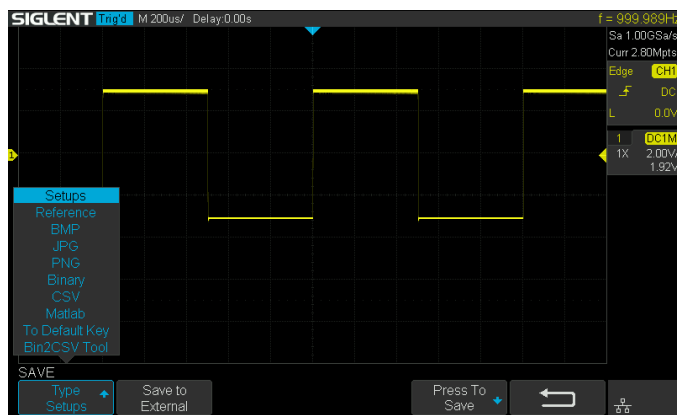
The new math co-processor enables FFT analysis of incoming signals using up to 128k samples per waveform. This provides high frequency resolution with a fast refresh rate. The FFT function also supports a variety of window functions so that it can adapt to different spectrum measurement needs. Four-channel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

Hardware-Based High-Speed Pass/Fail



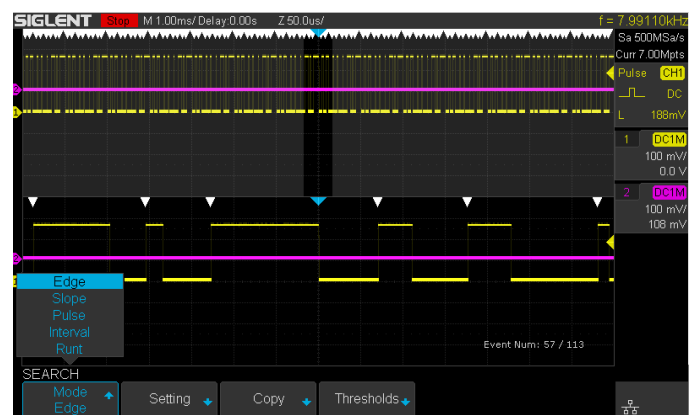
The SDS1000X-U utilizes a hardware-based Pass/Fail function, performing up to 40,000 Pass / Fail decisions each second. Easily generate user defined test templates provide trace mask comparison making it suitable for long-term signal monitoring or automated production line testing.

Customizable Default Key



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

Search 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.

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 GSa/s (One channel), 500 MSa/s(Two channels), 250 MSa/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 interpolation	Sin(x)/x, Linear

Input	
Channels	4
Coupling	DC, AC, GND
Impedance	DC: (1 M Ω ±2%) (15 pF ±2 pF)
Max. Input voltage	1 M Ω : ≤400 Vpk (DC + Peak AC ≤10 kHz)
CH to CH Isolation	DC-Max BW :>40 dB
Probe attenuation	1E-6X ~ 1E6X

Vertical System	
Bandwidth (-3dB)	100 MHz
Vertical Resolution	8-bit
Vertical Scale (Probe 1X)	1 mV/div - 10 V/div (1-2-5 sequence)
Offset Range (Probe 1X)	1 mV- 200 mV: ± 2 V 206 mV- 10 V: ± 100 V
Bandwidth limit	20 MHz ± 40%
Bandwidth Flatness	DC- 10% (BW): ± 1 dB 10% - 50% (BW): ± 2 dB 50% - 100% (BW): + 2 dB/-3 dB
Low frequency response (AC coupling -3 dB)	≤2 Hz (at input BNC)
Noise	ST-DEV ≤ 0.2 division (<2 mV/div) ST-DEV ≤ 0.1 division (≥ 2 mV/div)
SFDR including harmonics	≥ 35 dB
DC Gain Accuracy	≤ ± 3.0%: 5 mV/div-10 V/div ≤ ± 4.0% : ≤ 2 mV/div
Offset Accuracy	± (1%* Offset+1.5%*8*div+2 mV): ≥2 mV/div ± (1%* Offset+1.5%*8*div+500 uV): 1 mv/div
Rise time	Typical 3.5 ns

Overshoot (500 ps Pulse)	< 10%
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Horizontal System

Timebase Scale	2 ns/div-100 s/div
Channel Skew	<100 ps
Waveform Capture Rate	Up to 100,000 wfm/s (normal mode), 400,000 wfm/s (sequence mode)
Intensity grading	256 Levels
Display Format	Y -T, X -Y, Roll
Timebase Accuracy	±25 ppm
Roll Mode	50 ms/div-100 s/div (1-2-5 sequence)

Trigger System

Mode	Auto, Normal, Single
Level	Internal: ±4.5 div from the center of the screen
Hold off range	80 ns- 1.5 s
Coupling	AC DC LFRJ HFRJ Noise RJ
Coupling Frequency Response	DC: Passes all components of the signal AC: Blocks DC components and attenuates signals below 8Hz LFRJ: Blocks the DC component and attenuates the low-frequency components below 2 MHz HFRJ: Attenuates the high-frequency components above 1.2 MHz
Accuracy (typical)	Internal: ±0.2 div
Sensitivity	DC - Max BW 0.6 div
Jitter	<100 ps
Displacement	Pre-Trigger: 0 - 100% Memory 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	<, >, < >, > <

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 ns - 4.2 s
Resolution	1 ns
Dropout Trigger	
Timeout Type	Edge, State
Source	All channels
Slope	Rising, Falling
Time Range	2 ns - 4.2 s
Resolution	1ns
Runt Trigger	
Polarity	+wid, -wid
Limit Range	<, >, < >, > <
Source	All channels
Time Range	2 ns - 4.2 s
Resolution	1 ns
Pattern Trigger	
Pattern Setting	Invalid, Low, High
Logic	AND, OR, NAND, NOR
Source	All channels
Limit Range	<, >, < >, > <
Time Range	2 ns - 4.2 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

	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	=, >, <
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)	600/1200/2400/4800/9600/19200/38400/57600/115200 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 bit/s -20 kbit/s

Search

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

	ROLL: No limitation Stop After ROLL: 700
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Serial Decoder

Decoders	2
I²C	
Signal	SCL, SDA
Address	7, 10 bits
Threshold	-4.5 - 4.5 div
List	1- 7 lines
SPI	
Signal	SCL, MISO, MOSI
Edge Select	Rising, Falling
Idle Level	Low, High
Bit Order	MSB, LSB
Threshold	-4.5 - 4.5 div
List	1- 7 lines
UART	
Signal	RX, TX
Data Width	5, 6, 7, 8 bits
Parity Check	None, Odd, Even, Space, Mark
Stop Bit	1, 1.5, 2 bits
Idle Level	Low, High
Threshold	-4.5 - 4.5 div
List	1- 7 lines
CAN	
Signal	CAN_H, CAN_L
Source	CAN_H, CAN_L
Threshold	-4.5 - 4.5 div
List	1- 7 lines
LIN	
LIN Specification	Ver1.3, Ver2.0
Package Revision	
Threshold	-4.5 - 4.5 div
List	1- 7 lines

Measurement

Source	All channels, All channels in Zoom, Math, All References, History
Number of Measurements	Display 4 measurements at the same time. 5 measurements displayed in statistics table.
Measurement Range	Screen or Gate region
Measurement	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, like-polarity 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. When Statistics is Off, it shows the time from the trigger to the last rising edge at the 50% crossing. 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

		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	Manual : Time X1, X2, (X1 -X2), (1/ΔT) Voltage Y1, Y2, (Y1 -Y2) Track: Time X1, X2, (X1 -X2)	
Statistics	Current, Mean, Min, Max, Stdev, Count	
Counter	Hardware 6-digit counter (channels are selectable)	

Math

Operation	$+$, $-$, $*$, $/$, FFT, d/dt , $\int dt$, $\sqrt{\quad}$
FFT window	Rectangular, Blackman, Hanning, Hamming, Flat top
FFT display	Full Screen, Split, Exclusive

I/O

Standard	USB Host, USB Device, LAN, Pass/Fail, Trigger Out
Pass/Fail	3.3V TTL Output

Display(Screen)

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

Display(Waveform)

Display Mode	Dot, Vector
Persist Time	Off, 1 Sec, 5 Sec, 10 Sec, 30 Sec, Infinite
Color Display	Normal, Color
Screen Saver	1 min, 5 min, 10 min, 30 min, 1 hour, Off

Language	Simplified Chinese, Traditional Chinese, English, French, Japanese, Korean, German, Russian, Italian, Portuguese
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Environments

Temperature	Operating: 0°C - +40°C Non-operating: -20°C - + 60°C
Humidity	Operating: 85% RH, 40 °C, 24 hours Non-operating: 85% RH, 65 °C, 24 hours
Height	Operating: ≤ 3000 m Non-operating: ≤ 15,000 m

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	CLASS A group 1 , 150kHz-30MHz
	Radiated disturbance	CISPR 11/EN 55011	CLASS A group 1 , 30MHz-1GHz
	Electrostatic discharge (ESD)	IEC 61000-4-2/EN 61000-4-2	4.0 kV (Contact), 8.0 kV (Air)
	Radio-frequency electromagnetic field Immunity	IEC 61000-4-3/EN 61000-4-3	10 V/m (80 MHz to 1 GHz) ; 3 V/m (1.4 GHz to 2 GHz) ; 1 V/m (2.0 GHz to 2.7GHz)
	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	1kV (Line to line) 2kV (Line to ground)
	Radio-frequency continuous conducted Immunity	IEC 61000-4-6/EN 61000-4-6	3 V, 0.15-80MHz
	Voltage dips and interruptions	IEC 61000-4-11/EN 61000-4-11	Voltage Dips : 0% UT during 1 cycle; 40% UT during 10/12 cycles; 70% UT during 25/30 cycles 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

Dimensions	Length: 312 mm
	Width: 132.6 mm
	Height: 151 mm
Weight	N.W: 2.6 kg; G.W: 3.8 kg

 Probes and Accessories

Probe	Picture	Model	Specifications &Description
Passive		PP510	Bandwidth: 100MHz, 1X/10X, 1M/10Mohm, 300V/600V
Current Probe		CP4020	Bandwidth: 100 KHz, Max. continuous current: 20Arms Peak current: 60A Switch Ratio: 50mV/A, 5mV/A, Accuracy: 50mV/A (0.4A - 10Apk)±2%, 5mV/A (1A-60Apk) ±2%, 9V battery source
		CP4050	Bandwidth: 1MHz, Max. continuous current: 50Arms, Peak current: 140A Switch Ratio: 500mV/A, 50mV/A Accuracy: 500mV/A (20mA - 14Apk)±3%±20mA , 50mV/A (200mA - 100Apk) ±4%±200mA, 50mV/A (100A - 140Apk) ±15%max, 9V battery source
		CP4070	Bandwidth: 150kHz, Max. continuous current: 70Arms, Peak current: 200A Switch Ratio: 50mV/A, 5mV/A, Accuracy: 50mV/A (0.4A - 10Apk)±2% , 5mV/A(1A - 200Apk) ±2%, 9V battery source
		CP5030	Bandwidth: 50 MHz, Max. continuous current: 30Arms, Peak current: 50A Switch Ratio: 100mV/A, 1V/A, Accuracy: 1V/A (±1%±1mA), 100mV/A (±1%±10mA), DC12V/1.2A power adapter
		CP5030A	Bandwidth: 100 MHz, Max. continuous current: 30Arms, Peak current: 50A Switch Ratio: 100mV/A, 1V/A, Accuracy: 1V/A (±1%±1mA), 100mV/A (±1%±10mA), DC12V/1.2A power adapter

		CP5150	Bandwidth: 12 MHz, Max. continuous current: 150Arms, Peak current: 300A Switch Ratio: 100mV/A, 10mV/A, Accuracy: 100mV/A ($\pm 1\% \pm 10\text{mA}$), 10mV/A ($\pm 1\% \pm 100\text{mA}$), DC12V/1.2A power adapter
		CP5500	Bandwidth: 5 MHz, Max. continuous current: 500Arms, Peak current: 750A Switch Ratio: 100mV/A, 10mV/A, Accuracy: 100mV/A ($\pm 1\% \pm 10\text{mA}$), 10mV/A ($\pm 1\% \pm 100\text{mA}$), DC12V/1.2A power adapter
Differential Probe		DPB4080	Bandwidth: 50MHz, Differential Range: 800V (DC + Peak AC), 100X/200X/500X/1000X, Accuracy: $\pm 1\%$, DC 9V/1A power adapter
		DPB5150	Bandwidth: 70MHz, Differential Range: 1500V (DC + Peak AC), 50X/500X Accuracy: $\pm 2\%$, DC 5V/1A USB adapter
		DPB5150A	Bandwidth: 100MHz, Differential Range: 1500V (DC + Peak AC), 50X/500X , Accuracy: $\pm 2\%$ DC 5V/1A USB adapter
		DPB5700	Bandwidth: 70MHz, Differential Range: 7000V (DC + Peak AC), 100X/1000X , Accuracy: $\pm 2\%$, DC 5V/1A USB adapter
		DPB5700A	Bandwidth: 100MHz Differential Range: 7000V (DC + Peak AC), 100X/1000X Accuracy: $\pm 2\%$ DC 5V/1A USB adapter
High Voltage		HPB4010	Bandwidth: 40MHz Differential Range: DC 10kV, AC (rms): 7kV (sine), AC (Vpp): 20kV (Pulse) 1000X 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. The maximum input voltage allowed is up to $\pm 600\text{Vpk}$.

SDS1000X-U Series Digital Oscilloscope

Demo Board		STB-3 Test Board	Output signals including square, sine, AM, fast edge, pulse, PWM, I2C, CAN, LIN etc. Used in teaching and demonstrations.
Rack Mount		SDS1X-E-RMK	The height is 4U.

Ordering Information

Ordering information		
Product Name	SDS1104X-U 100MHz Four Channels	
Standard Accessories	USB Cable -1	
	Quick Start -1	
	Passive Probe -4	
	Certification -1	
	Power Cord -1	
Optional Accessories	Isolated Front End	ISFE
	STB Demo Source	STB-3
	High Voltage Probe	HPB4010
	Current Probes	CP4020/CP4050/CP4070/ CP4070A/CP5030/CP5030A/ CP5150/CP5500
	Differential Probes	DPB4080/DPB5150/DPB5150A /DPB5700/DPB5700A
	Rack Mount	SDS1X-E-RMK

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: + 86 755 3688 7876
Fax: + 86 755 3359 1582
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 0 111 0
Fax: +49(0)-821-666 0 111 22
Email: info-eu@siglent.com
Website: www.siglenteu.com

Follow us on
Facebook: SiglentTech

