

# SDS1000CML Specifications

File Varsion\_ V1.2

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**CHARACTERISTIC:**

- The highest Single real-time sampling rate can be up to 1GHzsa/s;  
Equivalent sampling rate is up to 50GSa/s.

- Memory Depth: 2Mpts
- Trigger types: Edge, Pulse Width, Video, Slope, Alternative
- Unique Digital Filter function and Waveform recorder function
- Support Pass/Fail function.
- Thirty two parameters Auto measure function.
- Save/recall types: Setups, Waveforms, Csv file, Picture.
- Support Multilingual On-line help system
- Waveform Intensity and Grid Brightness can be adjusted.
- Support twelve types Language
- Standard Configuration Port:

USB Host: Support USB flash driver save/recall function and update firmware;

USB Device: Support PictBridge compatible printer and support PC remote control;

RS232;

Pass/Fail Output.

## Data Form

<b>Input</b>	
Input Coupling	AC,DC,GND
Input Impedance	DC: $1\text{M}\Omega \pm 2\% \parallel 16\text{pF}$ $\pm 3\text{pF}$ AC: $1.2\text{M}\Omega \pm 2\% \parallel 16\text{pF}$ $\pm 3\text{pF}$ , $\leq 100\text{mV/div}$ $1.0\text{M}\Omega \pm 2\% \parallel 16\text{pF}$ $\pm 3\text{pF}$ , $> 100\text{mV/div}$
Maximum Input Voltage	$\pm 400\text{V}$ PK-PK CATI,CAT II
Probe attenuator	1X, 10X
Probe attenuator	1X, 10X, 100X, 1000X
<b>Horizontal System</b>	
Real Time Sampling Rate	1CH: $1\text{GHz/s}$ 2CH: $500\text{MS/s}$
Equivalent Sampling Rate	$50\text{GSa/s}$
Measure Display Modes	MAIN, WINDOW, WINDOW ZOOM, Scan, X-Y
Timebase Accuracy	$\pm 50\text{ppm}$ measured over 1ms interval
Time Window	18 Divisions
Horizontal Scan Range	$5\text{ns/DIV} - 50\text{s/DIV}$ (SDS1072CML) ; $2.5\text{ns/DIV} - 50\text{s/DIV}$ (SDS1102CML/1152CML)
	Scan: $100\text{ms/div} - 50\text{s/div}$ (1-2.5-5 sequence)
<b>Vertical System</b>	
Vertical Sensitivity	$2\text{mV} - 10\text{V/div}$ at input BNC(1-2-5 order)
Channel voltage offset range	SDS1072CML/1102CML: $2\text{mV} - 200\text{mV}$ : $\pm 1.6\text{V}$ $206\text{mV} - 10\text{V}$ : $\pm 40\text{V}$ SDS1152CML: $2\text{mV} - 100\text{mV}$ : $\pm 800\text{mV}$ $102\text{mV} - 5\text{V}$ : $\pm 40\text{V}$ in Fixed Gain Ranges and Variable Gain Ranges
Vertical Resolution	8 bit
Channels	2
Bandwidth	$150\text{MHz}$ (SDS1152CML) $100\text{MHz}$ (SDS1102CML) $70\text{MHz}$ (SDS1072CML)
Single bandwidth	$150\text{MHz}$ (SDS1152CML) $100\text{MHz}$ (SDS1102CML) $70\text{MHz}$ (SDS1072CML)
Lower frequency limit (AC -3dB)	$\leq 10\text{Hz}$ (at input BNC)
DC Gain Accuracy	SDS1072CML/1102CML: $5\text{mv/div} - 10\text{v/div}$ : $\leq \pm 3\%$ , $2\text{mv/div}$ : $\leq \pm 4\%$
	SDS1152CML: $10\text{mv/div} - 5\text{v/div}$ : $\leq \pm 3\%$ , $2\text{mv/div} - 5\text{mv/div}$ : $\leq \pm 4\%$
DC Measurement Accuracy $\leq 100\text{mv/div}$	$\pm [3.0\% \text{X(actual reading+ offset)} + 1\% \text{X offset} + 0.2\text{div} + 2\text{mV}]$

DC Measurement Accuracy > 100mv/div	$\pm [3.0\% \times (\text{actual reading} + \text{offset}) + 1\% \times \text{offset} + 0.2 \text{div} + 100 \text{mV}]$
Rise time ( typical values of BNC )	$< 2.3 \text{ns}$ (SDS1152CML) $< 3.5 \text{ns}$ (SDS1102CML) $< 5 \text{ns}$ (SDS1072CML)
Math operation	+, -, *, / , FFT
FFT	Window mode: Hanning, Hanmming, Blackman, Rectangular
	Sampling points: 1024
<b>Trigger System</b>	
Trigger Types	Edge, Pulse Width, Video, Slope, Alternative
Trigger Modes	Auto, Normal, Single
Trigger Sources	Ch1-2, EXT, EXT/5, AC Line
Trigger Coupling	AC, DC, LF rej, HF rej
Trigger Level Range	CH1, CH2: $\pm 6$ divisions from center of screen EXT: $\pm 1.2 \text{V}$ EXT/5: $\pm 6 \text{V}$
Trigger Level Accuracy (typical) applicable for the signal of rising and falling time $\geq 20 \text{ns}$	Internal: $\pm (0.2 \text{div} \times \text{V/div})$ ( within $\pm 4$ divisions from center of screen)
	EXT: $\pm (6\% \text{ of setting} + 40 \text{ mV})$
	EXT/5: $\pm (6\% \text{ of setting} + 200 \text{ mV})$
Edge Trigger	Edge type: Rising, Falling, Rising and Falling
Pulse Width Trigger	Trigger Modes: ( > , < , = ) Positive Pulse Width, (> , < , = ) Negative Pulse Width
	Pulse Width Range: 20ns-10s
Video Trigger	Support signal Formats: PAL/SECAM, NTSC
	Trigger condition: odd field, even field, all lines, line Num
Slope Trigger	(> , < , = ) Positive slope, (> , < , = ) Negative slope
	Time: 20ns-10s
Alternative Trigger	CH1 trigger type: Edge, Pulse, Video, Slope
	CH2 trigger type: Edge, Pulse, Video, Slope
<b>Control Panel Function</b>	
Auto Set	Auto adjusting the Vertical, Horizontal system and Trigger Position
Save/Recall	Support 2 Group referenced Waveforms, 20 Group setups, 10 Group captured Waveforms internal Storage/Recall function and USB flash driver storage function.
<b>Hard Ware Frequency Counter</b>	

Reading resolution	6 Bytes
Accuracy	±0.01%
Range	DC Couple, 10HZ to MAX Bandwidth
Signal Types	Satisfying all Trigger signal (Except Pulse width trigger and Video Trigger)
<b>Acquisition System</b>	
Sample Types	Real time, Equivalent time
Memory Depth	2Mpts
Sample Mode	Sample, Peak Measure, Average
Averages	4,16,32,64,128,256
<b>Measure System</b>	
Auto Measure	Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vavg, Mean, Crms, Vrms, ROVShoot, FOVShoot, RPRESshoot, FPRESshoot, Rise time, Fall time, Freq, Period, +Wid, -Wid, +Dut, -Dut, Bwid, Phase, FRR, FRF, FFR, FFF,LRR,LRF, LFR, LFF
Cursor Measure	Manual mode, Track mode and Auto mode

## Generic Specification

<b>Display System</b>	
Display Mode	TFT 7 inches of liquid crystal display
Resolution	480 horizontal by 234 vertical pixels
Display Color	64K color
Display Contrast ( Typical state )	150:1
Backlight Intensity ( Typical state )	300nit
Wave display range	8 x 18 div
Wave Display Mode	Point, Vector
Persist	Off, 1 sec, 2 sec, 5 sec, Infinite
Menu Display	2 sec, 5 sec, 10 sec, 20 sec, Infinite
Skin	Succinct, modern, tradition, classics
Screen saver	1min, 2min, 5min, 10min,15min, 30min, 1hour, 2hour, 5hour, off
waveform interpolation	Sin(x)/x,Linear
Color model	Normal , Invert
Language	Simplified Chinese, Traditional Chinese, English, French, German, Russian, Spanish, Portuguese Japanese, Korean, Italian,Arabic
<b>Power Supply</b>	

Input Voltage	100-240 VAC, CAT II, Auto selection	
Frequency Scope	45Hz to 440Hz	
Power	50VA Max	
<b>Mechanical</b>		
Dimension	length	323mm
	Width	135mm
	Height	157mm
Weight	2.5 kg	
<b>Environments</b>		
Temperature	Operating:10℃ to +40℃	
	Not operating: -20℃ to +60℃	
Humidity	Operating: 85%RH, 40℃, 24 hours	
	Not operating: 85%RH, 65℃, 24 hours	
Height	Operating: 3000m	
	Not operating: 15,266m	