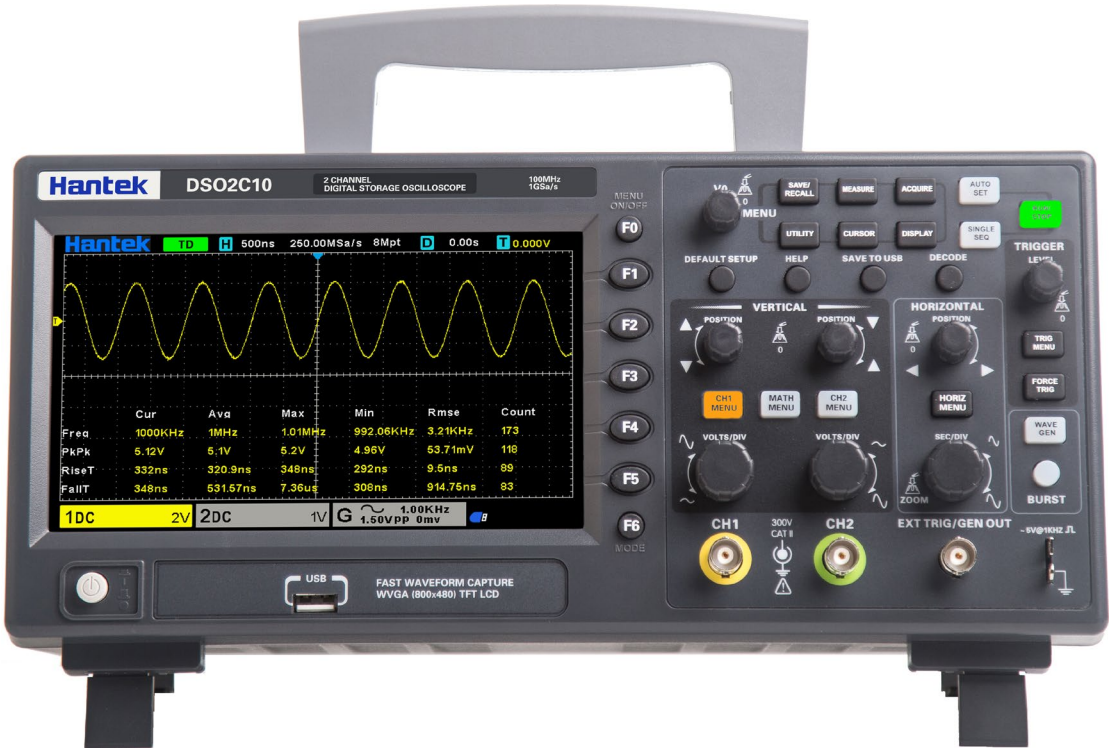
Digital Storage Oscilloscope

2 Channels, 100MHz Bandwidth, 8M Memory Depth

DSO2C10



Accessories

Features

- 2 channel, 100MHz bandwidths.
- 1GSa/s real time sample rate.
- 8MHz memory depth.
- 8 bit vertical resolution.
- Vertical scale from 2mV/div to 10V/div.
- Large (7.0-inch) color display, WVGA (800x480).
- Multiple automatic measurements.
- Four math functions, including FFT standard.
- Trigger mode: edge, pulse width, video, slop, timeout, window, pattern, interval, runt.
- Serial decode/trigger options for: UART, LIN, CAN, IIC, SPI.
- Each analog channel with an individual 3 digits digital voltmeter (DVM) and 5 digits frequency counter.
- 32 built-in measurements and a measurement statistics display.
- USB host and device connectivity, standard.
- Supports SCPI remote command control.

Specification

Model	DSO2C10
Overview	
Oscilloscope	2 analog channels
Serial Protocol Analysis	UART, LIN, CAN, IIC, SPI
Integrated Digital Voltmeter (DVM)	Standard
External Trigger	1
OSCILLOSCOPE	
Input	
Analog Channel	2
Input Coupling	AC, DC, GND
Input Impedance/Capacitance	1MΩ±1% / 20pF±3pF (DC coupling)
Standard Probe Attenuation	1X, 10X
Supported Probe Attenuation Factor	1X, 10X, 100X, 1000X
Overvoltage Category	CATII 300V
Maximum Input Voltage	300VRMS (10×)

Vertical	
Bandwidth	100MHz
Rise Time at BNC (typical)	≤ 3.5ns
Vertical Resolution	8-bit resolution, all channels sampled simultaneously
Input Sensitivity Range	2mV/div to 10V/div
Offset Range	2mV/div to 200mV/div, ±1V 500mV/div to 10V/div, ±50V
Bandwidth Limits	20MHz (selectable)
Invert Signal	Selectable
Low Frequency Response (-3db)	≤10Hz at BNC
DC Gain Accuracy	±3% full scale for Normal or Average acquisition mode, 10V/div to 10mV/div; ±4% full scale for Normal or Average acquisition mode, 5mV/div to 2mV/div
DC Offset Accuracy	±0.1div ± 2mV ± 1% offset setting
Skew	2ns
Note: when using a 1X probe, bandwidth reduce to 6MHz	
Horizontal	
Time Base Range	2ns/div to 100s/div (in 1-2-5 sequence)
Sample Rate and Delay Time Accuracy	±50ppm
Delta Time Measurement Accuracy (Full Bandwidth)	Single-shot, Normal mode: ± (1 sample interval +100ppm × reading + 0.6ns) >16 averages: ± (1 sample interval + 100ppm × reading + 0.4ns) Sample interval = s/div ÷ 200
Acquisition	
Max. Sample Rate	1GSa/s for half channels 500MSa/s for all channels
Memory Depth	Max. 8M for half channels Max. 4M for all channels
Waveform Interpolation	(sin x)/x
Waveform Update Rate (Typical)	Up to 2,000 waveform per second each channel (Normal acquisition mode, no measurement)
Acquisition Mode	Normal, Peak Detect, Average, HR (High Resolution)

Time Mode	YT (default mode), XY (volts vs. volts display), Roll (displays the waveform moving across the screen from right to left)	
Autoset	Finds and displays all active channels and external trigger. And automatically configures the best display of the input signals on these channels.	
Single Sequence	Acquisition Mode	Acquisition Stop Time
	Normal, Peak Detect	Upon single acquisition on all channels simultaneously
	Average	After N acquisitions on all channels simultaneously, N can be set to 4, 8, 16, 32, 64 or 128

Trigger

Trigger Modes	Auto, Normal, Force (front panel key that forces a trigger)
Trigger Source	CH1, CH2, EXT, AC Line
Trigger Holdoff Range	20ns to 10s
Trigger Level Range	Internal: ±5 divisions from center screen External: 3.3V (CMOS)
Trigger Level Accuracy (typical)	Internal: 0.2div × volts/div within ± 4 divisions from center screen
Trigger Sensitivity	±0.2 div
Set Level to 50% (typical)	Operates with input signals ≥50Hz
Trigger Types	Edge, Pulse width, Video, Slope, Over time, Window, Pattern, Interval, Under Amp
Edge	Trigger on a rising, falling, or either edge of any source
Pulse Width	Trigger on a pulse of a selected channel with a time duration that is ‘less than a value,’ ‘greater than a value’ , ‘equal to a value’ or ‘not equal to a value’. Range: 8ns to 10s
Video	Trigger on scan lines or individual lines; odd/even or all fields from the composite video; or broadcast standards (PAL and NTSC)
Slope	Trigger on rising or falling slope of the specified time. This trigger mode is applicable to ramp and triangle waveforms. Time setting range: 8ns to 10s
Overtime	Trigger when the time interval is greater than the pre-set timeout value.

Window	Trigger when the input signal passes through the high trigger level or the low trigger level.
Pattern	Trigger when a specified pattern on any combination inputs is entered.
Interval	Trigger on rising or falling edge when the time between the edges is within the specified time. You can use this trigger to find missing or mistimed edges, or changes in signal frequency.
Under Amp	Trigger pulses that pass through one trigger level but fail to pass through another trigger level.
UART	Trigger on start frame position, stop frame position, specified data, parity error or communication error.
LIN	Trigger on LIN (Local Interconnect Network) interval filed, sync field, ID field, sync code error, or specified identifier, frame ID and data.
CAN	Trigger on the start of frame bit, remote frame ID, data frame ID, remote or data frame ID, data frame ID and data, error frame, all errors, acknowledge error, and overload frame of the CAN (controller area network) signal.
SPI	Trigger on SPI (Serial Peripheral Interface) data pattern during a specific framing period.
IIC	Trigger at a start/stop bit or specified address and/or data values. Also, trigger on missing acknowledge, restart.
Measurements	
Cursors	Voltage difference between cursors: ΔV Time difference between cursors: ΔT Reciprocal of ΔT in Hertz (1/ΔT)
Auto Measurements	Voltage: Peak to peak, Average, Maximum, Minimum, Vtop, Vmid, Vbase, Vamp, RMS, R-Overshoot, F-Preshoot, Preiod RMS, Preiod Average, F-Overshoot, R-Preshoot, Time: Frequency, Period, Rise time, Fall Time, + Width, - Width, +Duty, -Duty, BWidth, FRR, FFF, FRF, FFR, LRR, LRF, LFR, LFF
Waveform Math	
Arithmetic	+, -, x , ÷, FFT
FFT	Window types: Hanning, Hamming, Flattop, Rectangular, Bartlett, Blackman

DVM (DIGITAL VOLTMETER)	
Functions	DC RMS, AC RMS, DC
Data Source	CH1, CH2
Resolution	3 digits
FREQUENCY COUNTER	
Functions	Frequency
Data Source	CH1, CH2
Resolution	5 digits
Display	
Display Type	7 inch TFT (diagonal liquid crystal)
Display Resolution	800 horizontal by 480 vertical pixels
Display Contrast	Adjustable
Connectivity	
Standard Ports	USB 2.0 (host and device)
Probe Compensator Output	
Output Voltage (typical)	About 5V into ≥1MΩ load
Frequency (typical)	1kHz ± 1%
Power Supply	
Supply Voltage	100-120VACRMS(±10%), 45Hz to 440Hz, CAT Ⅱ 120-240VACRMS(±10%), 45Hz to 66Hz, CAT Ⅱ
Power Consumption	<15W
Fuse	T2A 250VAC 4x8
Environmental	
Temperature	Operating: 32℉ to 122℉ (0℃ to 50℃); Storage: -40℉ to 159.8℉ (-40℃ to +71℃)
Cooling Method	Convection
Humidity	+104℉ or below (+40℃ or below): ≤90% relative humidity 106℉ to 122℉ (+41℃ to 50℃): ≤60% relative humidity
Altitude	Operating: Below 3,000m (10,000 feet)
Mechanical	
Dimension	318 x 110 x 150mm (L x W x H)
Weight	1.90KG