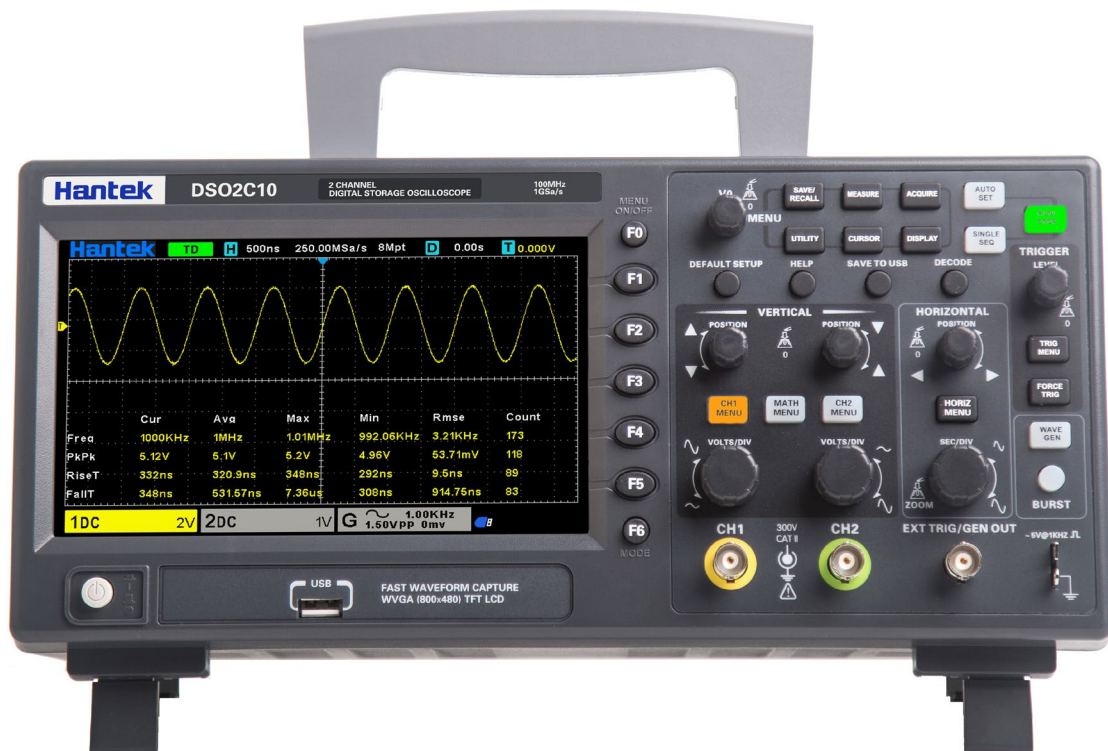


Digital Storage Oscilloscope

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, overtime, window, pattern, interval, under amp.
- 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
Analog Channel	2
External Trigger	1
Serial Protocol Analysis	UART, LIN, CAN, IIC, SPI
Integrated Digital Voltmeter (DVM)	Standard
Acquisition	
Acquisition Mode	Normal, Peak Detect, Average, HR (High Resolution)
Waveform Update Rate (Typical)	Up to 2,000 waveform per second each channel (when in Normal acquisition mode, and no measurement)
Input	
Input Coupling	AC, DC, GND
Input Impedance/Capacitance	1MΩ±2% / 20pF±3pF
Standard Probe Attenuation	1X, 10X
Supported Probe Attenuation Factor	1X, 10X, 100X, 1000X
Voltage Rating	CATII 300V
Maximum Input Voltage	300VRMS (10×)

Horizontal	
Max. Sample Rate	1GSa/s for half channels 500MSa/s for all channels
Equivalent Sample Rate	Max. 50GSa/s
Memory Depth	Max. 8M for half channels Max. 4M for all channels
Time Base Range	2ns/div to 100s/div (in 1-2-5 sequence)
Modes	YT, XY, Roll, (Main/Zoom)
Phase Difference	±3 degrees
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

Vertical	
Bandwidth	100MHz
Rise Time at BNC (typical)	≤ 3.5ns
Vertical Resolution	8-bit resolution, all channel 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

Note: when using a 1X probe, bandwidth reduce to 6MHz

Trigger	
Trigger Modes	Auto, Normal, Force (front panel key that forces a trigger)
Trigger Source	CH1, CH2, EXT, AC 50
Trigger Holdoff Range	20ns to 10s
Trigger Level Range	Internal: ±8 divisions from center screen External: 0 to 3.3V
Trigger Level Accuracy (typical)	Internal: 0.2div × volts/div within ± 4 divisions from center screen External: ± (6% of setting + 40mV)
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 field, 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 ($1/\Delta T$)
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 Sample point: 1024 points
DVM (Digital Voltmeter)	
Functions	DC RMS, AC RMS, DC
Resolution	3 digits
Frequency Counter	
Functions	Frequency
Resolution	5 digits
Display	
Display	7 inch 64K color TFT (diagonal liquid crystal)
Display Resolution	800 horizontal by 480 vertical pixels
Display Contrast	Adjustable
Probe Compensator Output	
Output Voltage(typical)	About 5Vpp into $\geq 1\text{M}\Omega$ load
Frequency(typical)	1kHz
Power Supply	
Supply Voltage	100-120VACRMS($\pm 10\%$), 45Hz to 440Hz, CAT II 120-240VACRMS($\pm 10\%$), 45Hz to 66Hz, CAT II
Power Consumption	<30W
Fuse	3.15A, T rating, 250V 5x20mm
Environmental	
Temperature	Operating: 32°F to 122°F (0°C to 50°C); Nonoperating: -40°F to 159.8°F (-40°C to +71°C)
Cooling Method	Convection
Humidity	+104°F or below (+40°C or below): $\leq 90\%$ relative humidity; 106°F to 122°F (+41°C to 50°C): $\leq 60\%$ relative humidity
Altitude	Operating: Below 3,000m (10,000 feet)
Mechanical	
Size	Length 318mm, Width 110mm, Height 150mm
Weight	1.90KG