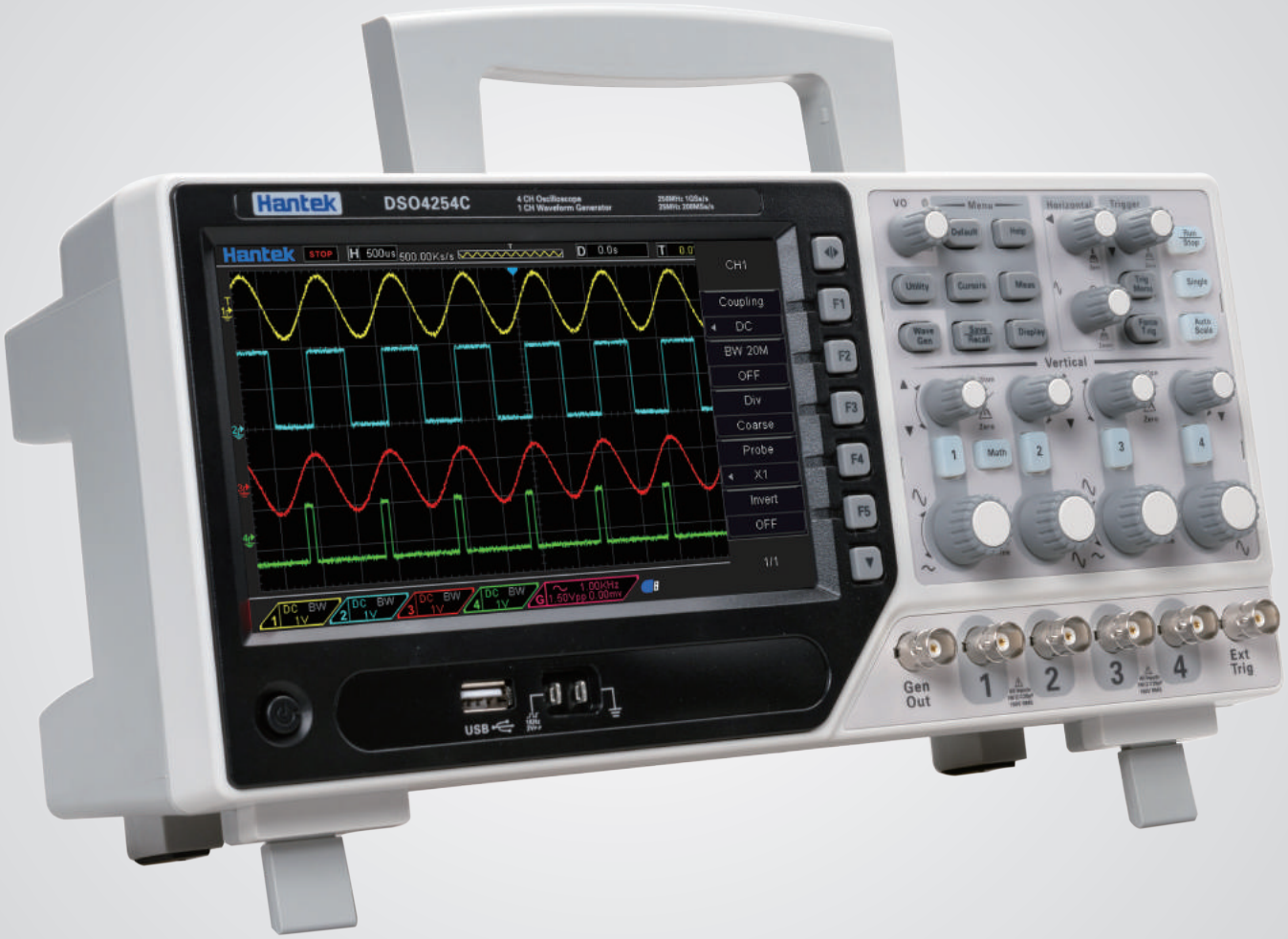
Data Sheet

Hantek®

Digital Storage Oscilloscope

DSO4004B(C) Series



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Feature

- 250/200/100/60MHz Bandwidth; 1GSa/s Sample Rate;
- 4 Channel Oscilloscope; 64K Record Length;
- 7 inch 64K color LCD display, Resolution 800x480;
- 32 kinds of Automotive measurement, with FFT function;
- Powerful trigger function: Video, Edge, Pluse Width, Slope, Overtime, Alternate Trigger.

Specification

	Model	DSO4254B	DSO4204B	DSO4104B	DSO4084B
Horizontal	Bandwidth	250MHz	200MHz	100MHz	80MHz
	Sampling Rate Range	1GSa/s			
	Equivalent Sample Rate	25GSa/s			
	Memory Depth (Sample Points)	64K			
	SEC/DIV Range	2ns/div~100s/div			
	Delay Time Accuracy	±50ppm in any ≥1ms time intervals			
	Delta Time Measurement Accuracy (full bandwidth)	Single-shot, "sampling" mode, ± (1 sampling interval + 100ppm × readings + 0.6ns)			
		> 16 times above average, ± (1 sampling interval + 100ppm × readings + 0.4ns)			
		Sampling interval = SEC/DIV÷200			
		8-bit resolution, each channel sampled simultaneously			
Vertical	A/D Converter	0.5mV/div～10V/div at input BNC			
	VOLTS/DIV Range	±50V(5V/div); ±40V(2V/div～500mV/div);			
	Position Range	±2V(200mV/div～50mV/div); ±400mV(20mV/div～2mV/div)			
	Rise Time at BNC	1.4ns	1.7ns	3.5ns	4.4ns
	DC Gain Accuracy	±4% for Sample or Average acquisition mode, 5mV/div to 2mV/div			
		±3% for Sample or Average acquisition mode, 5V/div to 10mV/div			
Trigger	Trigger Sensitivity(Edge Trigger Type)	DC(Intelnal): 1div from DC to 10MHz, 1.5div from 10MHz to 100MHz, 2div from 100MHz to 200MHz;			
		DC(EXT): 200mV from DC to 100MHz, 350mV from 100MHz to 200MHz;			
		DC(EXT/5): 1V from DC to 100MHz, 1.75V from 100MHz to 200MHz;			
		AC: Attenuates signals below 10Hz;			
		HF Reject: Attenuates signals when above 80KHz;			
		LF Reject: The same as DC coupling limit when frequency above 150KHz; Attenuates signals when below 150KHz.			
	Trigger Level Range	CH1, CH2, CH3, CH4: ±8 divisions from center of screen; EXT: ±1.2V; EXT/5: ±6V			
	Typical accuracy for signals	CH1, CH2, CH3, CH4:±(0.2div × V/div) (within ±4 divisions from center of screen);			
	having rise and fall time ≥ 20ns)	EXT: ±(6% of setting+40mV); EXT/5: ±(6% of setting+200mV)			
	Holdoff Range	100ns - 10s			
	Set Trigger Level to 50% (typical)	For the input signals ≥ 50Hz			
	Trigger Type	Video, Edge, Pluse Width, Slope, Overtime, Alternate Trigger.			
Acquisition	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			
Input	Input Coupling	DC, AC or GND			
	Input Impedance, DC coupled	1MΩ±2% for 20pF±3 pF			
	Probe Attenuation	1X, 10X,			
	Supported Probe Attenuation Factor	1X, 10X,100X, 1000X			
	Max. Input Voltage	CAT I and CAT II: Installation type: 300VRMS(10×); CAT III: 150VRMS(1×)			
Measurement	Cursors	The difference between voltage cursors △V;			
		The difference between time cursors △T;			
		Reciprocal of △T in Hertz (1/ΔT).			
	Automatic	Frequency, Period, Mean, Pk-Pk, Cycli RMS, Minimum, Maximum, Rise time,			
		Fall Time, +Pulse Width, -Pulse Width, Delay1-2Rise, Delay1-2Fall, +Duty, -Duty,			
		Vbase, Vtop, Vmid, Vamp, Overshoot, Preshoot, Preiod Mean, Preiod RMS,			
		FOVShoot, RPREShoot, BWIDTH, FRF, FFR, LRR, LRF, LFR, LFF			
Other	Display	7 inch 64K color LCD; 800x480 pixels; Adjustable (16 gears) with the progress bar			
	Voltage	100-120VACRMS(±10%),45Hz to 440Hz, CAT Ⅱ; 120-240VACRMS(±10%),45Hz to 66Hz, CAT Ⅱ			
	Power	< 30W			
	Fuse	2A, T rating, 250V			
	Size & Weight	313mm(L)x108mm(W)x142mm(H); 2.08KG(without Packing)			

Feature

- 250/200/100/60MHz Bandwidth; 1GSa/s Sample Rate;
- 4 Channel Oscilloscope; 64K Record Length;
- 7 inch 64K color LCD display, Resolution 800x480;
- 32 kinds of Automotive measurement, with FFT function;
- 25MHz Arbitrary waveform output (Sine wave up to 75MHz);
- Powerful trigger function: Video, Edge, Pluse Width, Slope, Overtime, Alternate Trigger.

Specification

	Model	DSO4254C	DSO4204C	DSO4104C	DSO4084C
Horizontal	Bandwidth	250MHz	200MHz	100MHz	80MHz
	Sampling Rate Range	1GSa/s			
	Equivalent Sample Rate	25GSa/s			
	Memory Depth (Sample Points)	64K			
	SEC/DIV Range	2ns/div~100s/div			
	Delay Time Accuracy	±50ppm in any ≥1ms time intervals			
	Delta Time Measurement Accuracy (full bandwidth)	Single-shot, "sampling" mode, ± (1 sampling interval + 100ppm × readings + 0.6ns) > 16 times above average, ± (1 sampling interval + 100ppm × readings + 0.4ns) Sampling interval = SEC/DIV÷200			
Vertical	A/D Converter	8-bit resolution, each channel sampled simultaneously			
	VOLTS/DIV Range	0.5mV/div～10V/div at input BNC			
	Position Range	±50V(5V/div); ±40V(2V/div～500mV/div); ±2V(200mV/div～50mV/div); ±400mV(20mV/div～2mV/div)			
	Rise Time at BNC	1.4ns	1.7ns	3.5ns	4.4ns
	DC Gain Accuracy	±4% for Sample or Average acquisition mode, 5mV/div to 2mV/div ±3% for Sample or Average acquisition mode, 5V/div to 10mV/div			
Trigger	Trigger Sensitivity(Edge Trigger Type)	DC(Intelnal): 1div from DC to 10MHz, 1.5div from 10MHz to 100MHz, 2div from 100MHz to 200MHz; DC(EXT): 200mV from DC to 100MHz, 350mV from 100MHz to 200MHz; DC(EXT/5): 1V from DC to 100MHz, 1.75V from 100MHz to 200MHz; AC: Attenuates signals below 10Hz; HF Reject: Attenuates signals when above 80KHz; LF Reject: The same as DC coupling limit when frequency above 150KHz; Attenuates signals when below 150KHz.			
	Trigger Level Range	CH1, CH2, CH3, CH4: ±8 divisions from center of screen; EXT: ±1.2V; EXT/5: ±6V			
	Typical accuracy for signals having rise and fall time ≥ 20ns)	CH1, CH2, CH3, CH4:±(0.2div × V/div) (within ±4 divisions from center of screen); EXT: ±(6% of setting+40mV); EXT/5: ±(6% of setting+200mV)			
	Holdoff Range	100ns - 10s			
	Trigger mode	Auto, Normal			
	Trigger Type	Video, Edge, Pluse Width, Slope, Overtime, Alternate Trigger.			
Acquisition	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			
Input	Input Coupling	DC, AC or GND			
	Input Impedance, DC coupled	1MΩ±2% for 20pF±3 pF			
	Probe Attenuation	1X, 10X,			
	Bandwidth Limit	20 MHz			
	Max. Input Voltage	CAT I and CAT II: Installation type: 300VRMS(10×); CAT III: 150VRMS(1×)			
Measurement	Cursors	The difference between voltage cursors △V; The difference between time cursors △T; Reciprocal of △T in Hertz (1/ΔT).			
	Automatic	Frequency, Period, Mean, Pk-Pk, Cycli RMS, Minimum, Maximum, Rise time,Fall Time, +Pulse Width, -Pulse Width, Delay1-2Rise, Delay1-2Fall, +Duty, -Duty, Vbase, Vtop, Vmid, Vamp, Overshoot, Preshoot, Preiod Mean, Preiod RMS, FOVShoot, RPREShoot, BWIDTH, FRF, FFR, LRR, LRF, LFR, LFF			
Arb.Waveform Generator	Waveform Frequency	DC-25MHz (Sine wave up to 75M);			
	Waveform Depth	2KSa;			
	Frequency Resolution	0.1%;			
	Vertical Resolution	12bit;			
	Frequency Stability	<30ppm;			
	DAC Clock	2K~200MHz adjustable;			
	Output Impedance	50Ω			
Other	Display	7 inch 64K color LCD; 800x480 pixels; Adjustable (16 gears) with the progress bar			
	Voltage	100-120VACRMS(±10%),45Hz to 440Hz, CAT Ⅱ; 120-240VACRMS(±10%),45Hz to 66Hz, CAT Ⅱ			
	Power	< 30W			
	Fuse	2A, T rating, 250V			
	Size & Weight	313mm(L)x108mm(W)x142mm(H); 2.08KG(without Packing)			

► Standard Accessories

Probe	X1, X10 two passive probes. The passive probes have a 6MHz bandwidth (rated 100Vrms CAT III) when the switch is in the X1 position, and a maximum bandwidth (rated 300Vrms CAT II) when the switch is in the X10 position. Each probe consists of all necessary fittings.
Power Cord	A power cord special for this product. In addition to the power cord shipped with your instrument, you may purchase another one certified for the country of use.
Warranty Card	A warranty card. When there appears something wrong with the product, it can be returned for repair under warranty.
USB Line	A USB A-B line, used to connect external devices with USB-B interface like a printer or to establish communications between PC and the oscilloscope.
CD	A software installation CD. It contains the user manual of DSO4004B(C), giving particular descriptions on the DSO4004B(C) series oscilloscopes.