

Model	DSO5202P	DSO5102P	DSO5072P
Acquisition			
Sample Rate	Real-Time Sample: 1GS/s Equivalent Sample: 25GS/s		
Acquisition Modes			
Normal	Normal data only		
Peak Detect	High-frequency and random glitch capture		
Average	Waveform Average, selectable 4,8,16,32,64,128		
Inputs			
Inputs Coupling	AC, DC, GND		
Inputs Impedance	1MΩ±2% 20pF±3pF		
Probe Attenuation	1X, 10X		
Supported Probe Attenuation Factor	1X, 10X, 100X, 1000X		
Maximum Input Voltage	<p>CAT I and CAT II: 300VRMS (10×), Installation Category; CAT III: 150VRMS (1×); Installation Category II: derate at 20dB/decade above 100kHz to 13V Pea'k AC at 3MHz* and above. For non-sinusoidal waveforms, Pea'k value must be less than 450V. Excursion above 300V should be of less than 100ms duration. RMS signal level including all DC components removed through AC coupling must be limited to 300V. If these values are exceeded, damage to the oscilloscope may occur.</p>		
Horizontal			
Sample Rate Range	500MS/s--1GS/s		
Waveform Interpolation	(sin x)/x		
Record Length	40'K		
SEC/DIV Range	4ns/div to 40s/div	4ns/div to 40s/div	
Sample Rate and Delay Time Accuracy	±50ppm (at over any ≥1ms time interval)		
Position Range	2ns/div to 10ns/div; (-4div x s/div) to 20ms;	20ns/div to 80us/div; (-8div x s/div) to 40ms; 200us/div to 40s/div; (-8div x s/div) to 400s	
Incremental 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			
Vertical Resolution	8-bit resolution, all channel sampled simultaneously		
Position Range	2mV/div to 200mV/div, ±2V 200mV/div to 5V/div, ±50V		
Bandwidth	100MHz	100MHz	70MHz
Rise Time at BNC (typical)	3.5ns	3.5ns	5ns
Analog Bandwidth in Normal and Average modes at BNC or with probe, DC Coupled	2mV/div to 20mV/div, ±400mV; 50mV/div to 200mV/div, ±2V 500mV/div to 2V/div, ±40V; 5V/div, ±50V		
Math	+, -, *, /, FFT		

FFT	Windows: Hanning, Flattop, Rectangular, Bartlett, Blackman; 1024 sample point
Bandwidth Limit	20MHz
Low Frequency Response (-3db)	≤10Hz at BNC
DC Gain Accuracy	±3% for Normal or Average acquisition mode, 5V/div to 10mV/div; ±4% for Normal or Average acquisition mode, 5mV/div to 2mV/div
DC Measurement Accuracy, Average Acquisition Mode	When vertical displacement is zero, and $N \geq 16: \pm (3\% \times \text{reading} + 0.1\text{div} + 1\text{mV})$ only 10mV/div or greater is selected; When vertical displacement is not zero, and $N \geq 16: \pm [3\% \times (\text{reading} + \text{vertical position}) + 1\% \text{ of vertical position} + 0.2\text{div}]$; Add 2mV for settings from 2mV/div to 200mV/div; add 50mV for settings from 200mV/div to 5V/div
Volts Measurement Repeatability, Average Acquisition Mode	Delta volts between any two averages of ≥ 16 waveforms acquired under same setup and ambient conditions
Trigger System	
Trigger Types	Edge, Video, Pulse, Slope, Over time, Alternative
Trigger Source	CH1, CH2, EXT, EXT/5, AC Line
Trigger Modes	Auto, Normal, Single
Coupling Type	DC, AC, Noise Reject, HF Reject, LF Reject
Trigger Sensitivity (Edge Trigger Type)	DC(CH1,CH2): 1div from DC to 10MHz; 1.5div from 10MHz to 100MHz; 2div from 100MHz to Full; 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 above 80kHz; LF Reject: Same as the DC-coupled limits for frequencies above 150kHz; attenuates signals below 150kHz
Trigger Level Range	CH1/CH2: ±8 divisions from center of screen; EXT: ±1.2V; EXT/5: ±6V
Trigger Level Accuracy (typical) Accuracy is for signals having rise and fall times $\geq 20\text{ns}$	CH1/CH2: $0.2\text{div} \times \text{volts/div}$ within ±4 divisions from center of screen; EXT: ± (6% of setting + 40mV); EXT/5: ± (6% of setting + 200mV);
Set Level to 50%(typical)	Operates with input signals $\geq 50\text{Hz}$
Video Trigger	
Video Trigger Type	CH1, CH2: Peak-to-Peak amplitude of 2 divisions; EXT: 400mV; EXT/5: 2V
Signal Formats and Field Rates, Video Trigger Type	Supports NTSC, PAL and SECAM broadcast systems for any field or any line
Holdoff Range	100ns ~ 10s
Pulse Width Trigger	
Pulse Width Trigger Mode	Trigger when (< , > , = , or ≠); Positive pulse or Negative pulse
Pulse Width Trigger Point	Equal: The oscilloscope triggers when the trailing edge of the pulse crosses the trigger level.

	<p>Not Equal: If the pulse is narrower than the specified width, the trigger point is the trailing edge.</p> <p>Otherwise, the oscilloscope triggers when a pulse continues longer than the time specified as the Pulse Width.</p> <p>Less than: The trigger point is the trailing edge.</p> <p>Greater than (also called overtime trigger): The oscilloscope triggers when a pulse continues longer than the time specified as the Pulse Width</p>
Pulse Width Range	20ns ~ 10s
Slope Trigger	
Slope Trigger Mode	Trigger when (< , > , = , or ≠); Positive slope or Negative slope
Slope Trigger Point	<p>Equal: The oscilloscope triggers when the waveform slope is equal to the set slope.</p> <p>Not Equal: The oscilloscope triggers when the waveform slope is not equal to the set slope.</p> <p>Less than: The oscilloscope triggers when the waveform slope is less than the set slope.</p> <p>Greater than: The oscilloscope triggers when the waveform slope is greater than the set slope.</p>
Time Range	20ns ~ 10s
Overtime Trigger	
Over Time Mode	Rising edge or Falling edge
Time Range	20ns ~ 10s
Alternative Trigger	
Trigger on CH1	Internal Trigger: Edge, Pulse Width, Video, Slope
Trigger on CH2	Internal Trigger: Edge, Pulse Width, Video, Slope
Trigger Frequency Counter	
Readout Resolution	6 digits
Accuracy (typical)	±30ppm (including all frequency reference errors and ±1 count errors)
Frequency Range	AC coupled, from 4Hz Min to rated bandwidth
Signal Source	<p>Pulse Width or Edge Trigger modes: all available trigger sources</p> <p>The Frequency Counter measures trigger source at all times, including when the oscilloscope acquisition pauses</p> <p>due to changes in the run status, or acquisition of a single shot event has completed.</p> <p>Pulse Width Trigger mode: The oscilloscope counts pulses of significant amplitude inside the 1s measurement window that qualify as triggerable events, such as narrow pulses in a PWM pulse train if set to < mode and the width is set to a relatively small time.</p> <p>Edge Trigger mode: The oscilloscope counts all edges of sufficient amplitude and correct polarity.</p> <p>Video Trigger mode: The Frequency Counter does not work.</p>
Measure	
Cursor Measurement	<p>Voltage difference between cursors: ΔV</p> <p>Time difference between cursors: ΔT</p> <p>Reciprocal of ΔT in Hertz ($1/\Delta T$)</p>
Auto measurement	<p>Frequency, Period, Mean, Pk-</p> <p>Pk, Cyclic RMS, Min, Maximum, Rise time, Fall Time, +Pulse Width, -</p> <p>Pulse Width, Delay1-2Rise, Delay1-2Fall, +Duty, -</p> <p>Duty, Vbase, Vtop, Vmid, Vamp, Overshoot, Preshoot, Preiod Mean, Preiod RMS,</p> <p>FOVShoot, RPRESshoot, BWIDTH, FRF, FFR, LRR, LRF, LFR, LFF</p>
Display	
Display Type	7 inch 64K color TFT (diagonal liquid crystal)

Display Resolution	800 Horizontal by 480 vertical pixels
Display Contrast	Adjustable (16 gears) with the progress bar
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, CATII 120-240VACRMS ($\pm 10\%$), 45Hz to 66Hz, CATII
Power Consumption	<30W
Fuse	2A, T rating, 250V
Environmental	
Temperature	Operating: 32F to 122F (0C to 50C); Nonoperating: -40F to 159.8F (-40C to +71C)
Cooling Method	Convection
Humidity	+104F or below (+40C or below): $\leq 90\%$ relative humidity; 106F to 122F (+41C to 50C): $\leq 60\%$ relative humidity
Altitude	Operating: Below 3,000m (10,000 feet); Non-operating: Below 15,000m(50,000 feet)
Mechanical	
Size	Length 385mm, Width 200mm, Height 245mm
Weight	3.5KG (with Packing); 2.08KG (without Packing)