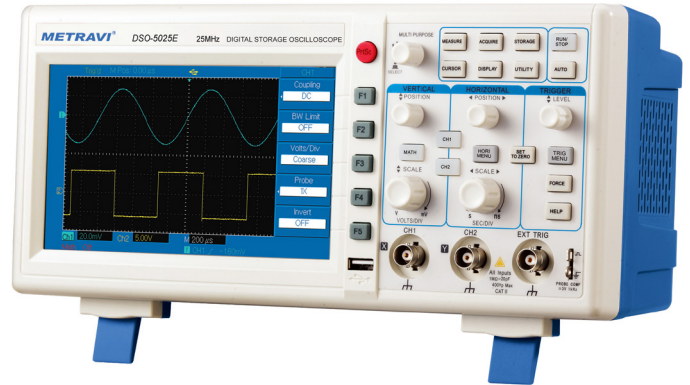


**INTRODUCTION**

The instrument is designed and manufactured strictly according to “Safety Requirements of Electronic Measuring Instrument” (GB4793) and IEC61010-1 Safety Standard. It Conforms to “Insulation Overvoltage Standard” (CAT II o) and Safe Standard with Pollution Level II.

Series	Model	Band Width	Real-Time
DSO-5000E	DSO-5025E	25MHz	250MS/s
	DSO-5050E	50MHz	500MS/s
	DSO-5070E	70MHz	1GS/s
	DSO-5100E	100MHz	1GS/s
	DSO-5150E	150MHz	1GS/s
	DSO-5200E	200MHz	1GS/s



DSO-5000E Series Digital Storage Oscilloscope provides simple front panel with clear functions to users for all basic operations. Scale and position of various channels can provide intuitional operation to meet usage habits of traditional instruments, Users can use it skillfully without learning and being familiar with operation for a long time. Users can also press AUTO key directly to accelerate adjustment and facilitate measurement. Appropriate waveform and gear setup can be shown on the instrument panel. DSO-5000E Series Digital Storage Oscilloscope also has high-performance indicators and powerful functions to fulfill measurement tasks quickly besides easy usage. Quicker signals can be observed by DSO-5000E Series Digital Storage Oscilloscope by real-time sampling of 250MS/s or 500MS/s (or 1GS/s) and equivalent sampling of 25GS/s (or 50GS/s). It can capture and analyze waveform easily by powerful trigger and analysis capacity. Users can also observe and analyze signal problems quickly and clearly by clear LCD display and mathematical calculation function. We can see that such series of Digital Storage Oscilloscope can meet your measurement requirements by following performance.

**FEATURES**

- Double Analog Channels
- High-resolution colorful LCD display system with resolution of 400 x 240 (or 800 x 480)
- To support plug and play USB storage instrument to communicate with computer.
- Automatic waveform and status setup.
- Waveform, setup, bitmap storage, waveform and setup reoccurrence.
- Elaborate view window extension function for delicate analysis of waveform details and profile
- Automatic measurement of 28 kinds of waveform parameters
- Automatic cursor tracing and measurement function
- Unique waveform recording and playback functions
- Embedded FFT
- Multiple mathematical calculation functions (including +, -, X, ÷) for waveform
- Edge, video, pulse width and ALT TRIG functions
- Multi-language menu display

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**TECHNICAL SPECIFICATIONS:**

Sampling			
	Sampling mode	Real-time	Equivalent
Sampling Rate	DSO-5150E/DSO-5200E	1GS/s	50GS/s
	DSO-5050E	500MS/s	25GS/s
	DSO-5070E/DSO-5100E	1GS/s	50GS/s
Average Rate	N can be selected from 2, 4, 8, 16, 32, 64, 128 and 256 after sampling all channels for N times at the same time.		

**Note:** Real-time sampling rate is 250MS/s without equivalent sampling for DSO-5025E.

Input	
Input Coupling	DC , AC , GND
Input Impedance	DSO-5150E/DSO-5200E: 1±2% MΩ for parallel connection to 21±3pF
	DSO-5025E/DSO-5050E/DSO-5070E/DSO-5100E: 1±2% MΩ for parallel connection to 24±3pF;
Probe Attenuation Coefficient	1 x, 10 x, 100 x and 1000 x
The Maximum Input Voltage	400V (DC + AC peak value and input impedance of 1MΩ)
(Typical) delay between Channels1	150ps

Horizontal	
Waveform Interpolation	Sin (x) / x
Record Length	Sampling point of 2 x 521k
Storage Depth	25k
Scanning Scope	DSO-5070E/DSO-5100E/DSO-5150E/DSO-5200E: 2ns/div-50ns/div DSO-5050E: 5ns/div-50s/div DSO-5025E: 10ns/div-50s/div
Precision of sampling rate and delay time	± 50ppm (for any interval of at least 1ms)
Measurement precision (full band width) for interval (ΔT)	Single mode: ±(1 Sampling interval + 50ppm x reading +0.6ms) > 16 average values: ± ( 1 Sampling interval + 50ppm x reading +0.4ms)

Vertical	
Analog digital converter (A/D)	8-bit resolution with synchronous sampling for 2 channels
Scope of deflection coefficient (V/div)	DSO-5150E/DSO-5200E: 2mV/div~5V/div (in input BNC); DSO-5025E/DSO-5050E/DSO-5070E/DSO-5100E: 1mV/div (in input BNC)
Displacement Scope	± 10div
(Typical) optional band width limitation	20 MHz
Low-frequency response (AC coupling, -3dB)	≤ 10Hz (in BNC)
DC gain precision (by adopting sampling or sampling mode of average value)	DSO-5150E/DSO-5200E: ±4% if vertical Sensitivity is 2mV/div or 5mV/div ±3% if vertical Sensitivity is 10mV/div or 5mV/div DSO-5025E/DSO-5050E/DSO-5070E/DSO-5100E: ±5% if vertical Sensitivity is 1mV/div or 2mV/div ±4% if vertical Sensitivity is 5mV/div ±3% if vertical Sensitivity is 10mV/div or 20mV/div
DC measurement precision (by adopting average sampling mode)	DSO-5150E/DSO-5200E: if vertical displacement is not 0 and N ≥ 16; ±(4% x reading +0.1 grid +1mV) by selecting 2mV/div or 5mV/div; ±(3% x reading +0.1 grid +1mV) by selecting 10mV/div or 5mV/div; if vertical displacement is not 0 and N ≥ 16;

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Vertical (Cont.)	
DC measurement precision (by adopting average sampling mode)	$\pm [(3\% \times (\text{reading} + \text{vertical displacement reading}) + (1\% \times \text{vertical displacement reading}))]$ To add 2mV when setting from 2mV/div to 200mV/div; To add set value by 50mV when setting from 200mV/div to 5V/div ; DSO-5025E/DSO-5050E/DSO-5070E/DSO-5100E: If vertical displacement is 0 and $N \geq 16$ : $\pm (5\% \times \text{reading} + 0.1 \text{ grid} + 1\text{mV})$ by selecting 1mV/div or 2mV/div; $\pm (4\% \times \text{reading} + 0.1 \text{ grid} + 1\text{mV})$ by selecting 5mV/div; $\pm (3\% \times \text{reading} + 0.1 \text{ grid} + 1\text{mV})$ by selecting 10mV/div to 20V/div; if vertical displacement is not 0 and $N \geq 16$ ; $\pm [(3\% \times (\text{reading} - \text{vertical displacement reading}) + (1\% \times \text{vertical displacement reading})) + 0.2\text{div}]$ ; To add 2mV when setting from 5mV/div to 200mV/div : To add set value by 50mV when setting from 200mV/div to 20V/div;
Measurement precision of voltage difference ( $\Delta V$ ) (by adopting sampling mode of average value)	Voltage difference between any 2 points all the waveform after calculating average value for at least 16 captured waveform under the same setup and environment conditions: $\pm (3\% \times \text{reading} + 0.05\text{div})$

Band Width				
Series	Model	Analog Band Width	Single Channel Band Width	Rise Time
DSO-5000E	DSO-5025E	25MHz	25MHz	14ns
	DSO-5050E	50MHz	50MHz	7ns
	DSO-5070E	70MHz	70MHz	5ns
	DSO-5100E	100MHz	100MHz	3.5ns
	DSO-5010E	150MHz	100MHz	2.3ns
	DSO-5200E	200MHz	100MHz	1.8ns

Trigger		
Trigger Sensitivity	$\leq 1 \text{ div}$	
Trigger level Scope	Internal	$\pm 5\text{div}$ away from screen center
	EXT	$\pm 3V$
(Typical) precision of trigger level for signal of which Rise Time or Descend Time is not less than 20ns	Internal	$\pm (0.3\text{div} \times V/\text{div})$ (within scope of $\pm 4\text{div}$ from screen center)
	EXT	$\pm (6\% \text{ of set Value} \pm 40\text{mV})$
Pre-trigger ability	Normal mode/scanning mode, pre-trigger/delay trigger with adjustable pre-trigger depth	
Inhibition scope	DSO-5150E/DSO-5200E/100ns-1.5s DSO-5025E/DSO-5050E/DSO-5070E/DSO-5100E: 80ns-1.5s	
(Typical) level set to 50%	Operation if frequency of input signal is not less than 50Hz	

Edge Trigger	
Edge Trigger	Ascend, descend, ascend & descend

Pulse width Trigger	
Trigger mode	To be more than , less than or equivalent to positive/negative pulse width;
Pulse width scope	20ns - 10s

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Video Trigger*		
Trigger Sensitivity (typical video trigger)	Internal	Peak value of 2div
	EXT	400mV
	EXT / 5*	2V
Signal system and row/ field frequency (Video trigger type)	To support standard NTSC and PAL; Scope of row quantity IS 1-525 (NTSC) and 1-625 (PAL)	
ALT TRIG		
CH 1 trigger	Edge, pulse width and video	
CH 2 trigger	Edge, pulse width and video	

Note : DSO-5025E/DSO-5050E/DSO5070E/DSO-5100E has no EXT/5 function.

Only DSO-5025E/DSO-5150E/DSO-5200E has video trigger function.

Measurement		
Cursor	Manual mode	Voltage difference ( $\Delta V$ ) between cursors; Time difference ( $\Delta T$ ) between cursors; Reciprocal of $\Delta T$ ( $1/\Delta T$ )
	Tracing mode	Voltage and time of wavetorm point
		It is allowed to display cursor during automatic measurement.
Automatic measurement	Peak value, amplitude, the maximum value, the minimum value, top value, bottom value, middle value, average value, root-mean-square, overshoot, preshoot, frequency, cycle, RiseTime, Descend Time, positive pulse width, negative pulse width, positive duty cycle, negative duty cycle and delay.	
Mathematical operation	+, -, X, ÷	
FFT	Window	Hanning, Hamming, Blackman, Rectangle
	Sampling point	1024 points
Lissajous's figure	Phase location difference	± 3 degrees

Trigger Frequency Meter	
Reasing Resolution	6-bit
Trigger Sensitivity	≤ 30 Vrms
(Typical) Precision	± 51ppm (+1 word)
General Technical Dimension	

Display		
	DSO-5150E / DSO-5200E	DSO-5025E / DSO-5050E / DSO- 5070E / DSO-5100E
Display type	Diaazonal with diagonal of 145mm (5.7 inches)	Diagonal with diagonal of 178mm (7 inchcs)
Display Resolution	320 (horizontal) x RGB x 240 (vertical pixels)	800 (400) (horizontal) x RGB x 480 (240) (vertical pixels)
Display Color	Colorful	
Waveform Brightness	Adjustable (color)	
(Typical) backlight strength	300nit	
Category of display language	Multilingual selection	

Probe Compensator Output	
(Typical) Output Voltage	About 3V if peak value is not less than 1 MΩ
(Typical) Frequency	1kHz

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Interface function	
Standard Configuration	DSO-5150E / DSO-5200E: 1 USB(D); 1 USB(H) DSO-5025E / DSO-5050E / DSO-5070E / DSO-5100E: 1 USB OTG
Optional fittings	DSO-5150E / DSO-5200E: LAN

Power	
Power Voltage	100-240VACRMS, 45-440Hz, CAT II
Power Consumption	To be less than 30Va
Fuse	F1.6AL 250V; Fuses are on power board in the machine.

Environment	
Temperature Scope	Operation: 0°C~ +40°C
	Non-operation: -20°C~ +60°C
Cooling Method	Forced cooling by fan
Humidity Scope	< 35°C : ≤90%RH
	+35°C ~ +40°C : ≤60%RH
Altitude	Operation elevation of less than 3,000m
	Non-operation elevation of less than 15,000m

Machine Dimension			
		DSO-5150E DSO-5200E	DSO-5025E / DSO-5050E DSO-5070E / DSO-5100E
Dimension	Width	320mm	306mm
	Height	150mm	147mm
	Depth	130mm	122mm
Weight	Not containing package	2.5kg	2.2kg
	Containing package	4.0kg	3.3kg

IP protection	
ip2X	

Adjustment Interval	
Suggested calibration period is 1 year.	

**Standard Accessories:**

- 2 inactive probes of 1.2m and 1:1 (10: 1);
- 1 power chord to meet national standards;
- 1 "Operation Manual";
- 1 "Warranty Certificate";
- Communication control software of DSO-5000E Oscilloscope
- USB connecting Cables:
  - DSO-5150E / DSO-5200E :06
  - DSO-5025E / DSO-5050E / DSO-5070E / DSO-5100: D05

**Optional Accessories:**

DSO-5150E / DSO-5200E: LAN module:MO1

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