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 Leve II.

Order Code	Band Width	Real-Time
DSO-5050E	50MHz	500MS/s

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

TECHNICAL SPECIFICATIONS:

Sampling			
	Sampling mode	Real-time	Equivalent
Sampling Rate	DSO-5050E	500MS/s	25GS/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.

Input	
Input Coupling	DC, AC, GND
Input Impedance	1±2% MW for parallel connection to 21±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 1MW)
(Typical) delay between Channelsl	150ps

Horizontal	
Waveform Intercplation	Sin (x) / x
Record Length	Sampling point of 2 x 521k
Storage Depth	25k
Scanning Scope	5ns/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 (DT)	Single mode: ±(1 Sampling interval + 50ppm x reading +0.6ms)
	> 16 average values: ± (1 Sampling interval + 50ppm x reading +0.4ms)

Note: Specifications are subject to change.

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Vertical

Analog digital converter (A/D)	8-bit resolution with synchronous sampling for 2 channels
Scope of deflection coefficient (V/div)	1mV/div (in input BNC)
Displacement Scope	± 10div
(Typical) optIonal band width limitation	20 MHz
Low-freequency response (AC coupling, -3dB)	= 10Hz (in BNC)
DC gain precision (by adopting sampling or sampling mode of average value	±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

Vertical (Cont.)

DC measurement precision (by adopting average sampling mode)	± [(3% x (reading+vertical displacement reading)+ (1%xvertical 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 ; If vertical displacement is 0 and N = 16: ± (5% x reading+0.1 grid+1mV) by selecting 1mV/div or 2mV/div; ±(4% x rcading+0.1 grid+1mV) by selecting 5mV/div; ±(3% x reading+0.1 grid+ 1mV) by selecting 10mV/div to 20V/div; if vertical displacement is not 0 and N = 16; ± [(3% x (rcading--vcrtical displacement reading)+(1% x vertical displacement reading)] +0.2div; 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 (DV) (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: ±(3% x reading +0.05div)

Band Width

Analog Band Width	Single Channel Band Wdth	Rise Time
50MHz	50MHz	7ns

Trigger

Trigger Sensitivity	= 1 div	
Trigger level Scope	Internal	± 5div away from screen center
	EXT	± 3V
(Typical) precsion of trigger level for singnal of which Rise Time or Descend Time is not less than 20ns	Internal	± (0.3div x V/div) (within scope of ± 4div from screen center)
	EXT	± (6% of set Value ± 40mV)
Pre-trigger ability	Normal mode/scanning mode, pre-trigger/delay trigger with adjustable pre-trigger depth	
Inhibition scope	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

Note: Specifications are subject to change.

Video Trigger*

Trigger Sensitivity	Internal	Peak value of 2div
(typical video trigger)	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	

Measurement

Cursor	Manual mode	Voltage difference (DV) between cursors; Time difference (DT) between cu rsors; Reciprocal of DT (1/DT)
	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, ositive 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) Precistion	± 51ppm (+1 word)
General Technical Dimension	

Display

Display type	Diagonal with diagonal of 178mm (7 inchcs)
Display Resolution	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 MW
(Typical) Frequency	1kHz

Interface function

Standard Configuration	1 USB OTG

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.

Note: Specifications are subject to change.

Environment

Temperature Scope	Operation: 0°C˜ +40°C
	Non-oeration: -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

Dimension	Width	306mm
	Height	147mm
	Depth	122mm
Weight	Not containing package	2.2kg
	Containing package	3.3kg

IP protection : ip2X

Adjustment Interval: Suggested calibration period is 1 year.

Standard Accessories:

- Inactive probes of 1.2m and 1:1 (10: 1)----------------------2nos.
- Power chord to meet national standards ---------------------1nos.
- Operation Manual ---1nos.
- Warranty Certificate --1nos.
- Oscilloscope ---1nos.
- USB connecting Cables --1nos.

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Note: Specifications are subject to change.