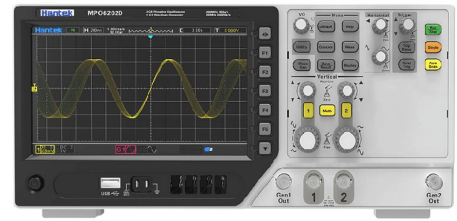


DPO6002B(C)/MPO6002D

The waveform capture rate of DPO6000/MPO6000 Fluorescent oscilloscope is up to 400,000 FPS. It has 256 grade color and color temperature display. Standard equipped with up to 16 kinds of trigger functions, 5 kinds of serial decoding functions. It supplies 200 MHz, 100 MHz and 80 MHz bandwidth, its memory depth is up to 64M, 16 channels logic analyzer plug and use, all standard equipped with 2 channels waveform generator, standard equipped with touch screen. It is a useful commissioning instrument for various fields such as communication, aerospace, defense, embedded systems, computers, research and education.

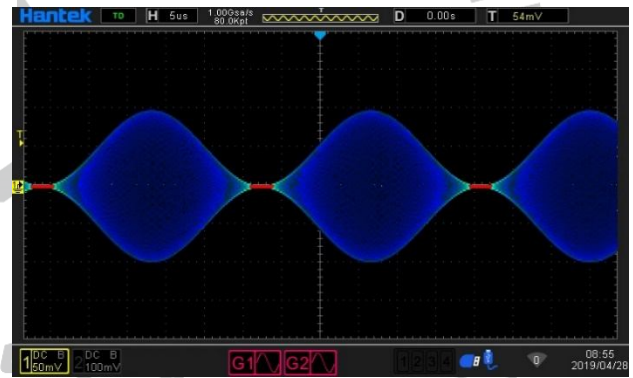
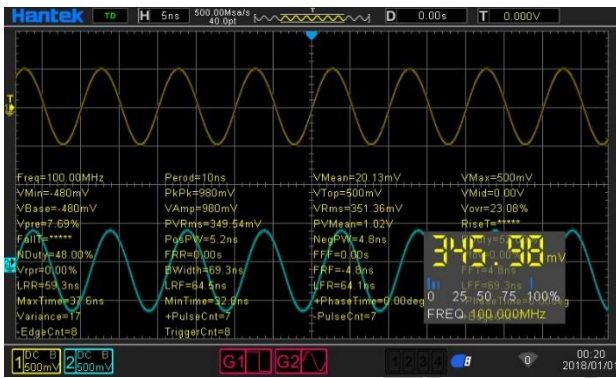


- ★ Six in one oscilloscope: 2 channels oscilloscope + 16 channels logic analyzer + 2 channels waveform generator + digital voltmeter + serial protocol analyzer + FFT spectral analysis.
- ★ 60 000 wfms/s (dots display) / 400,000 wfms/s (dots display quick acquisition mode) waveform capture rate.
- ★ Segmented acquisition function, support to capture up to 80,000 sections. 256 grade color display.
- ★ Up to 16 kinds of trigger functions, including 5 kinds of protocol triggers. Supply 5 serial decoding option.
- ★ 1 GSa/s real-time sample rate of the analog channels; 64 Mpts standard memory depth.
- ★ 2-channel signal source, 13 kinds of waveforms inside, 4 sets of arbitrary waveforms, 200M sample rate, 8Kpts waveform length.
- ★ 1 GSa/s real-time sample rate of the digital channels.
- ★ 200 MHz, 100 MHz and 80 MHz analog channel bandwidth.
- ★ Low base noise, 500uV/div to 10 V/div ultra-wide vertical dynamic range.
- ★ 7 inch WVGA capacitive touch screen, (800*480) TFT, with ultra-wide screen, vivid picture, low power consumption and long service life.
- ★ Auto measurement of 42 kinds of waveform parameters (with statistics).
- ★ 5 bits digital voltage meter and 6 bits hardware frequency indicator function.
- ★ Bode diagram function (the oscilloscopes with signal source function can use).
- ★ Multiple waveform math operation functions [MATH]. Event search function.
- ★ Standard interfaces: USB Device, USB Host, LAN, Optional interfaces: HDMI, UART
- ★ Conform to LXI CORE 2011 DEVICE class instrument standards; enable quick, economic and efficient creation and reconfiguration of test system. Supports remote command control.

Model	Channel	Bandwidth	Sampling	Resolution	Memory Depth	Touch Screen	Waveform Capture Rate	AFG	LA
DPO6082B	2CH	80MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	---	---
DPO6102B	2CH	100MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	---	---
DPO6202B	2CH	200MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	---	---
Model	Channel	Bandwidth	Sampling	Resolution	Memory Depth	Touch Screen	Waveform Capture Rate	AFG	LA
DPO6082C	2CH	80MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	---
DPO6102C	2CH	100MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	---
DPO6202C	2CH	200MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	---
Model	Channel	Bandwidth	Sampling	Resolution	Memory Depth	Touch Screen	Waveform Capture Rate	AFG	LA
MPO6082D	2CH	80MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	16CH
MPO6102D	2CH	100MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	16CH
MPO6202D	2CH	200MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	16CH

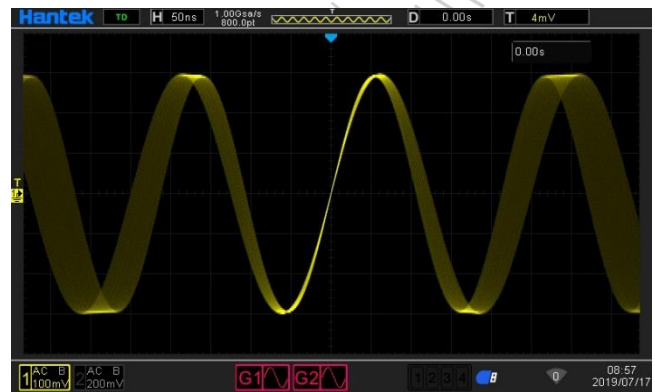
2-channel oscilloscope+2CH AFG + 16CH LA

Digital fluorescence display and color temperature display

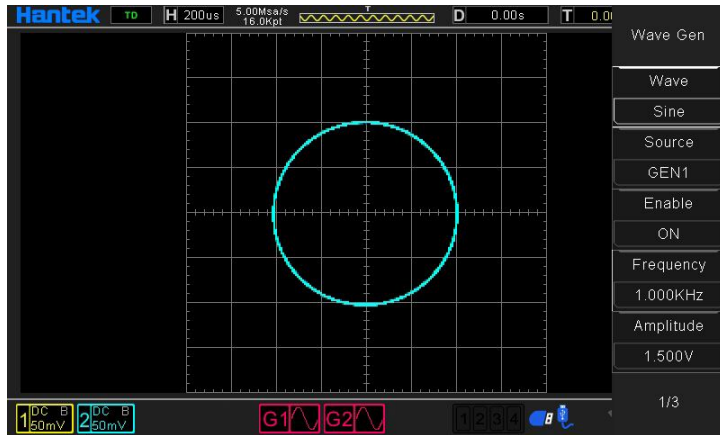


Bode diagram function

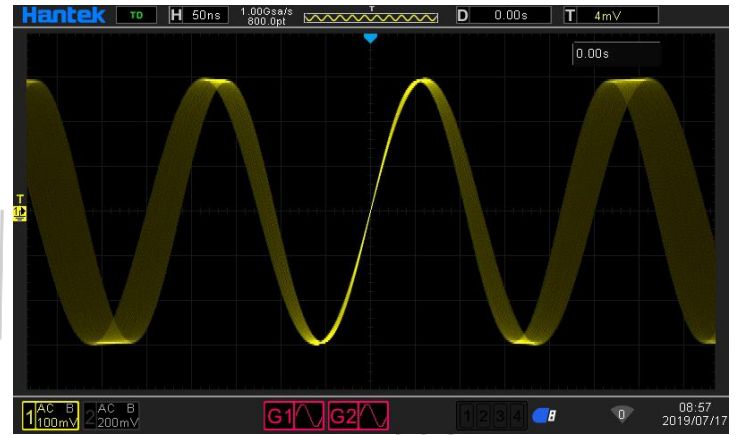
256 grade color display



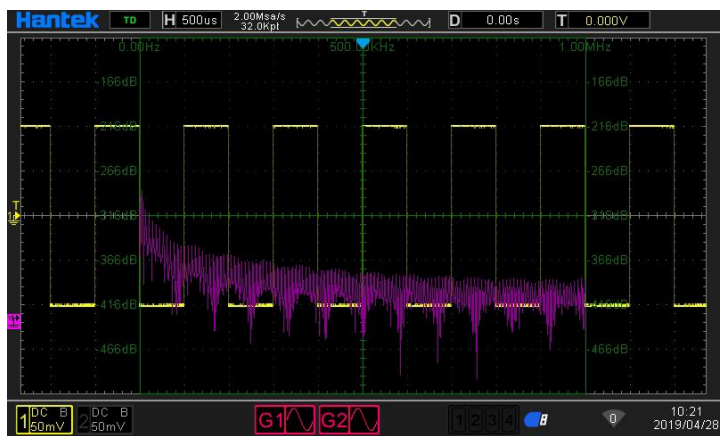
2-channel 25M waveform/Arb generator



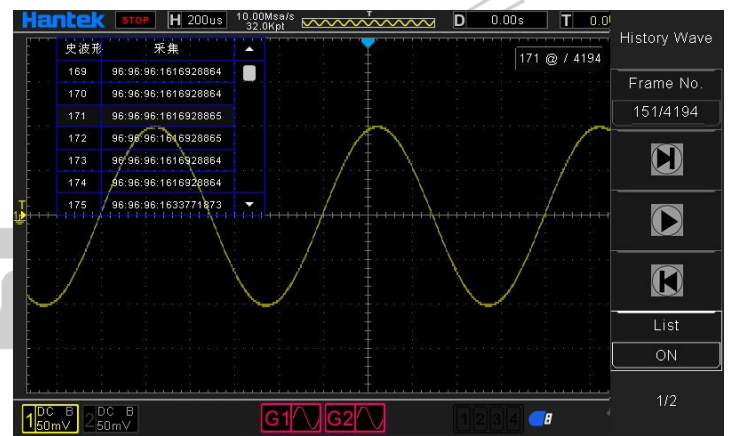
Waveform capture rate up to 400,000



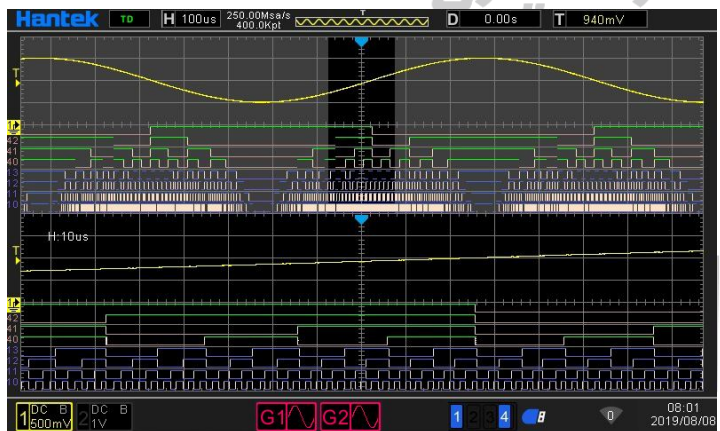
FFT function Scales show



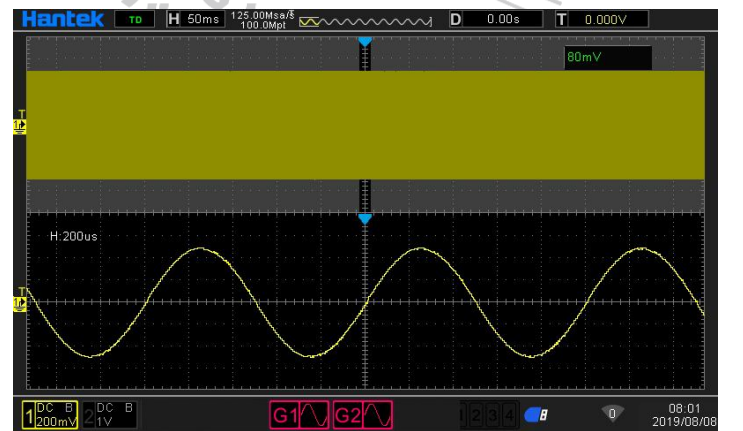
Segmented acquisition and history waveform



16-channel digital channel

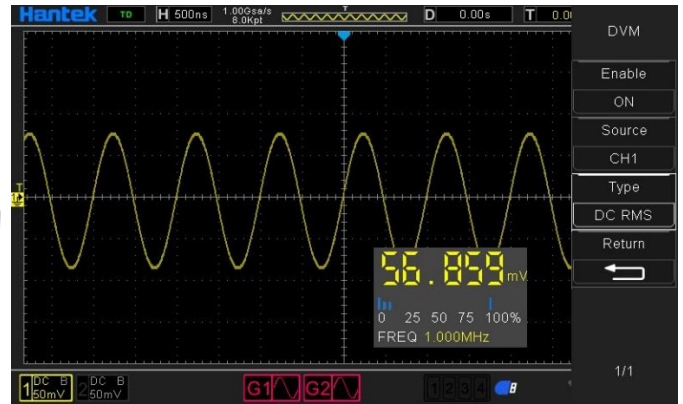
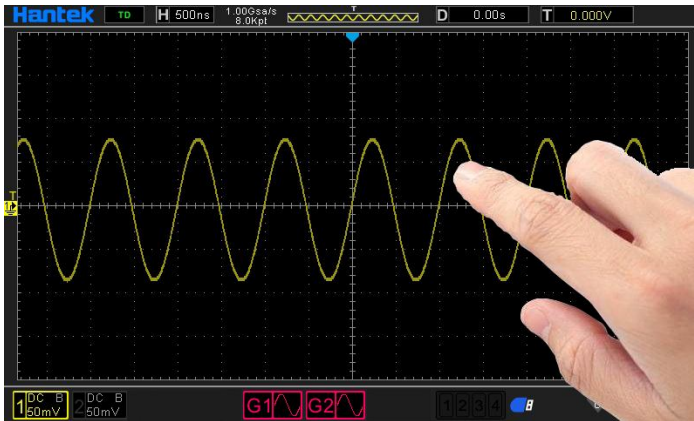


64M memory depth



7 inch capacitive touch screen

5 bits digital voltage meter , 6 bits frequency indicator



FFT function



◆ Parameters

Oscilloscope function

		تجهيزات اندازه گیری
Acquisition	Real-time sample rate	1 GSa/s (single channel) 500 MSa/s (two channels) Note : digital channel 12, 34 open at the same time, it is considered as one channel
	Peak detection	Analog channel 4ns Note : digital channels don't support
	Average mode	Analog channel All channels reach N time samples at the same time, N can be selected from 2, 4, 8, 16, 32, 64, 128, 256, 512 and 1024. Note : digital channels don't support
	High resolution	Up to 12bit Note : digital channels don't support
	Minimum test pulse width	8ns
	Memory depth	Single channel 64M

		Two channels 32M
Input	Channel quantity	4 analog channels
		Note : data channels can't be opened
		3 analog channels
		Note : digital channel LA1/LA2/LA3/LA4/LA1LA2/LA3LA4
		2 analog channels
		Note : digital channels infinitize
		1 analog channel
		Note : digital channels infinitize
		0 analog channel
	Note : digital channels infinitize	
	Input coupling	DC、 AC or GND
		Note : digital channels don't support
	Input impedance, DC coupling	Analog channel
25pF±3 pF, 1MΩ±2%		
Digital channel (300KΩ±2%) , (8 pF±3 pF)		
Supported probe attenuation factor	Analog channel 1X、 10X、 100X、 1000X	
Voltage classes	300V CAT II	
Maximum input voltage	Analog channel 300VRMS (10X)	
	Digital channel -25V~25V	
Horizontal	Waveform interpolation	(sin x)/x
	Maximum record length	Single channel maximum 64M
		Two channels maximum 32M
		three/four channels maximum 16M
	Horizontal scale range	DSO6084 DSO6104
		2ns/div~100s/div 1, 2, 5 step by step
	Time base mode	Y-T、 X-Y、 Roll
	X-Y number	Channel 1,2 1 XY channel、 channel3 4 1 XY channel
	Zero offset	±0.5 div× minimum time base gear
	Sample Rate and Delay Time Accuracy	±25ppm
	Clock drifting	≤±5 ppm/year
	Delta Time Measurement Accuracy	single, "acquisition" mode
	(Full Bandwidth)	± (1 sample interval+100ppm×reading+0.6ns)
> 16 times averages		

		$\pm (1 \text{ sample interval} + 100\text{ppm} \times \text{reading} + 0.4\text{ns})$		
		Sample interval = $\text{sec/div} \div 200$		
Vertical	Bandwidth (-3db)	DPO6082	DPO6102	DPO6202
		80MHz	100MHz	200MHz
	Vertical resolution	Analog channel 8bit		
		Digital channel 1bit		
	Vertical scale range	input BNC position is 500 μ V/div~10V/div		
	Position range	500 μ V/div to 120mV/div, ± 1 V		
		122mV/div to 1.2V/div, ± 10 V		
		1.22V/div to 10V/div, ± 50 V		
	Optional analog bandwidth limitation	Typical 20MHz		
	Bass response (-3db)	In BNC position is ≤ 10 Hz		
Rising time in BNC position, typical	DPO6082	DPO6102	DPO6202	
	≤ 4.4 ns	≤ 3.5 ns	≤ 1.8 ns	
Vertical gain accuracy	In "normal" or "average" acquisition mode, the accuracy of 10V/div to 10mV/div is $\pm 3\%$			
	In "normal" or "average" acquisition mode, the accuracy of 5mV/div to 500 μ V/div is $\pm 4\%$.			
DC offset accuracy	$\pm 0.1 \text{ div} \pm 2 \text{ mV} \pm 1\% \text{ offset value}$			
The isolation of channels	DC maximum bandwidth : $> 40 \text{ dB}$			

Note: Bandwidth reduced to 6MHz when using a 1X probe

Trigger	Trigger level range	± 5 divisions from the center of the screen			
	Trigger mode	auto, general, single			
	Level	CH1~CH2	± 4 divisions from the center of the screen		
	Holdoff range	8ns~10s			
	Trigger level accuracy	CH1~CH2	0.2 div \times volts/div within ± 4 divisions from the center of the screen		
	Edge trigger	Slope	Rising edge, falling edge, rising or falling edge		
		Signal source	CH1~CH2,		
			D1.0~D1.3,		
			D2.0~D2.3,		
	D3.0~D3.3, D4.0~D4.3				
Pulse width trigger	Polarity	Positive polarity, negative polarity			
	Condition(When)	<, >, !=, =			
	Signal source	CH1~CH2,			

		D1.0~D1.3, D2.0~D2.3, D3.0~D3.3, D4.0~D4.3	
	Pulse width range	8ns ~ 10s	
Video trigger	Signal standard	NTSC, PAL	
	Signal source	CH1~CH2	
	Synchronization	Scanning line, line number, odd field, even field, all field	
Slope trigger	Slope	rise, fal	
	condition(When)	<, >, !=, =	
	Signal source	CH1 ~ CH2	
	Time range	8ns ~ 10s	
Overtime trigger	Signal source	CH1~CH2, D1.0~D1.3, D2.0~D2.3, D3.0~D3.3, D4.0~D4.3	
		Polarity	Positive polarity, negative polarity
		Time range	8ns ~ 10s
		Window trigger	Signal source
Pattern trigger	Pattern	0:low level ; 1:high level ; X:ignore ;	
	Level (signal source)	CH1~CH2	
Interval trigger	Slope	rise, fall	
	condition(When)	<, >, !=, =	
	Signal source	CH1~CH2, D1.0~D1.3, D2.0~D2.3, D3.0~D3.3, D4.0~D4.3	
		Time range	8ns ~ 10s
		Delay	Edge type

trigger	Signal source	CH1~CH2
	condition(When)	<, >, !=, =
	Time range	8ns ~ 10s
Set up hold trigger	Edge type	Rising edge, falling edge
	Signal source	CH1~CH2
	condition(When)	<, >, !=, =
Runt trigger	Polarity	Positive polarity, negative polarity
	Condition(When)	<, >, !=, =
	Time range	8ns ~ 10s
UART trigger	condition(When)	start, stop, data, odd-even check, reception error
	Signal source(RX/TX)	CH1~CH2, D1.0~D1.3, D2.0~D2.3, D3.0~D3.3, D4.0~D4.3
	Data format	Hex (hexadecimal)
	Data length	1 byte
	Data bit width	5 bit, 6 bit, 7 bit, 8 bit
	Odd-even check	none, odd, even
	Free level	high, low
	Baud rate (optional)	110/300/600/1200/2400/4800/9600/14400/19200/38400/57600/115200/230400/380400/460400 bit/s
	Baud rate(user-defined)	300bit/s~334000bit/s
LIN trigger	condition(When)	Interval field, synchronization field, ID field, synchronization error, identifier, IDand data
	Signal source	CH1~CH2, D1.0~D1.3, D2.0~D2.3, D3.0~D3.3, D4.0~D4.3
Data format	Hex (hexadecimal)	

		Baud rate(optional)	110/300/600/1200/2400/4800/9600/14400/19200/38400/57600/115200/230400/380400/460400 bit/s
		Baud rate(user-defined)	300bit/s~334000bit/s
CAN trigger	condition(When)		Start bit、 remote frame ID、 data frame ID、 frame ID、 remote frame data、 data frame data、 wrong frame、 all errors、 answer error、 overload frame
	Signal source		CH1~CH2
	Data format		Hex (hexadecimal)
	Baud rate(optional)		10000, 20000, 33300, 50000, 62500, 83300, 100000, 125000, 250000, 500000, 800000, 1000000
	Baud rate(user-defined)		5kbit/s~1Mbit/s
SPI trigger	Signal source		CH1~CH2, D1.0~D1.3, D2.0~D2.3, D3.0~D3.3, D4.0~D4.3
	Data format		Hex (hexadecimal)
	Data bit width		4, 8, 16, 24, 32
IIC trigger	Signal source (SDA/SCL)		CH1~CH2, D1.0~D1.3, D2.0~D2.3, D3.0~D3.3, D4.0~D4.3
	Data format		Hex (hexadecimal)
	Data index		0~7
	opportunity(condition)		Start bit、 stop bit、 no response、 address、 data、 restart
Measurement	cursor		Voltage difference between cursors ΔV
			Time difference between cursors ΔT
			Reciprocal of ΔT , in Hertz ($1/\Delta T$)
	Auto measurement		frequency、 period、 mean、 peak-to-peak、 RMS、 minimum、 maximum、 rising time、 falling time、 + width、 - width、 base、 top、 middle、 amplitude、 overshoot、 preshoot、 rising edge phase difference、 falling edge phase difference、 +

		duty, - duty, period mean, PRMS, FOVshoot, ROVshoot, BWIDTH, FRF, FFR , LRR, LRF, LFR, LFF		
DVM	Data source	CH1, CH2		
	Measurement type	DC effective value		
		AC effective value		
Frequency meter	DC hardware 6 bits frequency meter			
Arbitrary waveform generator				
Arbitrary waveform generator (for oscilloscopes with signal source channels)	Channel number	2 channels		
	Sample rate	200MSa/s		
	Vertical resolution	12 bits		
	Maximum frequency	25 MHz		
	Standard waveforms	sin, square, pulse, triangular, noise, DC		
		Sinc, index, semi-distortion, lorentz, dual tone multiple frequency, gauss, ECG		
	Arbitrary waveform	Arb1, Arb2, Arb3, Arb4		
	Sin	Frequency range	0.1Hz~25MHz	
	square/pulse	Frequency range	0.1Hz~10MHz	
	triangular wave	Frequency range	0.1Hz~1MHz	
	Sampling wave	Frequency range	0.1Hz~1MHz	
	Index	Frequency range	0.1Hz~5MHz	
	Semi-distortion	Frequency range	0.1Hz~1MHz	
	lorentz	Frequency range	0.1Hz~1MHz	
	Dual tone multiple frequency	Frequency range	0.1Hz~1MHz	
	Gauss	Frequency range	0.1Hz~1MHz	
	ECG	Frequency range	0.1Hz~1MHz	
	Arbitrary wave	Frequency range	0.1 Hz to 10 MHz	
	Waveform length	8KSa		
	Frequency	accuracy	100 ppm (<10 kHz) 50 ppm (>10 kHz)	
		resolution	0.1 Hz or 4 bits, take the greater one	
	Amplitude	Output range	10mV~7Vp-p(high impedance)	
			5mV~3.5Vp-p(50Ω)	
DC offset	range	±3.5 V, high impedance		
		±1.75 V, 50 Ω		
	resolution	100 μV or 3 bits, take the greater one		
	accuracy	2% (1 kHz)		

	Output impedance	50 Ω
Logic analyzer		
Logic analyzer	Input impedance,DC coupling	Digital channel (300K Ω \pm 2%) , (8 pF \pm 3 pF)
	Threshold value	4 channels in 1 group adjustable threshold value
	Threshold option	TTL (1.4 V)
		5.0 V CMOS (+2.5 V)
		3.3 V CMOS (+1.65 V)
		2.5 V CMOS (+1.25 V)
		1.8 V CMOS (+0.9 V)
		ECL (-1.3 V)
		PECL (+3.7 V)
		LVDS (+1.2 V)
		0V
		User-defined
Threshold range	\pm 7.0V, 10mV step by step	
Threshold accuracy	\pm (100mV+3% threshold setting)	
Dynamic range	\pm 5.0V+ threshold	
Minimum voltage swing	500 mVpp	
Vertical resolution	1 bit	
General specifications		
Display	Display type	7"TFT diagonal liquid crystal
	Display resolution	800 (horizontal) *480 (vertical) pixels
	Display colour	16 million colours (24 bits true colour)
	Persistence time	minimum, 1 s, 5 s, 10 s, 30S, infinite
	Display type	dot, vector
	Display mode	Color temperature, gray scale
	Display brightness	adjustable
	Grid type	adjustable
	Grid brightness	adjustable
Interface	Standard interface	USB Host, USB Device, LAN, EDU signal WIFI Aux (trigger output/PassFail) --only EDU with this interface
		PassFail
	Optional interface	UART
		HDMI
General specifications	Probe compensator output	
	Output voltage , typical	about 2Vpp input \geq 1M Ω load
	frequency, typical	1kHz

Power supply		100-120VACRMS($\pm 10\%$), 45Hz to 440Hz, CAT II
		120-240VACRMS($\pm 10\%$), 45Hz to 66Hz, CAT II
Power consumption		<30W
Fuse		T, 3.15A, 250V, 5x20mm
Operating temperature		0~50 °C (32~122 °F)
Storage temperature		-40~+71 °C (-40~159.8 °F)
Humidity		$\leq +104^{\circ}\text{F} (\leq +40^{\circ}\text{C})$: $\leq 90\%$ relative humidity
		106°F~122°F (+41°C ~50°C): $\leq 60\%$ relative humidity
Cooling method		convection
Altitude		Operating and nonoperating 3,000m (10,000 feet)
Mechanical shock		Random vibration 0.31 g _{RMS} from 50Hz to 500Hz, 10 minutes on each axis
		Nonoperating 2.46g _{RMS} from 5Hz to 500Hz, 10 minutes on each axis
		Operating 50g, 11ms, half-sine wave
Mechanical	Size	318 x 140 x 150mm(length x width x height)
	Weight	2900g

مولتی‌کو

تجهیزات اندازه گیری