DPO6004B(C)/MPO6004D Series

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:4 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 standardmemory depth.

★2-channe 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, lowpower consumption and long service life.

★Auto measurement of 42 kinds of waveform parameters (with statistics).

★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.

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| Model	Channel	Bandwidth	Sampling	Resolution	Menory Depth	Touch Screen	Waveform Capture Rate	AFG	LA
DPO6084B	4CH	80MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	--	--
DPO6104B	4CH	100MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	--	--
DPO6204B	4CH	200MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	--	--
Model	Channel	Bandwidth	Sampling	Resolution	Menory Depth	Touch Screen	Waveform Capture Rate	AFG	LA
DPO6084C	4CH	80MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	--
DPO6104C	4CH	100MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	--
DPO6204C	4CH	200MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	--
Model	Channel	Bandwidth	Sampling	Resolution	Menory Depth	Touch Screen	Waveform Capture Rate	AFG	LA
MPO6084D	4CH	80MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	16CH
MPO6104D	4CH	100MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	16CH
MPO6204D	4CH	200MHz	1GS/s	500uV~10V	64M	Yes	60,000/400,000	2CH	16CH

## 4-channel oscilloscope+2CH AFG + 16CH LA
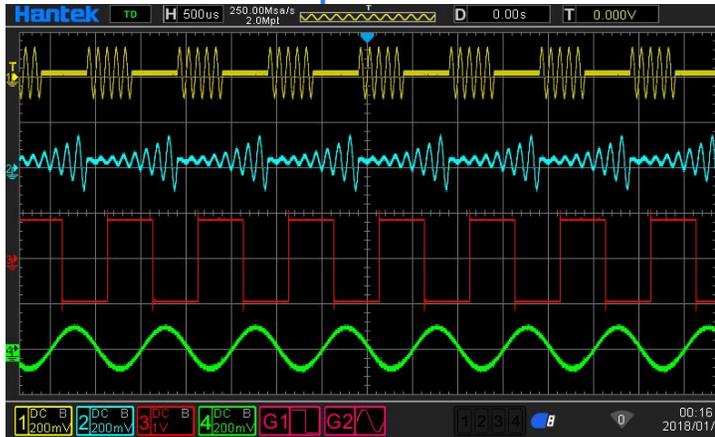
## Digital fluorescence display and color temperature display
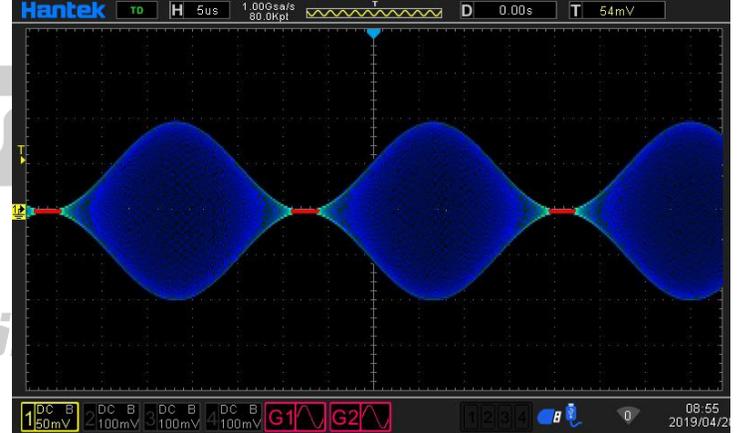

Bode diagram function
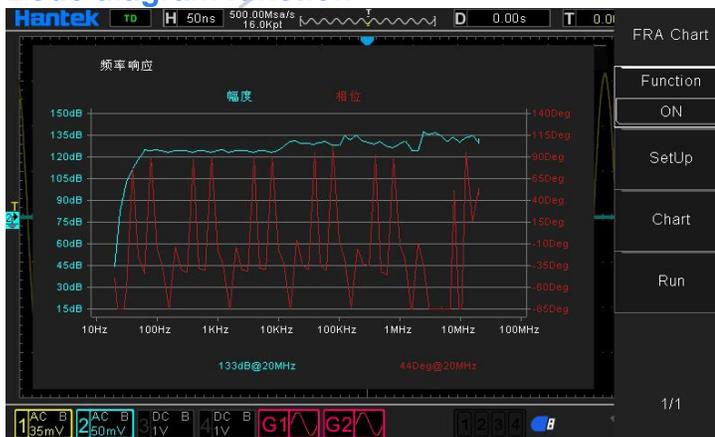
256 grade color display
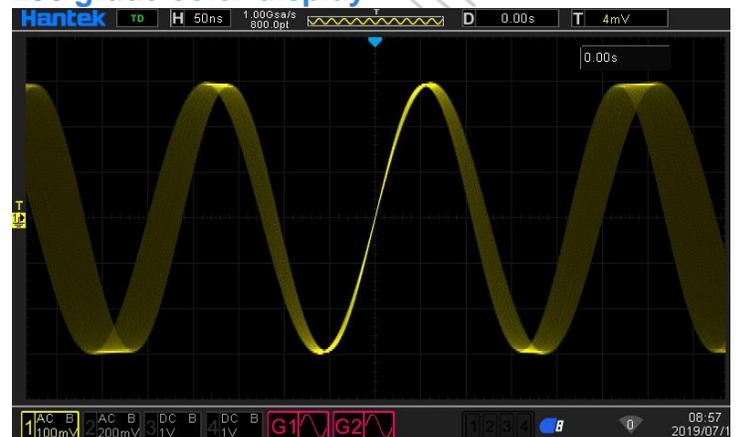
2-channel 25M waveform/Arb generator
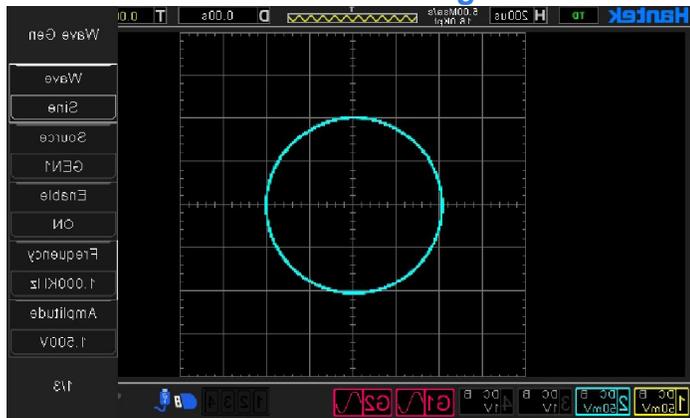
Waveform capture rateup to 400,000
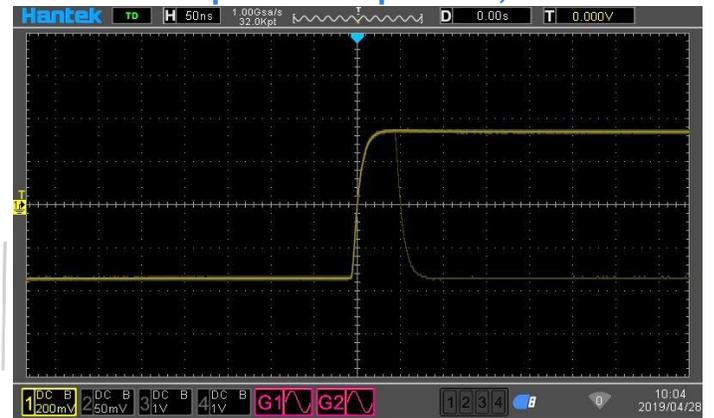
FFT function Scales show

Segmented acquisition and history waveform
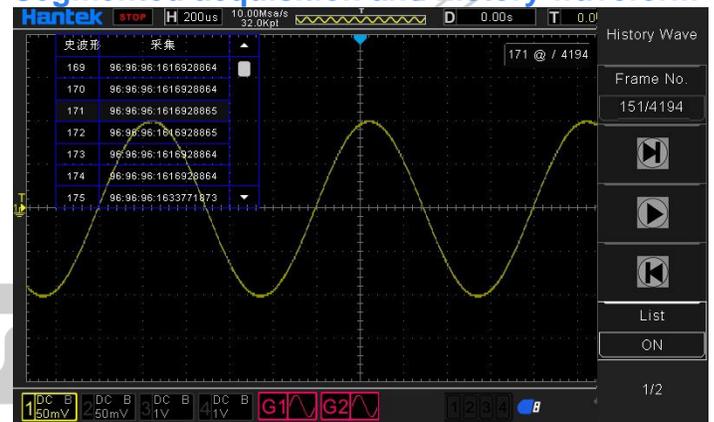
16-channel digital channel
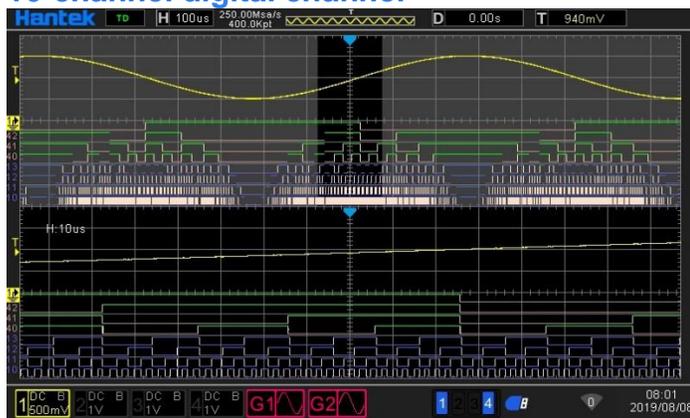
64M memory depth
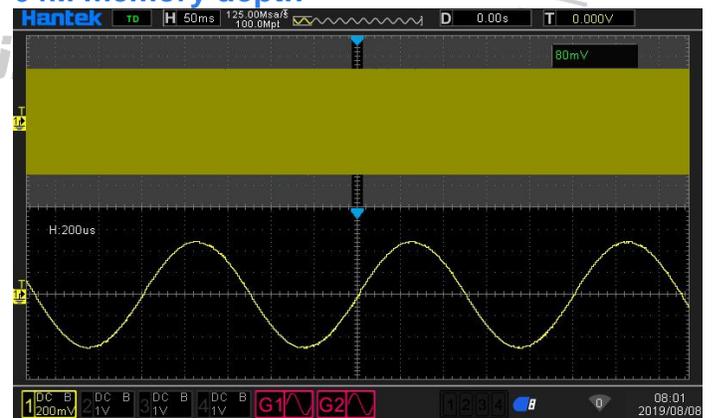
7 inch capacitive touch screen
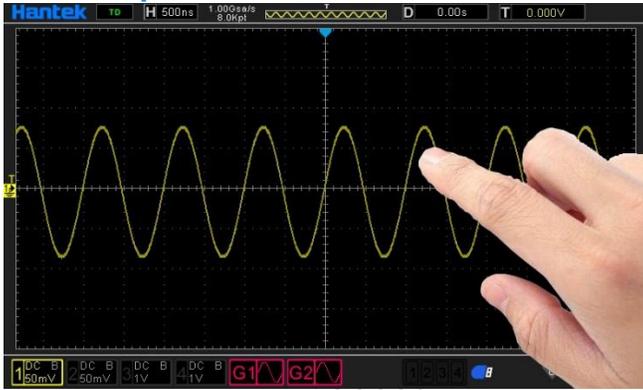
5 bits digital voltage meter , 6 bits frequency indicator
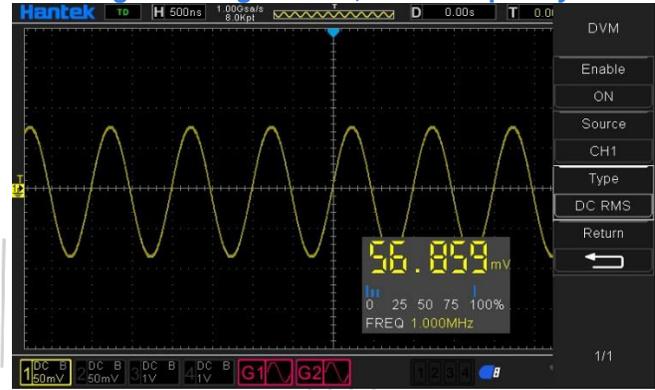
FFT function

◆ Parameters

Oscilloscope function		
Acquisition	Real-time sample rate	1 GSa/s（single channel） 500 MSa/s（two channels）
		250 MSa/s（three/four 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

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	Minimum test pulse width	8ns
	Memory depth	Single channel 64M
		Two channels 32M
		Three, four channels 16M
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 maximum32M

		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	±25ppm		
	Delay Time Accuracy			
	Clock drifting	≤±5 ppm/year		
	Delta Time Measurement	single，"acquisition"mode		
	Accuracy			
	(Full Bandwidth)	±（1 sample interval+100ppm×reading+0.6ns）		
		＞16 times averages		
		±（1 sample interval+100ppm×reading+0.4ns）		
		Sample interval=sec/div÷200		
Vertical	Bandwidth（-3db）	6084	6104	6204
		80MHz	100MHz	200MHz
	Vertical resolution	Analog channel 8bit		
		Digital channel 1bit		
	Vertical scale range	nput BNC position is 500μV/div~10V/div		
	Position range	500μV/div to 120mV/div， ±1V		
		122mV/div to 1.2V/div， ±10V		
		1.22V/div to 10V/div， ±50V		
	Optional analog bandwidth limitation	Typical 20MHz		
	Bass response（-3db）	In BNC position is≤10Hz		
	Rising time in BNC position， typical	6084	6104	6204
		≤4.4ns	≤3.5ns	≤1.8ns

	Vertical gain accuracy		In "normal" or "average" acquisition mode, the accuracy o f 10V/div to 10mV/div is ±3%	
			In "normal" or "average" acquisition mode, the accuracy of 5mV/div to 500uV/div is ±4%.	
	DC offset accuracy		±0.1 div±2 mV±1% offset value	
	The isolation of channels		DC maximum bandwidth：>40 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~CH4	±4 divisions from the center of the screen
	Holdoff range		8ns~10s	
	Trigger level accuracy		CH1~CH4	0.2 div×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~CH4,	
			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~CH4,	
			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~CH4	

		Synchronization	Scanning line、line number、odd field、even field、all field
	Slope trigger	Slope	rise, fal
		condition(When)	<, >, !=, =
		Signal source	CH1 ~ CH4
		Time range	8ns ~ 10s
	Overtime trigger	Signal source	CH1~CH4,
			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	CH1~CH4LA1~LA4
	Pattern trigger	Pattern	0:low level ; 1:high level ; X:ignore ;
		Level（signal source）	CH1~CH4
	Interval trigger	Slope	rise, fall
		condition(When)	<, >, !=, =
		Signal source	CH1~CH4,
			D1.0~D1.3,
			D2.0~D2.3,
			D3.0~D3.3,
			D4.0~D4.3
		Time rangeTime range	8ns ~ 10s
	Delay trigger	Edge type	Rising edge, falling edge
		Signal source	CH1~CH4
		condition(When)	<, >, !=, =
		Time range	8ns ~ 10s

		Edge type	Rising edge, falling edge
	Set up hold trigger	Signal source	CH1~CH4
		condition(When)	<, >, !=, =
		Time range	8ns ~ 10s
	Runt trigger	Polarity	Positive polarity, negative polarity
		Condition(When)	<, >, !=, =
		Signal source	CH1~CH4
		Time range	8ns ~ 10s
	UART trigger	condition(When)	start、stop、data、odd-even check、reception error
		Signal source(RX/TX)	CH1~CH4,
			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~CH4,
			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~CH4
		Data format	Hex（hexadecimal）
		Baud rate(optional)	10000, 20000, 33300, 500000, 62500, 83300, 100000, 125000, 250000, 500000, 800000, 1000000
		Baud rate(user-defined)	5kbit/s~1Mbit/s
	SPI trigger	Signal source	CH1~CH4,
			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~CH4,
			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
Measureme	cursor		Voltage difference between cursors △V

nt			
		Time difference between cursors △T	
		Reciprocal of △T, in Hertz（1/△T）	
	Auto measurement	frequency、period、mean、peak-to-peak、RMS、minimum、mixmum、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，CH3，CH4
		Measurement type	DC effective value
			AC effective value
			DC
		Frequency meter	hardware 6 bits frequency meter

Arbitrary waveform generator

	Channel number	2channels	
	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 generator(for oscilloscope s with signal source channels)	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

	Input impedance,DC coupling	Digital channel
		(300KΩ±2%), (8 pF±3 pF)
	Threshold value	4 channels in 1 group adjustable threshold value
Logic analyzer	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	±7.0V, 10mV step by step
	Threshold accuracy	±(100mV+3% threshold setting)
	Dynamic range	±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
	Optional interface	PassFail
		UART
		HDMI
General specifications	Probe compensator output	
	Output voltage，typical	about 2Vpp input≥1MΩ load
	frequency、typical	1kHz
	Power supply	100-120VACRMS(±10%), 45Hz to 440Hz, CAT Ⅱ

		120-240VACRMS(±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		≤+104°F(≤+40°C): ≤90% relative humidity
		106°F~122°F (+41°C ~50°C): ≤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