OWON®

Power supply

DSO

AG

ANDROID MULTI-FUNCTION TESTER

>>>

- FDS1000 SERIES

Multi-meter

MULTI-FUNCTION HARDWARE INTEGRATION

4-in-1 [DSO + AG + Power supply + Multi-meter]

14-bits ADC DSO (FDS1102A)
100MHz bandwidth
1GSa/S sampling rate

4 (1/2) Multi-meter
Supporting AC/DC voltage,
current, resistance, capacitance,
on/off, diode test

Waveform Generator
Up to 50MHz dual channel

Power Supply
Dual channel 15V 3A, 15W constant power
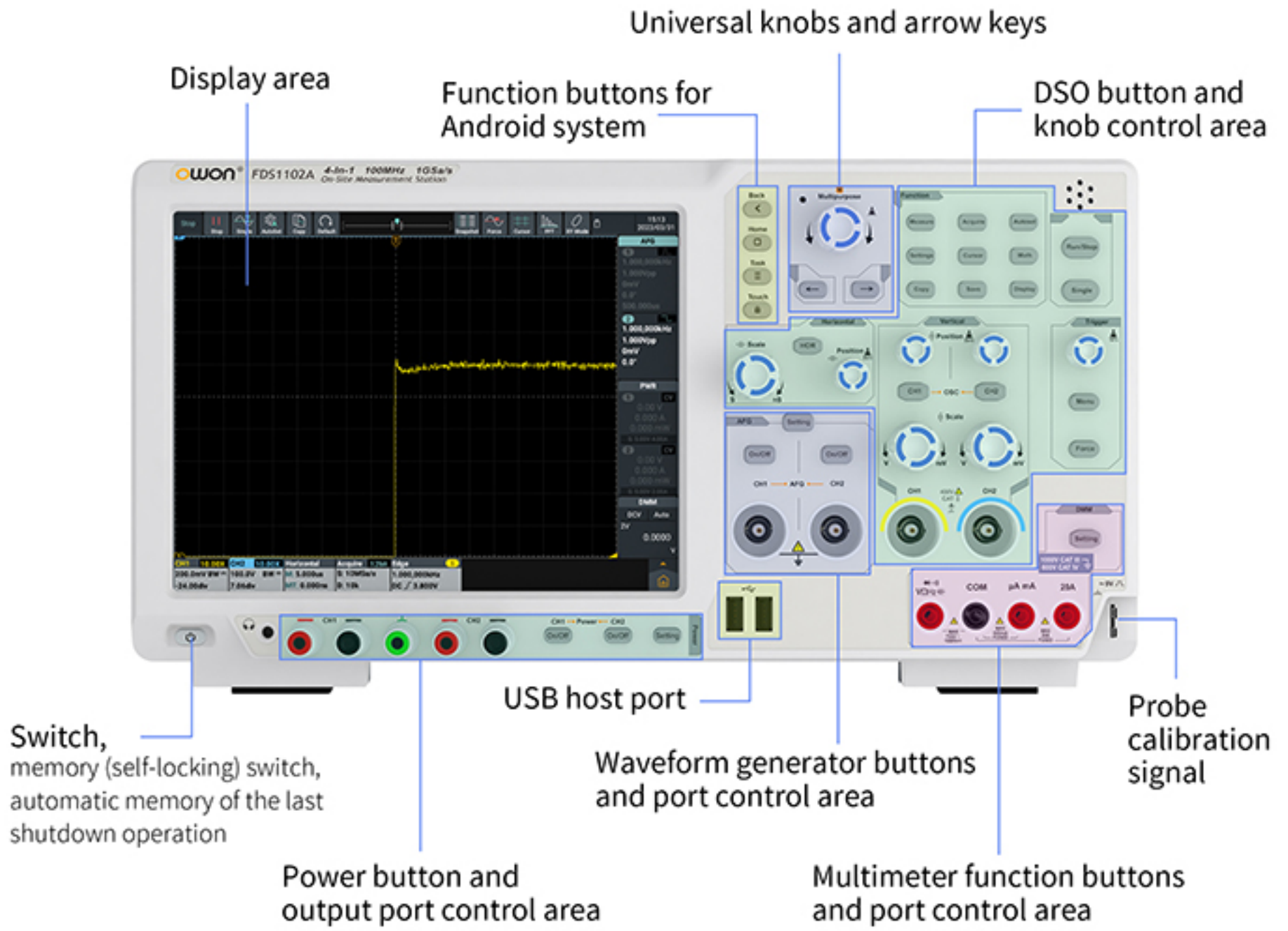
ANDROID BASED,
NEW EXPERIENCE, MORE POSSIBILITY

◆ Supports external HDMI display, mouse and keyboard, facilitating complex editing operations

◆ Supports configuring multi-media equipment, such as camera, microphone, speaker and headphone jack, expand more teaching methods

◆ Supports network communicating via LAN and WIFI (optional module). Users can access web pages through the browser

◆ Built-in Web Server, supports users to control the instrument through the web page

◆ Quickly save the instrument interface picture and test process video, and easy to review.

◆ The built-in APP can also be used for document editing and Python secondary development

◆ 10.4 inch capacitive touch display, new design UI, new touch experience

◆ Rich interface: USB host x4, USB 2.0 device, LAN, HDMI, audio, external trigger input, auxiliary output (trig out, pass/fail)
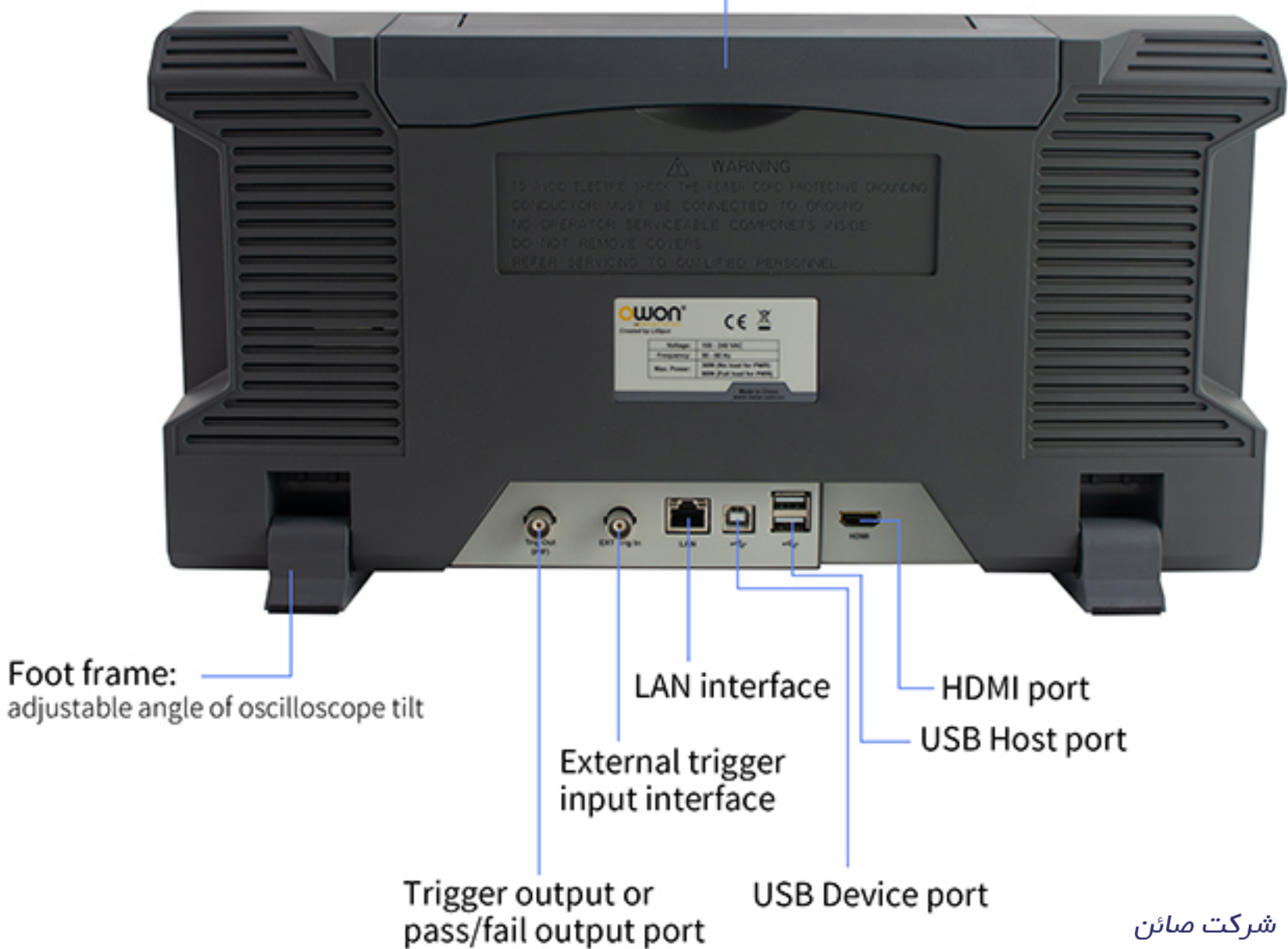
◆ Supports SCPI for secondary development

EXCELLENT PERFORMANCE, EASY TO TEST

◆ Supports edge trigger, slope, pulse width, window, under amplitude, interval, timeout, code type, Nth edge, video trigger, serial bus trigger etc.

◆ Supports waveform cloning function, complete restore test signal

◆ The power supply supports serial and parallel connection, Max 30W

◆ Supports custom function of waveform calculation

◆ Supports frequency response analysis chart testing
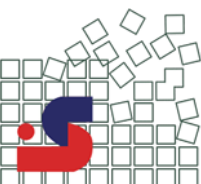
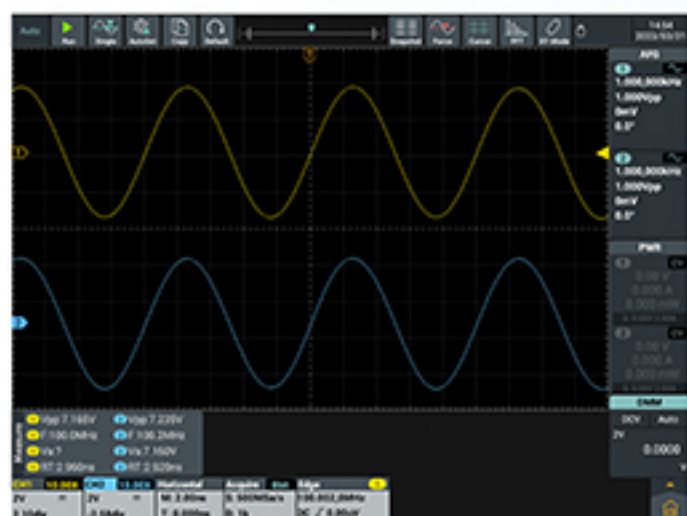◆ Supports digital filtering

PRODUCT STRUCTURE ANALYSIS

Display area

Function buttons for Android system

Universal knobs and arrow keys

DSO button and knob control area

USB host port

Switch,
memory (self-locking) switch,
automatic memory of the last
shutdown operation

Power button and
output port control area

Waveform generator buttons
and port control area

Multimeter function buttons
and port control area

Probe
calibration
signal

Portable handle

Foot frame:
adjustable angle of oscilloscope tilt

LAN interface

HDMI port

USB Host port

External trigger
input interface

USB Device port

Trigger output or
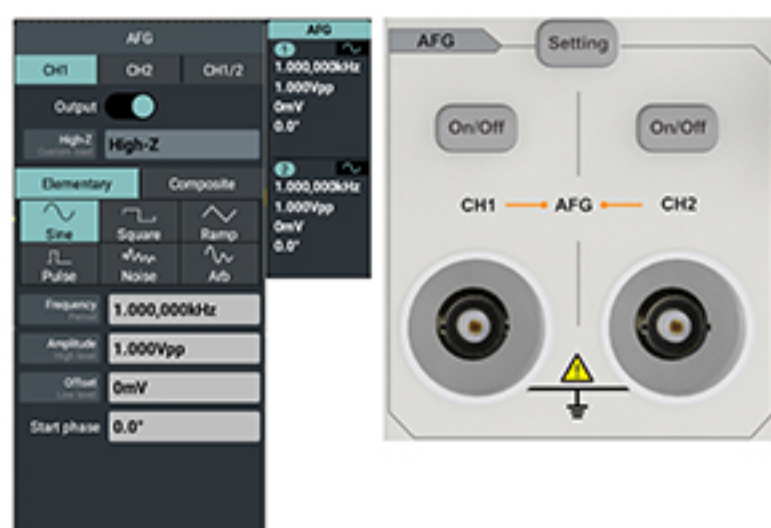pass/fail output port

MULTI-FUNCTION HARDWARE INTEGRATION

Digital Oscilloscope

+ Bandwidth: 100MHz
+ Sampling rate: 1GS/s
+ 2 channels
+ 14-bits ADC (FDS1102A)

Waveform Generator

+ Dual channel
+ Output frequency: 50MHz
+ Sampling rate: 300MS/s
+ Arb waveform length: 8K
+ Vertical Resolution : 14 bits
+ Amplitude: 2mVpp -10Vpp

Power Supply

+ 15V/3A dual output power supply
  (Output Power:15W)
+ Setting accuracy: 10mV/10mA
+ Low ripples / low noise:
  ⩽ 2mVrms / ⩽ 5mArms

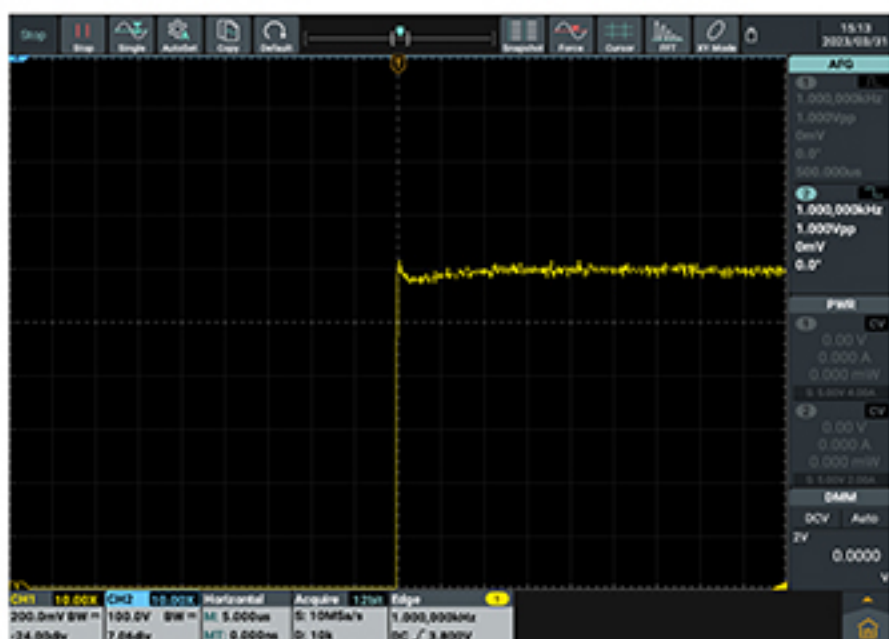## 4 1/2 digits Digital Multimeter

+ 20000 Count
+ Automatic range
+ Supports voltage, current,
  resistance, Diode Test,
  capacitance On/Off,

FUNCTIONAL APPLICATION

14bits ADC high resolution oscilloscope, meet higher precision of test demand

The measuring accuracy is 16 times, 64 times of the ordinary oscilloscope, better presentation and more waveform details.

Rich trigger function

With edge, slope, pulse width, window, under amplitude, timeout, Nth edge, video trigger (HDTV supported) and other serial bus trigger functions.
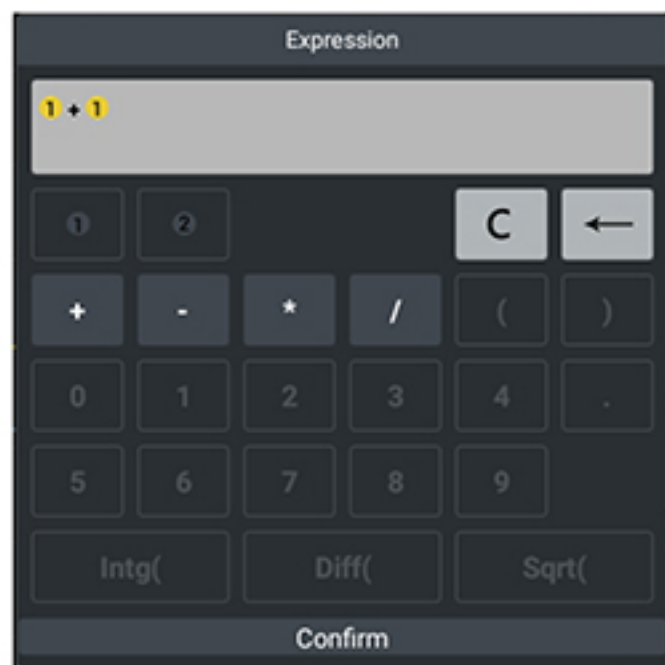
Waveform cloning function

Completely retain the field test signal, and one key copy to the local waveform generator output for further analysis and testing.

Multiple math operations

Supports math operations, supports formula editing custom operations, used to achieve complex math operations

Frequency Response Analysis (FRA) function

The oscilloscope with built-in signal generator is equipped with FRA function, which can test the frequency response curve or loop stability of the device under test (DUT).

SCPI supported

Convenient for secondary development, the preload Python APP can be used for directly edit and run the development program on the machine.

Built-in Web Server

supports users to operate the instrument through the web page. Easy to get started from the complete virtual interface, respond fast.

ANDROID BASED DESIGN, MORE APPLICATION SCHEME

PPT

PDF

Supports external HDMI display, mouse and keyboard, In the teaching application, students can search the data via the instrument's wireless internet. The instrument also supports variety of standard teaching documents and videos playing. Supports equipment expansion, such as camera, microphone, speaker and other multimedia equipment, convenient for cross-regional remote experimental guidance.

EXCELLENT USER INTERFACE AND USER EXPERIENCE

Use a 10.4 inch capacitive touch screen, like touching a mobile phone. Supports variety of gestures to achieve waveform and menu common operations. Supports mouse and keyboard operations, greatly optimized the operation efficiency.

PERFORMANCE SPECIFICATIONS

Oscilloscope Specifications

Modle	FDS1102	FDS1102A
Bandwidth	100MHz	
Sample Rate	1GS/s	
Vertical Resolution (A/D)	8bits	14bits
Channel	2	
Input impedance	1MΩ ± 2%, in parallel with 15pF ± 5pF	
Input coupling	DC, AC, and GND	
Record length	10M	
Horizontal Scale (s/div)	2ns/div - 1000s/div, step by1 - 2 - 5	
Max Input Voltage	1MΩ ≤ 300Vrms;	
Vertical Sensitivity	1mV/div - 10V/div (at input)	
Cursor Measurement	△V, and △T between cursors, △V and △T between cursors, and auto- cursors	
Automatic Measurement	Period, Frequency, +Pulse Width, -Pulse Width, Rise Time, Fall Time, Screen Duty, +Duty Cycle, -Duty Cycle, PK-PK, RMS, Overshoot, Max, Min, Top, Cycle RMS, Base, Amplitude, Preshoot, +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge Count, Area、Cycle Area, Delay A→B ⸆ , Delay A→B ⸆ , Phase, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF	
Waveform Math	+, -, ×, ÷, FFT, User Defined Function, digital filter	
Waveform Storage	128MB,100 waveforms	
Lissajou's Figure — Bandwidth	full bandwidth	
Lissajou's Figure — Phase Difference	±3 degrees	
Trigger Type	Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I^{2}C, SPI, RS232, LIN and CAN	
Line / Field Frequency (video)	NTSC, PAL and SECAM standard	
Trigger Mode	Auto, Normal, and Single	
Interface	HDMI, USB device x 1, USB Host x 4, Trig Out(P/F), LAN, earphone	
Frequency Counter	available	
Wi-Fi (optional)	available	
Display	10.4 inch (1024×768) touch LCD	

Power Specifications

Channel		CH1/CH2
Rated Output (0℃-40℃)	Max Voltage	0.1 - 15V
	Max Current	0.1 - 3A
	Max Power	15W
Setting Resolution	Voltage	10mV
	Current	10mA

Multimeter Specification

Full Scale Reading	4½ digits	Frequency Response	(40 - 1000) Hz
Auto Range	√	Ture rms	√
Measure	Voltage, Current, Capacitance, Resistance, Duty cycle, Continue, Diode test		

Waveform Generator Specification

Max Frequency Output	50MHz
Sample Rate	300MS/s
Channel	2
Amplitude (High Resistance)	2mVpp - 10Vpp
Waveform Length	8K

Specifications subject to change without prior notice.

PACKING ACCESSORIES

1	FDS1102A	2	Quick Guide	3	Probe x2	4	USB Cable
5	BNC to Alligator Clip	6	Multimeter Lead	7	Power Cord		
8	Probe Adjust	9	Test Leads				

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