

Product Catalogue

- + Spectrum Analyzers
- + Digital Storage Oscilloscopes
- + Arbitrary Waveform Generators
- + Programmable DC Power Supplies
- + PC Oscilloscopes
- + Digital Multimeters



OWON[®] product line - Created by LILLIPUT[®]

Fujian Lilliput Optoelectronics Technology Co., Ltd.

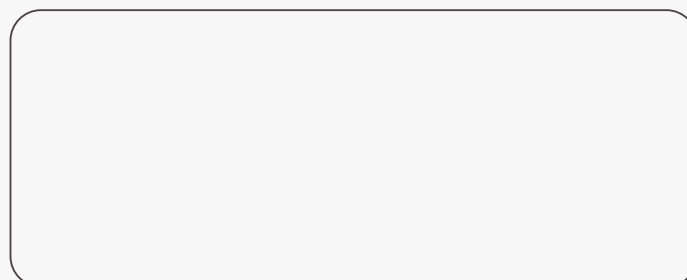
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Please contact your local distributor for further information.



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About OWON®

Since 1990, Lilliput steps into the electronics product industry, its 1st product series is a mini color LCD.

Owned by Lilliput, OWON's product line was created to "Meet your best need" in the test and measurement equipment field.

Through 2 decades' of efforts, Lilliput gradually grew to be a group corporation, covering 3 product lines - mini color LCD, test and measurement equipment, and home energy management system.

OWON's products can be found in Asia, North America, Europe, South America, Oceania, and Africa, with global partners established in more than 80 countries/ regions.

Lilliput (OWON) spares no efforts to be one of top test and measurement equipment original equipment manufacturers in the world.



Development Milestone

2018

Jun XDG 250MHz Dual Channel Arbitrary Waveform Generator released

2017

Jun Digital spectrum analyzer released

2016

Oct XDS new member-14 bits high resolution mobile tester XDS3202A

Sep XDM series product - brand-new bench-type digital multimeter

2015

Jun 12-bit high resolution n-in-1 smart DSO - XDS series product created

Mar smart bluetooth digital multimeter launched

2014

Jun creative pen-type PC oscilloscope "Wave Rambler" released

Apr single-channel waveform generator AG-S series comes into being

Mar 4-channel PC oscilloscope VDS3104 added into VDS series

2013

Oct SDS-E Series - 2G economical digital storage oscilloscope

Jul new product TDS series touch screen digital storage oscilloscope

Apr new product VDS series PC oscilloscope

2012

Aug SDS5032E - 2G of PDS5022

2011

Nov AG4151 - DDS arbitrary waveform generator first debut in Shanghai Electronics Exhibition

Oct ISO9001 quality system certified

ODP3032 - programmable DC power supply unveiled in Hong Kong Electronics Exhibition

2010

Oct Smart DS series DSO with ultra-thin body, and 10M record length

Feb MSO8202T - 200MHz bandwidth mixed LA-supported DSO

Jan MSO8102T - 100MHz bandwidth mixed LA-supported DSO

2009

Oct HDS3102M-N - first 100MHz bandwidth handheld DSO made by China born

Apr innovative application of auto-measurement, and max 20 group measurement options equipped with full OWON product

Jan MSO7102T - mixed LA-supported DSO with 100MHz bandwidth, and 1GS/s real time sample rate, becomes new member of OWON product family

2008

Dec OWON receives the honor - "the highest cost performance product" from Wireless magazine

Apr PDS7102T - 100MHz bandwidth bench type DSO entering into product line

2007

Nov MSO5022S - mixed LA-supported DSO launched

Jun HDS-N series DSO - the upgraded version of HDS series

2006

Nov HDS2062M - 60MHz handheld DSO introduced

Sep PDS5022 - large 7.8" color LCD bench type DSO

Mar HDS1022M - first fine quality 2 in 1 handheld DSO created by China with high def color LCD

Market Coverage

With its headquarter located in Zhangzhou, Lilliput (OWON) establishes 4 offices in China, and 3 overseas offices, 2 of them in North America, 1 in Western Europe.

Lilliput (OWON) already successfully markets OWON product line into 80+ territories through its sales network.



Part of OWON product users - education field

Harvard University
The University of Iowa
The University of Western Ontario

Chiba University

Technische University Hamburg-Harburg
University degli Studi di Milano

University of Mosul

Sultan Qaboos University

Rabat Academy

XSA1000TG Series

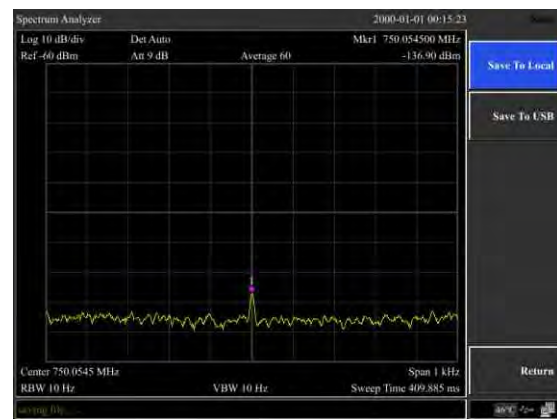
Spectrum Analyzer



- + Frequency Range from 9 kHz up to 3.6 GHz
- + -160dBm Displayed Average Noise Level
- + Phase Noise -82dBc/Hz @1Gz and offset at 10kHz
- + Total Amplitude Accuracy <1.5dB
- + 10Hz Minimum Resolution Bandwidth (RBW)
- + EMI Pre-compliance Test Kit
- + 3.6 GHz Tracking Generator Kit (optional)
- + 10.4 inches display

1. 10 Hz Minimum Resolution Bandwidth (RBW)

Digital IF technology offers a minimum bandwidth of 10Hz, allowing excellent signal resolution when separation of closely spaced signals is required.

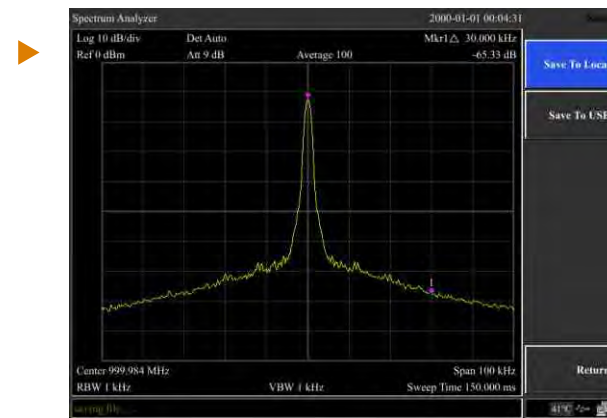
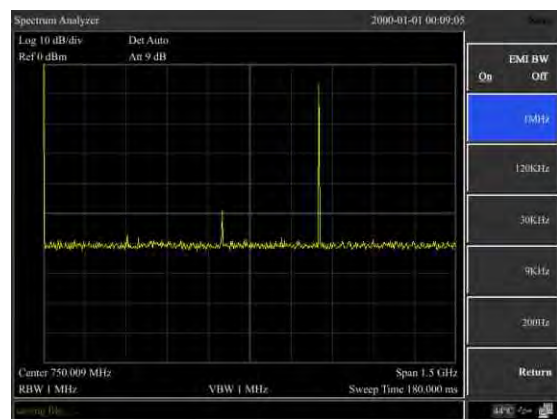


2. Measure -130dB small signal at 10Hz RBW

Offers a DANL (displayed average noise level) down to -130 dBm, which is able to measure smaller signals.

3. Phase noise: <-80 dBc/Hz @1 GHz @ 30 KHz offset

Excellent phase noise performance - <-80dBc/Hz @30KHz enables users to evaluate most synthesizers and signal generators.



4. EMI filter and peak detector kit

OWON offers an EMI filter and peak detector kit to help evaluating EMI levels for pre-compliance testing.

+ Performance Specifications

Model	XSA1015-TG	XSA1032-TG	XSA1036-TG
Frequency			
Range	9kHz - 1.5 GHz	9kHz-3.2GHz	9kHz-3.6GHz
Resolution	1Hz		
Frequency span			
Range	0 Hz, 100 Hz to maximum frequency of device		
Accuracy	± span / (swept points -1)		
Internal reference			
Reference frequency	10.000000 MHz		
Reference frequency accuracy	±[(days from last calibrate x freq aging rate) + temperature stability + initial accuracy]		
Temperature stability	<2.5ppm(15°C~35°C)		
Aging rate	<1ppm/year		
Readout			
Marker frequency resolution	span/(the number of swept points -1)		
Uncertainty	±(freq indication x freq reference uncertainty + 1% x span + 10% x resolution bandwidth + Marker Frequency Resolution)		
Frequency counter			
Resolution	1 Hz, 10 Hz, 100 Hz, 1 kHz		
Accuracy	±(marker freq x freq reference uncertainty + counter resolution)		
Bandwidth			
Resolution bandwidth (-3 dB)	10Hz to 500kHz (in 1 to 10 sequence), 1MHz, 3MHz		
Resolution filter shape factor	<5 : 1 nominal (Digital implement, similar to Gauss Pattern)		
Accuracy	<5% nominal		
Video bandwidth (-3 dB)	10Hz to 3MHz		
Amplitude and electric level			
Amplitude measurement range	DANL to +20 dBm, close the preamplifier		
Reference electric level	-80 dBm to +30 dBm, 0.1dBm steps		
Preamplifier	20 dB, nominal, 9 kHz to 3.6 GHz		
Input attenuator range	0~40 dB, in 1 dB steps.	0 to 50 dB, in 1 dB step	
Max input DC voltage	50 VDC		
Max continuous power	30dBm, average continuous power		
Displayed average noise level (DANL)			
Input attenuation 0 dB, 1Hz resolution bandwidth, RBW=10 Hz Normalization to 1 Hz			
Preamp off	1 MHz~10 MHz -140dBm (typical)		
	10 MHz~1GHz -140dBm (typical)		
	1GHz~1.5 GHz -138 dBm (typical)	1GHz~3.2 GHz -138 dBm (typical)	1GHz~3.6 GHz -138 dBm (typical)
Preamp on	1 MHz~10 MHz -160dBm (typical)		
	10 MHz~1GHz -160dBm (typical)		
	1GHz~1.5 GHz-158 dBm (typical)	1GHz~3.2 GHz-158 dBm (typical)	1GHz~3.6 GHz-158 dBm (typical)
Phase			
20 °C ~ 30 °C, fc=1 GHz			
<-82 dBc/Hz @10 kHz offset			
Phase noise <-100 dBc/Hz @100 kHz offset			
<-110 dBc/Hz @1 MHz offset			

Model	XSA1015-TG	XSA1032-TG	XSA1036-TG
Level display range			
Log scale coordinate	1dB ~255dB		
Linear scale coordinate	0 to reference level		
level unit	dBm, dBuW, dBpW, dBmV, dBuV, W,V		
Points	201~1001		
Number of traces	5		
Detectors	Positive-peak, negative-peak, sample, normal, RMS		
Trace functions	Clear write, Max Hold, Min Hold, View, Blank, Average		
Frequency response			
	20°C ~30°C, 30%~70% relative humidity, 10 dB input attenuation, reference 50 MHz		
Preamp off (fc≥100k)	±0.8 dB;±0.4db.typical		
Preamp on(fc≥100MHz)	±0.9 dB;±0.5db.typical		
Accuracy			
Input Attenuation Switching Uncertainty	20°C ~30°C, fc=50 MHz, Preamplifier Off, 20dB RF attenuation, input signal 1~40 dB ±0.5 dB		
Absolute Amplitude uncertainty	20°C ~30°C, fc=50 Mhz, Span=200kHz, RBW=10 kHz, VBW=10 kHz, peak detector, 10 dB RF attenuation, Preamplifier Off ±0.4 dB, input signal= -20dBm Preamplifier On ±0.5 dB, input signal= -40dBm		
Uncertainty	input signal range 0dbm~-50dbm ±1.5 dB		
VSWR	input 10dB RF attenuation, 1 MHz~1.5GHz(XSA1015-TG) input 10dB RF attenuation, 1 MHz~3.2GHz(XSA1032-TG) input 10dB RF attenuation, 1 MHz~3.6GHz(XSA1036-TG) < 1.5 , nominal		
Distortion and spurious response			
Second harmonic distortion	fc ≥ 50 Mhz, Preamp off, signal input -10 dBm, 0 dB RF attenuation, 20 °C to 30 °C -65dbc		
Third-order intermodulation	fc ≥ 50 MHz +10 dBm		
1 dB Gain Compression	fc ≥ 50 MHz, 0 dB RF attenuation, Preamp off, 20 °C to 30 °C +2 dBm, nominal		
Residual response	connect 50 Ω load at input port, 0 dB input attenuation, 20 °C to 30 °C < -85dBm, nominated		
Input related spurious	-30 dBm signal at input mixer, 20 °C to 30 °C < -60 dBc		
Sweep			
Sweep time	100Hz≤SPAN≤3GHz 10ms to 3000s, None-zero Span 10ms to 3000s zero sweep width 1ms to 3000s, zero Span 10ms to 3000s		
Mode	Continue, single		
Trigger	Free run,video.		
Tracking generator			
Output frequency range	100 kHz~1.5 GHz(Tracking Generator)	100kHz-3.2GHz(tracking Generator)	100kHz~3.6GHz(tracking generator) 35MHz~3.6GHz(Signal generator)
Output power level range	-30 dBm~0 dBm		
Output power level resolution	1dB 35MHz~3.6GHz(Signal Generator)		
Output flatness	±3 dB		
Maximum safe reverse level	Average total power : ±20 dBm, DC : ±50 VDC		

Model	XSA1015-TG	XSA1032-TG	XSA1036-TG
Inputs and Outputs			
Front panel RF input connector	50 Ω, N-type female		
Front panel track generator output	50 Ω, N-type female		
10 M reference input	50 Ω, N-type female		
Communication port	USB HOST, USB DEVICE, LAN, earphone port, VGA, REF		
General technical specification			
Display	TFT LCD, 10.4 inches, 800 x 600 pixels		
Weight (without package)	5 kg		
Dimension (W × H × D)	421 × 221 × 115 (mm)		
Working temperature	0~40 °C		
Storage temperature	-20 °C to +60 °C		
Power	100V~240V 50/60Hz		

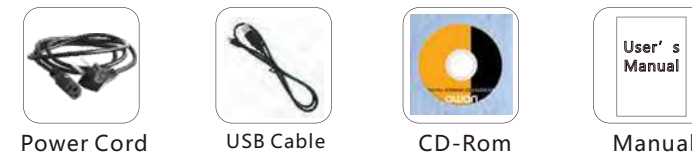
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+ Application

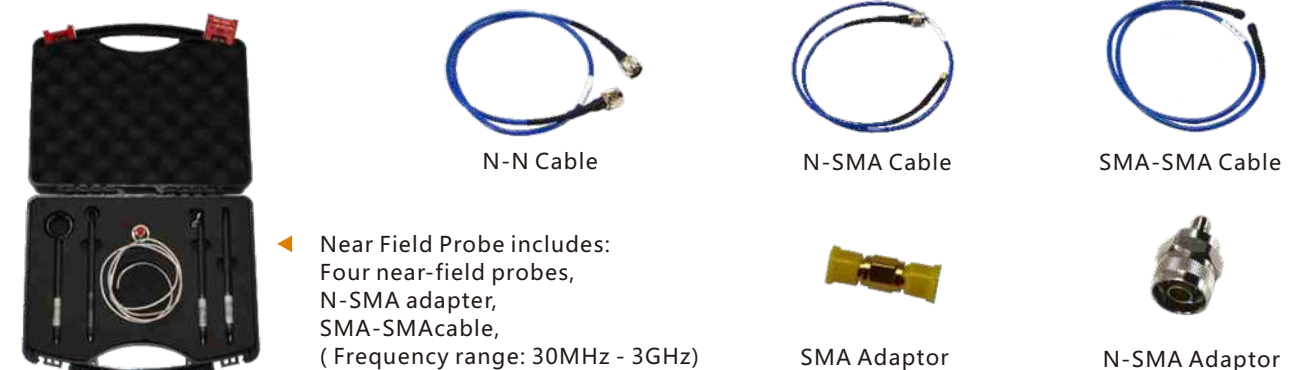
electronic circuit debugging education and training circuit testing design and manufacture
automobile maintenance and testing

+ Accessories

The accessories subject to final delivery.



Optional Accessories



◀ Near Field Probe includes:
Four near-field probes,
N-SMA adapter,
SMA-SMAcable,
(Frequency range: 30MHz - 3GHz)

XDS3000 Series your powerful n-in-1 on-site measurement station



14 / 12 bits
high resolution ADC

Super Performance

- + 8-bit, 12-bit or 14-bit high resolution ADC, restoring the waveform detail fully
- + 40M record length, and 75,000 wfms/s waveform refresh rate
- + low background noise, vertical sensitivity in 1 mV/div - 10 V/div
- + multi-trigger, and bus decoding function
- + SCPI, and LabVIEW supported

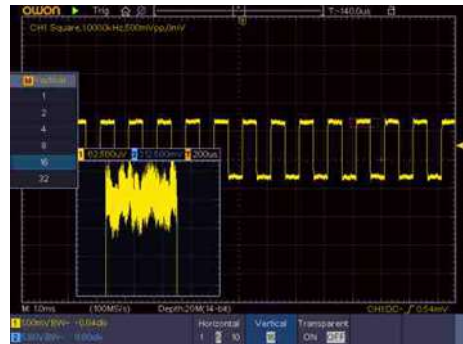
Creative New Look

- + ultra-thin body-design, less space accommodation
- + multi-interface integration - USB host, USB device, USB port for PictBridge, LAN, AUX, and more
- + VGA port - better solution for video expansion, and teaching demonstration
- + 8 inch 800 x 600 high resolution LCD
- + optional multi-point touch screen, more user-friendly operation experience

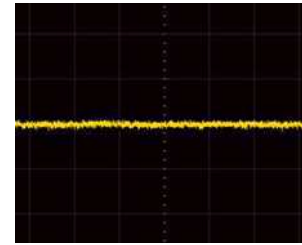
n-in-1

functions as data logger, and multimeter with data logging function, and dual-channel 25MHz / 50MHz arbitrary waveform generator, furthermore, battery pack, and WiFi module supported

1. XDS series introduce 12 / 14 bits hardware ADC, the precision is 16/64 times against other oscilloscope on market. Equipping with OWON's original magnifier function, it can observe the signal low down to 31.25µV/div.



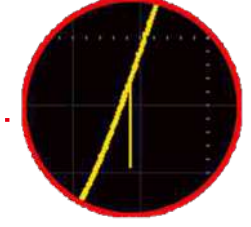
2. Xvisual platform - restore the waveform detail fully



low background noise

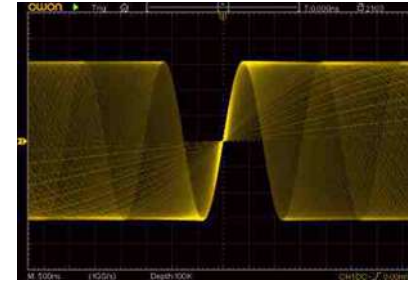
M.Length
1000
10K
100K
1M
10M
20M
40M

40M record length

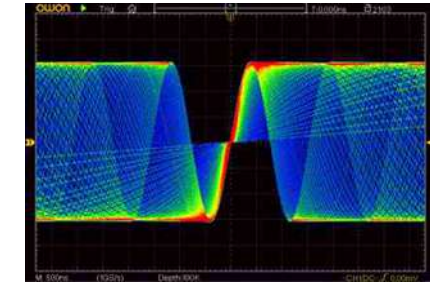


and 75,000 wfms/s refresh rate, easily capturing exceptional, and low probability events

3. multi-level grayscale, and color temperature display



within certain unit time, more frequent one waveform pixel appears, more vivid it is



the frequency of waveform reflecting in color temperature value, larger the value is, more frequent the waveform appears

4. multi-trigger supported - Logic, Time-out, I²C, SPI, RS232, Runt, Windows, Nth Edge, and CAN

5. serial bus coding available in I2C, SPI, RS232, and CAN

M Bus Type
RS232
I2C
SPI
CAN

M Single
Edge
Video
Pulse
Slope
Runt
Windows
Timeout
Nth Edge

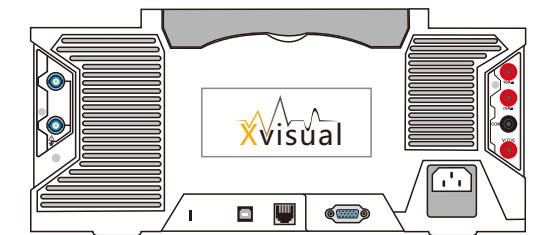
8. its built-in WiFi module facilitates mobile device connecting with XDS series product, to get access to remote control, together with simultaneous measurement result display



via app s/w, waveform data-saving, checking, co-sharing is possible, co-analyzing hence realizes

6. built-in multimeter module, with auto-scale, and data logging function

7. built-in dual-channel 25MHz / 50MHz arbitrary waveform generator module, with sample rate of 125MS/s / 250MS/s



9. its multi-point touchscreen improves operation efficiency considerably



10. optional battery makes floating measurements possible, advancing the operation convenience



XDS3000 Series

your powerful n-in-1 on-site measurement station

+ Performance Specifications

Model	XDS3062A	XDS3102A	XDS3102AP*	XDS3202A*	XDS3102	XDS3202E	XDS3202*	XDS3302*
Bandwidth	60MHz	100MHz	100MHz	200MHz	100MHz	200MHz	300MHz	
Sample Rate	1GS/s			1GS/s	2GS/s	2.5GS/s		
Vertical Resolution (A/D)	12 bits		14 bits		8 bits			
Record Length	40M							
Waveform Refresh Rate	75,000 wfms/s							
Horizontal Scale	2ns/div - 1000s/div		1ns/div - 1000s/div		2ns/div - 1000s/div		1ns/div - 1000s/div	
	step by 1 - 2 - 5							
Rise Time (at input, typical)	≤5.8ns	≤3.5ns	≤1.7ns	≤3.5ns	≤1.7ns	≤1.7ns	≤1.17ns	
Channel	2+1 (external)							
Display	8" color LCD, 800 x 600 pixels							
Input Impedance	1MΩ ± 2%, in parallel with 15pF ± 5pF; (*50Ω ± 2%)							
Channel Isolation	50Hz : 100 : 1, 10MHz : 40 : 1							
Max Input Voltage	1MΩ ≤ 300Vrms; 50Ω ≤ 5Vrms							
DC Gain Accuracy	±1.5%				±3%			
DC Accuracy	average ≥ 16: ±(3% reading + 0.05 div) for ΔV							
Probe Attenuation Factor	0.001X - 1000X, step by 1 - 2 - 5							
LF Respond (AC,-3dB)	≥10Hz (at input, AC coupling, -3dB)							
Sample Rate / Relay Time Accuracy	±1ppm (Typical, Ta=+25°C)							
Interpolation	sin(x)/x, x							
Interval (ΔT) Accuracy (fullbandwidth)	Single: ±(1 interval time + 1ppm x reading + 0.6ns); Average > 16: ±(1 interval time + 1ppm x reading + 0.4ns)							
Input Coupling	DC, AC, and GND							
Vertical Sensitivity	1mV/div - 10V/div (at input)							
Trigger Type	Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I ² C, SPI, RS232, and CAN (optional)							
Bus Decoding (optional)	I ² C, SPI, RS232, and CAN							
Trigger Mode	Auto, Normal, and Single							
Vertical Range	±2V (1mv/div - 50mv/div), ±20V (100mv/div - 1V/div), ±200V (2V/div - 10V/div)							
Line / Field Frequency (video)	NTSC, PAL and SECAM standard							
Cursor Measurement	ΔV, and ΔT between cursors, ΔV and ΔT between cursors, and auto- cursors							
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Week RMS, Cursor RMS, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Phase, Preshoot, Rise Time, Fall Time, +Width, -Width, +Duty, -Duty, Duty Cycle, Delay A→B _f , Delay A→B _r , +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge Count							
Waveform Math	+, -, x, ÷, FFT, FFT rms, Intg, Diff, Sqrt, User Defined Function, digital filter (low pass, high pass, band pass,bandreject)							
Waveform Storage	100 waveforms							
Lissajou's Figure	Bandwidth	full bandwidth						
	Phase Difference	±3 degrees						
Communication Interface	USB host, USB device, USB port for PictBridge, Trig Out (P/F), LAN, and VGA (optional)							
Frequency Counter	available							
Power Supply	100 - 240 V AC, 50/60Hz, CAT II							
Power Consumption	< 15W							
Fuse	2A, T class, 250V							

Battery (optional)	3.7V, 13200mAh
Dimension (W x H x D)	340 x 177 x 90 (mm)
Device Weight	2.60 kg

+ Multimeter (optional) Specifications

Full Scale Reading	3¼ digits (max count)	Diode	0V - 1.5V
Input Impedance	10MΩ	Continuity Test	(±30) beeping
Capacitance	51.2nF - 100uF: ±(3% ± 3 digits)		
Voltage	VDC: 400mV, 4V, 400V: ±(1 ± 1 digit); max input: DC 1000V VAC: 4V, 40V, 400V: ±(1 ± 3 digits); frequency: 40Hz - 400Hz; max input: AC 400V (virtual value)		
Current	DC: 40mA, 400mA: ±(1.5% ± 1 digit); 10A: ±(3% ± 3 digits) AC: 40mA: ±(1.5% ± 3 digits), 400mA: ±(2% ± 1 digit), 10A: ±(3% ± 3 digits)		
Impedance	400Ω: ±(1% ± 3 digits), 4KΩ - 40MΩ: ±(1% ± 1 digit)		

+ Arb Waveform Generator (optional) Specifications

Max Frequency Output	25MHz
Sample Rate	125MS/s
Channel	available in 1-ch, or 2-ch
Vertical Resolution	14 bits
Amplitude Range	2mVpp - 6Vpp
Waveform Length	8K
Standard Waveform	Sine, Square, Pulse, and Ramp

+ Optional Module / Function

VGA	VGA + AV port
WiFi	WiFi
AWG	arbitrary waveform generator
DMM	digital multimeter
TOU*	touch screen (capacitor-type)

+ Optional Decoding Kit

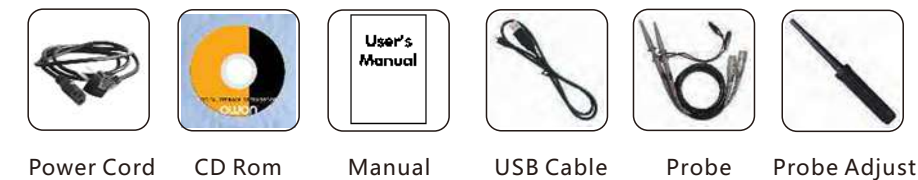
RS232	Rs232
SPI	SPI
I2C	I ² C
CAN	CAN decoding

* TOU option could be equipped as standard option as per request.

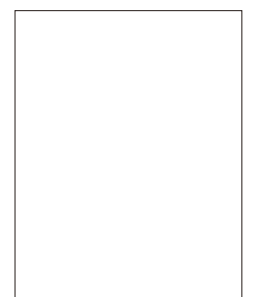
Specifications subject to change without prior notice.

+ Accessories

The accessories subject to final delivery.



optional accessories:



4-CH XDS3000-E Series

your powerful n-in-1 on-site measurement station

- + 60MHz-200MHz Bandwidth , 1GS/s sample rate
- + 8-bit or 14-bit high resolution ADC
- + 40M record length, max 70,000 wfms/s waveform refresh rate
- + low background noise
- + 8 inch 800 x 600 high resolution LCD, optional multi-touch screen, more user-friendly operation experience
- + SCPI, and LabVIEW supported
- + multi- trigger, and bus decoding function
- + multi-interface integration - USB host, USB device, USB port for PictBridge, LAN, AUX, and VGA



+ Performance Specifications

Model	XDS3064E	XDS3104E	XDS3064AE	XDS3104AE	XDS3104A	XDS3104	XDS3204AE	XDS3204E
Bandwidth	60MHz	100MHz	60MHz	100MHz		200MHz		
Sample Rate	1GS/s							
Vertical Resolution (A/D))	8 bits		14 bits		8bits	14 bits	8bits	
Record length	40M							
Waveform Refresh Rate	45,000 wfms/s				70,000wfms/s			
Horizontal Scale (s/div))	2ns/div - 1000s/div, step by 1 - 2 - 5				1ns/div - 1000s/div, step by 1 - 2 - 5			
Rise Time (at input, typical)	≤5.8ns	≤3.5ns	≤5.8ns	≤3.5ns		≤1.7ns		
Channel	4							
Display	8" color LCD, 800 x 600 pixels display							
Input Impedance	1MΩ ± 2%, in parallel with 15pF ± 5pF							
Channel Isolation	50Hz : 100 : 1, 10MHz : 40 : 1							
Max Input Voltage	1MΩ ≤ 300Vrms;							
DC Gain Accuracy	±3%							
DC Accuracy	average ≥16 : ± (3% + 0.05div) for ΔV							
Probe Attenuation Factor	0.001X - 1000X, step by 1 - 2 - 5							
LF Respond (AC, -3dB)	≥10Hz							
Sample Rate / Relay Time Accuracy	±1ppm							
Interpolation	(sinx) / x , x							
Interval (ΔT) Accuracy (full bandwidth)	Single: ±(1 interval time + 1ppm x reading + 0.6ns); Average > 16: ±(1 interval time + 1ppm x reading + 0.4ns)							
Input Coupling	DC, AC, GND							
Vertical Sensitivity	1mV/div - 10V/div (at input)							
Trigger Type	Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I2C, SPI, RS232, and CAN (optional)							
Bus Decoding(optional)	I2C, SPI, RS232, CAN							
Trigger Mode	Auto, Normal, and Single							
Line / Field Frequency (video)	NTSC, PAL and SECAM standard							
Cursor Measurement	ΔV, and ΔT between cursors, ΔV and ΔT between cursors, and auto- cursors							
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Peak RMS, Cursor RMS, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Phase, Preshoot, Rise Time, Fall Time, +Width, -Width, +Duty, -Duty, Duty Cycle, Delay A→B, Delay A→B, Phase A→B, Phase A→B, +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edges Count, Area, Cycle Area							

Waveform Math	+, -, *, / ,FFT, FFTrms, Intg, Diff, Sqrt, User Defined Function, digital filter (low pass, high pass, band pass, band reject)		
Waveform Storage	100 waveforms		
Lissajou's Figure	full bandwidth	Full bandwidth	
	±3 degrees	±3 degrees	
Communication Interface	USB host, USB device, Trig Out (P/F), LAN, and VGA (optional)		
Frequency Counter	available		
Power Supply	100V - 240V AC, 50/60Hz, CAT II		
Fuse	2A, T class, 250V		
Battery (optional)	3.7V, 13200mA		
Dimension (W x H x D)	340mmx177mmx90mm		

+ Multimeter (optional) Specifications

Full Scale Reading	3¾ digits (max 4000 count)	Diode	0V -1.5V
Input Impedance	10MΩ	Continuity Test	<50 (±30) beeping
Capacitance	51.2nF - 100uF: ±(3% ± 3 digits)		
Voltage	DCV: 400mV, 4V, 400V: ±(1 ± 1 digit); max input: DC 1000V ACV: 4V, 40V, 400V: ±(1 ± 3 digits); frequency: 40Hz - 400Hz; max input: AC 750V (virtual value)		
Current	DCA: 40mA, 400mA: ±(1.5% ± 1 digit); 10A: ±(3% ± 3 digits) ACA: 40mA: ±(1.5% ± 3 digits), 400mA: ±(2% ± 1 digit), 10A: ±(3% ± 3 digits)		
Impedance	400Ω: ±(1% ± 3 digits), 4KΩ - 40MΩ: ±(1% ± 1 digit)		

+ Arb Waveform Generator (optional) Specifications

Max Frequency Output	25MHz
Sample Rate	125MS/s
Channel	1 channel (only apply to XDS3104(A), XDS3204E(AE)) 2 channels (only apply to XDS3064E, XDS3104E)
Vertical Resolution	14 bits
Amplitude Range	2mVpp - 6Vpp
Waveform Length	8K
Standard Waveform	Sine, Square, Pulse, Ramp
Arbitrary Waveform	Exponential Rise, Exponential Fall, Sin(x)/x, Step Wave, Noise, and others, total 46 built-in waveforms, and user-defined arbitrary waveform

+ Optional Module / Function

VGA	VGA + AV port
WIF	WiFi
AWG	arbitrary waveform generator
DMM	digital multimeter
TOU*	touch screen (capacitor-type)

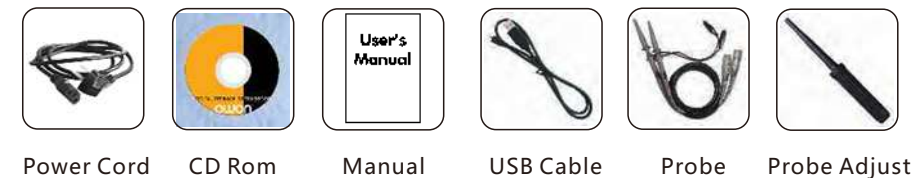
+ Optional Decoding Kit

RS232	RS232
SPI	SPI
I2C	I ² C
CAN	CAN decoding

Specifications subject to change without prior notice.

+ Accessories

The accessories subject to final delivery.

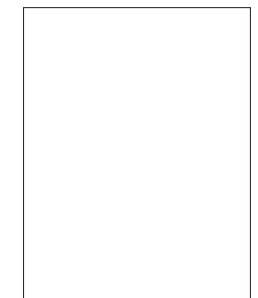


Power Cord CD Rom Manual USB Cable Probe Probe Adjust

optional accessories:



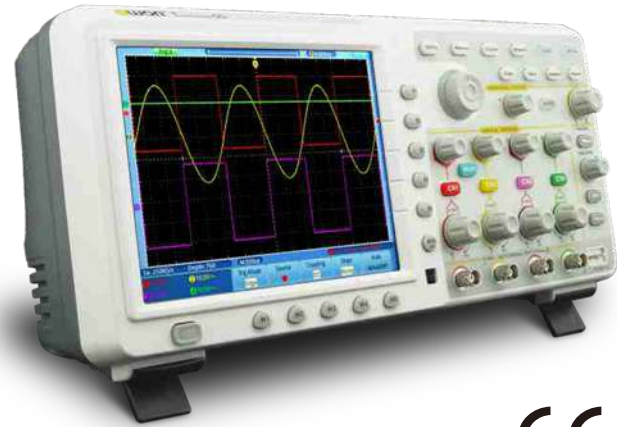
Multimeter Lead Q9 Capacitance Ext Module Battery Soft Bag



TOUCH 4-CH TDS Series

Touch Screen Digital Storage Oscilloscope

- + Max 200MHz bandwidth, up to 2GS/s realtime sample rate
- + 7.6M record length
- + 50,000 wfms/s waveform capture rate
- + waveform zooming (horizontal / vertical), and saving
- + FFT points (length, and resolution variable)
- + multi-window extension
- + 8 inch 800 x 600 pixels high resolution LCD
- + multi- communication interface : USB, VGA, and LAN
- + LabVIEW supported



+ Performance Specifications

Model	TDS7074	TDS7104	TDS8104	TDS8204
Bandwidth	70MHz		100MHz	200MHz
Channel	4			
Sample Rate	1GS/s		2GS/s	
Waveform Capture Rate	50,000 wfms/s			
Display	8" color LCD			
Input Coupling	DC, AC, and GND			
Input Impedance	1MΩ ± 2%, in parallel with 15pF ± 5pF ; 50Ω ± 1%			
Probe Attenuation Factor	1X, 10X, 100X, 1000X			
Max Input Voltage	1MΩ input impedance : 400V (DC + AC peak) ; 50Ω input impedance : 5V (DC + AC peak)			
Channel Isolation	50Hz : 100 : 1 ; 10MHz : 40 : 1			
Interpolation	sin(x)/x			
Record Length	7.6M			
Horizontal Scale (s/div)	2ns/div - 100s/div, step by 1 - 2 - 5			
Interval (ΔT) Accuracy (full bandwidth)	Single : ±(1 interval time + 100ppm × reading + 0.6ns), Average > 16 : ±(1 interval time + 100ppm × reading + 0.4ns)			
Vertical Resolution (A/D)	8 bits (4 channels simultaneously)			
Vertical Sensitivity	2mV/div - 10V/div (at input)			
Analog Bandwidth	70MHz		100MHz	200MHz
LF Respond (AC, -3dB)	≥10Hz (at input, AC coupling, -3dB)			
Rise Time	≤5ns		≤3.5ns	≤1.7ns

Model	TDS7074	TDS7104	TDS8104	TDS8204
DC Accuracy	±3%			
Trigger Type	Edge, Pulse, Video, and Slope			
Trigger Mode	Auto, Normal, and Single			
Trigger Level Range	±6 division from the screen center			
Trigger Level Accuracy (typical)	±0.3 division			
Line / Field Frequency (video)	NTSC, PAL, and SECAM standard			
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty			
Waveform Math	+, -, *, /, FFT			
Waveform Storage	4 reference waveforms			
Lissajous Figure	Bandwidth			
	Phase Difference			
Cursor Measurement	ΔV, and ΔT between cursors			
Communication Port	USB host, USB device, VGA (optional), and LAN			
Power Supply	100 - 240 V AC, 50/60Hz, CAT II			
Dimension (W x H x D)	380 x 180 x 115 (mm)			
Device Weight	1.50 kg			

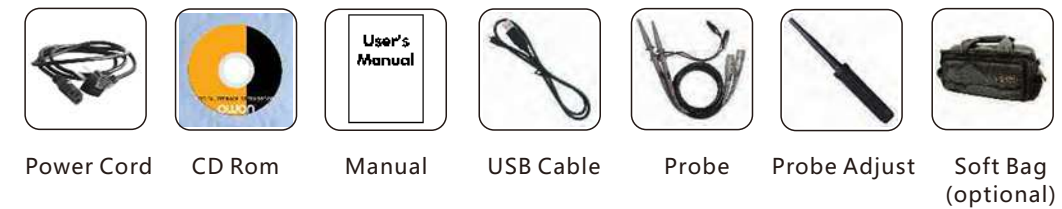
Specifications subject to change without prior notice.

+ Application

- electronic circuit debugging
- education and training
- circuit testing
- design and manufacture
- automobile maintenance and testing

+ Accessories

The accessories subject to final delivery.



Smart DS Series

Deep Memory Digital Storage Oscilloscope



10M
Deep Memory

- + Bandwidth : 60MHz - 300MHz with dual-channel
- + Sample rate : 500MS/s - 3.2GS/s
- + 10M record length for each channel
- + Smart design with easy portability
- + Large 8 inch 800 x 600 pixels LCD
- + LAN remote control
- + Multi-function : auto-scale, Pass / Fail, current measurement, and **digital filtering**
- + SCPI, and LabVIEW supported
- + Optional **BATTERY** available



+ Performance Specifications

Model	SDS6062	SDS7072	SDS7102	SDS7202	SDS8102	SDS8202	SDS8302	SDS9302
Bandwidth	60MHz	70MHz	100MHz	200MHz	100MHz	200MHz	300MHz	
Sample Rate	500MS/s	1GS/s			2GS/s		2.5GS/s	3.2GS/s
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2 - 5	2ns/div - 100s/div, step by 1 - 2 - 5			1ns/div - 100s/div, step by 1 - 2 - 5			
Rise Time	≤5.8ns	≤5ns	≤3.5ns	≤1.7ns	≤3.5ns	≤1.7ns	≤1.17ns	
Display	8" color LCD, 800 x 600 pixels							
Channel	2 + 1 (external)							
Record Length	10M							
Input Coupling	DC, AC, and GND							
Input Impedance	1MΩ ± 2%, in parallel with 15pF ± 5pF							
Channel Isolation	50MHz : 100 : 1, 10MHz : 40 : 1							
Max Input Voltage	400V (DC + AC Peak)							
DC Gain Accuracy	±3%							
DC Accuracy	average ≥ 16 : ±(3% reading + 0.05 div) for ΔV							
Probe Attenuation Factor	1X, 10X, 100X, 1000X							
LF Respond (AC, -3dB)	≥10Hz (at input, AC coupling, -3dB)							
Sample Rate / Relay Time Accuracy	±100ppm							
Interpolation	sin(x)/x							
Interval (ΔT) Accuracy (full bandwidth)	Single : ±(1 interval time + 100ppm × reading + 0.6ns); Average > 16 : ±(1 interval time + 100ppm × reading + 0.4ns)							
Vertical Resolution (A/D)	8 bits (2 channels simultaneously)							
Vertical Sensitivity	2mV/div - 10V/div							
Digital Filtering	low-pass, high-pass, band-pass, and band-reject							

Model	SDS6062	SDS7072	SDS7102	SDS7202	SDS8102	SDS8202	SDS8302	SDS9302
Trigger Type	Edge, Pulse, Video, Slope, and Alternate							
Trigger Mode	Auto, Normal, and Single							
Trigger Level	±6 divisions from screen center							
Acquisition Mode	Sample, Peak Detect, and Average							
Line / Field Frequency (video)	NTSC, PAL and SECAM standard							
Cursor Measurement	ΔV, and ΔT between cursors							
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Peak RMS, Cursor RMS, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Phase, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty, Duty cycle							
Waveform Math	+, -, *, /, invert, FFT							
Waveform Storage	15 waveforms							
Lissajous Figure	Bandwidth	full bandwidth						
	Phase Difference	±3 degrees						
Communication Interface	USB host, USB device, Pass / Fail, LAN, VGA (optional), and RS232 (optional)							
Frequency Counter	available							
Power Supply	100V - 240V AC, 50/60Hz, CAT II							
Power Consumption	< 18W							< 24W
Fuse	2A, T class, 250V							
Battery (optional)	7.4V, 8000mA							
Dimension (W x H x D)	340 x 155 x 70 (mm)							
Device Weight	1.80 kg							

Specifications subject to change without prior notice.

+ Application

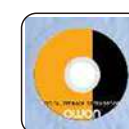
electronic circuit debugging circuit testing design and manufacture
education and training automobile maintenance and testing

+ Accessories

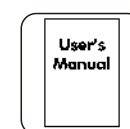
The accessories subject to final delivery.



Power Cord



CD Rom



Manual



USB Cable



Probe



Probe Adjust



Battery (optional)



Soft Bag (optional)

SDS-E Series

2G economical type digital storage oscilloscope



- + Bandwidth : 30MHz - 125MHz
- + Sample rate : 500MS/s - 1GS/s
- + Ultra-thin body
- + 8 inch high resolution LCD
- + Pass / Fail function
- + SCPI, and LabVIEW supported
- + newly added function - digital filtering, and current measurement (excl. SDS5032E and SDS5052E)



+ Performance Specifications

Model	SDS5032E	SDS5052E	SDS6062E	SDS7072E	SDS7102E	SDS7122E
Bandwidth	30MHz	50MHz	60MHz	70MHz	100MHz	125MHz
Sample Rate	500MS/s			1GS/s		
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2 - 5			2ns/div - 100s/div, step by 1 - 2 - 5		
Rise Time (at input, typical)	≤11ns	≤7ns	≤5.8ns	≤5ns	≤3.5ns	≤2.8ns
Channel	2 + 1 (external)					
Display	8" color LCD, 800 x 600 pixels					
Input Impedance	1MΩ ± 2%, in parallel with 15pF ± 5pF					
Channel Isolation	50Hz : 100 : 1, 10MHz : 40 : 1					
Max Input Voltage	400V (DC + AC peak)					
DC Gain Accuracy	±3%					
Record Length	10K		1M	1M (optional 10M)		
DC Accuracy (average)	average ≥ 16 : ±(3% reading + 0.05 div) for ΔV					
Probe Attenuation Factor	1X, 10X, 100X, 1000X		0.1X, 1X, 10X, 100X, 1000X			
LF Respond (AC, -3dB)	≥10Hz (at input, AC coupling, -3dB)					
Sample Rate / Relay Time Accuracy	±25ppm					
Interpolation	sin(x)/x					
Interval (ΔT) Accuracy (full bandwidth)	Single : ±(1 interval time + 100ppm × reading + 0.6ns), Average > 16 : ±(1 interval time + 25ppm × reading + 0.4ns)					
Input Coupling	DC, AC, and GND					
Vertical Resolution (A/D)	8 bits (2 channels simultaneously)					
Vertical Sensitivity	5mV/div - 5V/div (at input)		2mV/div - 10V/div (at input)			
Digital Filtering	/		low-pass, high-pass, band-pass, and band-reject			

Model	SDS5032E	SDS052E	SDS6062E	SDS7072E	SDS7102E	SDS7122E
Trigger Type	Edge, Pulse, Video, Slope, and Alternate					
Trigger Mode	Auto, Normal, and Single					
Trigger Level	±6 divisions from screen center					
Line / Field Frequency (video)	NTSC, PAL, and SECAM standard					
Cursor Measurement	ΔV, and ΔT between cursors					
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Peak RMS, Cursor RMS, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Phase, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty, Duty cycle					
Waveform Math	+, -, *, /, invert, FFT					
Waveform Storage	15 waveforms					
Lissajous Figure	Bandwidth					full bandwidth
	Phase Difference					±3 degrees
Communication Interface	USB host, USB device, Pass / Fail, LAN, and VGA (optional)					
Frequency Counter	available					
Power Supply	100V - 240V AC, 50/60Hz, CAT II					
Power Consumption	<15W					
Fuse	2A, T class, 250V					
Battery	not supported					
Dimension (W x H x D)	348 x 170 x 78 (mm)					
Device Weight	1.50 kg					

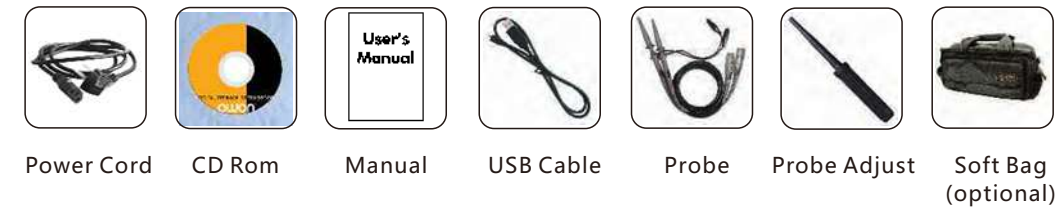
Specifications subject to change without prior notice.

+ Application

electronic circuit debugging education and training circuit testing design and manufacture automobile maintenance and testing

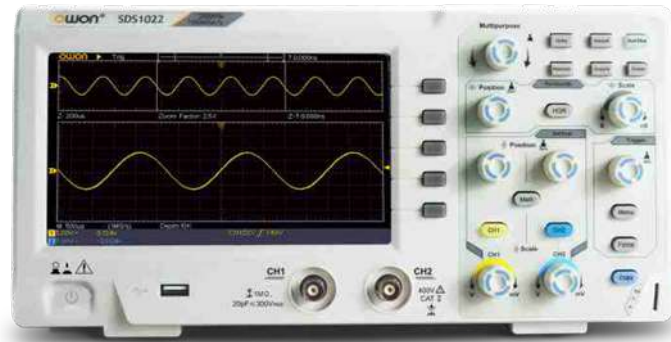
+ Accessories

The accessories subject to final delivery.



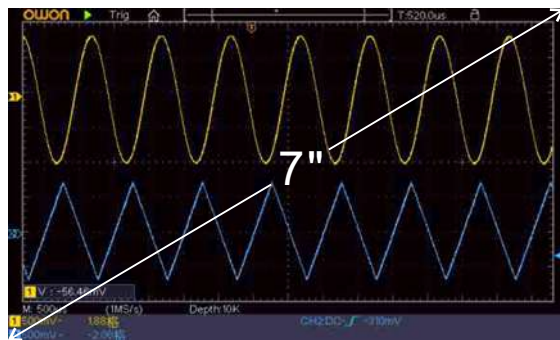
SDS1000 Series

super-economical type digital storage oscilloscope



- + Bandwidth : 20MHz-100MHz
- + 2-Channel
- + Sample rate : 100MS/s - 1GS/s
- + Ultra-thin body
- + 7 inch high resolution LCD
- + SCPI, and LabVIEW supported

7" high resolution LCD

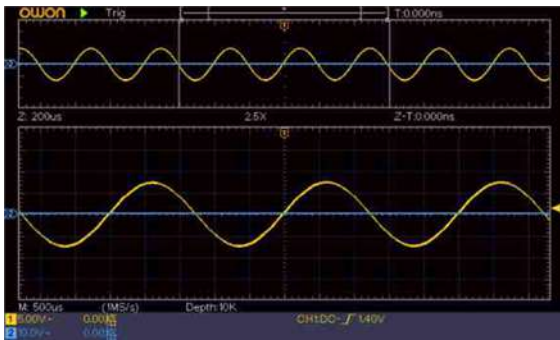


ultra-thin device body, assures super portability

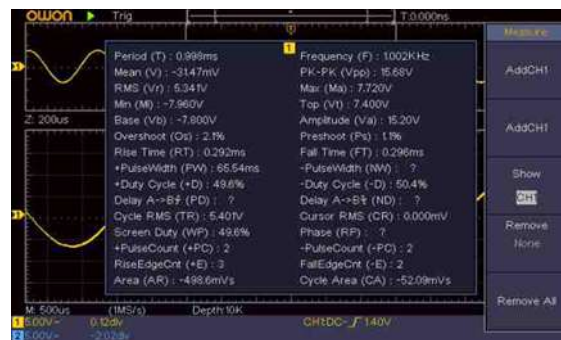
sided power socket better suit for industrial environment measurement



windows extension



snapshot



+ Performance Specifications

Model	SDS1022	SDS1052	SDS1102
Bandwidth	20MHz	50MHz	100MHz
Sample Rate	100MS/s	500MS/s	1GS/s
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2 - 5		
Rise Time (at input, typical)	≤17.5ns	≤7ns	≤3.5ns
Channel	2		
Display	7" color LCD, 800 x 480 pixels		
Input Impedance	1MΩ ± 2%, in parallel with 20pF ± 5pF		

Model	SDS1022	SDS1052	SDS1102
Channel Isolation	50Hz : 100 : 1, 10MHz : 40 : 1		
Max Input Voltage	400V (PK - PK) (DC+AC, PK - PK)		
DC Gain Accuracy	±3%		
Record Length	10K		
DC Accuracy (average)	Average ≥ 16 : ±(3% reading + 0.05 div) for ΔV		
Probe Attenuation Factor	1X, 10X, 100X, 1000X		
LF Respond (AC, -3dB)	≥10Hz (at input, AC coupling, -3dB)		
Sample Rate / Relay Time Accuracy	±100ppm		
Interpolation	sin (x) / x		
Interval (ΔT) Accuracy (full bandwidth)	Single : ±(1 interval time + 100ppm x reading + 0.6ns), Average > 16 : ±(1 interval time + 100ppm x reading + 0.4ns)		
Input Coupling	DC, AC, and GND		
Vertical Resolution (A/D)	8 bits (2 channels simultaneously)		
Vertical Sensitivity	5mV/div - 5V/div (at input)		
Trigger Type	Edge, Video		
Trigger Mode	Auto, Normal, and Single		
Trigger Level	±5 divisions from screen center		
Line / Field Frequency (video)	NTSC, PAL and SECAM standard		
Cursor Measurement	ΔV, and ΔT between cursors		
Automatic Measurement	Vpp, Vavg, RMS, Frequency, Period, Vmax, Vmin, Vtop, Vbase, Width, Overshoot, Pre-shoot, Rise time, Fall time, +Width, -Width, +Duty, -Duty, Delay A→B, Delay A→B		
Waveform Math	+, -, x, ÷, invert, FFT		
Waveform Storage	16 waveforms		
Lissajous Figure	Bandwidth	full bandwidth	
	Phase Difference	±3 degrees	
Communication Interface	USB host, USB device		
Frequency Counter	available		
Power Supply	100V - 240V AC, 50/60Hz, CAT II		
Power Consumption	< 15W		
Fuse	2A, T class, 250V		
Dimension (W x H x D)	301 x 152 x 70 mm		
Device Weight	1.10 kg		

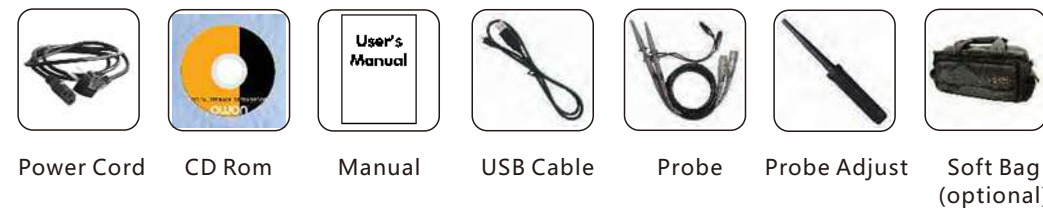
Specifications subject to change without prior notice.

+ Application

- electronic circuit debugging
- education and training
- circuit testing
- design and manufacture
- automobile maintenance and testing

+ Accessories

The accessories subject to final delivery.





- + 2 in 1 (DSO + LA)
- + 8 inch color LCD
- + USB data transmission supported
- + 20 automated measurements
- Digital Storage Oscilloscope**
- + Bandwidth : 60MHz - 200MHz
- + Sample rate : up to 2GS/s
- + Auto-scale function
- + FFT
- Logic Analyzer**
- + Bandwidth : 100MHz - 200MHz
- + Sample rate : max 1GS/s
- + 16 input channels

[Digital Storage Oscilloscope] Performance Specifications

Model	MSO7062TD	MSO7102TD	MSO8102T	MSO8202T
Bandwidth	60MHz	100MHz		200MHz
Sample Rate	1GS/s		2GS/s	
Rise Time	≤5.8ns	≤3.5ns		≤1.7ns
Display	8" color LCD , 640 x 480 pixels			
Channel	dual + external trigger			
Horizontal Scale (s/div)	2ns/div - 100s/div, step by 1 - 2 - 5		1ns/div - 100s/div, step by 1 - 2 - 5	
DC Accuracy (average)	average>16 : ±(3% reading + 0.05div) for ΔV			
Vertical Sensitivity	2mV/div - 10V/div			
DC Gain Accuracy	±3%			
Vertical Resolution (A/D)	8 bits (2 channels simultaneously)			
Interpolation	sin(x)/x			
Max Input Voltage	400V (DC + AC peak)			
Probe Attenuation Factor	1X , 10X , 100X , 1000X			
Trigger Mode	Edge, Video, Alternate, Pulse, and Slope			
Acquisition Mode	Normal, Peak Detect, and Average			
Record Length	2M points			
Waveform Storage	4 waveforms			
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty			
Waveform Math	+, -, *, /, invert, FFT			
Power Supply	100 - 240V AC, 50Hz / 60Hz, CAT II			

Model	MSO7062TD	MSO7102TD	MSO8102T	MSO8202T
Lissajous Figure	Bandwidth	60MHz	100MHz	200MHz
	Phase Difference	±3 degrees		
Communication Interface	USB host, VGA (optional), and USB device			
Fuse	1A, T class, 250V			
Battery	7.4V 8000mAh (optional)			
Dimensions (W x H x D)	370 x 180 x 120 (mm)			
Device Weight	2.20 kg			

[Logic Analyzer] Performance Specifications

Model	MSO7062TD	MSO7102TD	MSO8102T	MSO8202T
Sample Rate	20S/s - 1GS/s			
Bandwidth	100MHz			200MHz
Channel	16			
Record Length	4M points			
Input Impedance	660KΩ ± 5%, in parallel with 15 ± 5pF			
Trigger Mode	Edge, Bus, State, Data Alignment, Data Width, and Distributed Queue			
Trigger Position Setting	Pre-trigger, Mid-trigger, and Re-trigger			
Threshold Voltage	±6V (4 settings)			
Input Signal Range	±30V			
Data Search	available			
Data System	binary, decimal, and hex			
Digital Filter	0, 1, 2 optional			
Setting Storage	10 settings			
USB Flash Disk Storage	available			

Specifications subject to change without prior notice.

+ Application

- design and debug
- circuit function test
- education and training
- mixed signal circuit test

+ Accessories

The accessories subject to final delivery.





- + 2 in 1 (DSO + Multimeter)
- + Auto-scale function
- + FFT function
- + 20 group automatic measurement options
- + Bandwidth : 20MHz - 200MHz
- + USB data transmission supported
- + Rechargeable Li-ion battery (6 hours' backup)
- + Waveform record and replay
- + Multimeter newly supported SCPI



+ Performance Specifications

Model	HDS1022M-N	HDS2062M-N	HDS3102M-N	HDS4202M-N
Bandwidth	20MHz	60MHz	100MHz	200MHz
Sample Rate	100MS/s	1GS/s		
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2.5 - 5		2ns/div - 100s/div, step by 1 - 2 - 5	
Rise Time (at input, typical)	≤ 17.5ns	≤ 5.8ns	≤ 3.5ns	≤ 1.7ns
Display	3.7" color TFT display (640 x 480 pixels)			
Channel	dual			
Input Impedance	1MΩ ± 2%, in parallel with 20pF ± 5pF		1MΩ ± 2%, in parallel with 15pF ± 5pF	
Record Length	6K points			
Interpolation	sin(x)/x			
Probe Attenuation Factor	1X , 10X , 100X , 1000X			
Input Coupling	DC, AC, and GND			
DC Accuracy (average)	average > 16 : ±(5% reading + 0.05 div) for ΔV			
Vertical Sensitivity	5mV/div - 5V/div (at input)			
Vertical Resolution (A/D)	8 bits			
Max Input Voltage	400V (DC + AC peak), CAT II			
Trigger Type	Edge, Video, and Alternate			
Trigger Mode	Auto, Normal, and Single			
Trigger Level	±6 divisions from screen center			
Acquisition Mode	Sample, Peak Detect, and Average			
DC Gain Accuracy	±3%			
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty			

Model	HDS1022M-N	HDS2062M-N	HDS3102M-N	HDS4202M-N
Waveform Math	+, -, *, /, invert, FFT			
Waveform Storage	4 waveforms			
Lissajous Figure	Bandwidth	full bandwidth		
	Phase Difference	± 3degrees		
Communication Interface	USB			
Power Supply	100V-240V AC, 50/60Hz			
Li-ion Battery	7.4V, 6 hours' operation			
Dimensions (W x H x D)	115 x 180 x 40 (mm)			
Device Weight	645.00 g			

+ Multimeter Specifications

Full Scale Reading	3 ³ / ₄ digits (max 4000 count)	Diode	0V - 1.5V
Input Impedance	10 MΩ	On / Off Test	<50 (± 30) beeping
Voltage	VDC : 400mV, 4V, 40V, 400V, 1000V : ±(1% ± 1 digit); max input : DC 1000V VAC : 4V, 40V, 400V : ±(1% ± 3 digits), 750V : ±(2% ± 3 digits); Frequency : 40Hz - 400Hz; max input : AC 750V (virtual value)		
Current	DC : 40mA, 400mA : ±(1.5% ± 1 digit), 10A : ±(3% ± 3 digits) AC : 40mA : ±(1.5% ± 3 digits), 400mA : ±(2% ± 1 digit), 10A : ±(5% ± 3 digits)		
Impedance	400Ω : ±(1% ± 3 digits), 40KΩ - 4MΩ : ±(1% ± 1 digit), 40MΩ : ±(1.5% ± 3 digits)		
Capacitance	51.2nF - 100uF : ±(3% ± 3 digits)		

Specifications subject to change without prior notice.

+ Application

electronic circuit debugging circuit testing design and manufacture
education and training automobile maintenance and testing

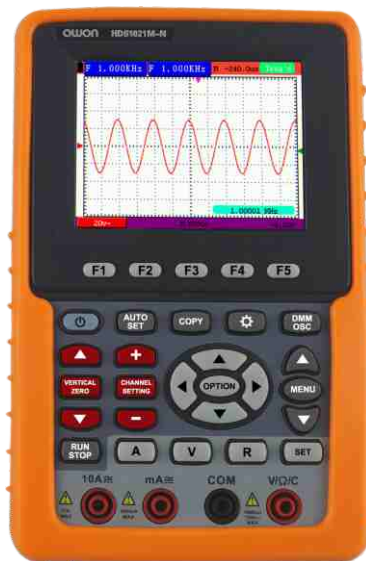
+ Accessories

The accessories subject to final delivery.



HDS Series

1-channel Handheld Digital Storage Oscilloscope



- + 2 in 1 (DSO + Multimeter)
- + Auto-scale function
- + FFT function
- + 20 group automatic measurement options
- + Bandwidth : 20MHz - 100MHz
- + USB data transmission supported
- + Rechargeable Li-ion battery (6 hours' backup)
- + Waveform record and replay
- + Multimeter newly supported SCPI

+ Performance Specifications

Model	HDS1021M-N	HDS2061M-N	HDS3101M-N
Bandwidth	20MHz	60MHz	100MHz
Sample Rate	500MS/s	500MS/s	1GS/s
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2.5 - 5		
Rise Time (at input, typical)	≤ 17.5ns	≤ 5.8ns	≤ 3.5ns
Display	3.7" color TFT display (640 x 480 pixels)		
Channel	single		
Input Impedance	1MΩ ± 2%, in parallel with 18pF ± 5pF	1MΩ ± 2%, in parallel with 15pF ± 5pF	
Record Length	24K points		
Interpolation	sin(x)/x		
Probe Attenuation Factor	1X , 10X , 100X , 1000X		
Input Coupling	DC, AC, and GND		
DC Accuracy (average)	average >16 : ±(5% reading + 0.05 div) for ΔV		
Vertical Sensitivity	5mV/div - 5V/div (at input)		
Vertical Resolution (A/D)	8 bits		
Max Input Voltage	400V (DC + AC peak), CAT II		
Trigger Type	Edge, and Video		
Trigger Mode	Auto, Normal, and Single		
Trigger Level	±6 divisions from screen center		
Acquisition Mode	Sample, Peak Detect, and Average		
DC Gain Accuracy	±3%		
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty		
Waveform Storage	4 waveforms		
Communication Interface	mini-USB mini-RS232		
Power Supply	100V-240V AC, 50/60Hz		
Li-ion Battery	7.4V, 6 hours' operation		
Dimensions (W x H x D)	115 x 180 x 40 (mm)		
Device Weight	645.00 g		

+ Multimeter Specifications

Full Scale Reading	3 ³ / ₄ digits (max 4000 count)	Diode	0V - 1.5V
Input Impedance	10 MΩ	On / Off Test	<50 (± 30) beeping
Voltage	VDC : 400mV, 4V, 40V, 400V, 1000V : ±(1% ± 1 digit); max input : DC 1000V VAC : 4V, 40V, 400V : ±(1% ± 3 digits), 750V : ±(2% ± 3 digits); Frequency : 40Hz - 400Hz; max input : AC 750V (virtual value)		
Current	DC : 40mA, 400mA : ±(1.5% ± 1 digit), 10A : ±(3% ± 3 digits) AC : 40mA : ±(1.5% ± 3 digits), 400mA : ±(2% ± 1 digit), 10A : ±(5% ± 3 digits)		
Impedance	400Ω : ±(1% ± 3 digits), 40KΩ - 4MΩ : ±(1% ± 1 digit), 40MΩ : ±(1.5% ± 3 digits)		
Capacitance	51.2nF - 100uF : ±(3% ± 3 digits)		

Specifications subject to change without prior notice.

+ Application

electronic circuit debugging education and training circuit testing design and manufacture
automobile maintenance and testing

+ Accessories

The accessories subject to final delivery.



HDS-I Series

Handheld DSO w/ Channel Isolation



- + 2 in 1 (DSO + Multimeter)
- + with good ISOLATION between channels
- + Auto-scale function
- + FFT function
- + 20 group automatic measurement options
- + Bandwidth : 20MHz
- + USB data transmission supported
- + Rechargeable Li-ion battery
- + Multimeter newly supported SCPI



+ Performance Specifications

Model	HDS1022M-I
Bandwidth	20MHz
Sample Rate	100MS/s
Rise Time (at input, typical)	≤ 17.5ns
Record Length	6K points
Channel	dual, insulated ground of 1000 : 1
Display	3.7" color TFT LCD, 640 x 480 pixels
Floating Meas. Channel	insulated input ground between multimeter / oscilloscope mode
Input Coupling	DC, AC, and GND
Input Impedance	1MΩ ± 2%, in parallel with 15pF ± 5pF
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2 - 5
Interval (ΔT) Accuracy	single: ±(1 interval time + 100ppm x reading + 0.6ns), average > 16: ±(1 interval time + 100ppm x reading + 0.4ns)
Vertical Sensitivity	5mV/div - 5V/div (at input)
Vertical Resolution (A/D)	8 bits
Max Input Voltage	400V (DC + AC peak), CAT II
Trigger Type	Edge: rising edge, falling edge Video: line, field, randomline, odd / even fields
Trigger Mode	Auto, Normal, and Single
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty
DC Accuracy (average)	average > 16 : ±(5% reading + 0.05 div) for ΔV
Waveform Math	+, -, *, /, invert, FFT
Waveform Storage	4 waveforms
Lissajous Figure	Bandwidth: full bandwidth Phase Difference: ±3 degrees

Model	HDS1022M-I
Cursor Measurement	ΔV, and ΔT between cursors
Communication Interface	USB host, and USB device
Battery	built-in Li-ion battery, 7.4V / 3500mAh
Dimensions (W x H x D)	113 x 180 x 40 (mm)
Device Weight	645.00 g

+ Multimeter Specifications

Full Scale Reading	3 ³ / ₄ digits (max 4000 count)	Diode	0V - 1.5V
Input Impedance	10 MΩ	On / Off Test	<50 (± 30) beeping
Voltage	VDC : 400mV, 4V, 400V, 1000V : ±(1% ± 1 digit); max input : DC 1000V VAC : 4V, 40V, 400V : ±(1% ± 3 digits), Frequency : 40Hz - 400Hz; max input : AC 750V (virtual value)		
Current	DCA: 40mA, 400mA: ±(1.5% ± 1 digit), 10A: ±(3% ± 3 digits) ACA: 40mA: ±(1.5% ± 3 digit); 400mA: ±(2 ± 1 digit); 10A: ±(3% ± 3 digits)		
Impedance	400Ω: ±(1% ± 3 digits); 4KΩ / 40KΩ / 400 KΩ / 4MΩ: ±(1% ± 1 digit); 40MΩ: ±(1.50% ± 3 digits)		
Capacitance	51.2nF - 100uF : ±(3% ± 3 digits)		

Specifications subject to change without prior notice.

+ Application

- electronic circuit debugging
- education and training
- circuit testing
- design and manufacture
- automobile maintenance and testing

+ Accessories

The accessories subject to final delivery.



VDS Series PC Oscilloscope



- + Up to 100MHz bandwidth, and max 1GS/s real-time sample rate
- + Max 10M record length
- + Friendly UI : FFT, or X-Y, and waveform 2 views displayed on the same screen
- + Multi-trigger option : edge, video, slope, pulse, and alternate
- + USB isolation - less signal interference, more PC protection
- + USB bus powering, and LAN remote control (optional)
- + Ultra-thin body design, easy portability
- + SCPI supported
- + LabVIEW supported (only in VDS3102)

+ Performance Specifications

Model	VDS1022I	VDS1022	VDS2062	VDS3102
Bandwidth	25MHz		60MHz	100MHz
Channel	2+1 (multi)			
Sample Rate	100MS/s		1GS/s	
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2 - 5		2ns/div - 100s/div, step by 1 - 2 - 5	
Rise Time	≤14ns		≤5.8ns	≤3.5ns
Record Length	5K		10M	
Input Coupling	DC, AC, and GND			
Input Impedance	1MΩ ± 2%, in parallel with 15pF ± 5pF			
Channel Isolation	50Hz : 100 : 1 ; 10MHz : 40 : 1			
Max Input Voltage	400V (DC + AC peak)		40V (DC + AC peak)	
DC Gain Accuracy	±3%			
DC Accuracy	Average ≥16 : ±(3% reading + 0.05 div) for ΔT			
Probe Attenuation Factor	1X, 10X, 100X, 1000X			
LF Respond (AC, -3dB)	≥10Hz (at input, AC coupling, -3dB)			
Sample Rate / Relay Time Accuracy	150ps			
Interpolation	sin(x)/x			
Interval (ΔT) Accuracy (full bandwidth)	Single : ± (1 interval time + 100ppm × reading + 0.6ns), Average >16 : ±(1 interval time + 100ppm × reading + 0.4ns)			
Vertical Resolution (A/D)	8 bits (2 channels simultaneously)			

Model	VDS1022I	VDS1022	VDS2062	VDS3102
Vertical Sensitivity	2mV/div - 5V/div			
Trigger Type	Edge, Pulse, Video, Slope, and Alternate			
Trigger Mode	Auto, Normal, and Single			
Trigger Level	±5 divisions from screen center			
Acquisition Mode	Sample, Peak Detect, and Average			
Line / Field Frequency (video)	NTSC, PAL, and SECAM standard			
Cursor Measurement	ΔV, and ΔT between cursors			
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty			
Waveform Math	+, -, *, /, invert, FFT			
Lissajous Figure	Bandwidth	full bandwidth		
	Phase Difference	±3 degrees		
Communication Interface	USB2.0 (isolation)	USB2.0	USB2.0, LAN (optional)	
Multi-function Interface	Signal Type	synchronized input / output, Pass / Fail, external trigger input		
	Level Standard	TTL		
Power Supply	5.0V/500mA		5.0V / 1.5A	
Power Consumption	≤2.5W		≤6.5W	
Dimensions (W x H x D)	170 x 120 x 18 (mm)		190 x 120 x 18 (mm)	
Device Weight	0.26 kg			

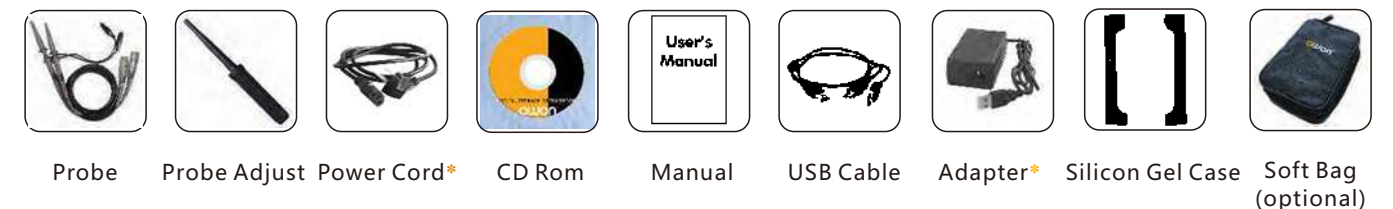
Specifications subject to change without prior notice.

+ Application

design and debug circuit function test education and training

+ Accessories

The accessories subject to final delivery.



* Power cord and adapter only available for models with LAN port.

4-CH VDS Series

PC Oscilloscope



- + Up to 100MHz bandwidth, and max 1GS/s real-time sample rate
- + Max 5M record length
- + Friendly UI : FFT, or X-Y, and waveform 2 views displayed on the same screen
- + Multi-trigger option : edge, video, slope, pulse, and alternate
- + USB isolation - less signal interference, more PC protection
- + USB bus powering, and LAN remote control (optional)
- + Ultra-thin body design, easy portability
- + SCPI supported
- + LabVIEW supported (only in VDS3104)

+ Performance Specifications

Model	VDS2064	VDS3104
Bandwidth	60MHz	100MHz
Channel	4+1 (multi)	
Sample Rate	1GS/s	
Horizontal Scale (s/div)	2ns/div - 100s/div, step by 1 - 2 - 5	
Rise Time	≤5.8ns	≤3.5ns
Record Length	5M	
Input Coupling	DC, AC, and GND	
Input Impedance	1MΩ ± 2%, in parallel with 10pF ± 5pF	
Channel Isolation	50Hz : 100 : 1 ; 10MHz : 40 : 1	
Max Input Voltage	40V (DC + AC peak)	
DC Gain Accuracy	±3%	
DC Accuracy	Average ≥16 : ±(3% reading + 0.05 div) for ΔT	
Probe Attenuation Factor	1X, 10X, 100X, 1000X	
LF Respond (AC, -3dB)	≥10Hz (at input, AC coupling, -3dB)	
Sample Rate / Relay Time Accuracy	150ps	
Interpolation	sin(x)/x	
Interval (ΔT) Accuracy (full bandwidth)	Single : ± (1 interval time + 100ppm × reading + 0.6ns), Average > 16 : ±(1 interval time + 100ppm × reading + 0.4ns)	
Vertical Resolution (A/D)	8 bits (2 channels simultaneously)	

Model	VDS2064	VDS3104
Vertical Sensitivity	2mV/div - 5V/div	
Trigger Type	Edge, Pulse, Video, Slope, and Alternate	
Trigger Mode	Auto, Normal, and Single	
Trigger Level	±5 divisions from screen center	
Acquisition Mode	Sample, Peak Detect, and Average	
Line / Field Frequency (video)	NTSC, PAL, and SECAM standard	
Cursor Measurement	ΔV, and ΔT between cursors	
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, Delay A→B, Delay A→B, +Width, -Width, +Duty, -Duty	
Waveform Math	+, -, *, /, invert, FFT	
Lissajous Figure	Bandwidth	full bandwidth
	Phase Difference	±3 degrees
Communication Interface	USB2.0, LAN (optional)	
Multi-function Interface	Signal Type	synchronized input / output, Pass / Fail, external trigger input
	Level Standard	TTL
Power Supply	5.0V / 1.5A	
Power Consumption	≤6.5W	
Dimensions (W x H x D)	190 x 120 x 18 (mm)	
Device Weight	0.30 kg	

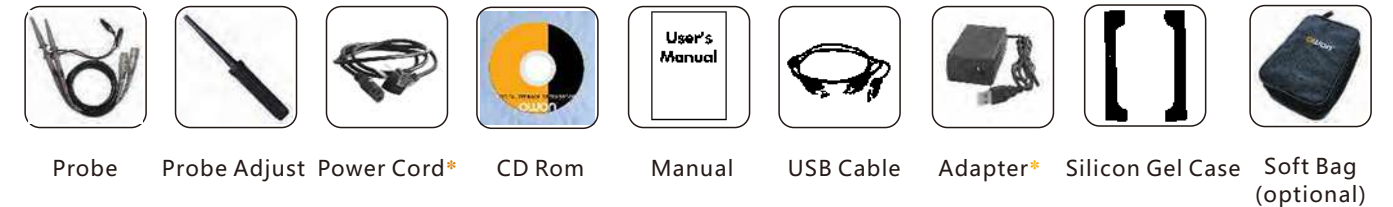
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+ Application

design and debug circuit function test education and training

+ Accessories

The accessories subject to final delivery.



* Power cord and adapter only available for models with LAN port.

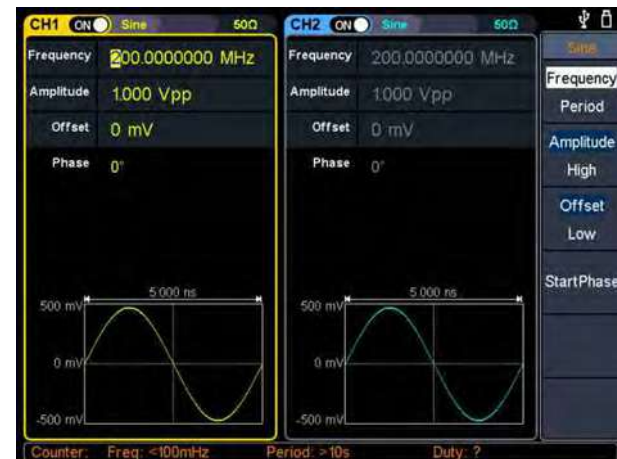
XDG3000 Series

Dual-channel Arbitrary Waveform Generator



- + Advanced DDS technology, Max 250MHz frequency output
- + Max 1.25GS/s sample rate, and 1μHz frequency resolution
- + Vertical Resolution :14 bits, max 1M arb waveform length
- + Comprehensive waveform output : 6 basic waveforms, and 152 built-in arbitrary waveforms
- + Comprehensive modulation functions : AM, FM, PM, FSK, 3FSK, 4FSK, PSK, OSK, ASK, BPSK, PWM, Sweep, and Burst
- + High-accuracy frequency counter integrated, supported range 100mHz - 200MHz
- + SCPI, and LabVIEW supported
- + 8 inch high resolution (800 × 600 pixels) LCD

Equal performance dual channel output



Rich sweep function



Rich analog and digital modulation



Build-in 152 arbitrary waveforms



+ Performance Specifications

Model	XDG3252	XDG3202	XDG3162	XDG3102	XDG3082
Channel	dual				
Frequency Output	250MHz	200MHz	160MHz	100MHz	80MHz
Sample Rate	1.25GSa/s				
Vertical Resolution	14 bits				
Waveform					
Standard Waveform	Sine, Square, Pulse, Ramp, Noise, and Harmonic				
Arbitrary Waveform	Exponential Rise, Exponential Fall, Sin(x)/x, Step Wave, and others, total 152 built-in waveforms, and user-defined arbitrary waveform				
Frequency (resolution 1μHz)					
Sine	1μHz - 250MHz	1μHz - 200MHz	1μHz - 160MHz	1μHz - 100MHz	1μHz - 80MHz
Square	1μHz - 50MHz	1μHz - 50MHz	1μHz - 50MHz	1μHz - 40MHz	1μHz - 30MHz
Pulse	1μHz - 25MHz	1μHz - 25MHz	1μHz - 25MHz	1μHz - 25MHz	1μHz - 25MHz
Ramp	1μHz - 5MHz				
Noise	120MHz (-3dB, type)				
Arb	1μHz - 50MHz				
Amplitude					
Amplitude (50Ω)	1mVpp - 10Vpp (≤ 40MHz), 1mVpp - 5Vpp (≤80MHz) 1mVpp - 2.5Vpp (≤120MHz), 1mVpp - 1Vpp (≤250MHz)				
Amplitude(high impedance)	2mVpp - 20Vpp (≤ 40MHz), 2mVpp - 10Vpp (≤80MHz) 2mVpp - 5Vpp (≤120MHz), 2mVpp - 2Vpp (≤250MHz)				
Resolution	1mV or 4digits				
DC Offset Range (AC+DC)	±5V(50Ω), ±10V (high impedance)				
DC Offset Range Resolution	1mV or 4digits				
Load Impedance	50Ω type				
Arbitrary Waveform					
Wave Length	2 - 1M pts				
Frequency	50MHz				
Modulation					
Type	AM, FM, PM, PWM, FSK, 3FSK, 4FSK, PSK, OSK, ASK, BPSK, sweep, and burst				
Frequency	2 mHz -100 kHz (AM, FM, PM, PWM), 2 mHz - 1MHz (FSK, 3FSK, 4FSK, PSK, OSK, ASK, BPSK),				
Frequency Counter					
Function	Frequency Period, +Width, -Width, +Duty, and -Duty				
Frequency Range	100mHz - 200MHz				
Frequency Resolution	7 digits/s				
Input / Output					
Display	8 inch (800 x 600 pixels) TFT LCD				
Type	counter, external modulation input, external trigger input, external reference clock input / output				
Communication Interface	USB Host, USB Device, LAN				
Mechanical					
Dimension (W×H×D)	340 x 177 x 90 (mm)				
Device Weight	2.50 kg				

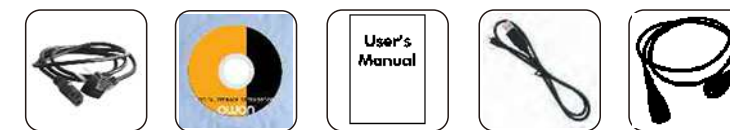
Specifications subject to change without prior notice.

+ Application

design and debug circuit function test education and training

+ Accessories

The accessories subject to final delivery.



Power Cord CD Rom Manual USB Cable Q9 Cable

AG-S Series Single-channel Arbitrary Waveform Generator - {5 - 10MHz}



- + Advanced DDS technology, upto 10MHz frequency output
- + 125MS/s sample rate, and 1μHz frequency resolution
- + Vertical Resolution : 14 bits, and 8K arb waveform length
- + Comprehensive waveform output : 5 basic waveforms, and 45 built-in arbitrary waveforms
- + Comprehensive modulation functions : AM, FM, PM, FSK, Sweep, and Burst
- + SCPI, and LabVIEW supported
- + 4" high resolution (480 x 320 pixels) LCD
- + *could work with OWON SDS Series DSO smoothly*

+ Performance Specifications

Model	AG051	AG051F	AG1011	AG1011F
Channel	single + trigger			
Frequency Output	5MHz		10MHz	
Sample Rate	125MS/s			
Vertical Resolution	14 bits			

Waveform

Standard Waveform	Sine, Square, Pulse, Ramp, and Noise			
Arbitrary Waveform	Exponential Rise, Exponential Fall, Sin(x)/x, Step Wave, and others, total 45 built-in waveforms, and user-defined arbitrary waveform			

Frequency (resolution 1μHz)

Sine	1μHz - 5MHz		1μHz - 10MHz	
Square	1μHz - 5MHz			
Pulse	1μHz - 5MHz			
Ramp	1μHz - 1MHz			
Noise	5MHz (-3dB) (typical)			
Arbitrary Waveform	1μHz - 5MHz			

Amplitude

Amplitude	1m Vpp - 12.5 Vpp (50Ω), 1m Vpp - 25 Vpp (high impedance)			
Resolution	1m Vpp, or 4 digits			
DC Offset Range (AD+DC)	±6.25V (50Ω), ±12.5V (high impedance)			
DC Offset Range Resolution	1mV, or 4 digits			
Load Impedance	50Ω (typical)			

Square/Pulse

Rise Time	<12ns			
Jitter (RMS) Typical	1ns ±30ppm			
Duty Cycle	20% ~ 80% (< 1 MHz) , 50% (1 MHz ~ 5 MHz)			

Model	AG051	AG051F	AG1011	AG1011F
Arbitrary Waveform				
Wave Length	2 pts to 8K pts			
Sample Rate	125MS/s			
Vertical Resolution	14 bits			
Non-volatile Memory	64M byte			
Modulation				
Modulation Waveform	/	AM, FM, PM, FSK, Sweep, and Burst	/	AM, FM, PM, FSK, Sweep, and Burst
Modulation Frequency	/	2mHz to 20.00KHz (FSK 2mHz - 100KHz)	/	2mHz to 20.00KHz (FSK 2mHz - 100KHz)

Power Amplifier Module (optional)

Input Impedance	50 kΩ	Output Impedance	<2 Ω
Max Input Voltage	2.2Vpp	Gain	X10
Max Output Voltage	22Vpp	Offset	<7%
Output Slew Rate	10V/us	Bandwidth (at full power)	DC 100kHz
Max Output Power	10W		

Input / Output

Display	4 inch (480 x 320 pixels) LCD			
Type	external reference clock input	external modulation input, external trigger input, external reference clock input	external reference clock input	external modulation input, external trigger input, external reference clock input
Communication Interface	USB device			

Mechanical

Dimension (W x H x D)	235 x 110 x 295 (mm)			
Device Weight	3.00 kg			

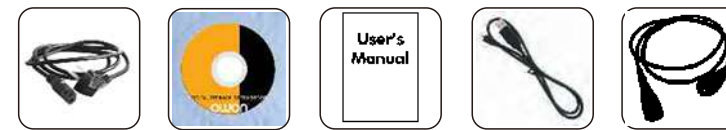
Specifications subject to change without prior notice.

+ Application

design and debug circuit function test education and training

+ Accessories

The accessories subject to final delivery.



Power Cord CD Rom Manual USB Cable Q9 Cable



- + Advanced DDS technology, max 60MHz frequency output
- + Up to 300MS/s sample rate, and 1μHz frequency resolution
- + Vertical Resolution : 14 bits, up to 1M arb waveform length
- + Comprehensive waveform output : 5 basic waveforms, and 45 built-in arbitrary waveforms
- + Comprehensive modulation functions : AM, FM, PM, FSK, PWM, Sweep, and Burst
- + High-accuracy frequency counter integrated, supported range 100mHz - 200MHz
- + SCPI, and LabVIEW supported
- + 4 inch high resolution (480 x 320 pixels) LCD
- + could work with OWON SDS Series DSO smoothly

+ Performance Specifications

Model	AG1012	AG1012F	AG1022	AG1022F	AG2052F	AG2062F
Channel	dual					
Frequency Output	10MHz		25MHz		50MHz	60MHz
Sample Rate	125MS/s			300MS/s		
Vertical Resolution	14 bits					

Waveform

Standard Waveform	Sine, Square, Pulse, Ramp, DC, and Noise
Arbitrary Waveform	Exponential Rise, Exponential Fall, Sin(x)/x, Step Wave, and others, total 45 built-in waveforms, and user-defined arbitrary waveform

Frequency (resolution 1μHz)

Sine	1μHz - 10MHz	1μHz - 25MHz	1μHz - 50MHz	1μHz - 60MHz
Square	1μHz - 5MHz		1μHz - 25MHz	1μHz - 30MHz
Pulse	1μHz - 5MHz		1μHz - 10MHz	1μHz - 15MHz
Ramp	1μHz - 1MHz			
Noise	25MHz (-3dB) (typical)			
Arbitrary Waveform	1μHz - 10MHz			

Amplitude

Amplitude	1m Vpp - 10 Vpp (50Ω), 1m Vpp - 20 Vpp (high impedance)
Resolution	1m Vpp or 4 digits
DC Offset Range (AD+DC)	±5V (50Ω), ±10V (high impedance)
DC Offset Range	1mV or 4 digits
Load Impedance	50Ω (typical)

Square/Pulse

Rise Time	<12ns	
Jitter (RMS) Typical	1ns ±30ppm	300 ps + 100 ppm of period
Duty Cycle	20% ~ 80% (< 1 MHz) , 50% (1 MHz ~ 5 MHz)	20% ~ 80% (< 1 MHz) , 50% (≥ 1 MHz)

Model	AG1012	AG1022	AG1012F	AG1022F	AG2052F	AG2062F
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Arbitrary Waveform

Wave Length	2 pts to 8K pts			2 pts to 1M pts		
Non-volatile Memory	64M byte					

Modulation

Modulation Waveform	/	AM, FM, PM, FSK, Sweep, and Burst	AM, FM, PM, FSK, PWM, Sweep, and Burst
Modulation Frequency	/	2mHz to 20.00KHz (FSK 2mHz - 100KHz)	

Frequency Counter

Function	/	Frequency Period, +Width, -Width, +Duty, and -Duty	
Frequency Range	/	100mHz - 200MHz	
Frequency Resolution	/	6 digits	

Power Amplifier Module (optional)

Input Impedance	50 kΩ	Output Impedance	<2 Ω
Max Input Voltage	2.2Vpp	Gain	X10
Max Output Voltage	22Vpp	Offset	<7%
Output Slew Rate	10V/us	Bandwidth (at full power)	DC 100kHz
Max Output Power	10W		

Input / Output

Display	4 inch (480 x 320 pixels) LCD		
Type	external reference clock input / output	counter external modulation input, external trigger input, external reference clock input / output	
Communication Interface	USB host, and USB device, RS232 (option)		

Mechanical

Dimension (W x H x D)	235 x 110 x 295 (mm)
Device Weight	3.00 kg

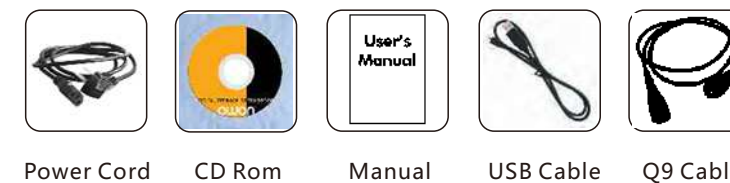
Specifications subject to change without prior notice.

+ Application

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+ Accessories

The accessories subject to final delivery.





- + Advanced DDS technology, max 150MHz frequency output
- + Up to 400MS/s sample rate, and 1μHz frequency resolution
- + Vertical Resolution : 14 bits, up to 1M arb waveform length
- + Comprehensive waveform output : 5 basic waveforms, and 45 built-in arbitrary waveforms
- + Comprehensive modulation functions : AM, FM, PM, FSK, PWM, Sweep, and Burst
- + SCPI, and LabVIEW supported
- + 4 inch high resolution (480 x 320 pixels) LCD

+ Performance Specifications

Model	AG4081	AG4101	AG4121	AG4151
Channel	single + trigger			
Frequency Output	80MHz	100MHz	120MHz	150MHz
Sample Rate	400MS/s			
Vertical Resolution	14 bits			

Waveform

Standard Waveform	Sine, Square, Pulse, Ramp, and Noise			
Arbitrary Waveform	Exponential Rise, Exponential Fall, Sin(x)/x, Step Wave, and others, total 45 built-in waveforms, and user-defined arbitrary waveform			

Frequency (resolution 1μHz)

Sine	1μHz - 80MHz	1μHz - 100MHz	1μHz - 120MHz	1μHz - 150MHz
Square	1μHz - 40MHz	1μHz - 50MHz		
Pulse	1μHz - 20MHz	1μHz - 25MHz		
Ramp	1μHz - 1MHz			
Noise	50MHz (-3dB) (typical)			
Arbitrary Waveform	1μHz - 10MHz			

Amplitude

Amplitude	10m Vpp - 10 Vpp (50Ω), 20m Vpp - 20 Vpp (high impedance)			
Resolution	1m Vpp or 4 digits			
DC Offset Range (AD+DC)	±5V (50Ω), ±10V (high impedance)			
DC Offset Range Resolution	1mV or 4 digits			
Load Impedance	50Ω (typical)			

Square/Pulse

Rise Time	< 12ns			
Jitter (RMS) Typical	300 ps + 100 ppm of period			
Duty Cycle	20% ~ 80% (< 1 MHz) , 50% (≥ 1 MHz)			

Model	AG4081	AG4101	AG4121	AG4151
Arbitrary Waveform				
Wave Length	2 pts to 1M pts			
Sample Rate	200MS/s			
Vertical Resolution	14 bits			
Non-volatile Memory	64M byte			
Modulation				
Modulation Waveform	AM, FM, PM, FSK, PWM, Sweep, and Burst			
Modulation Frequency	2mHz to 20.00KHz (FSK 2mHz - 100KHz)			
Input / Output				
Display	4 inch (480 x 320 pixels) LCD			
Type	external modulation input, external trigger input / output, external reference clock input / output			
Communication Interface	USB host, USB device, RS232, and LAN			
Mechanical				
Dimension (W x H x D)	235 x 110 x 295 (mm)			
Device Weight	3.00 kg			

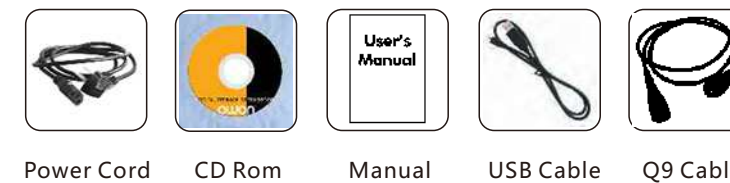
Specifications subject to change without prior notice.

+ Application

design and debug circuit function test education and training

+ Accessories

The accessories subject to final delivery.



Power Cord CD Rom Manual USB Cable Q9 Cable

SP Series DC Power Supply



- + Small body for easy carry
- + 150W maximum output power
- + High setting resolution : 10mV / 10mA
- + low ripples / low noise
- + over-voltage / over-current protection
- + CV/CC output model
- + 3.7 inch TFT LCD
- + Support RS232 digital communication
- + Support SCPI and Labview



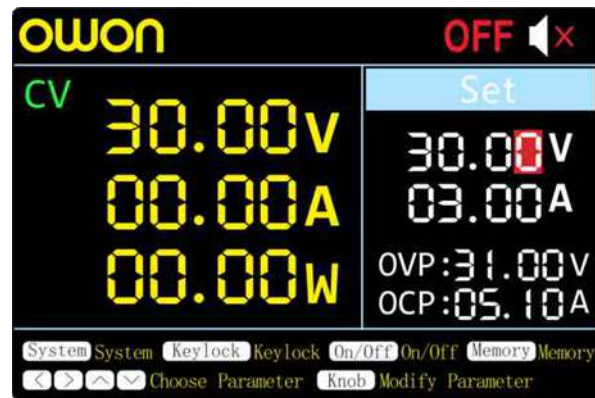
Large LCD Display



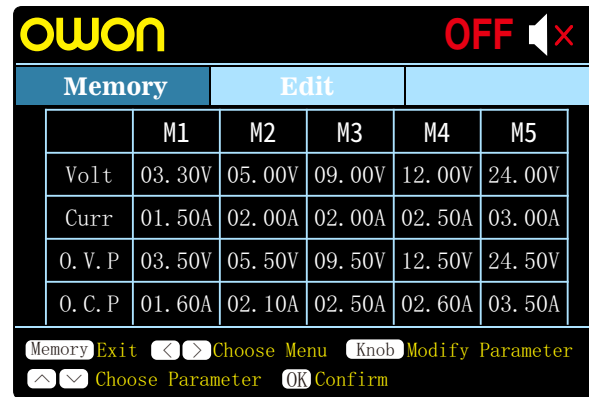
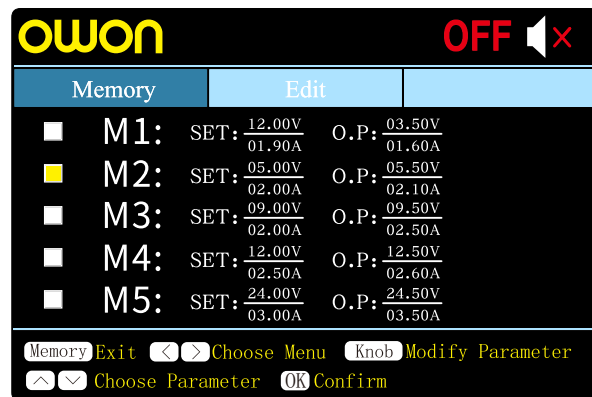
Conventional display example*



Supports 10mV/10mA Resolution up to Full Load.



Save up to 5 sets of parameters in memory for easy recall.



+ Performance Specifications

Model	SP3051
Channel	Single Channel Output
Total Output Power	150W
Channel Output	0 - 30V / 0 - 5A × 1-CH
Display	3.7 inch color LCD display
Dimension	117mm(L) × 194mm (H) × 295mm (D)
Weight	Approx. 2.30 kg
Interface	RS232

The instrument must be operated continuously for more than 30 minutes at the specified temperature to ensure the following parameters.

Model	SP3051	
Rated Output (0°C-40°C)	Voltage	0 - 30V
	Current	5A
Load Regulation	Voltage	≤30mV
	Current	≤50mA
Line Resolution	Voltage	≤10mV
	Current	≤20mA
Setting Resolution	Voltage	10mV
	Current	10mA
Readback Resolution	Voltage	10mV
	Current	10mA
Settings Accuracy (within 12 months) (25°C±5°C)	Voltage	≤0.3% + 10mV
	Current	≤0.3% + 20mA
Readback Accuracy (25°C±5°C)	Voltage	≤0.3% + 10mV
	Current	≤0.3% + 20mA
Ripple/Noise (20Hz-20MHz)	Voltage (Vp-p)	≤30mVp-p
	Voltage (rms)	≤3mVrms
	Current (rms)	≤30mArms
Output Temperature (0°C-40°C)	Voltage	≤0.3% + 10mV
	Current	≤0.3% + 20mA
Readback Temperature Coefficient	Voltage	≤0.3% + 10mV
	Current	≤0.3% + 20mA
Response Time	≤1.0ms	
Storage	5 groups of data	
Working Temperature	0-40°C	

Specifications subject to change without prior notice.

+ Application

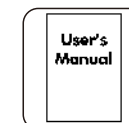
- Military R&D
- Automotive Circuit Testing experiment
- Quality Inspection
- Education and Technical Training
- Circuit Functional Testing
- Electronic component testing and aging

+ Accessories

The accessories subject to final delivery.



Power Cord



Manual



Fuse



Test Leads (optional)



RS232 to USB Module (optional)

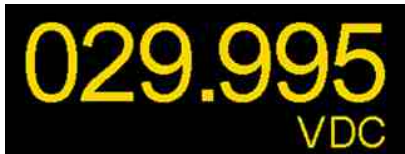
P4000 Series Single Channel Linear DC Power Supply



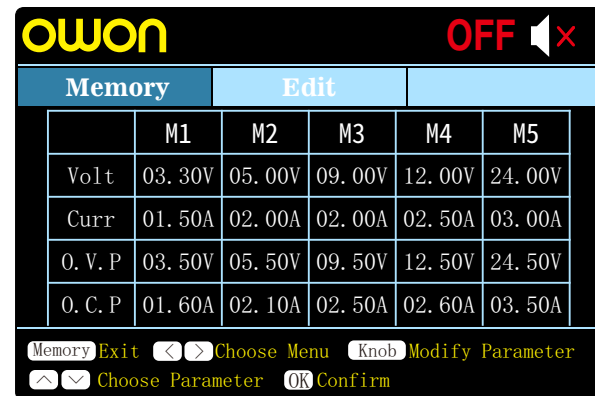
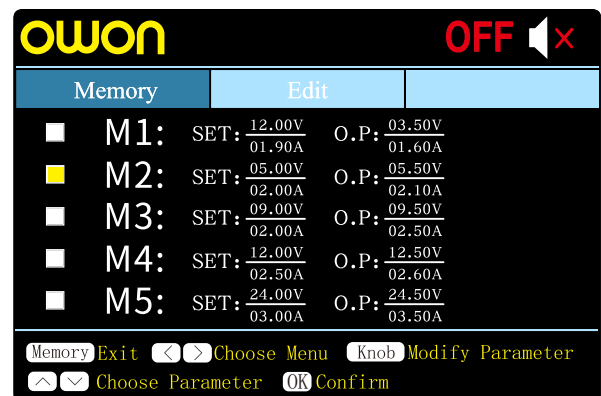
- + Small body for easy carry
- + 180W maximum output power
- + High resolution : 1mV / 1mA
- + Low ripple/noise
- + Over voltage/over current protection
- + Multi-directional cooling system with smart fan
- + 3.7 inch TFT LCD display
- + Support RS232 digital communication
- + Support SCPI and Labview



0.01% Power and Load Regulation



Save up to 5 sets of parameters in memory for easy recall.



+ Performance Specifications

Model	P4305	P4603
Channel	Single Channel Output	
Total Output Power	150W	180W
Channel Output	0 - 30V / 0 - 5A × 1-CH	0 - 60V / 0 - 3A × 1-CH
Display	3.7 inch color LCD display	
Dimension	117mm(L) × 194mm (H) × 295mm (D)	
Weight	Approx. 5.60 kg	Approx. 5.80 kg
Interface	Rs232, USB device(optional)	

The instrument must be operated continuously for more than 30 minutes at the specified temperature to ensure the following parameters.

Model	P4305	P4603
Rated Output (0°C-40°C)	Voltage	0 - 30V
	Current	5A
Load Regulation	Voltage	≤0.01%+3mV
	Current	≤0.01% + 3mA
Power Regulation	Voltage	≤0.01% + 3mV
	Current	≤0.01% + 3mA
Setting Resolution	Voltage	1mV
	Current	1mA
Readback Resolution	Voltage	1mV
	Current	1mA
Setpoint Accuracy (within 12 months) (25°C±5°C)	Voltage	≤0.03% + 10mV
	Current	≤0.1% + 5mA
Readback Accuracy (25°C±5°C)	Voltage	≤0.03% + 10mV
	Current	≤0.1% + 5mA
Ripple/Noise (20Hz-20MHz)	Voltage (Vp-p)	≤4mVp-p
	Voltage (rms)	≤1mVrms
	Current (rms)	≤4mArms
Output Temperature (0°C-40°C)	Voltage	≤0.03% + 10mV
	Current	≤0.1% + 5mA
Readback Temperature Coefficient	Voltage	≤0.03% + 10mV
	Current	≤0.1% + 5mA
Response Time	100 μs	
Storage	5 groups of data	
Working Temperature	0-40°C	

Specifications subject to change without prior notice.

+ Application

- Military R&D
- Automotive Circuit Testing experiment
- Quality Inspection
- Education and Technical Training
- Circuit Functional Testing
- Electronic component testing and aging
- Monitoring battery charging curve

+ Accessories

The accessories subject to final delivery.





- + Two independent controllable channels + sense
- + Max output resolution : 1mV / 1mA
- + Low ripples / low noise
- + Up to 100 group timers
- + Over-voltage / Over-current protection
- + Data-logging function: could record the read back voltage and current, display recorded data in chart

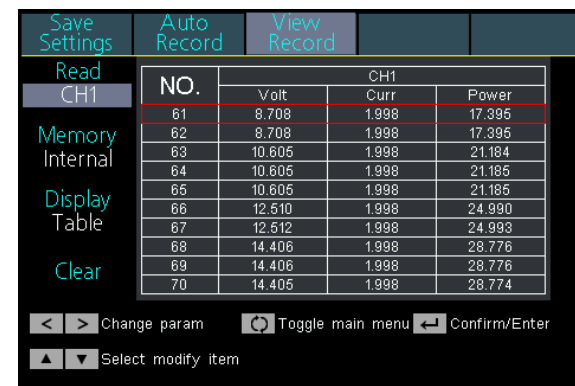
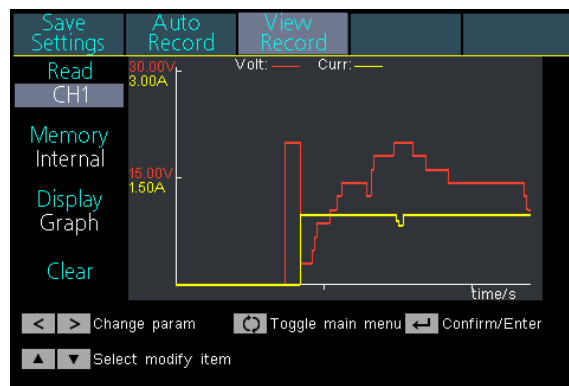
Dual Output



- + 4 inch high resolution (480 x 320 pixels) LCD
- + Multi- CI: USB, RS232, and LAN
- + Auto-cooling system
- + SCPI, and LabVIEW supported

Creative Data Recording Function

to monitor the changing status of powering system, displaying recorded data in chart.



Model	ODP3122	ODP6062
Channel	2 (independent controllable channel) +sense	
Max Output Power	378W	
Output Range	0 - 30V / 12A, 0 - 6V / 3A	0 - 60V / 3A, 0 - 6V / 3A

+ Display

Model	ODP3122	ODP6062
LCD Type	4 inch color LCD	
Display Resolution	480 x 320 pixels, 65536 colors	

+ Mechanical Specifications

Model	ODP3122	ODP6062
Dimension (W x H x D)	250 x 158 x 358 (mm)	
Device Weight	12.00 kg	

+ Performance Specifications

The specifications based upon the instrument having run for at least 30 minutes continuously, under the specified operating environment.

Model		ODP3122	ODP6062	all 2 models
Channel		CH 1	CH 1	CH 2
Output Ratings (0°C - 40°C)	Voltage	0 - 30V	0 - 60V	6V
	Current	12A	6A	3A
Load Regulation	Voltage	≤0.01% + 3mV		
	Current	≤0.01% + 3mA		
Line Regulation	Voltage	≤0.01% + 3mV		
	Current	≤0.01% + 3mA		
Settings Resolution	Voltage	1mV		
	Current	1mA		
Read Back Resolution	Voltage	1mV		
	Current	1mA		
Settings Accuracy (25°C ± 5°C) (within 12 months)	Voltage	≤0.03% + 10mV		
	Current	≤0.1% + 8mA		≤0.1% + 5mA
Read Back Accuracy (25°C ± 5°C)	Voltage	≤0.03% + 10mV		
	Current	≤0.1% + 8mA		≤0.1% + 5mA
Noise and Ripple (20Hz - 20MHz)	Voltage (Vp-p)	≤2mVp-p		
	Voltage (rms)	≤300uVrms		
	Current (rms)	≤3mArms		≤4mArms
Output Temperature Coefficient (0°C - 40°C)	Voltage	≤0.03% + 10mV		
	Current	≤0.1% + 5mA		
Read Back Temperature Coefficient	Voltage	≤0.03% + 10mV		
	Current	≤0.1% + 5mA		
Programmable Output	Storage	100 groups		
	Time Setting	second		
Data Recording		10 K groups (of voltage, current and power data) recording capacity		
Working Temperature		0 - 40°C		
Communication Interface		USB, RS232, and LAN		

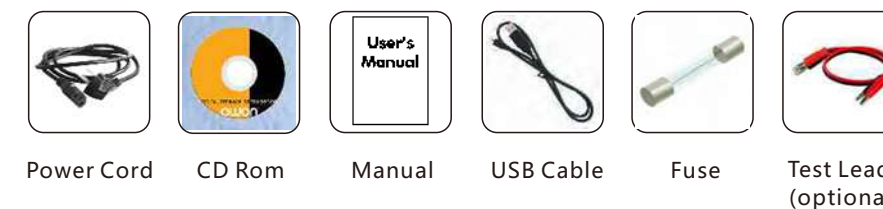
Specifications subject to change without prior notice.

+ Application

- R&D laboratory
- QC test
- industrial automation test
- automobile, and electronic circuit test
- education / teaching experimentation

+ Accessories

The accessories subject to final delivery.



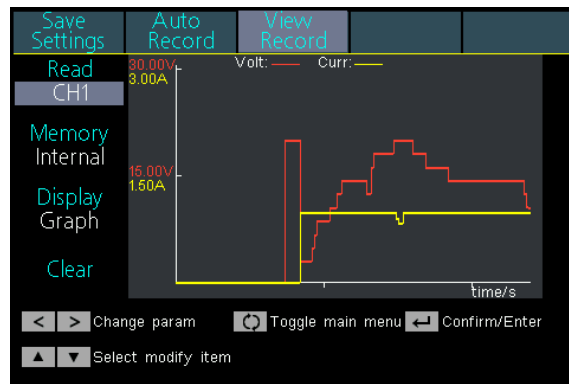


- + Three independent controllable channels
- + Max output resolution : 1mV / 1mA
- + Low ripples / low noise
- + Up to 100 group timers
- + Multi- working mode : individual, parallel, and series
- + Over-voltage / Over-current protection
- + Data-logging function: could record the read back voltage and current, display recorded data in chart
- + 4 inch high resolution (480 x 320 pixels) LCD
- + Multi- CI: USB, RS232, and LAN
- + Auto-cooling system
- + SCPI, and LabVIEW supported

Triple Output

Creative Data Recording Function

to monitor the changing status of powering system, displaying recorded data in chart.



NO.	Volt	CH1 Curr	Power
61	8.708	1.998	17.395
62	8.708	1.998	17.395
63	10.605	1.998	21.184
64	10.605	1.998	21.185
65	10.605	1.998	21.185
66	12.510	1.998	24.990
67	12.512	1.998	24.993
68	14.406	1.998	28.776
69	14.406	1.998	28.776
70	14.405	1.998	28.774

Model	ODP3033	ODP3063	ODP6033
Channel	3 (independent controllable channel)		
Max Output Power	198W	378W	378W
Output Range	0 - 30V / 3A x 2-CH, 0 - 6V / 3A	0 - 30V / 6A x 2-CH, 0 - 6V / 3A	0 - 60V / 3A x 2-CH, 0 - 6V / 3A

+ Display

Model	ODP3033	ODP3063	ODP6033
LCD Type	4 inch color LCD		
Display Resolution	480 x 320 pixels, 65536 colors		

+ Mechanical Specifications

Model	ODP3033	ODP3063	ODP6033
Dimension (W x H x D)	250 x 158 x 358 (mm)		
Device Weight	9.80 kg	12.00 kg	

+ Performance Specifications

The specifications based upon the instrument having run for at least 30 minutes continuously, under the specified operating environment.

Model		ODP3033		ODP3063		ODP6033		all 3 models
Channel		CH 1	CH 2	CH 1	CH 2	CH 1	CH 2	CH 3
Output Ratings (0°C - 40°C)	Voltage	0 - 30V		0 - 30V		0 - 60V		0 - 6V
	Current	3A		6A		3A		3A
Load Regulation	Voltage	≤0.01% + 3mV						
	Current	≤0.01% + 3mA						
Line Regulation	Voltage	≤0.01% + 3mV						
	Current	≤0.01% + 3mA						
Settings Resolution	Voltage	1mV						
	Current	1mA						
Read Back Resolution	Voltage	1mV						
	Current	1mA						
Settings Accuracy (25°C ± 5°C) (within 12 months)	Voltage	≤0.03% + 10mV						
	Current	≤0.1% + 8mA					≤0.1% + 5mA	
Read Back Accuracy (25°C ± 5°C)	Voltage	≤0.03% + 10mV						
	Current	≤0.1% + 8mA					≤0.1% + 5mA	
Noise and Ripple (20Hz - 20MHz)	Voltage (Vp-p)	≤4mVp-p						
	Voltage (rms)	≤1mVrms						
	Current (rms)	≤5mArms					≤4mArms	
Output Temperature Coefficient (0°C - 40°C)	Voltage	≤0.03% + 10mV						
	Current	≤0.1% + 5mA						
Read Back Temperature Coefficient	Voltage	≤0.03% + 10mV						
	Current	≤0.1% + 5mA						
Parallel Settings Accuracy	Voltage	≤0.02% + 5mV						
	Current	≤0.1% + 30mA						
Programmable Output	Storage	100 groups						
	Time Setting	second						
Data Recording	10 K groups (of voltage, current and power data) recording capacity							
Working Temperature	0 - 40°C							
Communication Interface	USB, RS232, and LAN							

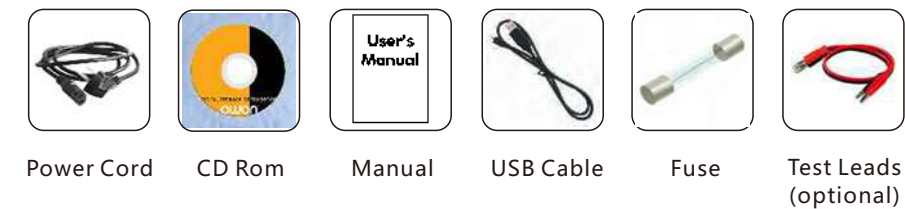
Specifications subject to change without prior notice.

+ Application

- R&D laboratory
- QC test
- industrial automation test
- automobile, and electronic circuit test
- education / teaching experimentation

+ Accessories

The accessories subject to final delivery.





[ODP3031]



[ODP3032]



- + ODP3032 : two independent controllable channels; ODP3031 : one controllable channel
- + Max output resolution : 1mV / 1mA
- + Low ripples / low noise : <300 μ Vrms / 2 mVpp
- + Up to 100 group timers
- + Up to 10 group preset system configurations
- + Over-voltage / Over-current protection
- + Auto-cooling system
- + 3.9 inch high resolution (480 x 320 pixels) LCD
- + USB2.0, and RS232 serial port digital communication supported
- + SCPI, and LabVIEW supported

+ Display

Model	ODP3031	ODP3032
Display Type	3.9 inch colored LCD	
Display Resolution	480 x 320 pixels	
Display Color	65536 colors	

+ Mechanical Specifications

Model	ODP3031	ODP3032
Dimension (W x H x D)	250 x 158 x 358 (mm)	
Device Weight	7.00 kg	10.50 kg

+ Performance Specifications

The specifications based upon the instrument having run for at least 30 minutes continuously, under the specified operating environment.

Model	ODP3031		ODP3032		
	Channel	1	Fixed 3.3V / 5V	2 (independent)	Fixed 5V
DC Output Rating	Voltage	0 - 30V	3.3V / 5V	0- 30V (Independent / Parallel) 0 - 60V (Series) -30V - 30V (Plus-minus)	5V
	Current	0 - 3A	3A	0 - 3A (Independent / Series / Plus-minus), 0 - 6A (Parallel)	3A
Line Regulation	CV	$\leq 0.01\% + 3\text{mV}$	$\leq 3\text{mV}$	$\leq 0.01\% + 3\text{mV}$	$\leq 3\text{mV}$
	CC	$\leq 0.1\% + 3\text{mA}$	/	$\leq 0.1\% + 3\text{mA}$	/
Load Regulation	CV	$\leq 0.01\% + 3\text{mV}$	$\leq 0.1\% + 3\text{mV}$	$\leq 0.01\% + 3\text{mV}$	$\leq 0.1\% + 3\text{mV}$
	CC	$\leq 0.2\% + 3\text{mA}$	/	$\leq 0.2\% + 3\text{mA}$	/
Noise and Ripple (20Hz - 7MHz)	CV	$\leq 300 \mu\text{Vrms} / 2 \text{mVpp}$		$\leq 300 \mu\text{Vrms} / 2 \text{mVpp}$	
	CC	$\leq 3\text{mA rms}$	/	$\leq 3\text{mA rms}$	/
Settings Resolution	Voltage	1mV	/	1mV	/
	Current	1mA	/	1mA	/
Settings Accuracy (25°C \pm 5°C)	Voltage	$\leq 0.05\% + 3\text{mV}$	/	$\leq 0.05\% + 3\text{mV}$	/
	Current	$\leq 0.1\% + 3\text{mA}$	/	$\leq 0.1\% + 3\text{mA}$	/
Read Back Resolution	Voltage	1mV (<10V), 10mV ($\geq 10\text{V}$)	/	1mV (<10V), 10mV ($\geq 10\text{V}$)	/
	Current	1mA	/	1mA	/
Read Back Accuracy (25°C \pm 5°C)	Voltage	$\leq 0.05\% + 3 \text{digits}$	/	$\leq 0.05\% + 3 \text{digits}$	/
	Current	$\leq 0.1\% + 3 \text{digits}$	/	$\leq 0.1\% + 3 \text{digits}$	/
Communication Interface	USB Host, USB Device and RS232				

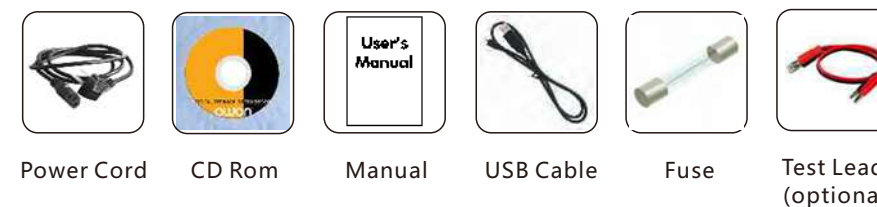
Specifications subject to change without prior notice.

+ Application

general detection in R&D laboratory QC test industrial automation test
 automobile and electronic circuit test power-supplying education / teaching experimentation
 electronic components test, aging test to monitor the real-time status of power system via remote control
 to monitor battery charging curve

+ Accessories

The accessories subject to final delivery.



XDM3041

Bench-type Digital Multimeter



- + 4 inch 480 x 320 pixels high resolution LCD
- + resolutions up to 4 5/6 digits
- + reading rates up to 150 readings/s
- + true RMS AC voltage / current measurement
- + dual line display supported
- + the change trend analysis accessible via special chart mode
- + SCPI supported - remote control, and data-sharing possible via LAN, USB, RS232 port, and WiFi*
- * WiFi module is optional
- + multi- IO interface: USB Device / Host, RS232, LAN, and ext. trigger input

Data-logger Mode

during recording the measurement value, possible to set the logging duration (min. 5ms), and length, then get access to chart or table result

● Trigger

No.	Function	Reading
0	ACV	019.18 mV
1	ACV	027.75 mV
2	ACV	019.22 mV
3	ACV	019.28 mV
4	ACV	025.39 mV
5	ACV	027.48 mV
6	ACV	027.33 mV
7	ACV	004.52 mV
8	ACV	003.62 mV

005.48 mVAC

Manual
200 mV

● Trigger

005.40 mVAC

Manual
200 mV

+ Performance Specifications

XDM3041	Measurement Range	Frequency Range	Accuracy: 1 Year ± (% of reading + % of range)
DC Voltage	600mV, 6V, 60V, 600V, 1000V	/	0.02±0.01
True RMS AC Voltage	600mV, 6V, 60V, 600V, 750V	20Hz - 50Hz	2 + 0.10
		50Hz - 20kHz	0.2 + 0.06
		20kHz -50kHz	1.0 + 0.05
		50kHz -100 kHz	3.0 + 0.08
DC Current	600.00 μA, 6.0000 mA, 60.000 mA, 600.00 mA, 6.000 A, 10.0000 A	/	0.06 + 0.02
			0.06 + 0.02
			0.1 + 0.05
			0.2 + 0.02
			0.2 + 0.05
			0.250 + 0.05
True RMS AC Current	60.000 mA, 600.00 mA, 6.0000 A, 10.000 A	20Hz - 45Hz	2 + 0.10
		45Hz - 2kHz	0.50 + 0.10
		2kHz - 10kHz	2.50 + 0.20

XDM3041	Measurement Range	Frequency Range	Accuracy: 1 Year ± (% of reading + % of range)
Resistance	600.00 Ω	/	0.040 + 0.01
	6.0000 kΩ		0.030 + 0.01
	60.000 kΩ		0.030 + 0.01
	600.00 kΩ		0.040 + 0.01
	6.0000 MΩ		0.120 + 0.03
	60.000 MΩ		0.90 + 0.03
100.00 MΩ	1.75 + 0.03		
Diode Test	3.0000 V	/	0.5 + 0.01
Continuity	1000Ω	/	0.5 + 0.01
Frequency Period	600 mV - 750 V	20 Hz - 2 kHz	0.01 + 0.003
		2 kHz - 20 kHz	0.01 + 0.003
		20 kHz - 200 kHz	0.01 + 0.003
		200 kHz - 1 MHz	0.01 + 0.006
	60 mA - 10 A	20Hz-2kHz	0.01 + 0.003
		2 kHz - 10 kHz	0.01 + 0.003

Test Current			
Capacitance	2.000 nF	200 nA	3 + 1.0
	20.00 nF	200 nA	1 + 0.5
	200.0 nF	2 μA	1 + 0.5
	2.000 μF	10 μA	1 + 0.5
	200 μF	100 μA	1 + 0.5
10000 μF	1 mA	2 + 0.5	
Temperature	temperature sensors under 2 categories supported - thermocouple (ITS-90 conversion between B / E / J / K / N / R / S / T type), and thermal resistance (RTD sensor conversion between Pt100 and Pt385 type)		
Miscellaneous	barmeter bar charts, trend chart Vavg, Vmax, Vmin standard deviation DB / DBm Pass / Fail		

Data-logger Function	
Logging Duration	5ms - 1000s
Logging Length	1M points

General	
Dimension (W x H x D)	235 x 110 x 295 (mm)
Device Weight	3.00 kg

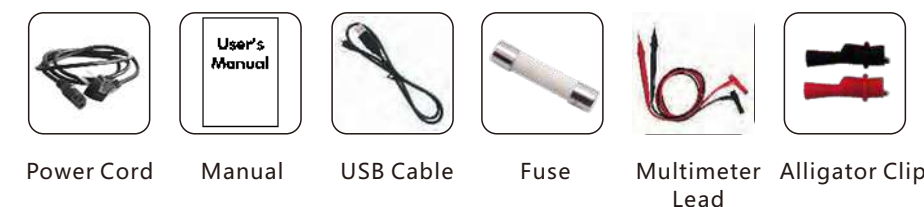
Specifications subject to change without prior notice.

+ Application

- electronic circuit debugging
- education and training
- circuit testing
- automobile maintenance and testing
- design and manufacture
- testing

+ Accessories

The accessories subject to final delivery.



XDM3051

Bench-type Digital Multimeter

- + 4 inch 480 x 320 pixels high resolution LCD
- + resolutions up to 5 1/2 digits
- + reading rates up to 150 readings/s
- + true RMS AC voltage / current measurement
- + dual line display supported
- + the change trend analysis accessible via special chart mode
- + SCPI supported - remote control, and data-sharing possible via LAN, USB, RS232 port, and WiFi*
- * WiFi module is optional
- + multi- IO interface: USB Device / Host, RS232, LAN, and ext. trigger input



Data-logger Mode

during recording the measurement value, possible to set the logging duration (min. 5ms), and length, then get access to chart or table result

● Trigger

No.	Function	Reading
63	DCV	6.966 V
64	DCV	6.966 V
65	DCV	6.966 V
66	DCV	3.747 V
67	DCV	3.747 V
68	DCV	3.747 V
69	DCV	1.822 V
70	DCV	1.821 V
71	DCV	1.821 V

-000.54 mVDC

Auto
200 mV

● Trigger

000.23 mVDC

Auto
200 mV

+ Performance Specifications

XDM3051	Measurement Range	Frequency Range	Accuracy: 1 Year ± (% of reading + % of range)
DC Voltage	200mV, 2V, 20V, 200V, 1000V	/	0.015 ± 0.004
True RMS AC Voltage	200mV, 2V, 20V, 200V, 750V	20Hz - 45Hz	1.5 + 0.10
		45Hz - 20kHz	0.2 + 0.05
		20kHz - 50kHz	1.0 + 0.05
		50kHz - 100 kHz	3.0 + 0.05
DC Current	200.000 μA 2.00000 mA 20.0000 mA 200.000 mA 2.00000 A 10.0000 A	/	0.055 + 0.005
			0.055 + 0.005
			0.095 + 0.020
			0.070 + 0.008
			0.170 + 0.020
			0.250 + 0.010
True RMS AC Current	20.0000 mA, 200.000 mA 2.00000 A, 10.0000 A	20Hz - 45Hz	1.5 + 0.10
		45Hz - 2kHz	0.50 + 0.10
		2kHz - 10kHz	2.50 + 0.20

XDM3051	Measurement Range	Frequency Range	Accuracy: 1 Year ± (% of reading + % of range)
Resistance	200.000 Ω	/	0.030 + 0.005
	2.00000 kΩ		0.020 + 0.003
	20.0000 kΩ		0.020 + 0.003
	200.000 kΩ		0.020 + 0.003
	2.00000 MΩ		0.040 + 0.004
	10.0000 MΩ		0.250 + 0.003
	100.000 MΩ		1.75 + 0.004
Diode Test	2.0000 V	/	0.05 + 0.01
Continuity	2000Ω	/	0.05+0.01
Frequency Period	200 mV - 750 V	20 Hz - 2 kHz	0.01 + 0.003
		2 kHz - 20 kHz	0.01 + 0.003
		20 kHz - 200 kHz	0.01 + 0.003
		200 kHz - 1 MHz	0.01 + 0.006
	20 mA - 10 A	20Hz-2kHz	0.01 + 0.003
		2 kHz - 10 kHz	0.01 + 0.003

Test Current			
Capacitance	2.000 nF	200 nA	3 + 1.0
	20.00 nF	200 nA	1 + 0.5
	200.0 nF	2 μA	1 + 0.5
	2.000 μF	10 μA	1 + 0.5
	200 μF	100 μA	1 + 0.5
	10000 μF	1 mA	2 + 0.5
Temperature	temperature sensors under 2 categories supported - thermocouple (ITS-90 conversion between B / E / J / K / N / R / S / T type), and thermal resistance (RTD sensor conversion between Pt100 and Pt385 type)		
Miscellaneous	barmeter bar charts, trend chart Vavg, Vmax, Vmin standard deviation DB / DBm Pass / Fail		

Data-logger Function	
Logging Duration	5ms - 1000s
Logging Length	1M points

General	
Dimension (W x H x D)	235 x 110 x 295 (mm)
Device Weight	3.00 kg

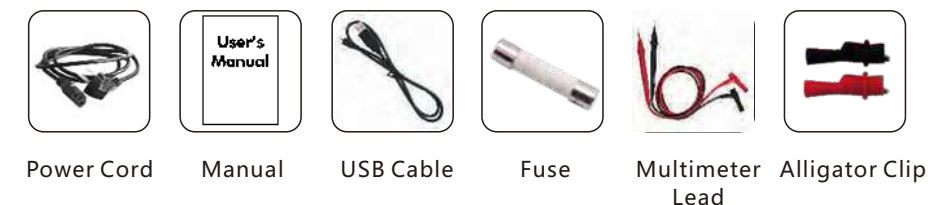
Specifications subject to change without prior notice.

+ Application

- electronic circuit debugging
- education and training
- circuit testing
- automobile maintenance and testing
- design and manufacture
- testing

+ Accessories

The accessories subject to final delivery.



Bluetooth Digital Multimeter
OW16A/OW16B



- + 3 5/6 bit resolution
- + Data Logger + Multimeter + Thermometer
- + BLE 4.0 wireless transmission, more stable, less power consumption
- + Chart and Diagram mode helps to analyze the data tendency
- + Support NCV non-contact voltage sense
- + True RMS test supported
- + Widely supported on Android, iOS and Windows
- + Build-in offline record function

NCV (Non-Contact Voltage) Sensor

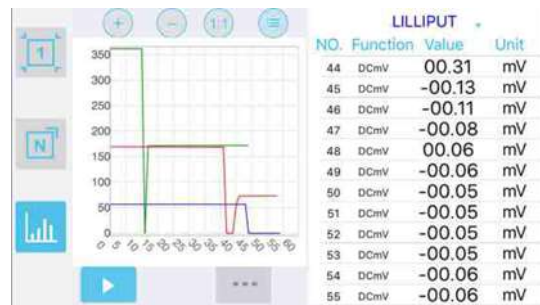
When the non-contact voltage sensor is placed near to a live conductor, the instrument will beep and flash the row of LEDs at the top of the display depending on the AC voltage strength.

on-site temperature test



functioning as multimeter + datalogger

the measured data always updated, and auto- recorded to mobile device, saving labor to do on-site records; the recording duration, and sampling duration could be customized, accessible in chart mode, facilitating comparison analysis between several multimeters



offline recording function - your process analyzer

possible to record data into memory, but no need to leave mobile device on-site when data-processing, use mobile device to recall the saved data and offline recording



+ Performance Specifications

	Measurement Range	Resolution	Accuracy
DC Voltage	600.0mV/6.000V / 60.00V / 600.0V	0.1mV	±(0.5%+2-dig)
	1000V	1V	±(0.8%+2-dig)
AC Voltage	600.0mV/6.000V / 60.00V / 600.0V	0.1mV	±(0.8%+3-dig)
	750V	1V	±(1%+3-dig)
DC Current	µA 60.00µA / 600.0µA (µA version)	0.01µA	±(0.8%+2-dig)
	mA 60.00mA / 600.0mA	0.01mA	±(0.8%+2-dig)
	A 10.00A	0.01A	±(1.2%+3-dig)
AC Current	µA 60.00µA / 600.0µA (µA version)	0.01µA	±(1%+3-dig)
	mA 60.00mA / 600.0mA	0.01mA	±(1%+3-dig)
	A 10.00A	0.01A	±(1.5%+3-dig)
Resistance	600.0Ω / 6.000kΩ / 60.00kΩ / 600.0kΩ / 6.000MΩ	0.1Ω	±(0.8%+2-dig)
	60.00MΩ	0.01MΩ	±(2%+3-dig)
Capacitance	60.00nF / 600.0nF / 6.000µF / 60.00µF	0.01nF	±(2.5%+3-dig)
	600.0µF / 6.000mF / 60.00mF	0.1µF	±(3%+5-dig)
Frequency	9.999Hz / 99.99Hz / 999.9Hz / 9.999kHz / 99.99kHz / 999.9kHz / 9.999MHz	0.001Hz	±(0.8%+2-dig)
Duty Ratio	0.1% - 99.9% (typical value: Vrms=1V, f=1kHz)	0.1%	±(1.2%+3-dig)
	0.1% - 99.9% (≥1kHz)		±(2.5%+3-dig)
Temperature	(-50°C) - (+400°C)	1°C	±(2.5%+3-dig)
	(-58°F) - (+752°F)	1°F	±(4.5%+5-dig)
Display	5999		
Frequency Response	40Hz - 1000Hz		
Shift Rate	3 times / s		

Bluetooth Module	√	Auto Ranging	√
True RMS	√	LCD Backlight	√
Diode Test	√	Auto- / Manual Range Selection	√
		Input Protection	√
Auto Power-off	√	Input Impedance	≥10MΩ
On-off Warning	√	Safety Compliance	600V, CATIII / 1000V, CATII
Low-battery Indicator	√	NCV	√
Data Hold	√	Dimension (W / H / D)	147mm x 74mm x 49mm (mm)
Relative Measurement	√	Weight (without package)	0.20 kg

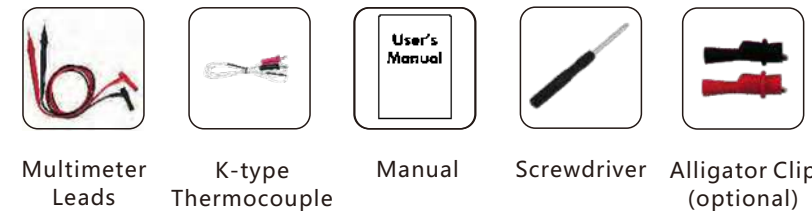
Specifications subject to change without prior notice.

+ Application

- electronic circuit debugging
- education and training
- circuit testing
- automobile maintenance and testing
- design and manufacture

+ Accessories

The accessories subject to final delivery.



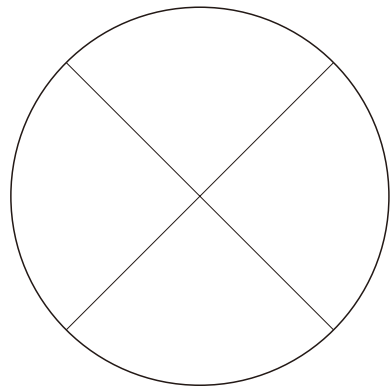
Bluetooth Digital Multimeter
OW18A/OW18B



- + 3 5/6 bit resolution
- + Data Logger + Multimeter + Thermometer
- + BLE 4.0 wireless transmission, more stable, less power consumption
- + Chart and Diagram mode helps to analyze the data tendency
- + Flashlight function lightens the darkness
- + Support NCV non-contact voltage sense
- + True RMS test supported
- + Widely supported on Android, iOS and Windows
- + Build-in offline record function

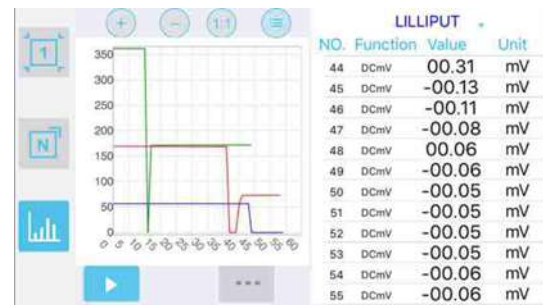
NCV (Non-Contact Voltage) Sensor

When the non-contact voltage sensor is placed near to a live conductor, the instrument will beep and flash the row of LEDs at the top of the display depending on the AC voltage strength.



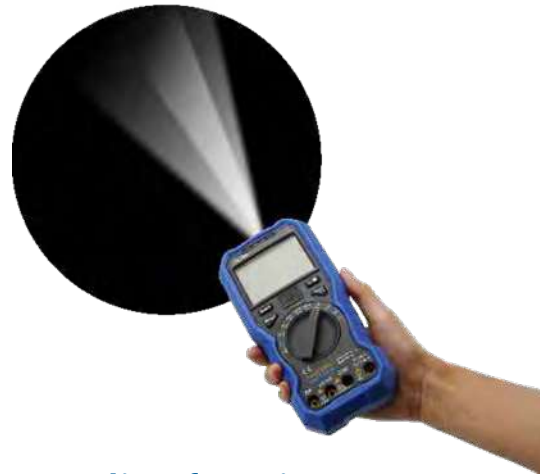
functioning as multimeter + datalogger

the measured data always updated, and auto- recorded to mobile device, saving labor to do on-site records; the recording duration, and sampling duration could be customized, accessible in chart mode, facilitating comparison analysis between several multimeters



Large Display and Built-in Flashlight

The large backlit display and built-in high brightness flashlight is ideal for measurements in darkness.



offline recording function - your process analyzer

possible to record data into memory, but no need to leave mobile device on-site when data-processing, use mobile device to recall the saved data and offline recording



+ Performance Specifications

		Measurement	Resolution	Accuracy
DC Voltage	mV	60.00mV / 600.0mV	0.01mV	±(0.5%+2-dig)
	V	600.0mV/6.000V / 60.00V / 600.0V	0.1mV	±(0.5%+2-dig)
		1000V	1V	±(0.8%+2-dig)
AC Voltage	mV	600.0mV (mV version)	0.01mV	±(0.8%+2-dig)
	V	6.000V / 60.00V / 600.0V	1mV	±(0.8%+2-dig)
DC Current	μA	60.00uA / 600.0uA	0.01μA	±(0.8%+2-dig)
	mA	60.00mA / 600.0mA	0.01mA	±(0.8%+2-dig)
	A	20.00A	0.01A	±(1.2%+3-dig)
AC Current	μA	60.00uA / 600.0uA	0.01μA	±(1%+3-dig)
	mA	60.00mA / 600.0mA	0.01mA	±(1%+3-dig)
	A	20.00A	0.01A	±(1.5%+3-dig)
Resistance		600.0Ω / 6.000kΩ / 60.00kΩ / 600.0kΩ / 6.000MΩ	0.1Ω	±(0.8%+2-dig)
		60.00MΩ	0.01MΩ	±(2%+3-dig)
Capacitance		60.00nF / 600.0nF / 6.000μF / 60.00μF	0.01nF	±(2.5%+3-dig)
		600.0μF / 6.000mF / 60.00mF	0.1μF	±(3%+5-dig)
Frequency		9.999Hz / 99.99Hz / 999.9Hz / 9.999kHz / 99.99kHz / 999.9kHz / 9.999MHz	0.001Hz	±(0.8%+2-dig)
Duty Ratio		0.1% - 99.9% (typical value: Vrms=1V, f=1kHz)	0.1%	±(1.2%+3-dig)
		0.1% - 99.9% (≥1kHz)		±(2.5%+2-dig)
Temperature		(-50°C) - (+400°C)	1°C	±(2.5%+3-dig)
		(-58°F) - (+752°F)	1°F	±(4.5%+5-dig)
Display		5999		
Frequency Response		40Hz - 1000Hz		
Shift Rate		3 times / s		

Bluetooth Module	√	Auto Ranging	√
True RMS	√	LCD Backlight	√
Diode Test	√	Auto- / Manual Range Selection	√
Auto Power-off	√	Input Protection	√
On-off Warning	√	Input Impedance	≥10MΩ
Low-battery Indicator	√	Safety Compliance	600V, CAT IV / 1000V, CAT III
Data Hold	√	NCV	√
Relative Measurement	√	Dimension (W / H / D)	189.50 x 88.50 x 56 (mm)
Flashlight	√	Weight (without package)	0.30 kg

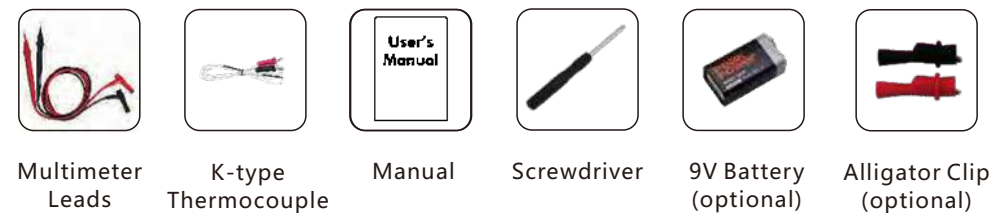
Specifications subject to change without prior notice.

+ Application

- electronic circuit debugging
- education and training
- circuit testing
- automobile maintenance and testing
- design and manufacture

+ Accessories

The accessories subject to final delivery.



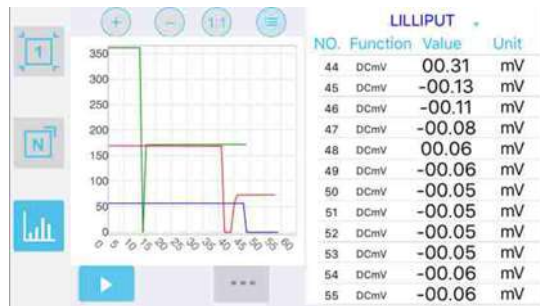
DM Series Bluetooth Digital Multimeter



- + function as 3 in 1: datalogger + multimeter + temperature meter
- + multi-connection (more than one device) supported via mobile app
- + the change trend analysis accessible via special chart mode
- + voice warning supported, which assures measurement safety
- + smart voice-reading accessible
- + 4000 / 6000 / 22000 - count full scale reading
- + larger display, easier data-reading; simulated bar chart
- + offline recording function (only in B33+, B35+, B35T+, and B41T+)
- + true RMS value available (only in D35T, B35T, B35T+, and B41T+)
- + Bluetooth 4.0 version - supports mobile device with Android 4.3 or above / iOS 7.0 or above OS, and equipped with ble 4.0 module

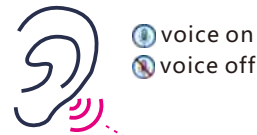
functioning as multimeter + datalogger

the measured data always updated, and auto- recorded to mobile device, saving labor to do on-site records; the recording duration, and sampling duration could be customized, accessible in chart mode, facilitating comparison analysis between several multimeters



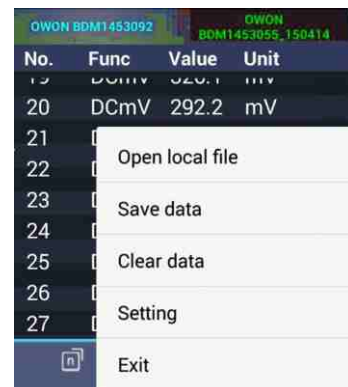
remote control supported

the function activated after TTS voice pack installed, which frees the eye-watch, making on-site measurement more comfortable



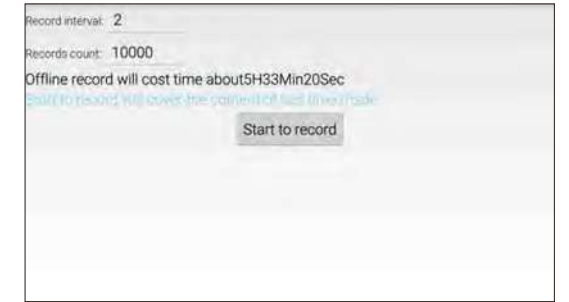
data- saving, recalling, and comparatively analyzing

CSV format data export supported, the history data could be recalled for comparison analysis; with the assistance of chart mode, the measured result more visualized, easier for decision- making



offline recording function - your process analyzer

B33+ / B35+ / B35T+ / B41T+ possible to record data into memory, but no need to leave mobile device on-site when data-processing, use mobile device to recall the saved data offline data-recording could continue for max 7 days (168 hours)



+ Performance Specifications

Model	D33	B33	B33+
	Measurement Range		Resolution
DC Voltage	400.0mV / 4.000V / 40.00V / 400.0V		0.1mV
AC Voltage	4.000V / 40.00V		1V
DC Current	400.0µA / 4000µA		0.1µA
AC Current	40.00mA / 400.0mA		0.01mA
Resistance	400.0Ω / 4.000kΩ / 40.00kΩ / 400.0kΩ / 4.000MΩ		0.1Ω
Capacitance	40.00nF / 400.0nF / 4.000µF / 40.00µF		0.01nF
Frequency	4.999Hz / 49.99Hz / 499.9Hz / 4.999kHz / 49.99kHz / 499.9kHz / 4.999MHz		1mHz
Duty Ratio	0.1% - 99.9% (typical value: Vrms = 1V, f = 1kHz)		0.1%
Temperature	-50°C - 400°C		1°C
Display	3999 count		
Frequency Response	40Hz - 400Hz		
Shift Rate	3 times / s		
		Accuracy	
DC Voltage			±(0.5%+2-digit)
AC Voltage			±(0.8%+2-digit)
DC Current			±(0.8%+2-digit)
AC Current			±(1.2%+3-digit)
Resistance			±(0.8%+2-digit)
Capacitance			±(2.5%+3-digit)
Frequency			±(0.8%+2-digit)
Duty Ratio			±(1.2%+3-digit)
Temperature			±(2.5%+3-digit)

Auto Ranging	√	Bluetooth Module	available in B33, and B33+
Offline Recording Function	available in B33+	LCD Backlight	√
Record Period	168 hours (7 days)	Input Protection	√
Record Length	10,000 points	Input Impedance	≥10MΩ
Diode Test	√	LCD Size	69mm x 52mm
Auto Power-off	√	Display Area	67 x 46 mm (effective area 66 x 45 mm)
On-off Warning	√	Battery	3V (1.5V x 2)
Low-battery Indicator	√	Dimension (W x H x D)	85 x 185 x 30 (mm)
Data Hold	√	Device Weight	0.32 kg
Relative Measurement	√		

Specifications subject to change without prior notice.

Model	D35	D35T	B35	B35T	B35+	B35T+
	Measurement Range				Resolution	Accuracy
DC Voltage	mV	60.00mV / 600.0mV			0.01mV	±(0.5%+2-digit)
	V	60.00mV / 600.0mV / 6.000V / 60.00V			0.1mV	
		600.0V / 1000V			0.1V	
AC Voltage	mV	60.00mV / 600.0mV			0.01mV	±(0.8%+2-digit)
	V	60.00mV / 600.0mV / 6.000V / 60.00V			1mV	±(0.8%+2-digit)
		600.0V / 750V			0.1V	±(1%+3-digit)
DC Current	μA	600.0μA			0.1μA	±(0.8%+2-digit)
	mA	600.0μA / 6.000mA / 60.00mA / 600.0mA / 6.000A			0.01mA	±(0.8%+2-digit)
	A	20.00A			1mA	±(1.2%+3-digit)
AC Current	μA	600.0μA			0.1μA	±(1%+3-digit)
	mA	600.0μA / 6.000mA / 60.00mA / 600.0mA / 6.000A			0.01mA	±(0.8%+2-digit)
	A	20.00A			1mA	±(2%+3-digit)
Resistance	600.0Ω / 6.000kΩ / 60.00kΩ / 600.0kΩ / 6.000MΩ / 10.00MΩ				0.1Ω	±(0.8%+2-digit)
	60.00MΩ				0.01MΩ	±(2%+3-digit)
Capacitance	40.00nF				0.01nF	±(2.5%+3-digit)
	400.0nF / 4.000μF / 40.00μF				0.1nF	±(2.5%+3-digit)
	400.0μF / 4000μF				0.1μF	±(3%+5-digit)
Frequency	9.999Hz / 99.99Hz / 999.9Hz / 9.999kHz / 99.99kHz / 999.9kHz / 9.999MHz				1mHz	±(0.8%+2-digit)
Duty Ratio	0.1% - 99.9% (typical value: Vrms = 1V, f = 1kHz)				0.1%	±(1.2%+3-digit)
	0.1% - 99.9% (≥1kHz)					±(2.5%+2-digit)
Temperature	(-50°C) - (+400°C)				1°C	±(2.5%+3-digit)
	(-58°F) - (+752°F)				1°F	±(4.5%+5-digit)
Display	6000 count					
Frequency Response	(40-400)Hz (B35 / B35+ / D35); (40-1000)Hz (B35T / B35T+ / D35T)					
Shift Rate	3 times / s					
Simulated Chart Shift Rate	30 times / s					

Auto Ranging	√	Max / Min Value	√
Offline Recording Function	available in B35+, and B35T+	Bluetooth Module	available in B35, B35+, B35T, and B35T+
Record Period	168 hours (7 days)	LCD Backlight	√
Record Length	10,000 points	Simulated Chart	√
True RMS	available in D35T, B35T, and B35T+	Input Protection	√
Diode Test	√	Input Impedance	10MΩ
Audion Test	√	LCD Size	69mm x 52mm
Auto Power-off	√	Display Area	67 x 46 mm (effective area 66 x 45 mm)
On-off Warning	√	Battery	3V (1.5V x 2)
Low-battery Indicator	√	Dimension (W x H x D)	85 x 185 x 30 (mm)
Data Hold	√	Device Weight	0.32 kg
Relative Measurement	√		

Specifications subject to change without prior notice.

Model	B41T+				
DC Voltage	mV	220mV	0.01mV	±(0.05%+5-digit)	
		2.2V	0.1mV		
	V	22V	1mV	±(0.01%+2-digit)	
		220V	10mV		
		1000V	0.1V	±(0.1%+5-digit)	
AC Voltage	mV	220mV	0.01mV	≤1kHz ±(1.0%+10-digit) >1kHz ±(1.5%+50-digit)	
		2.2V	0.1mV	≤1kHz ±(0.8%+25-digit) >1kHz ±(1.2%+50-digit)	
	V	22V	1mV	≤1kHz ±(0.8%+25-digit) >1kHz ±(1.2%+50-digit)	
		220V	10mV	≤1kHz ±(0.8%+25-digit) >1kHz ±(2.0%+50-digit)	
		750V	0.1V	≤1kHz ±(1.2%+50-digit) >1kHz ±(3.0%+50-digit)	
	DC Current	μA	220μA	0.01μA	±(0.5%+10-digit)
			2200μA	0.1μA	
		mA	22mA	1μA	±(0.8%+10-digit)
			220mA	10μA	±(2%+25-digit)
	AC Current	μA	220μA	0.01μA	≤1kHz ±(0.8%+10-digit) >1kHz ±(1.2%+25-digit)
2200μA			0.1μA	≤1kHz ±(0.8%+10-digit) >1kHz ±(1.5%+50-digit)	
mA		22mA	1μA	≤1kHz ±(1.2%+10-digit) >1kHz ±(1.5%+50-digit)	
		220mA	10μA	≤1kHz ±(1.2%+10-digit) >1kHz ±(1.5%+50-digit)	
A		20.00A	1mA	≤1kHz ±(1.5%+10-digit) >1kHz ±(2.0%+50-digit)	
Resistance			220Ω	0.01MΩ	±(0.5%+30-digit)
			2.2kΩ	0.1Ω	±(0.5%+10-digit)
		22kΩ	1Ω		
		220kΩ	10Ω		
		2.2MΩ	100Ω	±(0.8%+10-digit)	
		22MΩ	1kΩ	±(1.5%+10-digit)	
		220MΩ	10kΩ	±(5%+10-digit)	
Capacitance		22nF	1pF	±(3%+5-digit)	
		220nF	10pF		
		2.2μF	100pF		
		22μF	1nF		
		220μF	10nF		
		2.2mF	100nF		±(4.0%+10-digit)
		>220mF	/		/
Frequency		22.00Hz	0.01Hz	±(0.1%+4-digit)	
		220.0Hz	0.1Hz		
		22.000kHz	1Hz		
		220.00kHz	10Hz		
		22.00Hz	100Hz		
		2.2000MHz	1kHz		
		22.000MHz	10kHz		
	>220MHz	/	/		

Duty Ratio	5.0% - 94.9% (typical value : Vrms=1V, f=1kHz)	0.1%	±(1.2%+3-digit)
	0.1% - 99.9% (≥1kHz)		±(2.5%+3-digit)
Temperature	-50°C - 400°C	0.1°C	±(1.0%+5-digit)
	-58 °F - 752 °F		0.1°F
Display	21999 count		
Frequency Response	40Hz - 10000Hz		
Shift Rate	3 times / s		

Auto Ranging	√	Max / Min Value	√
Offline Recording Function	√	Bluetooth Module	√
Record Period	168 hours (7 days)	LCD Backlight	√
Record Length	10,000 points	Simulated Chart	√
True RMS	√	Input Protection	√
Diode Test	√	Input Impedance	10MΩ
Audion Test	√	LCD Size	69mm x 52mm
Auto Power-off	√	Display Area	67 x 46 mm (effective area 66 x 45 mm)
On-off Warning	√	Battery	3V (1.5V x 2)
Low-battery Indicator	√	Dimension (W x H x D)	85 x 185 x 30 (mm)
Data Hold	√	Device Weight	0.32 kg
Relative Measurement	√		

Specifications subject to change without prior notice.

+ Application

electronic circuit debugging education and training circuit testing design and manufacture
 automobile maintenance and testing

+ Accessories

The accessories subject to final delivery.



Multimeter Lead



K-type Thermocouple



Manual



BT2.0
mobile app accessible via scanning QR code



Alligator Clip



Multi-function Test Bench
(excl. D33 / B33 / B33+)



Soft Bag



BLE4.0
mobile app accessible via scanning QR code

Current Probe



Model	CP-05+				
Test Range	1mA - 400A				
Resolution	1mA				
Bandwidth	DC - 200KHz (±3dB)				
Jaw Size	23mm (max)				
Auto Zero at Power-on	√				
Power Supply	9V 6F22 Battery				
Operating Temperature	0°C to 50°C				
Operating Humidity	15% to 70% RH				
AC Current	Range	AC 4A	AC 40A	AC 200A	AC 200A - 400A
	Accuracy	±2.0%rdg±5-digit			±3.0%rdg±5-digit
DC Current	Range	DC 4A	DC 40A	DC 200A	DC 200 - 400A
	Accuracy	±1.5%rdg±5-digit			±3.0%rdg±5-digit
	Sensitivity	1mV/10mA	1mV/0.1A	1mV/1A	
	Sensitivity	1mV/10mA	1mV/0.1A	1mV/1A	
Dimension (W x H x D)	180 x 30 x 44 (mm)				
Device Weight	about 200g				

Specifications subject to change without prior notice.

+ Accessories

The accessories subject to final delivery.



Soft Bag



Model	CP-07+		
Test Range	400mA - 4A		
Resolution	0.1mA		
Bandwidth	DC - 1MHz (±3dB)		
Jaw Size	5mm (max)		
Auto Zero at Power-on	√		
Power Supply	9V 6F22 Battery		
Operating Temperature	0°C to 50°C		
Operating Humidity	15% to 70% RH		
DC Current	Range	DCA 400mA	DCA 4A
	Accuracy	±1.5%rdg±5-digit	
AC Current	Range	ACA 400mA	ACA 4A
	Accuracy	±2.0%rdg±5-digit	
	Sensitivity	1mV/1mA	1mV/10mA
	Sensitivity	1mV/1mA	1mV/10mA
Dimension (W x H x D)	215 x 36 x 58 (mm)		
Device Weight	about 200g		

Specifications subject to change without prior notice.

+ Accessories

The accessories subject to final delivery.



BNC cable




Extension cord




Soft Bag


Oscilloscope Probe Specification




Model	T5100	T5200
Attenuation Ratio	1X or 10X	1X or 10X
Bandwidth	100MHz	200MHz
Input R	1MΩ or 10MΩ	1MΩ or 10MΩ
Input C	1X: 85pF -115pF 10X: 14.5pF -17.5pF	1X: 85pF -115pF 10X: 14.5pF -17.5pF
Max Input Voltage	1X: <200V 10X: <600V	1X: <200V 10X: <600V




Model	P7300
Attenuation Ratio	1X or 10X
Bandwidth	6MHz / 300MHz
Input R	1MΩ or 10MΩ
Input C	1X: 85pF -120pF 10X: 18.5pF -22.5pF
Max Input Voltage	1X: <300V 10X: <600V




Model	P2060
Attenuation Ratio	1X or 10X
Bandwidth	60MHz
Input R	1MΩ or 10MΩ
Input C	1X: 70pF -120pF 10X: 14pF -18pF
Max Input Voltage	1X: <200V 10X: <600V




Model	T3060	T3100
Attenuation Ratio	100X	100X
Bandwidth	60MHz	100MHz
Input R	100MΩ	100MΩ
Input C	18.5pF - 22.5pF	18.5pF - 22.5pF
Max Input Voltage	<2KV	<2KV



Model	TH3100A
Attenuation Ratio	100X
Bandwidth	100MHz
Input R	100MΩ
Input C	3.5pF - 10.5pF
Max Input Voltage	<5KV



Model	P4060	P4100	P4250
Attenuation Ratio	100X	100X	100X
Bandwidth	60MHz	100MHz	250MHz
Input R	100MΩ	250MHz	250MHz
Input C	5pF	5pF	5pF
Max Input Voltage	<2KV	<2KV	<2KV



Model	OW3060	OW3100	OW3200	OW3300
Attenuation Ratio	1X or 10X	1X or 10X	1X or 10X	1X or 10X
Bandwidth	6MHz/60MHz	6MHz/100MHz	6MHz/200MHz	6MHz/300MHz
Input R	1MΩ or 10MΩ	1MΩ or 10MΩ	1MΩ or 10MΩ	1MΩ or 10MΩ
Input C	1X: 85pF -115pF 10X: 14.5pF -17.5pF	1X: 85pF -115pF 10X: 14.5pF -17.5pF	1X: 85pF -115pF 10X: 14.5pF -17.5pF	1X: 85pF -115pF 10X: 14.5pF -17.5pF
Max Input Voltage	1X: <200V 10X: <600V	1X: <200V 10X: <600V	1X: <200V 10X: <600V	1X: <200V 10X: <600V