

# Product Catalogue

- ✚ Digital Storage Oscilloscope
- ✚ Arbitrary Waveform Generator
- ✚ Programmable DC Power Supply
- ✚ PC Oscilloscope
- ✚ Digital Multimeter



**owon<sup>®</sup>** product line - Created by **LILLIPUT<sup>®</sup>**

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Please contact local distributor for further information.

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# About OWON®

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

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

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

OWON product could 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 worldwide range.



# Development Milestone

2016

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  
PDS5022 - large 7.8" color LCD bench type DSO  
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

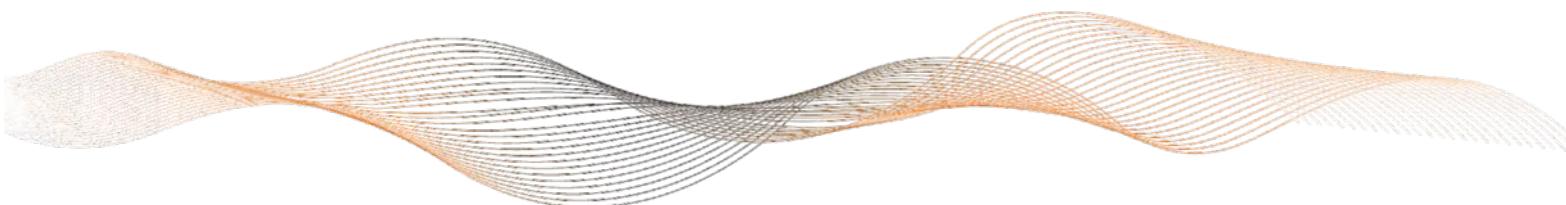
Chiba University

Technische University Hamburg-Harburg  
University degli Studi di Milano

University of Mosul

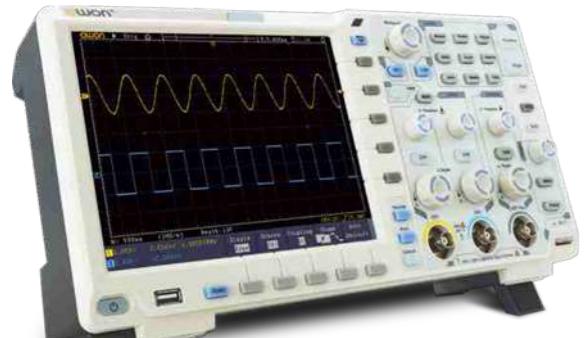
Sultan Qaboos University

Rabat Academy



## XDS 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

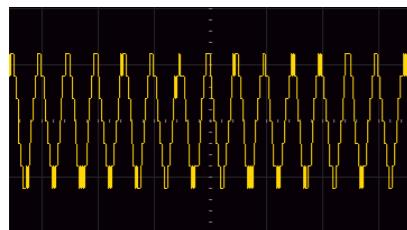
### Creative New Look

- + 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

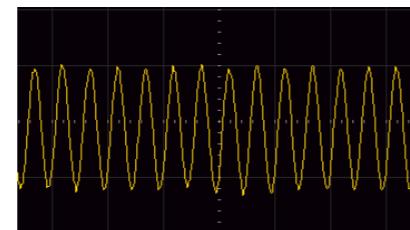
### n-in-1

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. 12-bit high vertical resolution model - XDS-A series product achieves 16 times resolution, and definition more than its general 8-bit counterpart, which makes it the better solution provider for small signal measurement, and signal detail restoration from large signal

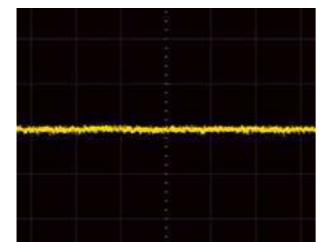


20mVpp signal measured by common 8-bit DSO, 10 times zoomed



20mVpp signal measured by 12-bit XDS series DSO, 10 times zoomed

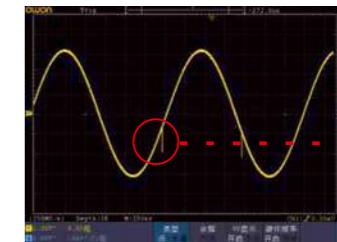
2. Xvisual platform - restore the waveform detail fully



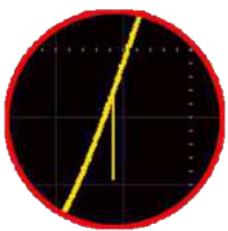
low background noise

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

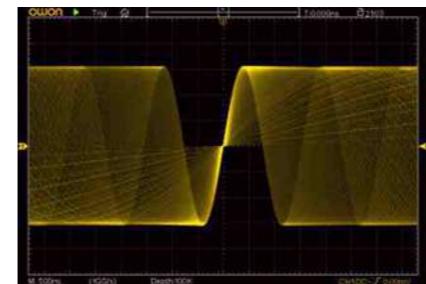
40M record length



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

4. multi-trigger supported - Logic, Time-out, I<sup>2</sup>C, SPI, RS232, Runt, Windows, Nth Edge, and CAN

5. serial bus coding available in I<sup>2</sup>C, SPI, RS232, and CAN

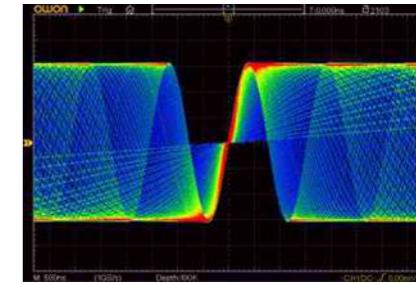
M	Bus Type
L	RS232
K	I <sup>2</sup> C
K	SPI
M	CAN

M	Single
L	Edge
K	Video
K	Pulse
M	Slope
M	Runt
M	Windows
M	Timeout
M	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



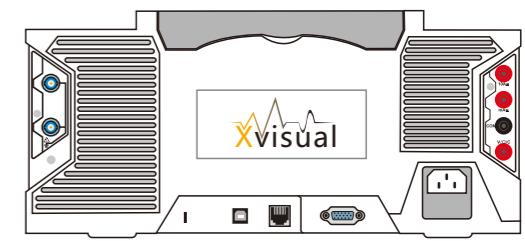
via app s/w, waveform data-saving, checking, co-sharing is possible, co-analyzing hence realizes



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

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



**XDS Series**

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

**+ Performance Specifications**

Model	XDS3062A	XDS3102A	XDS3202A*	XDS3102	XDS3202*	XDS3302*
Bandwidth	60MHz	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	≤1.17ns
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%			±3%		
DC Accuracy			average ≥ 16: ±(3% reading + 0.05 div) for $\Delta V$			
Probe Attenuation Factor			0.001X - 1000X, step by 1 - 2 - 5			
LF Respond (AC,-3dB)			≥5Hz (at input, AC coupling, -3dB)			
Sample Rate / Relay Time Accuracy			±1ppm			
Interpolation			sin(x)/x, x			
Interval ( $\Delta T$ ) 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 <sup>2</sup> C, SPI, RS232, and CAN (optional)			
Bus Decoding (optional)			I <sup>2</sup> 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			△V, and △T between cursors, △V and △T 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 <sub>↑</sub> , Delay A→B <sub>↓</sub> , +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge Count			
Waveform Math			+, -, *, /, FFT			
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	3 1/2 digits (max 4000 count)	Diode	0V - 1.5V
Input Impedance	10MΩ	Continuity Test	<50 (±30) beeping
Capacitance		51.2nF - 100μF: ±(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	50MHz (only available for XDS3102, XDS3102A, and XDS3202)
Sample Rate	125MS/s	250MS/s
Channel		available in 1-ch, or 2-ch
Vertical Resolution	14 bits	
Amplitude Range	10mVpp - 6Vpp	
Waveform Length	8K	
Standard Waveform	Sine, Square, Pulse, and Ramp	

**+ Optional Module / Function**

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

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

**+ Optional Decoding Kit**

RS232	RS232
SPI	SPI
I <sup>2</sup> C	I <sup>2</sup> C
CAN	CAN decoding

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.



Power Cord CD Rom Manual USB Cable Probe Probe Adjust

optional accessories:  
Multimeter Lead Q9 Capacitance Ext Module Battery Soft Bagmobile app accessible via  
scanning QR code



### + 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 10pF ± 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	

- + 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

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		full Bandwidth	
	Phase Difference		±3 degrees	
Cursor Measurement			△V, and △T 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      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	Soft Bag (optional)

## Smart DS Series Deep Memory Digital Storage Oscilloscope



### + 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 10pF ± 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 △V							
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 (△T) 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	△V, and △T between cursors														
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Week 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) available														
Frequency Counter															
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  
education and training

circuit testing  
automobile maintenance and testing

### + Accessories

The accessories subject to final delivery.



Power Cord



CD Rom



Manual



USB Cable



Probe



Probe Adjust



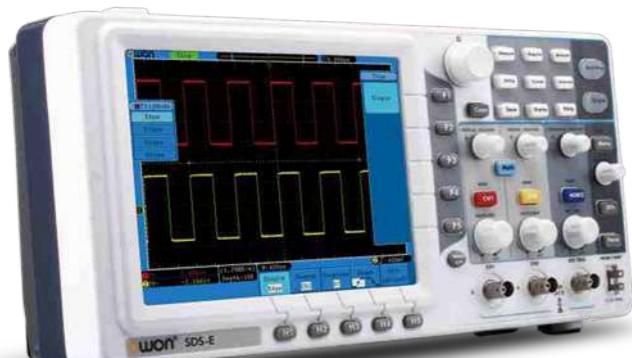
Battery  
(optional)



Soft Bag  
(optional)

# SDS-E Series

2G economical type digital storage oscilloscope



## + 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 10pF ± 5pF		1MΩ ± 2%, in parallel with 15pF ± 3pF			
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 △V					
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 (△T) Accuracy (full bandwidth)	Single : ±(1 interval time + 100ppm × reading + 0.6ns), Average > 16 : ±(1 interval time + 100ppm × reading + 0.4ns)					
Input Coupling	DC, AC, and GND					
Vertical Resolution (A/D)	8 bits (2 channels simultaneously)					
Vertical Sensitivity	5mV/div - 10V/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	△V, and △T between cursors										
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Week RMS, Cursor RMS, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Phase, Preshoot, Rise Time, Fall Time, Delay A→B <sub>L</sub> , Delay A→B <sub>T</sub> , +Width, -Width, +Duty, -Duty,										
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	< 18W										
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  
automobile maintenance and testing

## + Accessories

The accessories subject to final delivery.



Power Cord CD Rom Manual USB Cable Probe Probe Adjust Soft Bag (optional)

## MSO Series Mixed LA - Oscilloscope



- + 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 $\Delta V$		
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 <sub>1</sub> , Delay A→B <sub>2</sub> , +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.



Power Cord    CD Rom    Manual    USB Cable    Probe    Probe Adjust    Logic Analyzer Module    Battery (optional)    Soft Bag (optional)

# HDS-N Series Handheld Digital Storage Oscilloscope



- + 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	5ns/div - 100s/div, step by 1 - 2 - 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 △V			
Vertical Sensitivity	5mV/div - 5V/div (at input)			
Vertical Resolution (A/D)	8 bits			
Max Input Voltage	400V (DC + AC peak, 1MΩ input impedance, probe attenuation 10:1), 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	3½ 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), 20A : ±(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  
automobile maintenance and testing

## + Accessories

The accessories subject to final delivery.



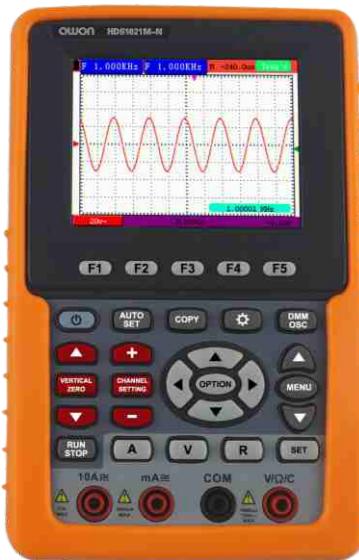
Power Cord CD Rom Manual USB Cable Probe Probe Adjust Multimeter Lead Adapter 5V, 1KHz Output



Capacitance Ext Module Soft Bag (optional) Metal Case

# 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

## ⊕ Multimeter Specifications

<b>Full Scale Reading</b>	3½ digits (max 4000 count)	<b>Diode</b>	0V - 1.5V		
<b>Input Impedance</b>	10 MΩ	<b>On / Off Test</b>	<50 (± 30) beeping		
<b>Voltage</b>			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)		
<b>Current</b>			DC : 40mA, 400mA : ±(1.5% ± 1 digit), 10A : ±(3% ± 3 digits) AC : 40mA : ±(1.5% ± 3 digits), 400mA : ±(2% ± 1 digit), 20A : ±(5% ± 3 digits)		
<b>Impedance</b>	400Ω : ±(1% ± 3 digits), 40KΩ - 4MΩ : ±(1% ± 1 digit), 40MΩ : ±(1.5% ± 3 digits)	<b>Capacitance</b>	51.2nF - 100uF : ±(3% ± 3 digits)		

Specifications subject to change without prior notice.

## ⊕ 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	5ns/div - 100s/div, step by 1 - 2 - 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	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 $\Delta V$		
Vertical Sensitivity	5mV/div - 5V/div (at input)		
Vertical Resolution (A/D)	8 bits		
Max Input Voltage	400V (DC + AC peak, 1MΩ input impedance, probe attenuation 10 : 1), CAT II		
Trigger Type	Edge, and Video	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		
Waveform Storage	4 waveforms		
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		

## ⊕ 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	Multimeter Lead	Adapter	5V, 1kHz Output
Current Extension Module	Capacitance Ext Module	Soft Bag	Metal Case (optional)					

# 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)	$\leq 17.5\text{ns}$	
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	$1\text{M}\Omega \pm 2\%$ , in parallel with $15\text{pF} \pm 5\text{pF}$	
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2 - 5	
Interval ( $\Delta T$ ) Accuracy	single: $\pm(1 \text{ interval time} + 100\text{ppm} \times \text{reading} + 0.6\text{ns})$ , average > 16: $\pm(1 \text{ interval time} + 100\text{ppm} \times \text{reading} + 0.4\text{ns})$	
Vertical Sensitivity	5mV/div - 5V/div (at input)	
Vertical Resolution (A/D)	8 bits	
Max Input Voltage	400V (DC + AC peak, $1\text{M}\Omega$ input impedance, probe attenuation 10 : 1), CAT II	
Trigger Type	Edge	rising edge, falling edge
	Video	line, field, randomline, odd / even fields
	Alternate	
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: $\pm(5\% \text{ reading} + 0.05 \text{ div})$ for $\Delta V$	
Waveform Math	+, -, *, /, invert, FFT	
Waveform Storage	4 waveforms	
Lissajous Figure	Bandwidth	full bandwidth
	Phase Difference	$\pm 3$ degrees

Model	HDS1022M-I	
Cursor Measurement	$\Delta V$ , and $\Delta T$ 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	$3\frac{3}{4}$ digits (max 4000 count)	Diode	0V - 1.5V
Input Impedance	10 M $\Omega$	On / Off Test	<50 ( $\pm 30$ ) beeping
<b>Voltage</b>			VDC : 400mV, 4V, 400V, 1000V : $\pm(1\% \pm 1 \text{ digit})$ ; max input : DC 1000V VAC : 4V, 40V, 400V : $\pm(1\% \pm 3 \text{ digits})$ , Frequency : 40Hz - 400Hz; max input : AC 750V (virtual value)
<b>Current</b>			DCA: 40mA, 400mA: $\pm(1.5\% \pm 1 \text{ digit})$ , 10A: $\pm(3\% \pm 3 \text{ digits})$ ACA: 40mA: $\pm(1.5\% \pm 3 \text{ digits})$ ; 400mA: $\pm(2 \pm 1 \text{ digit})$ ; 10A: $\pm(3\% \pm 3 \text{ digits})$
Impedance	400 $\Omega$ : $\pm(1\% \pm 3 \text{ digits})$ ; 4K $\Omega$ / 40K $\Omega$ / 400 K $\Omega$ / 4M $\Omega$ : $\pm(1\% \pm 1 \text{ digit})$ ; 40M $\Omega$ : $\pm(1.50\% \pm 3 \text{ digits})$	Capacitance	51.2nF - 100uF : $\pm(3\% \pm 3 \text{ digits})$

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.



Power Cord CD Rom Manual USB Cable Probe Probe Adjust Multimeter Lead Adapter 5V, 1KHz Output



Current Extension Module Capacitance Ext Module Soft Bag (optional) Metal Case

## Wave Rambler Pen-type PC Oscilloscope



CE

- + 25MHz bandwidth
- + 100MS/s sample rate
- + 5K record length
- + FFT function
- + human engineering design
- + multi- action mode via creative trackball
- + multi- trigger option : edge, slope, and pulse
- + 5mV micro signal supported
- + USB bus powering, and optional USB isolated function
- + easy portability, pocket accommodated

### The full DSO in your pocket

Pen-type design with easy portability,  
the ideal solution for on-site measurement.



### Designed to be easily- disassembled

Special metal material made probe- tip assures  
durable lifetime.



	The running/ stopping of Wave Rambler, is under the control of trackball.
	The zero voltage position, horizontal trigger position, and voltage base / time base could be adjusted by rolling the trackball, which makes the device-operation more comfortable, and convenient.
	The waterdrop-shape button brings you into 4 control options - the setting of trackball function, single trigger, force trigger, and autoset.

### UISO function

Creative USB isolation function fulfills direct device- powering via USB port, and supports floating measurement (isolation voltage upto 1000V), making the operation more user-friendly, assuring safer T&M environment, and decreasing the interference to micro signal- measuring to the minimum.



### Performance Specifications

Model	RDS1021	RDS1021I
Bandwidth	25MHz	
Sample Rate	100MS/s	
Horizontal Scale (s/div)	5ns/div - 100s/div, step by 1 - 2 - 5	
Rise Time	≤14ns	
Record Length	5K	
Input Coupling	DC, AC, and GND	
Input Impedance	10MΩ±2% (X10), 1MΩ±2% (X1)	
Input Capacitance	20pF±5pF	
Max Input Voltage	50V (DC + AC peak)	400V (DC + AC peak)
DC Gain Accuracy	±3%	
DC Accuracy (average)	average≥16 : ±(3% reading + 0.05 div) for $\Delta V$	
Analog Bandwidth	25MHz	
Probe Attenuation Factor	1X, 10X	
LF Respond (AC,-3dB)	≥10Hz	
Interpolation	sin(x)/x	
Displacement	±10 divisions	
Interval ( $\Delta T$ ) 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	
Vertical Sensitivity	5mV/div - 5V/div	
Trigger Type	Edge, Pulse, and Slope	
Trigger Mode	Auto, Normal, and Single	
Trigger Level	±5 divisions from screen center	
Acquisition Mode	Sample, Peak Detect, and Average	
Cursor Measurement	$\Delta V$ and $\Delta T$ between cursors	
Automatic Measurement	Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, +Width, -Width, +Duty, -Duty	
Waveform Math	FFT	
Communication Interface	USB2.0	
Dimension (W x H x D)	150 x 20 x 18 (mm)	
Device Weight	0.27 kg	

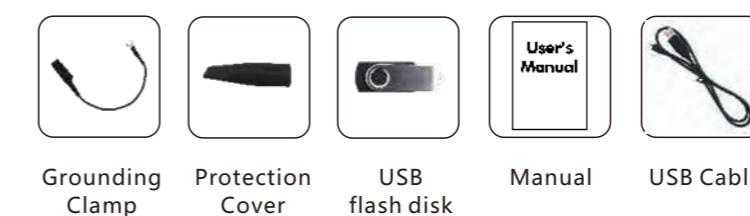
Specifications subject to change without prior notice.

### Application

design and debug    circuit function test    education and training

### Accessories

The accessories subject to final delivery.



## VDS Series PC Oscilloscope



- + Up to 100MHz bandwidth, and max 1GS/s real-time sample rate
- + 2 / 4 channels
- + 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, and VDS3104)

### + Performance Specifications

Model	VDS1022I	VDS1022	VDS2062	VDS2064	VDS3102	VDS3104
Bandwidth	25MHz		60MHz		100MHz	
Channel		2+1 (multi)		4+1 (multi)	2+1 (multi)	4+1 (multi)
Sample Rate	100MS/s		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	≤14ns		≤5.8ns		≤3.5ns	
Record Length	5K	10M	5M	10M	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	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	VDS2064	VDS3104				
Vertical Sensitivity		5mV/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	$\Delta V$ , and $\Delta T$ 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/1A									
Power Consumption	≤1.5W			≤5W						
Dimensions (W x H x D)	170 x 120 x 18 (mm)			190 x 120 x 18 (mm)						
Device Weight	0.26 kg					0.30 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.

## AG Series Dual-channel Arbitrary Waveform Generator



- + Advanced DDS technology, max 60MHz frequency output
- + Up to 250MS/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			250MS/s	
Vertical Resolution	14 bits					
<b>Waveform</b>						
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					
<b>Frequency (resolution 1μHz)</b>						
Sine	1μHz - 10MHz		1μHz - 25MHz		1μHz - 50MHz	1μHz - 60MHz
Square		1μHz - 5MHz		1μHz - 25MHz		1μHz - 30MHz
Pulse		1μHz - 5MHz			1μHz - 10MHz	
Ramp			1μHz - 1MHz			
Noise				25MHz (-3dB) (typical)		
Arbitrary Waveform					1μHz - 10MHz	
<b>Amplitude</b>						
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 Resolution	1mV or 4 digits					
Load Impedance	50Ω (typical)					

Model	AG1012	AG1022	AG1012F	AG1022F	AG2052F	AG2062F						
<b>Arbitrary Waveform</b>												
Wave Length	2 pts to 8K pts				2 pts to 1M pts							
Non-volatile Memory	64M byte											
<b>Modulation</b>												
Modulation Waveform	/		AM, FM, PM, FSK, Sweep, and Burst									
Modulation Frequency	/		2mHz to 20.00KHz (FSK 1μHz - 100KHz)									
<b>Counter</b>												
Function	/		Frequency Period, +Width, -Width, +Duty, and -Duty									
Frequency Range	/		100mHz - 200MHz									
Frequency Resolution	/		6 digits									
<b>Power Amplifier Module (optional)</b>												
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											
<b>Input / Output</b>												
Display	4 inch (480 x 320 pixels) LCD											
Type	external reference clock input / output		counter external modulation input / output, external trigger input / output, external reference clock input / output									
Communication Interface	USB host, and USB device, RS232 (option)											
<b>Mechanical</b>												
Dimension (W x H x D)	235 x 110 x 295 (mm)											
Device Weight	3.00 kg											

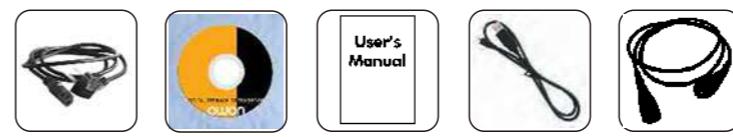
Specifications subject to change without prior notice.

### + Application

design and debug    circuit function test    education and training

### + Accessories

The accessories subject to final delivery.



Power Cord    CD Rom    User's Manual    USB Cable    Q9

# AG -S Series Single-channel Arbitrary Waveform Generator - {80 - 150MHz}



- + 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
- + could work with OWON SDS Series DSO smoothly

## Performance Specifications

Model	AG4081	AG4101	AG4121	AG4151
Channel		single + trigger		
Frequency Output	80MHz	100MHz	120MHz	150MHz
Sample Rate		400MS/s		
Vertical Resolution		14 bits		
<b>Waveform</b>				
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			
<b>Frequency (resolution 1μHz)</b>				
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		
<b>Amplitude</b>				
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)			

Model	AG4081	AG4101	AG4121	AG4151
<b>Arbitrary Waveform</b>				
Wave Length				2 pts to 1M pts
Sample Rate				200MS/s
Vertical Resolution				14 bits
Non-volatile Memory				64M byte
<b>Modulation</b>				
Modulation Waveform				AM, FM, PM, FSK, PWM, Sweep, and Burst
Modulation Frequency				2mHz to 20.00KHz (FSK 1μHz - 100KHz)
<b>Input / Output</b>				
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
<b>Mechanical</b>				
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

# 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

Model	AG051	AG051F	AG1011	AG1011F
<b>Arbitrary Waveform</b>				
Wave Length				2 pts to 8K pts
Sample Rate				125MS/s
Vertical Resolution				14 bits
Non-volatile Memory				64M byte
<b>Modulation</b>				
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)
<b>Input / Output</b>				
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			
<b>Mechanical</b>				
Dimension (W x H x D)	235 x 110 x 295 (mm)			
Device Weight	3.00 kg			

Specifications subject to change without prior notice.

## + Performance Specifications

Model	AG051	AG051F	AG1011	AG1011F
Channel		single + trigger		
Frequency Output	5MHz		10MHz	
Sample Rate		125MS/s		
Vertical Resolution			14 bits	
<b>Waveform</b>				
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			
<b>Frequency (resolution 1µHz)</b>				
Sine	1µHz - 5MHz		1µHz - 10MHz	
Square		1µHz - 5MHz		
Pulse		1µHz - 5MHz		
Ramp		1µHz - 1MHz		
Noise	5MHz (-3dB) (typical)			
Arbitrary Waveform	1µHz - 5MHz			
<b>Amplitude</b>				
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)			

## + 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

## DP Series Programmable DC Power Supply



[ ODP3031 ]



[ ODP3032 ]



- + ODP3032 : two independent controllable channels; ODP3031 : one controllable channel
- + Max output resolution : 1mV / 1mA
- + Low ripples / low noise : <300  $\mu$ 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

### 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	$\leq 0.01\% + 3mV$	$\leq 3mV$	$\leq 0.01\% + 3mV$	$\leq 3mV$
	CC	$\leq 0.1\% + 3mA$	/	$\leq 0.1\% + 3mA$	/
Load Regulation	CV	$\leq 0.01\% + 3mV$	$\leq 0.1\% + 3mV$	$\leq 0.01\% + 3mV$	$\leq 0.1\% + 3mV$
	CC	$\leq 0.2\% + 3mA$	/	$\leq 0.2\% + 3mA$	/
Noise and Ripple (20Hz - 7MHz)	CV	$\leq 300 \mu V_{rms} / 2 mV_{pp}$		$\leq 300 \mu V_{rms} / 2 mV_{pp}$	
	CC	$\leq 3mA_{rms}$		$\leq 3mA_{rms}$	
Settings Resolution	Voltage	1mV	/	1mV	/
	Current	1mA	/	1mA	/
Settings Accuracy (25°C ± 5°C)	Voltage	$\leq 0.05\% + 3mV$	/	$\leq 0.05\% + 3mV$	/
	Current	$\leq 0.1\% + 3mA$	/	$\leq 0.1\% + 3mA$	/
Read Back Resolution	Voltage	1mV (<10V), 10mV ( $\geq 10V$ )	/	1mV (<10V), 10mV ( $\geq 10V$ )	/
	Current	1mA	/	1mA	/
Read Back Accuracy (25°C ± 5°C)	Voltage	$\leq 0.05\% + 3$ digits	/	$\leq 0.05\% + 3$ digits	/
	Current	$\leq 0.1\% + 3$ digits	/	$\leq 0.1\% + 3$ digits	/
Communication Interface		USB Host, USB Device and RS232			

Specifications subject to change without prior notice.

### Display

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

### Application

general detection in R&D laboratory  
automobile and electronic circuit test power-supplying  
electronic components test, aging test  
to monitor battery charging curve

QC test  
power-supplying  
education / teaching experimentation  
to monitor the real-time status of power system via remote control

### 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

### Accessories

The accessories subject to final delivery.



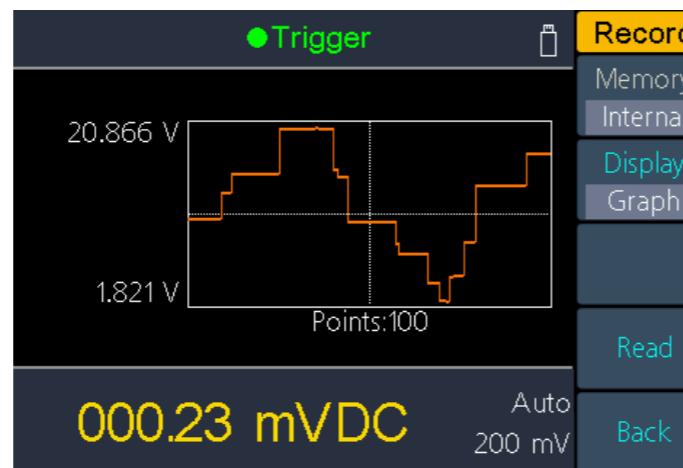
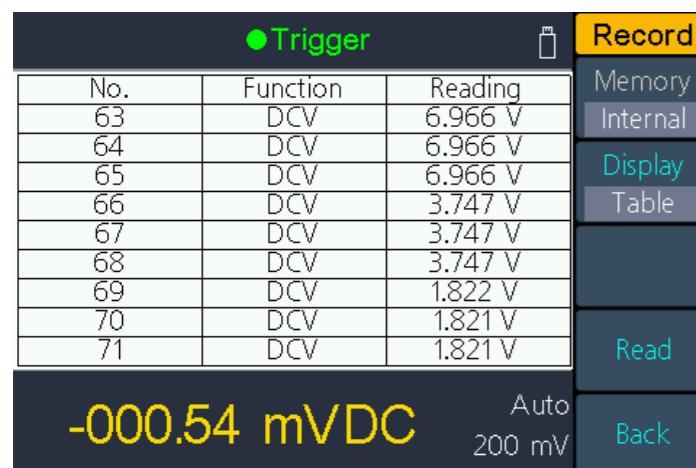
Power Cord CD Rom Manual USB Cable Fuse

**XDM3051**

Bench-type Digital Multimeter

**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

**+ 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	/	0.055 + 0.005
	2.00000 mA		0.055 + 0.005
	20.0000 mA		0.095 + 0.020
	200.000 mA		0.070 + 0.008
	2.00000 A		0.170 + 0.020
	10.0000 A		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	20 Hz - 2 kHz	200 mV - 750 V	0.01 + 0.003
	2 kHz - 20 kHz		0.01 + 0.003
	20 kHz - 200 kHz		0.01 + 0.003
	200 kHz - 1 MHz	20 mA - 10 A	0.01 + 0.006
	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	barometer   bar charts, trend chart   Vavg, Vmax, Vmin   standard deviation   DB / DBm   Pass / Fail		
Data-logger Function			
Logging Duration	5ms		
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 trainingcircuit testing  
automobile maintenance and testing

design and manufacture

**+ Accessories**

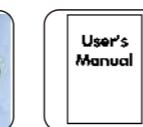
The accessories subject to final delivery.



Power Cord



CD Rom



Manual



USB Cable



Fuse



Multimeter Lead



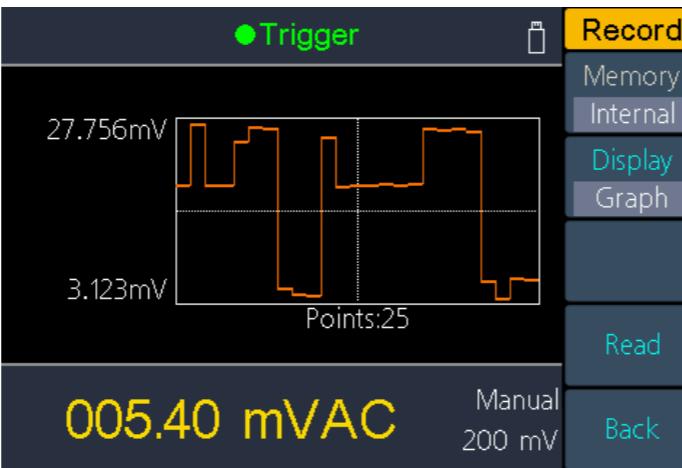
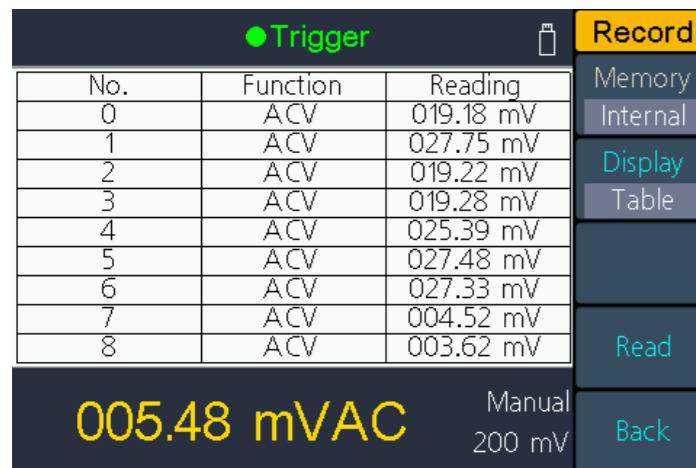
Alligator Clip

**XDM3041**

Bench-type Digital Multimeter

**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

**+ 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	/	0.06 + 0.02
	6.0000 mA		0.06 + 0.02
	60.000 mA		0.1 + 0.05
	600.00 mA		0.2 + 0.02
	6.000 A		0.2 + 0.05
	10.0000 A		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

XDM3051	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	2.0000 V	/	0.5 + 0.01
Continuity	2000Ω	/	0.5 + 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	barometer   bar charts, trend chart   Vavg, Vmax, Vmin   standard deviation   DB / DBm   Pass / Fail		
Data-logger Function			
Logging Duration	5ms		
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 trainingcircuit testing  
automobile maintenance and testing

design and manufacture

**+ Accessories**

The accessories subject to final delivery.



Power Cord



CD Rom



Manual



USB Cable



Fuse



Multimeter Lead



Alligator Clip

# DM Series

# Bluetooth Digital Multimeter



CE

- + 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 - count full scale reading
  - + larger display, easier data-reading; simulated bar chart
  - + offline recording function (only in B33+, B35+, and B35T+)
  - + true RMS value available (only in B35T, B35T+ and D35T)
  - + Bluetooth 2.0 version - supports mobile device with Android 4.0 or above OS
  - + 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 recoding duration, and sampling duration could be customized, accessible in chart mode, facilitating comparison analysis between several B35



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.

No.	Func	Value	Unit
19	DcMV	320.1	mV
20	DcMV	292.2	mV
21	[ ]	Open local file	
22	[ ]	Save data	
23	[ ]		
24	[ ]		
25	[ ]	Clear data	
26	[ ]		
27	[ ]	Setting	
 File		Exit	



## offline recording function - your process analyzer

B33+ / B35+ / B35T+ 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	Accuracy		
DC Voltage	V	400.0mV / 4.000V / 40.00V / 400.0V		0.1mV	±(0.5%+2-digit)		
		1000V		1V	±(0.8%+2-digit)		
AC Voltage	V	4.000V / 40.00V		1mV	±(0.8%+2-digit)		
		400.0V / 750V		0.1V	±(1%+3-digit)		
DC Current	µA	400.0µA / 4000µA		0.1µA	±(0.8%+2-digit)		
	mA	40.00mA / 400.0mA		0.01mA	±(0.8%+2-digit)		
	A	1.000A / 10.00A		1mA	±(1.2%+3-digit)		
AC Current	µA	400.0µA / 4000µA		0.1µA	±(1%+3-digit)		
	mA	40.00mA / 400.0mA		0.01mA	±(0.8%+2-digit)		
	A	1.000A / 10.00A		1mA	±(2%+3-digit)		
Resistance	400.0Ω / 4.000kΩ / 40.00kΩ / 400.0kΩ / 4.000MΩ			0.1Ω	±(0.8%+2-digit)		
	40.00MΩ			0.01MΩ	±(2%+3-digit)		
Capacitance	40.00nF / 400.0nF / 4.000µF / 40.00µF			0.01nF	±(2.5%+3-digit)		
	100.0µF			0.1µF	±(3%+5-digit)		
Frequency	4.999Hz / 49.99Hz / 499.9Hz / 4.999kHz / 49.99kHz / 499.9kHz / 4.999MHz			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%+3-digit)		
Temperature	-50°C - 400°C			1°C	±(2.5%+3-digit)		
Display	3999 count						
Frequency Response	40Hz - 400Hz						
Shift Rate	3 times / s						

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

Specifications subject to change without prior notice.

Model	D35	D35T	B35	B35T	B35+	B35T+	
<b>Measurement Range</b>							
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			
		600.0V / 750V		0.1V			
DC Current	μA	600.0μA		0.1μA	±(0.8%+2-digit)		
	mA	600.0μA / 6.000mA / 60.00mA / 600.0mA / 6.000A		0.01mA			
	A	20.00A		1mA			
AC Current	μA	600.0μA		0.1μA	±(1%+3-digit)		
	mA	600.0μA / 6.000mA / 60.00mA / 600.0mA / 6.000A		0.01mA			
	A	20.00A		1mA			
Resistance		600.0Ω / 6.000kΩ / 60.00kΩ / 600.0MΩ / 10.00MΩ		0.1Ω	±(0.8%+2-digit)		
		60.00MΩ		0.01MΩ			
Capacitance		40.00nF		0.01nF	±(2.5%+3-digit)		
		400.0nF / 4.000μF / 40.00μF		0.1nF			
		400.0μF / 4000μF		0.1μF			
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%			
		0.1% - 99.9% ( $\geq 1\text{kHz}$ )			±(2.5%+2-digit)		
Temperature		(-50°C) - (+400°C)		1°C	±(2.5%+3-digit)		
		(-58°F) - (+752°F)		1°F			
Display	6000 count						
Frequency Response	40Hz - 400Hz						
Shift Rate	3 times / s						
Simulated Chart Shift Rate	30 times / s						
Auto-scale	√	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)						
Record Length	10,000 points		LCD Backlight	√			
True RMS	available in D35T, B35T, and B35T+		Simulated Chart	√			
Diode Test	√	Input Protection	√				
Audion Test	√	Input Impedance	10MΩ				
Auto Power-off	√	LCD Size	69mm x 52mm				
On-off Warning	√	Display Area	67 x 46 mm (effective area 66 x 45 mm)				
Low-battery Indicator	√	Battery	3V (1.5V x 2)				
Data Hold	√	Dimension (W x H x D)	85 x 185 x 30 (mm)				
Relative Measurement	√	Device Weight	0.32 kg				

Specifications subject to change without prior notice.

Model	mV	220mV	0.01mV	B41T+
DC Voltage	V	2.2V	0.1mV	±(0.05%+10-digit)
		22V	1mV	
		220V	10mV	
		1000V	0.1V	
AC Voltage	mV	220mV	0.01mV	±(1.0%+25-digit)
	V	2.2V	0.1mV	
		22V	1mV	
		220V	10mV	
DC Current	μA	220μA	0.01μA	±(0.5%+10-digit)
	mA	220mA	1μA	
		2.2mA	10μA	
	A	20.00A	1mA	
AC Current	μA	220μA	0.01μA	±(1.2%+25-digit)
	mA	220mA	0.1μA	
		2.2mA	1μA	
	A	20.00A	1mA	
Resistance	Ω	220Ω	0.01MΩ	±(0.5%+30-digit)
	kΩ	2.2kΩ	0.1Ω	
	MΩ	22kΩ	1Ω	
		220kΩ	10Ω	
		2.2MΩ	100Ω	
		22MΩ	1.2kΩ	
		220MΩ	100kΩ	
		22nF	1pF	
Capacitance		220nF	10pF	±(2.5%+15-digit)
		2.2μF	100pF	
		22μF	1nF	
		220μF	10nF	
		2.2mF	100nF	
		>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	
DutyRatio		>220MHz	/	/
		5.0% - 94.9% (typical value : Vrms=1V, f=1kHz)	0.1%	
Temperature		0.1% - 99.9% ( $\geq 1\text{kHz}$ )	0.1%	±(2.5%+3-digit)
		-50°C - 400°C	0.1°C	
Display		-58 °F - 752 °F	0.1°F	±(1.2%+6-digit)
		21999 count		
Frequency Response		40Hz - 10000Hz		
Shift Rate		3 times / s		

Auto-scale	✓	Max / Min Value	✓
Offline Recording Function	available in B41T	Bluetooth Module	available in B41T, and B41T+
Record Period	168 hours (7 days)		
Record Length	10,000 points	LCD Backlight	✓
True RMS	available in B41T, and B41T+	Simulated Chart	✓
Diode Test	✓	Input Protection	✓
Audion Test	✓	Input Impedance	10MΩ
Auto Power-off	✓	LCD Size	69mm x 52mm
On-off Warning	✓	Display Area	67 x 46 mm (effective area 66 x 45 mm)
Low-battery Indicator	✓	Battery	3V (1.5V x 2)
Data Hold	✓	Dimension (W x H x D)	85 x 185 x 30 (mm)
Relative Measurement	✓	Device Weight	0.32 kg

Specifications subject to change without prior notice.

## 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				
DC Current	Range	AC 4A	AC 40A	AC 200A	AC 200A ~ 400A
	Accuracy	±2.0%rdg±5 digit			±3.0%rdg±5 digit
	Sensitivity	1mV/10mA	1mV/0.1A		1mV/1A
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
Dimension (W x H x D)		180 x 30 x 44 (mm)			
Device Weight		about 200g			

Specifications subject to change without prior notice.

## Application

electronic circuit debugging  
education and trainingcircuit testing  
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



BLE4.0

mobile app accessible via scanning QR code

## 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						
	Sensitivity	1mV/1mA	1mV/10mA					
AC Current	Range	ACA 400mA	ACA 4A					
	Accuracy	±2.0%rdg±5 digit						
	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

## General Probe



Model No	P6060	P6100	P6200
Attenuation Ratio	1X or 10X	1X or 10X	1X or 10X
Bandwidth	1X : DC-6MHz 10X : DC-60MHz	1X : DC-6MHz 10X : DC-100MHz	1X : DC-6MHz 10X : DC-200MHz
Input R	1MΩ/10MΩ	1MΩ/10MΩ	1MΩ/10MΩ
Input C	1X : 85pF - 120pF 10X : 18.5pF - 22.5pF	1X : 85pF - 120pF 10X : 18.5pF - 22.5pF	1X : 85pF - 120pF 10X : 18.5pF - 22.5pF
Max Input Voltage	1X : <300VDC + AC Vpp 10X : <600VDC + AC Vpp	1X : <300VDC + AC Vpp 10X : <600VDC + AC Vpp	1X : <300VDC + AC Vpp 10X : <600VDC + AC Vpp



Model No	P4060	P4100	P4200	P4250
Attenuation Ratio	100X	100X	100X	100X
Bandwidth	10X : DC-60MHz	10X : DC-100MHz	10X : DC-200MHz	10X : DC-250MHz
Input R	100MΩ	100MΩ	100MΩ	100MΩ
Input C	100X : 18.5pF - 22.5pF			
Max Input Voltage	2KV DC + AC Vpp			



Model No	P5101	P5102	P5104
Attenuation Ratio	1000X	1000X	1000X
Bandwidth	1000X : DC-20MHz	1000X : DC-20MHz	1000X : DC-20MHz
Input R	100MΩ	100MΩ	100MΩ
Input C	10X : 0.5pF - 1.5pF	10X : 0.5pF - 1.5pF	10X : 0.5pF - 1.5pF
Max Input Voltage	10KV DC + AC Vpp	20KV DC + AC Vpp	40KV DC + AC Vpp



Model No	P2300	P2500
Attenuation Ratio	100X	100X
Bandwidth	100X : DC-300MHz	100X : DC-500MHz
Input R	100MΩ	100MΩ
Input C	100X : 10pF - 20pF	100X : 10pF - 20pF
Max Input Voltage	5KV DC + AC Vpp	5KV DC + AC Vpp

## Certificates

