

## Product Catalogue

- + Spectrum Analyzers
- + Digital Storage Oscilloscopes
- + Arbitrary Waveform Generators
- + Programmable DC Power Supplies
- + Electronic Load
- + Digital Multimeter



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# About OWON<sup>®</sup>

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.



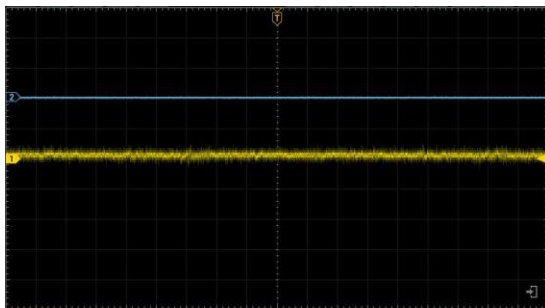
# ADS3000(A) Multi-function Digital Storage Oscilloscope

- + Integrates oscilloscope, dual-channel 50MHzAFG ( optional ), Frequency counter, voltmeter,FFT spectrum analyzer, and protocol analyzer.
- + 100MHz-500MHz bandwidth, 2.5GS/s real-time sampling rate.
- + 100M Record Length, up to 500,000wfms/s waveform refresh rate.
- + 1M-point FFT analysis ensures accurate frequency component display.
- + Vertical accuracy is 500uV/div-10 V/div, time base range is 500ps/div-1000s/div
- + Multi triggering: edge, video, pulse width, slope, under-amplitude, over-amplitude, timeout, Nth edge, logic and RS232/UART,I2C, SPI, CAN, LIN; 2-channel hardware decoding: UART, I2C, SPI, CAN, LIN.
- + Comprehensive Features Waveform Cloning and Bode Plot Functions. ( AFG models )
- + Up to 43 auto measurements, math operations, built-in enhanced FFT, and peak search. Enhanced FFT and ZOOM features provide clearer waveform display and cursor information
- + Built-in microphone and speaker, with support for external devices like mouse and keyboard, greatly enhancing efficiency.
- + Enhanced file management for easier viewing, editing, and exporting.
- + Equipped with USB device\*1, USB Host\*3, Trig Out( P/F ), LAN, supporting Web Control and SCPI command tools.
- + Optional wireless module ( Wi-Fi/Bluetooth ) supports FTP, network printers, mobile hotspots.
- + 10.1-inch touchscreen with multi-touch support for an enhanced interactive experience.



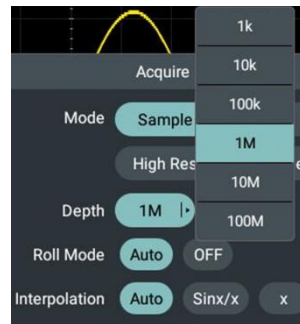
### Low noise, high sensitivity, and accurate small signal measurements.

Standard vertical resolution from 500µV/div to 10V/div.



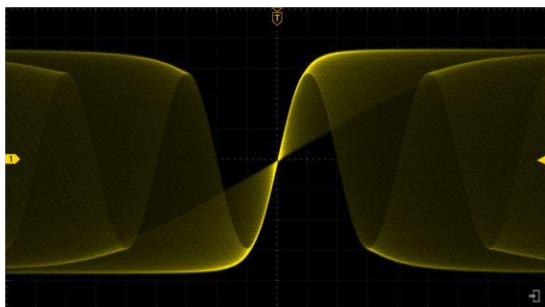
### Deep storage balances overall view and details.

The new standard 100Mpts storage depth allows you to capture longer signal durations and zoom in on details, balancing overall view and details.



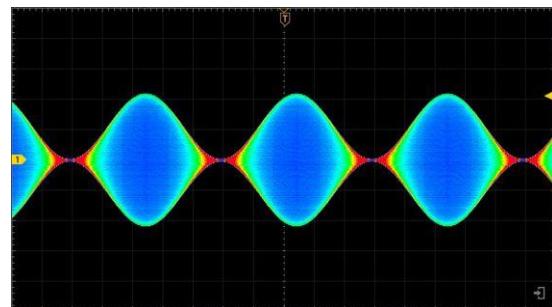
### Capture anomalies and grasp every detail.

In high-speed mode, the oscilloscope's waveform refresh rate reaches up to 500,000wfms/s, ensuring clear capture of signal changes.



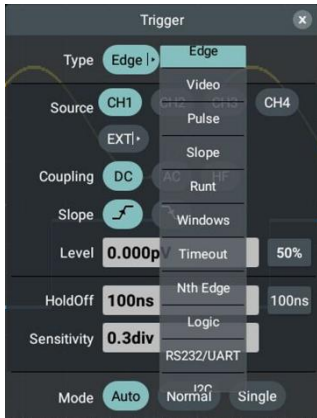
### 256 levels of grayscale display, color afterglow leaves long traces

Assists in observing the signal trends over time, especially when monitoring fast changes or transient phenomena.



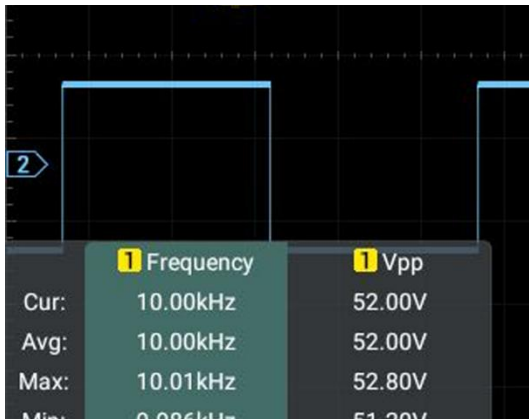
## Multi triggering and hardware decoding

Supports edge trigger, video trigger, pulse width trigger, slope trigger, runt trigger, over amplitude trigger, timeout trigger, nth edge trigger, logic trigger, RS232/UART trigger, I2C trigger, SPI trigger, CAN trigger, and LIN trigger. Dual-channel hardware decoding includes UART, I2C, SPI, CAN, and LIN.



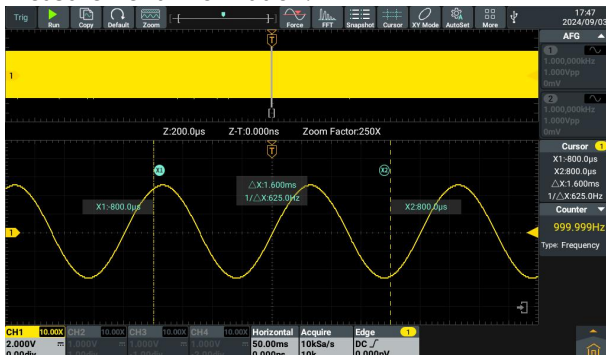
## Measurement parameter statistics function

Supports measurement indicators, cursor gating, and more detailed measurement prompts.



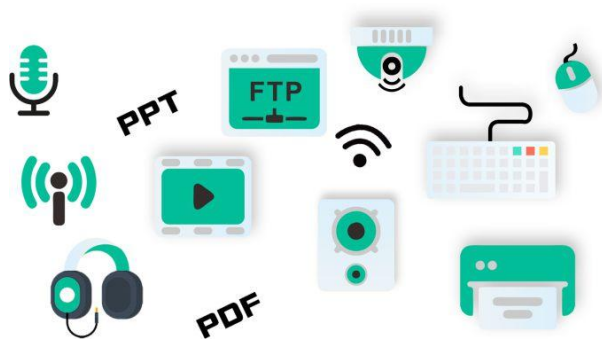
## Enhanced Cursor Measurement

Supports both FFT, XY mode and ZOOM windows, providing more intuitive waveform area cursor measurement information.



## Multi multimedia and hardware expansion options

Built-in microphone and speakers; supports external devices like mouse and keyboard for better interaction. Optional USB (WiFi+Bluetooth) module supports FTP, network printers, and mobile hotspots.



## Convenient for secondary development

The instrument supports Web Control for remote control and SCPI command send/receive tool.



## Multi interface design

Standard USB device\*1, USB Host\*3, Trig Out ( P/F ), LAN, and other communication interfaces. Supports Type-C power supply and floating measurements, suitable for outdoor and variable applications.



\* Need to support 12V handshake protocol, power meets 36W.

| Model             | ADS3102A   | ADS3202A | ADS3352A | ADS3502A |
|-------------------|--|----------|----------|----------|
| Bandwidth (-3 dB) | 100MHz   | 200MHz   | 350MHz   | 500MHz   |
| Channel           | 2+EXT  |          |          |          |
| Sample Rate       | 2.5GSa/s ( single channel ) 1.25GSa/s ( dual channel ) |          |          |          |

| Model             | ADS3104A  | ADS3204A | ADS3354A | ADS3504A |
|-------------------|---|----------|----------|----------|
| Bandwidth (-3 dB) | 100MHz  | 200MHz   | 350MHz   | 500MHz   |
| Channel           | 4+EXT   |          |          |          |
| Sample Rate       | 2.5GSa/s ( single channel ) 1.25GSa/s ( dual channel ) 1.25GSa/s ( full channel ) |          |          |          |

|                               |  |                     |                                |
|-------------------------------|--|---------------------|--------------------------------|
| Acquire mode                  | Sample, Peak, High Res, Average  | Record Length       | 100M                           |
| Waveform Refresh Rate         | Max 500,000wfms/s  | Vertical Resolution | 12bits                         |
| Scanning speed ( S/div )      | 500μV/div ~ 10 V/div   | Relay time accuracy | ±1 ppm( typical )              |
| Sampling rate range           | 500ps/div - 1000s/div, set by 1-2-5  | DC Gain Accuracy    | 3%(≤1mV) ; 2%(2mV); 1.5%(≥5mV) |
| Input Impedance               | 1MΩ ± 2%, parallel with 15pF ± 5pF, 50Ω ± 2%   |                     |                                |
| Probe attenuation coefficient | 1μX-1MX, step by 1-2-5, support custom   |                     |                                |
| Trigger type                  | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth, Logic, RS232/UART, I2C, SPI CAN, LIN   |                     |                                |
| Bus Decoding ( optional )     | UART, I2C, SPI, CAN, LIN   |                     |                                |
| Auto measurement              | Period, Frequency, +Width, -Width, Rise Time, Fall Time, Scr Duty, +Duty,-Duty, Vavg, Vpp, VRMS, Overshoot, Vmax, Vmin, Vtop, CycRms, Vbase, Vamp, Preshoot, Std Dev, +Pulse Cnt, -Pulse Cnt, Rise Cnt, Fall Cnt, Area, Cyc Area, Delay( $\overline{\text{H}}$ - $\overline{\text{L}}$ ), Delay( $\overline{\text{L}}$ - $\overline{\text{H}}$ ), Phase( $\overline{\text{H}}$ - $\overline{\text{L}}$ ), Phase( $\overline{\text{L}}$ - $\overline{\text{H}}$ ), FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF |                     |                                |
| Waveform Math                 | +, -, *, /, Intg, Diff, Sqrt, Function operation ( Lg / Ln / Exp / Abs / Sine / Cosine / Tan ), FFT, FFT rms, User Defined, digital filter ( low pass, high pass, band pass, band reject )   |                     |                                |
| Frequency counter             | 6-digit frequency counter, Maximum frequency: maximum analog bandwidth of oscilloscope   |                     |                                |
| Voltmeter                     | Support DC, AC+DCrms, ACrms, Resolution: 4 digits ( ACV/DCV )  |                     |                                |

#### Arb Waveform Generator ( optional ) Specification

|                           |   |
|---------------------------|---|
| Max frequency output      | 50MHz ( Dual )  |
| Sample rate               | 160MSa/s  |
| Vertical resolution       | 14 bits   |
| Standard waveform         | Sine, Square, Ramp, Pulse, Noise  |
| Arbitrary waveform        | Exponential Rise/Fall, Sin(x)/x, Step Wave, and others total 28 built-in waveform |
| Arbitrary waveform        | 1μHz - 10 MHz   |
| Arbitrary waveform length | 2-16K points  |
| Amplitude                 | 2mVpp - 10Vpp ( high impedance ), 1mVpp - 5Vpp (50 Ω)                             |
| Modulation                | AM, FM, PM, FSK, Sweep and Burst  |

#### Other

|                         |  |
|-------------------------|--|
| Communication Interface | HDMI, USB device x 1, USB Host x 3, Trig Out( P/F ), Type-C power supply*, LAN |
| Display                 | 10.1 inch (1024×600), LCD  |
| Power                   | 100V – 240 VACRMS, 50/60 Hz, CAT II  |
| Dimension ( W x H x D ) | 325mm x 209mm x 111.5mm  |
| Device Weight           | ≈3.2kg   |

\*The external power bank must meet 12V/4A output.

Specifications subject to change without prior notice.

#### + Accessories The accessories subject to final delivery.



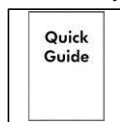
Power Cord



Probe



USB Cable



Quick Guide

| Model             | ADS3102  | ADS3202 | ADS3352 | ADS3502 |
|-------------------|--|---------|---------|---------|
| Bandwidth (-3 dB) | 100MHz   | 200MHz  | 350MHz  | 500MHz  |
| Channel           | 2+EXT  |         |         |         |
| Sample Rate       | 2.5GSa/s ( single channel ) 1.25GSa/s ( dual channel ) |         |         |         |

| Model             | ADS3104   | ADS3204 | ADS3354 | ADS3504 |
|-------------------|---|---------|---------|---------|
| Bandwidth (-3 dB) | 100MHz  | 200MHz  | 350MHz  | 500MHz  |
| Channel           | 4+EXT   |         |         |         |
| Sample Rate       | 2.5GSa/s ( single channel ) 1.25GSa/s ( dual channel ) 1.25GSa/s ( full channel ) |         |         |         |

|                               |  |                     |                    |
|-------------------------------|--|---------------------|--------------------|
| Acquire mode                  | Sample, Peak, High Res, Average  | Record Length       | 100M               |
| Waveform Refresh Rate         | Max 500,000wfms/s  | Vertical Resolution | 8bits              |
| Scanning speed ( S/div )      | 500μV/div ~ 10 V/div   | Relay time accuracy | ±1 ppm ( typical ) |
| Sampling rate range           | 500ps/div - 1000s/div, set by 1-2-5  | DC Gain Accuracy    | 4%(≤1mV); 3%(≥2mV) |
| Input Impedance               | 1MΩ ± 2%, parallel with 15pF ± 5pF, 50Ω ± 2%   |                     |                    |
| Probe attenuation coefficient | 1μX-1MX, step by 1-2-5, support custom   |                     |                    |
| Trigger type                  | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth, Logic, RS232/UART, I2C, SPI CAN, LIN   |                     |                    |
| Bus Decoding ( optional )     | UART, I2C, SPI, CAN, LIN   |                     |                    |
| Auto measurement              | Period, Frequency, +Width, -Width, Rise Time, Fall Time, Scr Duty, +Duty,-Duty, Vavg, Vpp, VRMS, Overshoot, Vmax, Vmin, Vtop, CycRms, Vbase, Vamp, Preshoot, Std Dev, +Pulse Cnt, -Pulse Cnt, Rise Cnt, Fall Cnt, Area, Cyc Area, Delay( $\overline{\text{H}}$ - $\overline{\text{L}}$ ), Delay( $\overline{\text{L}}$ - $\overline{\text{H}}$ ), Phase( $\overline{\text{H}}$ - $\overline{\text{L}}$ ), Phase( $\overline{\text{L}}$ - $\overline{\text{H}}$ ), FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF |                     |                    |
| Waveform Math                 | +, -, *, /, Intg, Diff, Sqrt, Function operation ( Lg / Ln / Exp / Abs / Sine / Cosine / Tan ), FFT, FFT rms, User Defined, digital filter ( low pass, high pass, band pass, band reject )   |                     |                    |
| Frequency counter             | 7-digit frequency counter, Maximum frequency: maximum analog bandwidth of oscilloscope   |                     |                    |
| Voltmeter                     | Support DC, AC+DCrms, ACrms, Resolution: 4 digits ( ACV/DCV )  |                     |                    |

#### Arb Waveform Generator ( option ) Specification

|                           |   |
|---------------------------|---|
| Max frequency output      | 50MHz ( Dual )  |
| Sample rate               | 160MSa/s  |
| Vertical resolution       | 14 bits   |
| Standard waveform         | Sine, Square, Ramp, Pulse, Noise  |
| Arbitrary waveform        | Exponential Rise/Fall, Sin(x)/x, Step Wave, and others total 28 built-in waveform |
| Arbitrary waveform        | 1μHz - 10 MHz   |
| Arbitrary waveform length | 2-16K points  |
| Amplitude                 | 2mVpp - 10Vpp ( high impedance ), 1mVpp - 5Vpp (50 Ω)                             |
| Modulation                | AM, FM, PM, FSK, Sweep and Burst  |

#### Other

|                         |  |
|-------------------------|--|
| Communication Interface | HDMI, USB device x 1, USB Host x 3, Trig Out( P/F ), Type-C power supply*, LAN |
| Display                 | 10.1 inch (1024×600), LCD  |
| Power                   | 100V – 240 VACRMS, 50/60 Hz, CAT II  |
| Dimension ( W x H x D ) | 325mm x 209mm x 111.5mm  |
| Device Weight           | ≈3.2kg   |

\*The external power bank must meet 12V/4A output.

Specifications subject to change without prior notice.

#### + Accessories The accessories subject to final delivery.



Power Cord



Probe



USB Cable



Quick Guide

# ADS900A/800A 12bits Multi-function Digital Oscilloscope

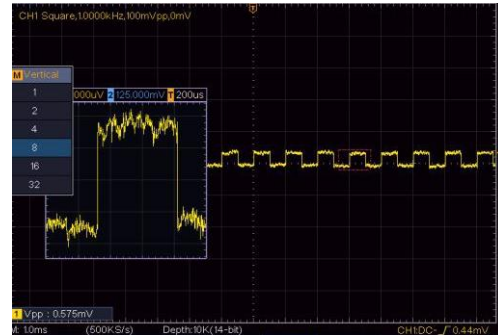
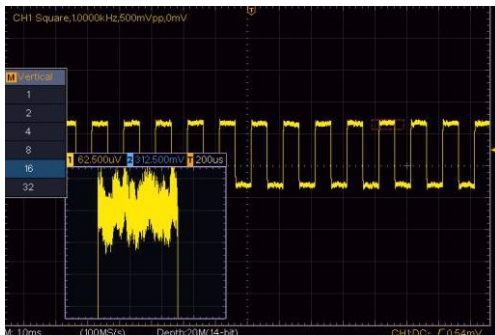
- + Integrated with oscilloscope, 30MHz AFG( optional ), logic analyzer( optional ), frequency counter, voltmeter, and FFT spectrum analyzer.
- + 70 - 250MHz bandwidth, Max 2GSa/S real-time sampling rate.
- + 100M storage depth, up to 700,000wfms/s waveform refresh rate.
- + 1M-point FFT analysis ensures accurate frequency component display.
- + Vertical accuracy is 200uV/div-10V/div.
- + Multi triggering: edge, video, pulse width, slope, under-amplitude, over-amplitude, timeout, Nth edge, logic and RS232/UART,I2C, SPI, CAN,LIN; 2-channel hardware decoding: UART, I2C, SPI, CAN, LIN.
- + Full memory hardware measurement function, math operations, built-in enhanced FFT, and peak search.
- + Bode plot functions ( AFG models ).
- + Supports external devices like mice and keyboards.
- + Equipped with HDMI, USB device, USB Host, Trig Out( P/F ), LAN, supporting Web Control and SCPI command tools.
- + Screen video recording for easy documentation and sharing.
- + Optional wireless module ( Wi-Fi/ Bluetooth ) supports FTP, network printers, mobile hotspots.
- + Ultra-thin design, saving valuable workspace.
- + 7-inch touchscreen with multi-touch support for an enhanced interactive experience.



## 12-bit high-precision hardware oscilloscope

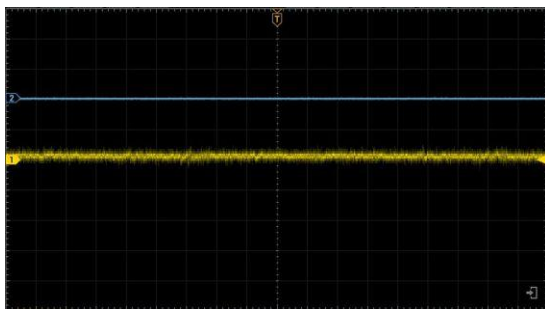
The ADS900A series provides 16 times the accuracy of regular oscilloscopes and includes a zoom feature\* to magnify signal details in real-time for anomaly analysis.

\*ADS800A without the zoom feature.



## Low noise, high sensitivity, and accurate small signal measurements.

Standard vertical resolution from 200μV/div to 10V/div.



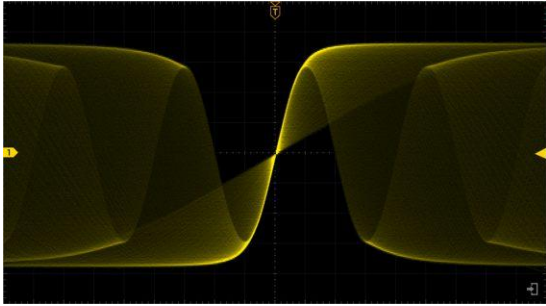
## Deep storage balances overall view and details.

The new standard 100Mpts storage depth allows you to capture longer signal durations and zoom in on details, balancing overall view and details.



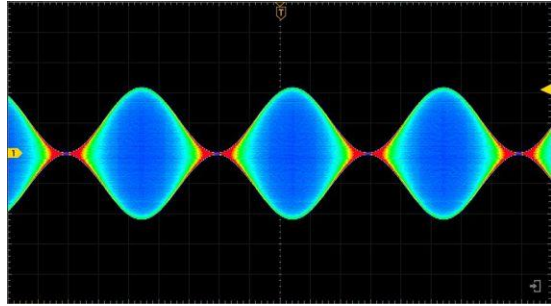
### Capture anomalies and grasp every detail.

In high-speed mode, the oscilloscope's waveform refresh rate reaches up to 700,000wfms/s, ensuring clear capture of signal changes.



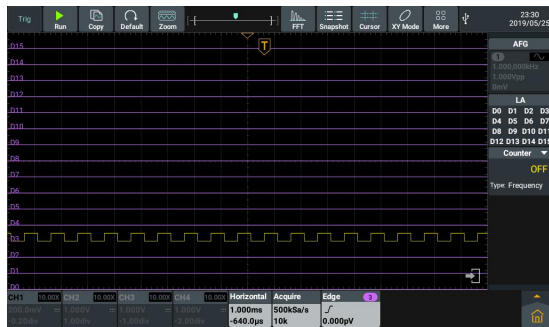
### 256 levels of grayscale display, color afterglow leaves long traces

Assists in observing the signal trends over time, especially when monitoring fast changes or transient phenomena.



### Logic Analyzer ( optional )

- + 16 digital channels, with a maximum sampling rate of 625MSa/s.
- + Storage depth of 25Mpts.
- + Supports mixed triggering and decoding of analog and digital channels.



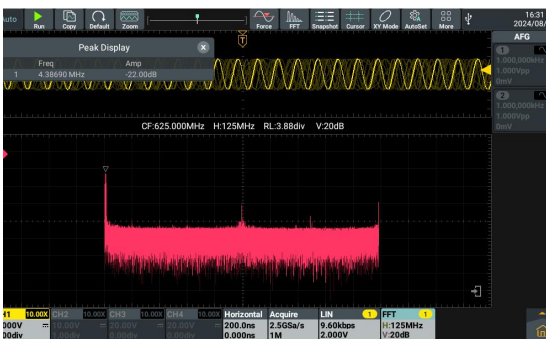
### Frequency Characteristic Curve ( optional waveform generator )

By controlling the built-in signal generation module, a sweep signal within a specified range is generated and output to the power supply circuit for loop analysis testing. The resulting Bode plot shows system gain and phase shifts at different frequencies. This Bode plot function intuitively provides data comparison, helping engineers quickly assess system stability by analyzing phase margin and gain margin.



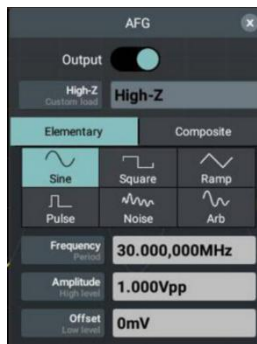
### Spectrum Analyzer

- + Standard Enhanced FFT with real-time waveform data processing up to 1Mpts.
- + Maximum frequency range: Oscilloscope analog bandwidth.
- + Supports independent FFT afterglow display.
- + Supports peak search function.
- + Supports ZOOM window in FFT mode for clearer cursor information display.



### Waveform Generator ( optional )

- + Up to 30MHz output frequency.
- + 160MSa/s sampling rate.
- + 8K arbitrary waveform length.
- + Supports arbitrary waveform editing and modulation signal output.
- + 2mVpp to 10Vpp output amplitude range.



| Model                      | ADS802A  | ADS812A | ADS822A | ADS804A             | ADS814A                            | ADS824A |
|----------------------------|--|---------|---------|---------------------|------------------------------------|---------|
| Bandwidth (-3 dB)          | 70MHz  | 100MHz  | 200MHz  | 70MHz               | 100MHz                             | 200MHz  |
| Channel                    | 2  |         |         | 4                   |                                    |         |
| Max. sample rate           | 1.25GSa/s( single-channel ), 625MSa/s ( dual-channel & full-channel )  |         |         |                     |                                    |         |
| Acquire mode               | Sample, Peak, High Res, Average, Segmentation  |         |         | Max memory depth    | 40M                                |         |
| Waveform capture rate      | Max. 450,000wfms/s   |         |         | Vertical resolution | 12bits                             |         |
| Vertical Sensitivity Range | 500 $\mu$ V/div ~ 10 V/div   |         |         | Relay time accuracy | $\pm$ 25 ppm ( typical )           |         |
| Sampling rate range        | 1ns/div - 1000s/div, step by 1-2-5   |         |         | DC Gain Accuracy    | 3% ( $\leq$ 1mV), 2% ( $\geq$ 2mV) |         |
| Input Impedance            | 1M $\Omega$ $\pm$ 2%, parallel with20pF $\pm$ 5pF  |         |         |                     |                                    |         |
| Probe Attenuation          | 1.00 $\mu$ X-1M.00X, step by 1-2-5, support custom   |         |         |                     |                                    |         |
| Trigger type               | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth, Logic, RS232/UART, I2C, SPI CAN, LIN   |         |         |                     |                                    |         |
| Bus decoding               | RS232/UART, I2C, SPI, CAN, LIN   |         |         |                     |                                    |         |
| Auto measurement           | Period, Frequency, +Width, -Width, Rise Time, Fall Time, Scr Duty, +Duty,-Duty, Vavg, Vpp, VRMS, Overshoot, Vmax, Vmin, Vtop, CycRms, Vbase, Vamp, Preshoot, Std Dev, +Pulse Cnt, -Pulse Cnt, Rise Cnt, Fall Cnt, Area, Cyc Area, Delay(A $\uparrow$ -B $\uparrow$ ), Delay(A $\uparrow$ -B $\downarrow$ ), Delay(A $\downarrow$ -B $\uparrow$ ), Delay(A $\downarrow$ -B $\downarrow$ ), Phase(A $\uparrow$ -B $\uparrow$ ), Phase(A $\uparrow$ -B $\downarrow$ ), Phase(A $\downarrow$ -B $\uparrow$ ), Phase(A $\downarrow$ -B $\downarrow$ ),FRR(A $\uparrow$ -B $\uparrow$ ), FRF(A $\uparrow$ -B $\downarrow$ ), FFR(A $\downarrow$ -B $\uparrow$ ), FFF(A $\downarrow$ -B $\downarrow$ ), LRR(A $\uparrow$ -B $\uparrow$ ), LRF(A $\uparrow$ -B $\downarrow$ ), LFR(A $\downarrow$ -B $\uparrow$ ),LFF(A $\downarrow$ -B $\downarrow$ ) |         |         |                     |                                    |         |
| Waveform Math              | +, -, *, /, &&,   , ^, ! , Intg, Diff, Sqrt, Function operation ( Lg / Ln / Exp / Abs / Sine / Cosine / Tan ), FFT, FFT rms, User Defined, digital filter ( low pass, high pass, band pass, band reject )  |         |         |                     |                                    |         |
| Frequency counter          | 6-digit frequency counter; Maximum frequency: maximum analog bandwidth of oscilloscope   |         |         |                     |                                    |         |
| Voltmeter                  | Support DC, AC+DCrms, ACrms, Resolution: 4 digits ( ACV/DCV )  |         |         |                     |                                    |         |
| <b>Other</b>               |  |         |         |                     |                                    |         |
| Communication Interface    | HDMI, USB device, USB Host, Trig Out( P/F ), LAN   |         |         |                     |                                    |         |
| Display                    | 7 inch(1024 $\times$ 600), capacitive multi-touch screen   |         |         |                     |                                    |         |
| Power supply interface     | Type-C*  |         |         |                     |                                    |         |
| Dimension ( W x H x D )    | 260mm x 160mm x 78mm   |         |         |                     |                                    |         |
| Device Weigh               | $\approx$ 1.5kg  |         |         |                     |                                    |         |

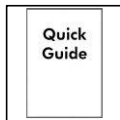
\*The external power bank must meet 12V/4A output

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Probe



Power Adapter

| Model                      | ADS912A  | ADS922A | ADS914A             | ADS924A              |
|----------------------------|--|---------|---------------------|----------------------|
| Bandwidth (-3 dB)          | 125MHz   | 250MHz  | 125MHz              | 250MHz               |
| Channel                    | 2  |         | 4                   |                      |
| Max. sample rate           | 2GSa/s ( single-channel ), 1GSa/s ( dual-channel ), 500MSa/s ( full-channel )  |         |                     |                      |
| Acquire mode               | Sample, Peak, High Res, Average, Segmentation  |         | Max memory depth    | 100M                 |
| Waveform capture rate      | Max. 700,000wfms/s   |         | Vertical resolution | 12bits               |
| Vertical Sensitivity Range | 200μV/div ~ 10 V/div   |         | Relay time accuracy | ±25 ppm ( typical )  |
| Sampling rate range        | 1ns/div - 1000s/div,step by 1-2-5  |         | DC Gain Accuracy    | 3% (≤1mV), 2% (≥2mV) |
| Input Impedance            | 1MΩ±2%, parallel with20pF±5pF  |         |                     |                      |
| Probe Attenuation          | 1.00μX-1M.00X,step by 1-2-5, support custom  |         |                     |                      |
| Trigger type               | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth, Logic, RS232/UART, I2C, SPI CAN, LIN   |         |                     |                      |
| Bus decoding               | RS232/UART, I2C, SPI, CAN, LIN   |         |                     |                      |
| Auto measurement           | Period, Frequency, +Width, -Width, Rise Time, Fall Time, Scr Duty, +Duty,-Duty, Vavg, Vpp, VRMS, Overshoot, Vmax, Vmin, Vtop, CycRms, Vbase, Vamp, Preshoot, Std Dev, +Pulse Cnt, -Pulse Cnt, Rise Cnt, Fall Cnt, Area, Cyc Area, Delay(A↑-B↓), Delay(A↑-B↓), Delay(A↓-B↑), Delay(A↓-B↑), Phase(A↑-B↓), Phase(A↑-B↓), Phase(A↓-B↑), Phase(A↓-B↑),FRR(A↑-B↓), FRF(A↑-B↓), FFR(A↓-B↑), FFF(A↓-B↑), LRR(A↑-B↓), LRF(A↑-B↓), LFR(A↓-B↑),LFF(A↓-B↑) |         |                     |                      |
| Waveform Math              | +, -, *, /, &&,   , ^, ! , Intg, Diff, Sqrt, Function operation ( Lg / Ln / Exp / Abs / Sine / Cosine / Tan), FFT, FFT rms, User Defined, digital filter ( low pass, high pass, band pass, band reject )   |         |                     |                      |
| Frequency counter          | 6-digit frequency counter; Maximum frequency: maximum analog bandwidth of oscilloscope   |         |                     |                      |
| Voltmeter                  | Support DC, AC+DCrms, ACrms, Resolution: 4 digits ( ACV/DCV )  |         |                     |                      |

#### Arb Waveform Generator ( optional )Specification

|                      |                                  |              |                                     |
|----------------------|----------------------------------|--------------|-------------------------------------|
| Max frequency output | 30MHz single                     | Sample rate  | 160MSa/s                            |
| Standard waveform    | Sine, Square, Ramp, Pulse, Noise |              |                                     |
| Arbitrary waveform   | 28 built-in waveform             |              |                                     |
| Vertical resolution  | 14 bits                          | Arb waveform | 1μHz ~ 10MHz                        |
| Arb waveform length  | 2-8K points                      | Amplitude    | 2mVpp ~ 10Vpp , 1mVpp ~ 5Vpp (50 Ω) |
| Impedance            | 50Ω ( type )                     | Modulation   | AM, FM, PM, FSK                     |

#### Logical analyzer( optional )Specification

|                          |  |                     |  |
|--------------------------|--|---------------------|--|
| Number of channels       | 16 input channels ( D0-D15 ) ( D0 to D7, D8 to D15 ) |                     |  |
| Threshold Range          | ±20.0 V, 10mV step                                   | Max. input voltage  | ±40V peak CAT I, transient over voltage 800Vpk |
| Minimum voltage swing    | 500mVpp  | Input Impedance     | 100kΩ, 8pF                                     |
| Max. Input dynamic range | ±30 V+ threshold                                     | Vertical resolution | 1 bit  |

#### Other

|                         |   |
|-------------------------|---|
| Communication Interface | HDMI,USB device,USB Host,Trig Out( P/F ),LAN    |
| Display                 | 7 inch(1024×600), capacitive multi-touch screen |
| Power supply interface  | Type-C*   |
| Dimension ( W x H x D ) | 260mm x 160mm x 78mm                            |
| Weight                  | ≈1.5kg ( package excluded )                     |

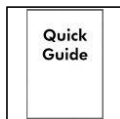
\*The external power bank must meet 12V/4A output

Specifications subject to change without prior notice.

#### + Accessories The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Probe



Power Adapter



Q9 Cable ( optional )

## FDS Android Multi-function Tester

### Multifunctional Hardware All-in-One

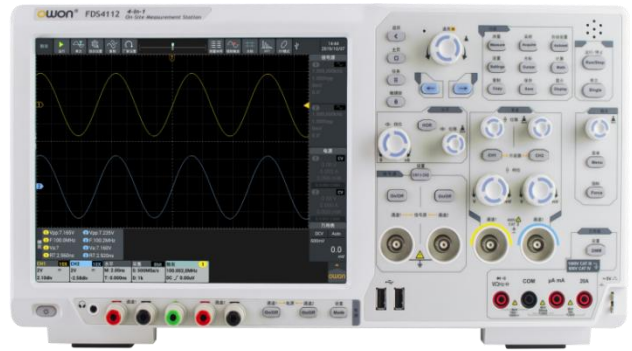
DSO: 100MHz-300MHz bandwidth, up to 2.5GS/s sample rate.

DMM: 4 1/2 digits automatic multimeter, supporting voltage, current, resistance, capacitance, duty cycle, diode.

AWG: 50MHz dual-channel arbitrary waveform generator, supporting modulation functions.

Power Supply: 15V/3A, 15W constant power dual-channel output, supports series and parallel connections, can be combined for 30W output.

Interfaces: USB Host x 4, USB 2.0 Device, LAN, HDMI, Audio, external trigger input, auxiliary output ( TRIG OUT, PASS/FAIL ).



### Excellent performance, convenient testing

- + Supports edge, slope, pulse width, window, undershoot, interval, timeout, pattern, nth edge, video triggering and other serial bus trigger functions
- + Supports Bode plot ( FAR ) testing
- + Supports waveform cloning function, completely restores test signals
- + Supports digital filtering
- + Waveform calculation supports custom functions

### Android-based, a new experience, more possibilities

- + Supports external monitors, mouse, and keyboard for easy completion of complex editing operations.
- + Configurable with camera, microphone, speaker, headphone jack multimedia devices.
- + Built-in Web server supports users to control instruments via web pages.
- + Quickly save instrument interface images and test process videos for viewing.
- + Perform document editing and Python secondary development.
- + 10.4-inch multi-touch LCD screen, new UI design, new touch experience.

### Android based design, more application scheme

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



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

( only for FDS1102A )

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



# Multi-function hardware integration

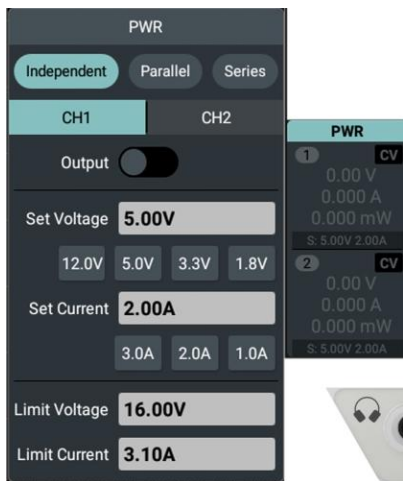
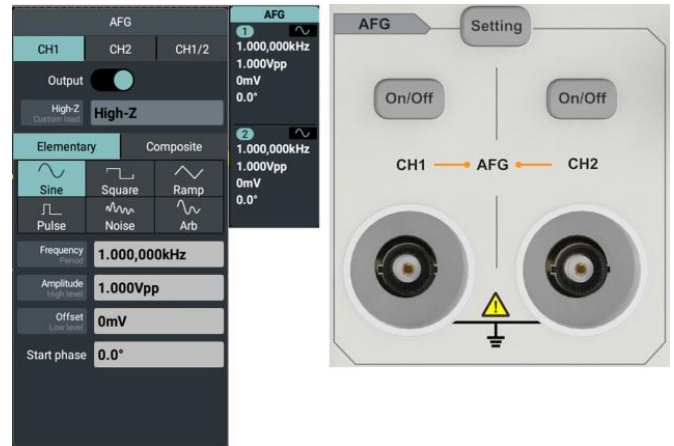
## Digital Oscilloscope

- + Bandwidth:100MHz-300MHz
- + Sampling rate:1GS/s
- + 2 channels
- + 14-bits ADC ( FDS1102A )



## Waveform Generator

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



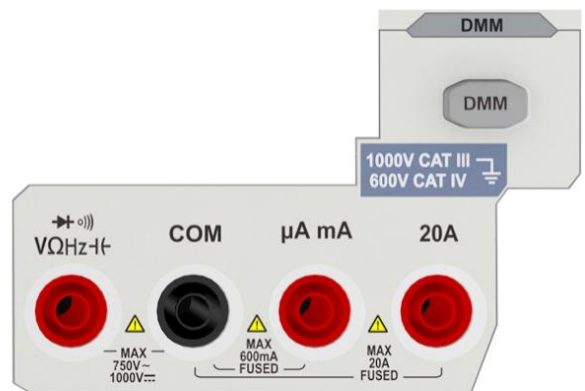
## Power Supply

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



## 4 1/2 digits Digital Multimeter

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



## Frequency Response Analysis ( FRA ) function

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



## SCPI supported

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

```

osc_pyqt_demo.py
138 def button1_clicked(self):
139     get_data_recv_data_buf = scp.query(1, 'CH1:SCALE 100mV/V/n)
140
141     def button2_clicked(self):
142         get_data_recv_data_buf = scp.query(1, 'CH1:SCALE 1V/V/n)
143
144     def updateValue(self, data_np):
145         self._1_point_list.append(self._1_point_list[-1])
146         self._1_point_list.insert(0, QTimeFrom(data_np[0]))
147         for i in range(0, len(self._1_point_list)):
148             self._1_point_list[i].setX()
149             self._1_point_list[i].setY(data_np[0])
150             self.series.replace(self._1_point_list)
151
152     def del_(self):
153         self.thread.quit()
154         self.thread.deleteLater()
155         exit_all()
156
157
158 if __name__ == '__main__':
159     import sys
160
161     app = QApplication(sys.argv)
162     mainWindow = MainWindow()
163     mainWindow.setWindowTitle("OSC Python Demo")
164
165     mainWindow.show()
166     sys.exit(app.exec_())
167
    
```

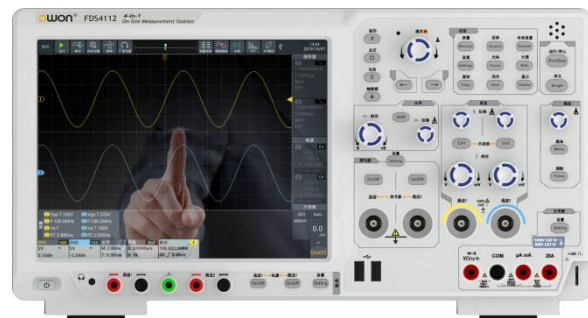
## Built-in Web Server

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



## Excellent user interface and user experience

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



## Rich trigger function

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



## Waveform cloning function

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



## Oscilloscope Specifications

| Modle                         | FDS1102A  | FDS1102        | FDS3102                                 | FDS3202 | FDS3302 |
|-------------------------------|---|----------------|---|---------|---------|
| Bandwidth                     | 100MHz  | 100MHz         | 100MHz                                  | 200MHz  | 300MHz  |
| Sample Rate                   | 1GS/s   | 1GS/s          | 2.5GS/s                                 | 2.5GS/s | 2.5GS/s |
| Vertical resolution ( A / D ) | 14bits  | 8 bits         | 8 bits                                  | 8 bits  | 8 bits  |
| Channel                       | 2   |                |   |         |         |
| Input Impedance               | 1MΩ ± 2%, in parallel with 15pF ± 5pF   |                |   |         |         |
| Input Coupling                | DC, AC, and GND   |                |   |         |         |
| Record Length                 | 10M   |                |   |         |         |
| Horizontal Scale ( s/div )    | 2ns/div - 1000s/div, step by1 - 2 - 5   |                | 500ps/div - 1000s/div, step by1 - 2 - 5 |         |         |
| Max Input Voltage             | 1MΩ ≤ 300Vrms;  |                |   |         |         |
| Vertical Sensitivity          | 1mV/div - 10V/div ( at input )  |                |   |         |         |
| Cursor Measurement            | ΔV, and ΔT between cursors, ΔV and ΔT between cursors, and auto- cursors  |                |   |         |         |
| Automatic Measurement         | Period, Frequency, +Pulse Width, -Pulse Width, Rise Time, Fall Time, Screen Duty, +Duty Cycle, -Duty Cycle, PK-PK, RMS, Overshoot, Max, Min, Top, Cycle RMS, Base, Amplitude, Preshoot, +Pulse Count, - Pulse Count, Rise Edge Count, Fall Edge Count, Area, Cycle Area, Delay A→ B $\int$ , Delay A→ B $\int$ , Phase A→ B $\int$ , Phase A→ B $\int$ , FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF |                |   |         |         |
| Waveform Math                 | +, -, ×, ÷, FFT, User Defined Function, digital filter  |                |   |         |         |
| Waveform Storage              | 128MB,100 waveforms   |                |   |         |         |
| Lissajou's Figure             | Bandwidth   | full bandwidth |   |         |         |
|                               | Phase Difference  | ±3 degrees     |   |         |         |
| Trigger Type                  | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I <sup>2</sup> C, SPI, RS232, LIN and CAN   |                |   |         |         |
| Trigger Mode                  | Auto, Normal, and Single  |                |   |         |         |
| Interface                     | HDMI; USB device *1, USB Host *4 ; Trig Out( P/F ); LAN; earphone   |                |   |         |         |
| Frequency Counter             | available   |                |   |         |         |
| WIFI (Optional)               | available   |                |   |         |         |
| Display                       | 10.4 inch (1024×768) touch LCD  |                |   |         |         |
| Dimension ( WxHxD )           | 421 × 221 × 115 (mm)  |                |   |         |         |
| Device Weight                 | ≈4.25kg   |                |   |         |         |

### Power Specifications

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

### Multimeter Specification

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

### Waveform Generator Specification

|                      |  |
|----------------------|--|
| Max Frequency Output | 50MHz (2 CH)   |
| Sample Rate          | 300MS/s  |
| Amplitude ( HR )     | 2mVpp - 10Vpp  |
| Waveform Length      | 8K   |
| Standard Waveforms   | Sine wave, square wave, ramp wave, pulse wave, noise                                 |
| Arbitrary Waveforms  | exponential rise, exponential decline, Sin(x)/x, step wave etc 28 build-in waveforms |
| Modulate type        | AM, FM,PM, FSK,SWEEP,BURST   |

Specifications subject to change without prior notice.

### + Accessories The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Probe



Multimeter Leads



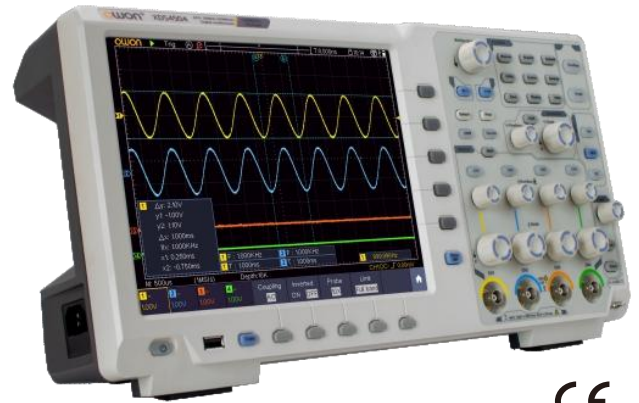
BNC plug to alligator clips cable



Test Leads

## XDS4000 Multi-function test oscilloscope

- + Including 7 measurement functions in one: oscilloscope, waveform generator, multimeter, FFT spectrum analyzer, frequency counter, protocol analysis, amplitude-frequency curve analysis.
- + 350 MHz / 500 MHz oscilloscope bandwidth, 5 GSa/s sample rate.
- + Standard 400Mpts memory depth.
- + 600,000wfms/s refresh rate, easy to capture exceptional and low probability events.
- + Advanced function calculation function.
- + Standard 50MHz single-channel arbitrary waveform generator.
- + The oscilloscope captures the waveform, the waveform generator generates the waveform, help engineers to further analyze the circuit.
- + Waveform cloning function, quickly generate captured waveforms.
- + A variety of triggers and bus decodes.
- + Optional multimeter and multimeter data logger function
- + Standard Bode plot for loop test analysis
- + Multi-interface design: USB Host & Device, LAN, VGA; supports standard SCPI communication, USB Device supports USB TMC
- + 10.4-inch multi-touch screen



| Modle                      | XDS4352  | XDS4502 | XDS4354 | XDS4504 |
|----------------------------|--|---------|---------|---------|
| Bandwidth                  | 350MHz   | 500MHz  | 350MHz  | 500MHz  |
| Sample Rate                | 5GS/s  |         |         |         |
| Horizontal Scale (s/div)   | 500ps/div - 1000s/div, step by 1 - 2 - 5   |         |         |         |
| Channel                    | 2  |         | 4       |         |
| Display                    | 10.4 inch LCD touch screen   |         |         |         |
| Record Length              | 400M   |         |         |         |
| Waveform Refresh Rate      | 600, 000 wfms/s  |         |         |         |
| Vertical Sensitivity       | 1M $\Omega$ :1mV/div~ 10V/div, 50 $\Omega$ : 1mV/div ~ 1V/div  |         |         |         |
| Vertical Resolution (A/D)  | 8bits  |         |         |         |
| Input Impedance            | 1M $\Omega$ $\pm$ 2%, in parallel with 15pF $\pm$ 5pF; 50 $\Omega$ $\pm$ 2%  |         |         |         |
| Input Coupling             | DC, AC, GND  |         |         |         |
| Trigger Type               | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I <sup>2</sup> C, SPI, RS232, CAN  |         |         |         |
| Decoding Type ( optional ) | I <sup>2</sup> C, SPI, RS232, CAN  |         |         |         |
| Automatic Measurement      | Max, Min, PK-PK, Top, Base, Amplitude, Mean, RMS, Cycle RMS, Cursor RMS, Overshoot, Preshoot, Period, Frequency, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Screen Duty, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF, Delay A $\rightarrow$ B $\int$ , Delay A $\rightarrow$ B $\int$ , Phase A $\rightarrow$ B $\int$ , Phase A $\rightarrow$ B $\int$ , +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge 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  |         |         |         |
| Communication Interface    | USB host, USB device, LAN, VGA   |         |         |         |
| Printer Compatibility      | PictBridge   |         |         |         |
| Dimension ( WxHxD )        | 422 x 226 x 135 (mm)   |         |         |         |
| Device Weight              | $\approx$ 4.25kg   |         |         |         |

## Arb Waveform Generator Specifications

|                       |  |
|-----------------------|--|
| Max. Frequency Output | 50MHz  |
| Sample Rate           | 250MS/s  |
| Channel               | 1 channel  |
| Vertical Resolution   | 14bits   |
| Amplitude Range       | 2mVpp - 5Vpp( $\leq 50\text{MHz}$ ); 2mVpp - 20Vpp( $\leq 25\text{MHz}$ )  |
| Waveform Length       | 16K  |
| Output Waveforms      | Exponential Rise, Exponential Fall, Sin(x)/x, Step Wave, Noise, and others, total 64 built-in waveforms, and user-defined arbitrary waveform |

## Multimeter Specifications ( optional )

|             |  |            |   |
|-------------|--|------------|---|
| Full Scale  | 4½ digits  | Auto Range | √ |
| Measure     | Voltage, Current, Capacitance, Resistance, Frequency, Duty cycle, Diode test   |            |   |
| Capacitance | 2nF – 20mF: $\pm(4\% \pm 10\text{digit})$  |            |   |
| Voltage     | DCV: 20mV, 200mV: $\pm(0.5\% \pm 10\text{digit})$ , 2V, 20V, 200V: $\pm(0.3\% \pm 5\text{digit})$ , 1000V: $\pm(0.5\% \pm 5\text{digit})$<br>ACV: 200mV, 2V, 20V, 200V: $\pm(0.8\% \pm 10\text{digit})$ , 750V: $\pm(1\% \pm 10\text{digit})$ , frequency: 40Hz-1000Hz |            |   |
| Current     | DCA: 20A: $\pm(2\% \pm 10\text{digit})$ , ACA: 20A: $\pm(2.5\% \pm 10\text{digit})$  |            |   |
| Impedance   | 200Ω~2MΩ: $\pm(0.8\% \pm 10\text{digit})$ , 20MΩ: $\pm(1\% \pm 10\text{digit})$ , 100MΩ: $\pm(5\% \pm 10\text{digit})$   |            |   |

Specifications subject to change without prior notice.

## + Accessories The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Probe



Q9 Cable

## Options



Multimeter Leads

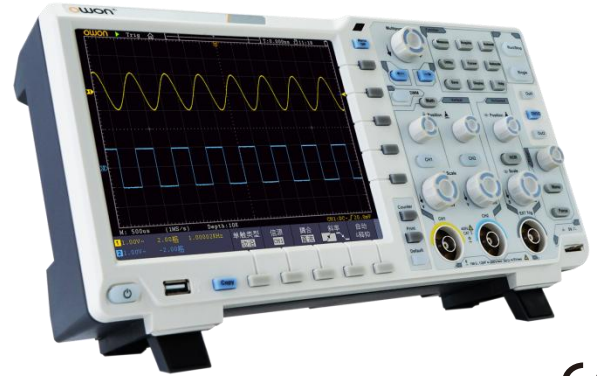


Current Ext Module

# XDS3000 Multi-Function Oscilloscope

## Super Performance

- + 8-bit, 12-bit or 14-bit high resolution ADC, restoring the waveform detail fully.
- + max 40M record length, and max 75,000wfms/s waveform refresh rate.
- + low background noise, vertical sensitivity in 1mV/div - 10V/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, 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.

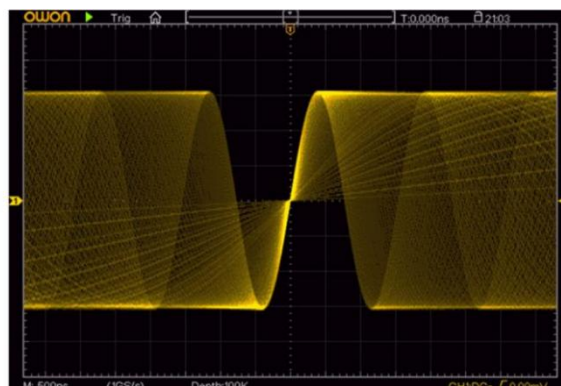
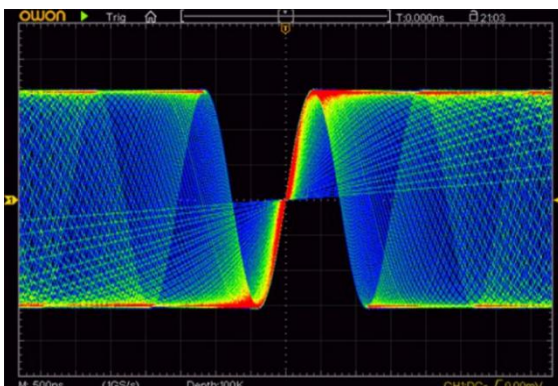
## N-in-1

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

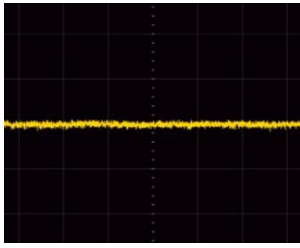
1. XDS series introduce 12 / 14 bits hardware ADC, the precision is 16/64 times against other oscilloscope on market. Equipping with OWON' s original magnifier function, it can observe the signal low down to 31.25 $\mu$ V/div (XDS3202A, XDS3102AP).



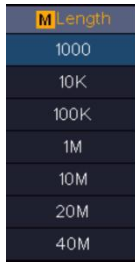
2. Multi-level grayscale, and color temperature display.



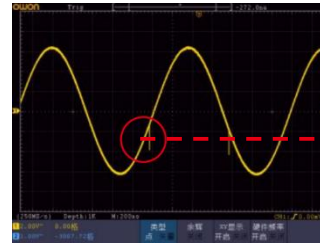
3. XVisual platform - restore the waveform detail fully.



low background noise

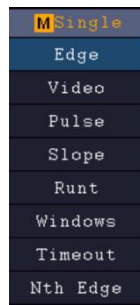


40M Record Length



70,000wfms/s Waveform Refresh Rate

- 4. multi-trigger supported - Logic, Time-out, I2C, SPI, RS232/UART, Runt, Windows, Nth Edge, and CAN
- 5. serial bus coding available in I2C, SPI, RS232/UART, CAN



- 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.



- 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.





- 9. its multi-point touchscreen improves operation efficiency considerably.



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



| Model                     | XDS3062A   | XDS3102A | XDS3102AP*          | XDS3202A* | XDS3102             | XDS3202 | XDS3202*            | XDS3302* |
|---------------------------|--|----------|---------------------|-----------|---------------------|---------|---------------------|----------|
| Bandwidth                 | 60MHz  | 100MHz   | 100MHz              | 200MHz    | 100MHz              | 200MHz  |                     | 300MHz   |
| Channel                   | 2+1 ( external )   |          |                     |           |                     |         |                     |          |
| 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     | max 75,000 wfms/s  |          |                     |           |                     |         |                     |          |
| Horizontal Scale (s/div)  | 2ns/div - 1000s/div  |          | 1ns/div - 1000s/div |           | 2ns/div - 1000s/div |         | 1ns/div - 1000s/div |          |
|                           | step by 1 - 2 - 5  |          |                     |           |                     |         |                     |          |
| Input Impedance           | 1MΩ ± 2%, in parallel with 15pF ± 5pF (* 50Ω ± 2%)   |          |                     |           |                     |         |                     |          |
| Vertical Sensitivity      | 1mV/div - 10V/div ( at input )   |          |                     |           |                     |         |                     |          |
| DC Gain Accuracy          | ±1.5%  |          |                     |           | ±3%                 |         |                     |          |
| Sample Rate /             | ±1 ppm ( type, Ta = +25°C )  |          |                     |           |                     |         |                     |          |
| Trigger Type              | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I2C, SPI, and RS232  |          |                     |           |                     |         |                     |          |
| Trigger Type ( optional ) | CAN  |          |                     |           |                     |         |                     |          |
| Bus Decoding( optional )  | I2C, SPI, RS232/ UART, and CAN   |          |                     |           |                     |         |                     |          |
| Waveform Math             | +, -, ×, ÷, FFT, FFTrms, Intg, Diff, Sqrt, User Defined Function, digital filter<br>( low pass, high pass, band pass, band reject )  |          |                     |           |                     |         |                     |          |
| 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  , Delay A→ B  , +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge Count |          |                     |           |                     |         |                     |          |
| Communication Interface   | USB host, USB device, USB port for PictBridge, Trig Out ( P/ F ), LAN, and VGA ( optional )  |          |                     |           |                     |         |                     |          |
| Frequency Counter         | available  |          |                     |           |                     |         |                     |          |
| Power Supply              | 100V - 240V AC, 50/60Hz, CAT II  |          |                     |           |                     |         |                     |          |
| Power                     | < 15W  |          | < 24W               |           | < 15W               |         | < 24W               |          |
| Fuse                      | 2A, T class, 250V  |          |                     |           |                     |         |                     |          |
| Dimension (W x H x D )    | 340 x 177 x 90 mm  |          |                     |           |                     |         |                     |          |
| Device Weight             | ≈ 2.60 kg  |          |                     |           |                     |         |                     |          |

### Optional Module / Function

|     |                                 |
|-----|---------------------------------|
| VGA | VGA + AV port                   |
| WIF | Wi-Fi                           |
| AWG | Arb waveform generator          |
| DMM | digital multimeter              |
| TOU | Touch screen ( capacitor-type ) |
| BAT | 3.7V, 13200mAh                  |

|            |              |
|------------|--------------|
| RS232/UART | RS232/ UART  |
| SPI        | SPI          |
| I2C        | I2C          |
| CAN        | CAN decoding |

### Arb Waveform Generator ( optional ) Specifications

|                      |  |  |
|----------------------|--|--|
| Max Frequency Output | 25MHz  |  |
| Sample Rate          | 125MS/s  |  |
| Channel              | 1 channel( apply to XDS2104(A),XDS3204E(AE) )  | 2 channels( only for XDS3000 series 2 channels model ) |
| 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 |  |

| Model                      | XDS3064E   | XDS3104E | XDS3064AE | XDS3104AE | XDS3104A                               | XDS3104 | XDS3204A | XDS3204E |
|----------------------------|--|----------|-----------|-----------|--|---------|----------|----------|
| Bandwidth                  | 60MHz  | 100MHz   | 60MHz     | 100MHz    |  |         | 200MHz   |          |
| Channel                    | 4  |          |           |           |  |         |          |          |
| Sample Rate                | 1GS/s  |          |           |           |  |         |          |          |
| Vertical Resolution (A/ D) | 8 bits   |          | 14 bits   |           |  | 8 bits  | 14 bits  | 8 bits   |
| Record length              | 40M  |          |           |           |  |         |          |          |
| Waveform Refresh Rate      | max 45,000wfms/s   |          |           |           | max 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 |         |          |          |
| Input Impedance            | 1MΩ ± 2%, in parallel with 15pF ± 5pF  |          |           |           |  |         |          |          |
| Vertical Sensitivity       | 1mV/div - 10V/div ( at input )   |          |           |           |  |         |          |          |
| DC Gain Accuracy           | ±3%  |          |           |           |  |         |          |          |
| Sample Rate / Relay Time   | ±2. 5ppm (type, Ta = +25°C)  |          |           |           |  |         |          |          |
| Trigger Type               | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I2C, SPI, and RS232/ UART  |          |           |           |  |         |          |          |
| Trigger Type ( optional )  | CAN  |          |           |           |  |         |          |          |
| Bus Decoding ( optional )  | I2C, SPI, RS232/ UART, and CAN   |          |           |           |  |         |          |          |
| Waveform Math              | +, -, ×, ÷, FFT, FFTrms, Intg, Diff, Sqrt, User Defined Function, digital filter ( low pass, high pass, band pass, band reject )   |          |           |           |  |         |          |          |
| 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 $\int$ , Delay A→ B $\int$ , Phase A→ B $\int$ , Phase A→ B $\int$ , +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge Count, Area, Cycle Area |          |           |           |  |         |          |          |
| 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 )    | 340 x 177 x 90 mm  |          |           |           |  |         |          |          |
| Device Weight              | ≈2.60 kg   |          |           |           |  |         |          |          |

### Multimeter ( optional ) Specifications

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

Specifications subject to change without prior notice.

### + Accessories The accessories subject to final delivery.



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Probe

### Options



Multimeter Leads



Q9 Cable



Capacitance Ext Module



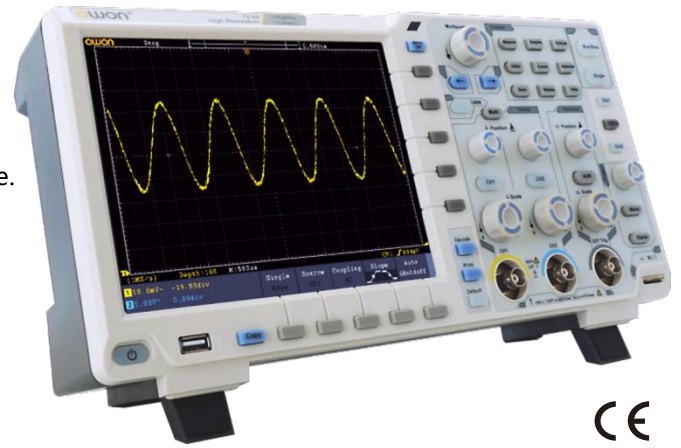
Battery



Soft Bag

## XDS2000 Digital Oscilloscope

- + 100MHz / 200MHz bandwidth, 1GS/s Sample rate.
- + max 80M record length, and 75,000wfms/s waveform refresh rate.
- + multi- trigger, and bus decoding function.
- + SCPI, and LabVIEW supported.
- + ultra-thin body-design, less space accommodation.
- + VGA port - better solution for video expansion, and teaching demonstration.
- + 8 inch multi-touch screen LCD.



| Model                      | XDS2102  | XDS2202                           |
|----------------------------|--|-----------------------------------|
| Bandwidth (-3 dB)          | 100MHz   | 200MHz                            |
| Channel                    | 2 + 1 ( external)  |                                   |
| Max. sample rate           | 1GSa/s   |                                   |
| Max. memory depth          | 40M or 80M ( optional )  |                                   |
| Waveform capture rate      | Max. 75,000wfms/s  |                                   |
| Acquire mode               | Sample, Peak, High Res, Average  |                                   |
| Vertical Sensitivity Range | 500 $\mu$ V/div ~ 10 V/div   |                                   |
| Sampling rate range        | 2ns/div - 1000s/div, step by 1-2-5   |                                   |
| Input Impedance            | 1M $\Omega$ ±2%, parallel with 20pF±5pF  |                                   |
| Probe Attenuation          | 1.00 $\mu$ X-1M.00X, step by 1-2-5, support custom   |                                   |
| DC Gain Accuracy           | 4% (1mV) ; 3% ( $\geq$ 2mV)  |                                   |
| Channel Isolation          | 50Hz: 100: 1, 10MHz: 40:1  |                                   |
| Trigger type               | Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth, Logic, RS232/UART, I2C, SPI CAN  |                                   |
| Bus decoding               | RS232, I2C, SPI, CAN,  |                                   |
| Auto 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 ↓, +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge Count |                                   |
| Waveform Math              | +, -, ×, ÷, FFT, FFTrms, Intg, Diff, Sqrt, User Defined Function, digital filter ( low pass, high pass, band pass, band reject )   |                                   |
| Cursor Measurement         | $\Delta$ V, and $\Delta$ T between cursors, $\Delta$ V and $\Delta$ T between cursors, and auto- cursors   |                                   |
| Waveform Storage           | 100 waveform   |                                   |
| Lissajou's Figure          | Bandwidth<br>Phase Difference  | full bandwidth<br>$\pm$ 3 degrees |
| Communication Interface    | HDMI, USB device, USB Host, Trig Out( P/F ), LAN   |                                   |
| Display                    | 8 inch (800×600),capacitive multi-touch screen   |                                   |
| Power supply               | 100V - 240V AC, 50/60Hz, CAT II  |                                   |
| Dimension ( W x H x D )    | 340 mm× 177 mm×90 mm   |                                   |
| Device Weight              | $\approx$ 2.6kg  |                                   |

Specifications subject to change without prior notice.

### + Accessories

The accessories subject to final delivery.



Power Cord



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USB Cable



Probe



Bag

# SDS Digital Oscilloscope

- + Bandwidth: 100MHz - 300MHz with dual- channel
- + Sample rate: 1GS/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



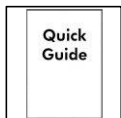
| Model                       | SDS7102   | SDS7202 | SDS8102                               | SDS8202 | SDS8302 | SDS9302 |
|-----------------------------|---|---------|---------------------------------------|---------|---------|---------|
| Bandwidth                   | 100MHz  | 200MHz  | 100MHz                                | 200MHz  | 300MHz  |         |
| Channel                     | 2+1 ( external )  |         |                                       |         |         |         |
| Sample Rate                 | 1GS/s   |         | 2GS/s                                 |         | 2.5GS/s | 3.2GS/s |
| Horizontal Scale (s/div)    | 2ns/div - 100s/div, step by 1 - 2 -   |         | 1ns/div - 100s/div, step by 1 - 2 - 5 |         |         |         |
| Rise Time                   | ≤3.5ns  | ≤1.7ns  | ≤3.5ns                                | ≤1.7ns  | ≤1.17ns |         |
| Record length               | 10M   |         |                                       |         |         |         |
| Display                     | 8" color LCD, 800 x 600 pixels  |         |                                       |         |         |         |
| Input Impedance             | 1MΩ ± 2%, in parallel with 15pF ± 5pF   |         |                                       |         |         |         |
| Vertical Sensitivity        | 2mV/div - 10V/div   |         |                                       |         |         |         |
| Vertical Resolution (A / D) | 8 bits ( 2 channels simultaneously )  |         |                                       |         |         |         |
| Trigger Type                | Edge, Pulse, Video, Slope, and Alternate  |         |                                       |         |         |         |
| Digital Filtering           | low-pass, high-pass, band-pass, and band-reject   |         |                                       |         |         |         |
| 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 $\int$ , Delay A→ B $\int$ , +Width, -Width, +Duty, -Duty, |         |                                       |         |         |         |
| Waveform Math               | +, -, ×, ÷, invert, FFT   |         |                                       |         |         |         |
| Waveform Storage            | 15 waveforms  |         |                                       |         |         |         |
| Measuring Current Range     | 100kA/V - 1kA/V   |         |                                       |         |         |         |
| Communication Interface     | USB host, USB device, Pass / Fail, LAN, VGA ( optional ), or RS232 ( optional )   |         |                                       |         |         |         |
| 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.

**+ Accessories** The accessories subject to final delivery.



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Probe



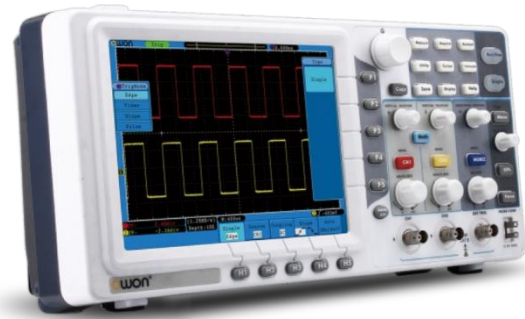
Battery ( optional )



Bag ( optional )

# SDS-E Economical Type Digital 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 )



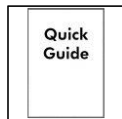
| Model                       | SDS5032E   | SDS5052E | SDS6062E | SDS7072E  | SDS7102E | SDS7122E |
|-----------------------------|--|----------|----------|---|----------|----------|
| Bandwidth                   | 30MHz  | 50MHz    | 60MHz    | 70MHz   | 100MHz   | 125MHz   |
| Channel                     | 2+1 ( external )   |          |          |   |          |          |
| Sample Rate                 | 500MS/s  |          |          | 1GS/s   |          |          |
| Record Length               | 10K  |          |          |   |          |          |
| Display                     | 8" color LCD, 800 x 600 pixels   |          |          |   |          |          |
| Input Impedance             | 1MΩ ± 2%, in parallel with 15pF ± 5pF  |          |          | 1MΩ ± 2%, in parallel with 15pF±3pF             |          |          |
| Horizontal Scale (s/div)    | 5ns/div - 100s/div, step by 1 - 2 - 5  |          |          | 2ns/div - 100s/div, step by 1 - 2 - 5           |          |          |
| Vertical Sensitivity        | 5mV/div - 5V/div ( at input )  |          |          | 2mV/div - 10V/div ( at input )                  |          |          |
| Vertical Resolution (A / D) | 8 bits ( 2 channels simultaneously )   |          |          |   |          |          |
| Trigger Type                | Edge, Pulse, Video, Slope, and Alternate   |          |          |   |          |          |
| Digital Filtering           | /  |          |          | low-pass, high-pass, band-pass, and band-reject |          |          |
| 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   |          |          |   |          |          |
| Communication Interface     | USB host, USB device, Pass / Fail, LAN, VGA ( optional ), or RS232 ( optional )  |          |          |   |          |          |
| Dimension ( W x H x D )     | 348 x 170 x 78 mm  |          |          |   |          |          |
| Device Weight               | ≈1. 50 kg  |          |          |   |          |          |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



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Probe



Bag ( optional )

# SDS200 Digital Oscilloscope

- + Dual-channel Oscilloscope
- + 25MHz Signal Generator ( SDS210S,215S,220S )
- + 100MHz / 150MHz / 200MHz bandwidth
- + Dual-channel independent 1GS/s real-time sampling rate
- + 20M memory depth
- + 6-digit High-precision Frequency Counter
- + FFT Spectrum Analysis
- + Communicate with PC via USB Device interface, support SCPI and LabVIEW functions
- + 7-inch TFT LCD display



| Model                    | SDS210(S)  | SDS215(S) | SDS220(S) |
|--------------------------|--|-----------|-----------|
| Bandwidth                | 100MHz   | 150MHz    | 200MHz    |
| Channels                 | 2 + 1 ( external )   |           |           |
| Sample Rate              | Max 1GS/s  |           |           |
| Acquisition Mode         | Normal, Peak detect, Averaging   |           |           |
| Input Coupling           | DC, AC, Ground   |           |           |
| Input Impedance          | 1MΩ±2%, in parallel with 20 pF±5 pF  |           |           |
| Probe Attenuation Factor | 1X, 10X, 100X, 1000X   |           |           |
| Record length            | 20M  |           |           |
| Horizontal Scale (s/div) | 2ns/div – 1000 s/div, step by 1 – 2 - 5  |           |           |
| Vertical Sensitivity     | 2mV/div ~ 10 V/div   |           |           |
| Automatic Measurement    | Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +PulseWidth, -PulseWidth, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +PulseCount, -PulseCount, RiseEdgeCnt, FallEdgeCnt, Area, and Cycle Area. |           |           |
| Waveform Math            | +, -, ×, ÷, FFT  |           |           |
| Waveform Storage         | 16 waveforms   |           |           |
| Trigger Type             | Edge, Video  |           |           |
| Communication Interface  | USB Host and Device  |           |           |
| Frequency Counter        | available  |           |           |

### Waveform Generator ( Optional )

|                      |   |                     |                     |
|----------------------|---|---------------------|---------------------|
| Standard Waveforms   | Sine wave, square wave, ramp wave, pulse wave, arbitrary wave | Arbitrary Waveforms | more than 160 kinds |
| Max Frequency Output | 25MHz   | Arbitrary Waveform  | 0.1Hz ~ 5MHz        |
| Sample rate          | 125MSa/s  | Amplitude (50Ω)     | 0.005Vpp ~ 3Vpp     |
| Channel              | 1   | Waveform Length     | 8k                  |
| DC Offset Range      | ±(3V) ( high resistance )                                     | Load Impedance      | 50 Ω                |

### Other

|                         |                       |               |        |
|-------------------------|-----------------------|---------------|--------|
| Dimension ( L x H x D ) | 301mm × 152mm × 70 mm | Device Weight | ≈1.1kg |
|-------------------------|-----------------------|---------------|--------|

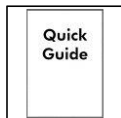
Specifications subject to change without prior notice.

### + Accessories

The accessories subject to final delivery.



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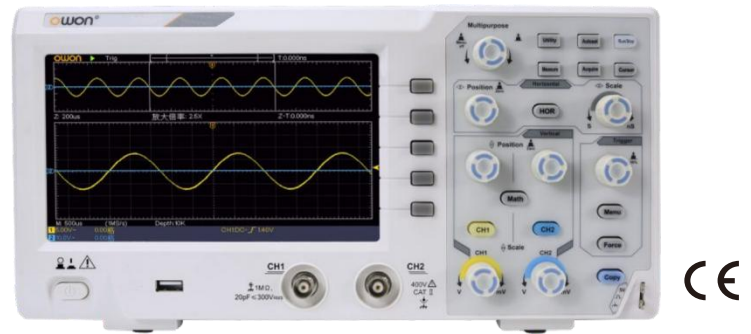
Probe



Bag ( optional )

# SDS1000 Digital Oscilloscope

- + Bandwidth: 20MHz - 200MHz
- + 2-Channel
- + Sample rate: 100MS/s - 1GS/s
- + Ultra-thin body
- + 7 inch high resolution LCD
- + SCPI and LabVIEW supported



| Model                       | SDS1022  | SDS1052 | SDS1102                                | SDS1202 |
|-----------------------------|--|---------|--|---------|
| Bandwidth                   | 20MHz  | 50MHz   | 100MHz                                 | 200MHz  |
| Channel                     | 2  |         |  |         |
| Sample Rate                 | 100MS/s  | 500MS/s | 1GS/s                                  |         |
| Horizontal Scale (s/div)    | 5ns/div - 1000s/div, step by 1 - 2 - 5   |         | 2ns/div - 1000s/div, step by 1 - 2 - 5 |         |
| Display                     | 7 " color LCD, 800 x 480 pixels  |         |  |         |
| Input Impedance             | 1MΩ ± 2%, in parallel with 20pF±5pF  |         |  |         |
| Record Length               | 10K  |         |  |         |
| Sample Rate / Relay Time    | ±100ppm  |         |  |         |
| Vertical Resolution (A / D) | 8 bits ( 2 channels simultaneously )   |         |  |         |
| Vertical Sensitivity        | 5mV/div - 5V/div ( at input )  |         |  |         |
| Trigger Type                | Edge, Video  |         |  |         |
| Automatic Measurement       | Vpp, Vavg, RMS, Frequency, Period, Vmax, Vmin, Vtop, V base, 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   |         |  |         |
| Communication Interface     | USB host, USB device   |         |  |         |
| Frequency Counter           | available  |         |  |         |
| Power Supply                | 100V - 240V AC, 50/60Hz, CAT II  |         |  |         |
| Dimension ( W x H x D )     | 301 x 152 x 70 mm  |         |  |         |
| Device Weight               | ≈1.1kg   |         |  |         |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



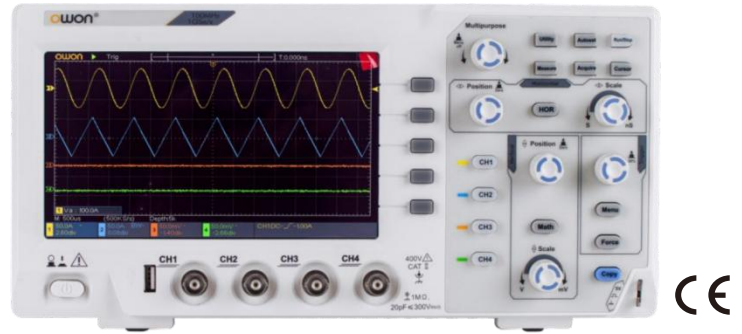
Probe



Bag ( optional )

# SDS1000 Digital Oscilloscope

- + Bandwidth: 100MHz
- + 4-Channel
- + Sample rate: 1GS/s
- + Ultra-thin body
- + 7 inch high resolution LCD
- + SCPI, and LabVIEW supported



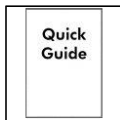
| Model                       | SDS1104  |
|-----------------------------|--|
| Bandwidth                   | 100MHz   |
| Channel                     | 4  |
| Sample Rate                 | 1GSa/s   |
| Horizontal Scale (s/div)    | 2ns/div - 1000s/div, step by 1 - 2 - 5   |
| Display                     | 7 " color LCD, 800 x 480 pixels  |
| Input Impedance             | 1MΩ ± 2%, in parallel with 20pF±15pF   |
| Record Length               | 20K  |
| Sample Rate / Relay Time    | ±100ppm  |
| Vertical Resolution (A / D) | 8 bits ( 2 channels simultaneously )   |
| Vertical Sensitivity        | 5mV/div - 5V/div ( at input )  |
| Trigger Type                | Edge, Video  |
| Automatic Measurement       | Vpp, Vavg, RMS, Frequency, Period, Vmax, Vmin, Vtop, V base, Width, Overshoot, Pre-shoot, Rise time, Fall time, +Width, -Width, +Duty, -Duty, Delay A→ B $\int$ , Delay A→ B $\int$ , area, cycle area, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF |
| Waveform Math               | +, -, x, ÷, invert, FFT  |
| Waveform Storage            | 16 waveforms   |
| Communication Interface     | USB host, USB device   |
| Frequency Counter           | available  |
| Power Supply                | 100V - 240V AC, 50/60Hz, CAT II  |
| Dimension ( W x H x D )     | 301 x 152 x 70 mm  |
| Device Weight               | ≈1.1kg   |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Probe



Bag ( optional )

# VDS6000 PC Oscilloscope

- + Dual-channel, ultra-thin body design
- + 200MHz bandwidth, and 1GSa/s real-time sampling rate
- + 8-bit, 12-bit, 14-bit vertical resolution, more accurate measurement
- + Friendly UI, X-Y and waveform can be displayed on the same screen
- + Standard SCPI protocol supported, LabVIEW supported
- + USB Type-C powered, faster data transmission, support 5-15V wide voltage power supply
- + WiFi wireless transmission, more convenient to use (Need to choose Wi-Fi accessories)



| Model                    | VDS6102-DMM   | VDS6202 | VDS6102      | VDS6102P              | VDS6102A |
|--------------------------|---|---------|--------------|-----------------------|----------|
| Bandwidth                | 100MHz  | 200MHz  | 100MHz       |                       | 100MHz   |
| Channels                 | 2 + DMM   | 2       | 2 + Function |                       |          |
| Sample Rate              | 1GSa/s  |         |              |                       |          |
| Horizontal Scale         | 2ns/div ~ 1000s/div , set by 1 ~ 2 ~ 5  |         |              |                       |          |
| Acquisition Mode         | Normal, Peak detect, Averaging  |         |              |                       |          |
| Record length            | 10M   | 250M    | 10M          | 250M                  | 10M      |
| Input Coupling           | DC, AC, Ground  |         |              |                       |          |
| Input Impedance          | 1MΩ±2%, in parallel with 15pF±5 pF  |         |              |                       |          |
| Vertical Sensitivity     | 2mv/div ~ 5v/div  |         |              |                       |          |
| Vertical resolution      | 8bits   |         |              | 8bits, 12bits, 14bits |          |
| Max Input Voltage        | 40 V ( DC + AC Peak )   |         |              |                       |          |
| Probe Attenuation Factor | 1X, 10X, 100X, 1000X  |         |              |                       |          |
| Trigger Type             | edge, video, slope, pulse   |         |              |                       |          |
| Trigger Mode             | auto, normal, single  |         |              |                       |          |
| Cursor Measurement       | ΔV, and ΔT between cursors, ΔV and ΔT between cursors, and auto- cursors  |         |              |                       |          |
| Automatic Measurement    | Vpp, Vmax, Vmin, Vtop, Vbase, Vamp, Vavg, Vrms, Overshoot, Preshoot, Freq, Period, Rise Time, Fall Time, Delay A→B, Delay A←B, +Width, -Width, +Duty, -Duty |         |              |                       |          |
| Communication Interface  | USB ( Type-C ); LAN, WiFi ( optional )  |         |              |                       |          |
| Power Consumption        | ≤8W   | ≤12W    | ≤8W          |                       | ≤8W      |
| Dimensions               | 190mm ( L ) × 18mm ( H ) ×120mm ( W )   |         |              |                       |          |
| Device Weight            | ≈0.4kg  |         |              |                       |          |

### Function Generator ( VDS6202,6102P,6102A )

|                       |   |                     |                  |  |
|-----------------------|---|---------------------|------------------|--|
| Standard Waveform     | Sine (0.1Hz - 5MHz), Square (0.1Hz-200kHz), Ramp (1Hz-10kHz), Pulse (1Hz-10kHz) |                     |                  |  |
| Max. Frequency Output | 5 MHz   | Sampling Rate       | 25MSa/s          |  |
| Channel               | 1   | Vertical Resolution | 10bits           |  |
| Amplitude Range       | 10mVpp - 5Vpp   | Output Impedance    | 50 Ω ( typical ) |  |

Specifications subject to change without prior notice.

### + Accessories The accessories subject to final delivery.



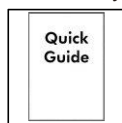
Probe



USB Cable



Silicon Gel Case



Quick Guide



Adapter



Power Cord



Q9 Cable



Wi-Fi Modular Bag ( optional )



## VDS6000 PC Oscilloscope

- + 4 channels ultra thin design
- + 70MHz - 100MHz bandwidth, and 1GS/s real-time sample rate
- + Max 10M record length, max 14 bits high resolution ADC
- + SCPI、LABVIEW supported
- + Support the secondary development of windows / Linux/Android / iOS platform
- + USB type-C power supply, faster data transmission, support 5-15V wide voltage power supply
- + Wi-Fi unlimited transmission, more convenient to use. ( Wi-Fi accessories are required )
- + Support software for Windows and Mac OS



| Model                     | VDS6074   | VDS6104 | VDS6074A                   | VDS6104A |
|---------------------------|---|---------|----------------------------|----------|
| Bandwidth                 | 70MHz   | 100MHz  | 70MHz                      | 100MHz   |
| Channel                   | 4 channel   |         |                            |          |
| Sample Rate               | 1GS/s   |         |                            |          |
| Horizontal Scale (s/div)  | 1ns/div - 100s/div, step by 1 - 2 - 5   |         |                            |          |
| Record Length             | 10M   |         |                            |          |
| Input Impedance           | 1 MΩ ± 2%, in parallel with 15pF±5pF  |         |                            |          |
| Sample Rate / Relay Time  | ±25ppm  |         |                            |          |
| Max Input Voltage         | 40V( DC + AC peak )   |         |                            |          |
| Vertical Sensitivity      | 2mV/div - 5V/div  |         |                            |          |
| Vertical Resolution       | 8 bits  |         | 8 bits / 12 bits / 14 bits |          |
| Trigger Type              | Edge, Pulse, Video, Slope   |         |                            |          |
| Automatic Measurement     | Vpp, Vavg, Vrms, Freq, Period, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Preshoot, Rise Time, Fall Time, +Width, -Width, +Duty, -Duty, Delay A→B, Delay A→B |         |                            |          |
| Secondary Development     | Supported on Windows, Linux, Android, and iOS platform  |         |                            |          |
| Built-in Signal Generator | Support   |         |                            |          |
| Communication Interface   | USB Device( Type-C ), USB Host, LAN, Wi-Fi ( optional )   |         |                            |          |
| Power Supply              | ≤8W   |         |                            |          |
| Dimension ( W x H x D )   | 190 x 18 x 120 mm   |         |                            |          |
| Device Weight             | ≈0.40 kg  |         |                            |          |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



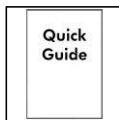
Probe



USB Cable



Silicon Ge



Quick Guide Case



Adapter



Power Cord



Wi-Fi Modular ( optional )

# TAO3000 2CH / 4CH Tablet Digital Storage Oscilloscope

- + Oscilloscope + Multimeter ( 2CH type )
- + Max 120MHz Bandwidth, 1GS/s sample rate
- + 14-bit high resolution ADC
- + 40M record length; 45,000 wfms/s waveform refresh rate
- + low back ground noise
- + 8-inch 800 x 600 high resolution LCD, 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, LAN, Wi-Fi



| Model                             | TAO3074   | TAO3104 | TAO3074A                 | TAO3104A |
|-----------------------------------|---|---------|--------------------------|----------|
| Bandwidth                         | 70MHz   | 100MHz  | 70MHz                    | 100MHz   |
| Sample Rate                       | 1GS/s   |         |                          |          |
| Vertical Resolution               | 8 bits  |         | 8 bits/ 12 bits/ 14 bits |          |
| Record length                     | 40M   |         |                          |          |
| Waveform Refresh Rate             | 45,000wfms/s  |         |                          |          |
| Horizontal Scale (s/div)          | 2ns/div - 1000s/div, step by 1 - 2 - 5  |         |                          |          |
| Channel                           | 4   |         |                          |          |
| Display                           | 8 " color LCD, 800 x 600 pixels display, multi-touch screen   |         |                          |          |
| Input Impedance                   | 1MΩ ± 2%, in parallel with 15pF ± 5pF   |         |                          |          |
| Max Input Voltage                 | 1MΩ ≤ 300Vrms;  |         |                          |          |
| Probe Attenuation Factor          | 0.001X - 1000X, step by 1 - 2 - 5   |         |                          |          |
| Sample Rate / Relay Time Accuracy | ±10 ppm max ( Ta = +25°C )  |         |                          |          |
| 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/UART and CAN ( optional )   |         |                          |          |
| Bus Decoding( optional )          | I2 C, SPI, RS232/ UART, CAN   |         |                          |          |
| Trigger Mode                      | Auto, Normal, Single  |         |                          |          |
| Automatic Measurement             | Vpp, Vavg, Vrms, Freq, Period, Week RMS, Cursor RMS, Vmax, Vmin, Vtop, V base, Vamp, Overshoot, Phase A→ B ↑, Phase A→ B↓, Preshoot, Rise Time, Fall Time, +Width, -Width, +Duty, -Duty, Duty Cycle, Delay A → B ↑ , Delay A→ B ↓ , +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edges Count, Area, Cycle Area, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF |         |                          |          |
| Waveform Math                     | +, -, ×, ÷, FFT, FFTrms, Intg, Diff, Sqrt, User Defined Function, Digital Filter  |         |                          |          |
| Waveform Storage                  | 100 waveforms   |         |                          |          |
| Communication Interface           | USB host, USB device, Trig Out( Pass/ Fail ), LAN, and Wi-Fi ( optional )   |         |                          |          |
| Frequency Counter                 | available   |         |                          |          |
| Battery                           | 7.4V, 8000mAh, 5 hours operation  |         |                          |          |
| Dimension ( W x H x D )           | 270 x 191 x 48 (mm)   |         |                          |          |
| Device Weight                     | ≈1.7kg  |         |                          |          |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



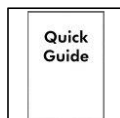
Power Cord



Adapter



Probe



Quick Guide



Micro USB



Stand Holder



BNC-SAM Cable



Bag ( optional )

| Model                             | TAO3072  | TAO3102 | TAO3122 | TAO3072A                 | TAO3102A | TAO3122A |
|-----------------------------------|--|---------|---------|--------------------------|----------|----------|
| Bandwidth                         | 70MHz  | 100MHz  | 120MHz  | 70MHz                    | 100MHz   | 120MHz   |
| Sample Rate                       | 1GSa/s   |         |         |                          |          |          |
| Vertical Resolution (A/ D)        | 8 bits   |         |         | 8 bits/ 12 bits/ 14 bits |          |          |
| Record length                     | 40M  |         |         |                          |          |          |
| Waveform Refresh Rate             | 45,000wfms/s   |         |         |                          |          |          |
| Horizontal Scale (s/div)          | 2ns/div - 1000s/div, step by 1 - 2 - 5   |         |         |                          |          |          |
| Channel                           | 2  |         |         |                          |          |          |
| Display                           | 8 " color LCD, 800 x 600 pixels display , multi-touch screen   |         |         |                          |          |          |
| Input Impedance                   | 1M $\Omega$ $\pm$ 2%, in parallel with 15pF $\pm$ 5pF  |         |         |                          |          |          |
| Max Input Voltage                 | 1M $\Omega$ $\leq$ 300Vrms;  |         |         |                          |          |          |
| Probe Attenuation Factor          | 0.001X - 1000X, step by 1 - 2 - 5  |         |         |                          |          |          |
| Sample Rate / Relay Time Accuracy | $\pm$ 10 ppm max ( Ta = +25 $^{\circ}$ C )   |         |         |                          |          |          |
| 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/UART, and CAN ( optional )   |         |         |                          |          |          |
| Bus Decoding( optional )          | I2 C, SPI, RS232/ UART, CAN  |         |         |                          |          |          |
| Trigger Mode                      | Auto, Normal, and Single   |         |         |                          |          |          |
| Automatic Measurement             | Vpp, Vavg, Vrms, Freq, Period, Week RMS, Cursor RMS, Vmax, Vmin, Vtop, Vbase, Vamp, Overshoot, Phase A $\rightarrow$ B $\uparrow$ , Phase A $\rightarrow$ B $\downarrow$ , Preshoot, Rise Time, Fall Time, +Width, -Width, +Duty, -Duty, Duty Cycle, Delay A $\rightarrow$ B $\uparrow$ , Delay A $\rightarrow$ B $\downarrow$ , +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edges Count, Area, Cycle Area, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF |         |         |                          |          |          |
| Waveform Math                     | +, -, $\times$ , $\div$ , FFT, FFTrms, Intg, Diff, Sqrt, User Defined Function, Digital Filter   |         |         |                          |          |          |
| Waveform Storage                  | 100 waveforms  |         |         |                          |          |          |
| Communication Interface           | USB host, USB device, Trig Out( Pass/ Fail ), LAN, and Wi-Fi ( optional )  |         |         |                          |          |          |
| Frequency Counter                 | available  |         |         |                          |          |          |
| Battery                           | 7.4V, 8000mAh, 5 hours operation   |         |         |                          |          |          |
| Dimension( W x H x D )            | 270 x 191 x 48 (mm)  |         |         |                          |          |          |
| Device Weight                     | $\approx$ 1.7 kg   |         |         |                          |          |          |

### Multimeter Specifications (only apply for 2 channels model)

| Display         | Voltage   | Current                    | Impedance                          | Diode        | Auto Ranging |
|-----------------|---|----------------------------|------------------------------------|--------------|--------------|
| 4 1/2 digital s | mV:20.000mV-200.00mV<br>DCV: 2.0000V – 1000.0V<br>ACV: 2.0000V – 750.0V | ACD: 10.00A<br>ACA: 10.00A | 200.00 $\Omega$ - 100.00M $\Omega$ | $\checkmark$ | $\checkmark$ |

Specifications subject to change without prior notice.

### + Accessories The accessories subject to final delivery.



Power Cord



Adapter



Probe



Multimeter Lead



Quick Guide



Stand Holder



Current Ext Module



Micro USB Cable



BNC-SAM



Bag ( optional )

# HDS200 2-CH Handheld Oscilloscope

- + Oscilloscope + multimeter + waveform generator, multifunction in one
- + 3.5-inch high-resolution, high-contrast color LCD display, suitable for outdoor use
- + 18650 lithium battery power, providing up to 6 hours working time
- + USB Type-C interface, support power bank, support PC software connection
- + Self-calibration function
- + SCPI supported, facilitate secondary development



## [ Oscilloscope ] Specifications

| Model                       | HDS25(S)  | HDS242(S) | HDS272(S) | HDS2102(S)                             | HDS2202S |
|-----------------------------|---|-----------|-----------|--|----------|
| Bandwidth                   | 25MHz   | 40MHz     | 70MHz     | 100MHz                                 | 200MHz   |
| Channels                    | 2 or 2+1( signal generator )  |           |           |  |          |
| Sample Rate                 | 250MS/s   |           |           | 500MS/s                                | 1GS/s    |
| Acquisition Model           | Sample, Peak detect   |           |           |  |          |
| Record Length               | 8K  |           |           |  |          |
| Display                     | 3.5-inch LCD  |           |           |  |          |
| Waveform Refresh Rate       | Max 10,000wfrms/s   |           |           |  |          |
| Input Coupling              | DC, AC, and Ground  |           |           |  |          |
| Input Impedance             | 1MΩ±2%, in parallel with 16pF±10pF                                    |           |           |  |          |
| Probe Attenuation Factors   | 1X, 10X, 100X, 1000X, 10000X  |           |           |  |          |
| Max. input Voltage          | 400V ( DC+AC, PK-PK, 1MΩ input impedance ) ( 10:1 probe attenuation ) |           |           |  |          |
| Bandwidth Limit ( typical ) | 20MHz   |           |           |  |          |
| Horizontal Scale            | 5ns/div - 1000s/div, step by 1 - 2 - 5                                |           |           | 2ns/div - 1000s/div, step by 1 - 2 - 5 |          |
| Vertical Sensitivity        | 10mV/div - 10V/div  |           |           |  |          |
| Trigger Type                | Edge  |           |           |  |          |
| Trigger Modes               | Auto, Normal, single  |           |           |  |          |
| Automatic Measurement       | Period, Frequency, Mean, PK-PK, Max, Min, Amplitude, RMS              |           |           |  |          |
| Cursor Measurement          | ΔV, ΔT, ΔT&ΔV between cursors   |           |           |  |          |
| Communication Interface     | USB Type-C  |           |           |  |          |
| Dimension ( W x H x D )     | 198 x 96 x 38 mm  |           |           |  |          |
| Device Weight               | ≈0.60 kg  |           |           |  |          |

Specifications subject to change without prior notice.

## [ Multimeter ] Specifications

|                   |  |
|-------------------|--|
| Max. Resolution   | 20,000 counts  |
| Testing Mode      | Voltage, Current, Resistance, Capacitance, Diode ,Continuity |
| Input Impedance   | 10MΩ   |
| Max Input Voltage | AC 750V, DC 1000V  |
| Max Input Current | DC : 10A AC : 10A  |
| Diode             | 0 - 2V   |

## [ Waveform Generator ] Specifications

( Only for HDS25S, 242S,272S, 2102S, 2202S )

|                  |                 |   |           |              |
|------------------|-----------------|---|-----------|--------------|
| Frequency Output | Sine            | 0.1Hz - 10MHz ( HDS25S ); 0.1Hz - 25MHz ( other ) |           |              |
|                  | Square          | 0.1Hz - 2MHz ( HDS25S ); 0.1Hz - 5MHz ( other )   |           |              |
|                  | Pulse           | 0.1Hz - 5MHz                                      | Arbitrary | 0.1Hz - 5MHz |
|                  | Ramp            | 0.1Hz - 1 MHz                                     |           |              |
| Sampling Rate    | 125MSa/s        | Waveform Length                                   | 8K        |              |
| Channel          | 1 -CH           | Vertical Resolution                               | 14bits    |              |
| Amplitude Range  | 20 mVpp - 5 Vpp | Output Impedance                                  | 50Ω       |              |

+ **Accessories** The accessories subject to final delivery.



Probe



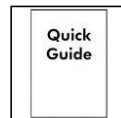
USB Cable



Multimeter Lead



Adapter



Quick Guide



BNC plug to alligator clips cable

## HDS241/271 1-CH Handheld Oscilloscope

- + Oscilloscope + multimeter + waveform generator, multifunction in one
- + Maximum bandwidth of 70MHz and real-time sampling rate up to 250MSa/s
- + 24000counts display, supports voltage, current, resistance, capacitance, diode and continuity testing
- + Maximum waveform output frequency: 100kHz
- + Supports sine wave, square wave, sawtooth wave, and pulse wave outputs
- + 3.5-inch high-resolution, high-contrast color LCD display, suitable for outdoor use
- + USB Type-C interface, support power bank, support PC software connection
- + SCPI supported, facilitate secondary development



### [Oscilloscope] Specifications

| Model                          | HDS241   | HDS271 |
|--------------------------------|--|--------|
| Bandwidth                      | 40MHz  | 70MHz  |
| Channel                        | 1  |        |
| Sampling rate                  | 250MSa/s   |        |
| Sampling method                | Sampling, peak detection                                 |        |
| Record length                  | 4K or 8K   |        |
| Display                        | 3.5-inch LCD   |        |
| Waveform refresh rate          | Max 10,000wfms/s   |        |
| Input coupling                 | DC, AC, GND  |        |
| Probe attenuation              | 1X, 10X, 100X, 1000X, 10000X                             |        |
| Maximum input voltage          | 400V ( DC+AC, PK-PK )                                    |        |
| Sweep speed range (s/div)      | 5ns/div-1000s/div, Step by 1-2-5                         |        |
| Sensitivity ( Volt/div ) range | 10mV/div~10V/div   |        |
| Trigger Type                   | Edge   |        |
| Automatic measurement          | Period, Frequency, Mean, PK-PK, Max, Min, Amplitude, RMS |        |
| Cursor measurement             | $\Delta V$ , $\Delta T$                                  |        |
| Interface                      | USB Type-C   |        |
| Dimension ( W x H x D )        | 198 x 96 x 38 mm   |        |
| Device Weight                  | $\approx$ 0.60 kg  |        |

### [Multimeter] Specifications

|                       |  |            |               |
|-----------------------|--|------------|---------------|
| Digital display       | 24000 counts   |            |               |
| Measurement type      | Voltage, Current, Resistance, Capacitance, Continuity, Diode |            |               |
| Maximum input voltage | AC:750V DC:1000V   |            |               |
| Maximum input current | AC:10A DC:10A  |            |               |
| Diode test            | 0-2V   | Continuity | < 50 $\Omega$ |
| Auto range            | $\checkmark$   | TRMS       | $\checkmark$  |

### [Waveform Generator] Specifications

|                  |                    |                            |
|------------------|--------------------|----------------------------|
| Output Frequency | Sine, Square, Ramp | 10Hz~100kHz, Step by 1-2-5 |
|                  | Pulse              | 10Hz~10kHz, Step by 1-2-5  |
| Amplitude        | 1Vpp or 2.5Vpp     |                            |

Specifications subject to change without prior notice.

### + Accessories The accessories subject to final delivery.



Probe



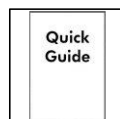
USB Cable



Multimeter Lead



Type-C Cable



Quick Guide

## HDS300 2-CH Handheld Oscilloscope

- + Oscilloscope + multimeter + waveform generator, multifunction in one
- + 3.5-inch high-resolution, high-contrast color LCD display, suitable for outdoor use
- + 18650 lithium battery
- + USB Type-C interface, support power bank, support PC software connection
- + Self-calibration function
- + SCPI supported, facilitate secondary development



### [Oscilloscope] Specifications

| Model                       | HDS307S   | HDS310S | HDS320S                                |
|-----------------------------|---|---------|--|
| Bandwidth                   | 70MHz   | 100MHz  | 200MHz                                 |
| Channels                    | 2+1( signal generator )   |         |  |
| Sample Rate                 | 250MS/s   | 500MS/s | 1GS/s                                  |
| Acquisition Model           | Sample, Peak detect   |         |  |
| Record Length               | 8K  |         |  |
| Display                     | 3.5-inch LCD  |         |  |
| Waveform Refresh Rate       | Max 10,000wfirms/s  |         |  |
| Input Coupling              | DC, AC, and Ground  |         |  |
| Input Impedance             | 1MΩ±2%, in parallel with 16pF±10pF  |         |  |
| Probe Attenuation Factors   | 1X, 10X, 100X, 1000X, 10000X  |         |  |
| Max. input Voltage          | 400V ( DC+AC, PK-PK, 1MΩ input impedance ) ( 10:1 probe attenuation )               |         |  |
| Bandwidth Limit ( typical ) | 20MHz   |         |  |
| Horizontal Scale            | 5ns/div - 1000s/div, step by 1 - 2 - 5  |         | 2ns/div - 1000s/div, step by 1 - 2 - 5 |
| Vertical Sensitivity        | 10mV/div - 10V/div  |         |  |
| Vertical Resolution         | 5mV/div - 5V/div ( at input )   |         |  |
| Trigger Type                | Edge  |         |  |
| Trigger Modes               | Auto, Normal, single  |         |  |
| Automatic Measurement       | Period, Frequency, Mean, PK-PK, Max, Min, RMS, Rise Time, Fall Time, +Width, -Width |         |  |
| Cursor Measurement          | ΔV, ΔT, ΔT&ΔV between cursors   |         |  |
| Communication Interface     | USB Type-C  |         |  |
| Dimension ( W x H x D )     | 198 x 96 x 38 mm  |         |  |
| Device Weight               | ≈ 0.60 kg   |         |  |

### [Multimeter] Specifications

|                   |   |
|-------------------|---|
| Max. Resolution   | 20,000 counts   |
| Testing Mode      | Voltage, Current, Resistance, Capacitance, Diode ,and Continuity test |
| Input Impedance   | 10MΩ  |
| Max Input Voltage | AC 750V, DC 1000V   |
| Max Input Current | DC : 10A AC : 10A   |
| Diode             | 0 - 2V  |

### [Waveform Generator] Specifications

|                  |               |                |                     |               |
|------------------|---------------|----------------|---------------------|---------------|
| Frequency Output | Sine          | 0.1 Hz - 25MHz | Pulse               | 0.1 Hz - 5MHz |
|                  | Square        | 0.1 Hz - 5MHz  | Arbitrary           | 0.1 Hz - 5MHz |
|                  | Ramp          | 0.1 Hz - 1 MHz |                     |               |
| Sampling Rate    | 125MSa/s      |                | Waveform Length     | 8K            |
| Channel          | 1 -CH         |                | Vertical Resolution | 14bits        |
| Amplitude Range  | 20mVpp - 5Vpp |                | Output Impedance    | 50Ω           |

Specifications subject to change without prior notice.

### + Accessories The accessories subject to final delivery.



Probe



USB Cable



Multimeter Lead



Adapter



Quick Guide



BNC plug to alligator clips cable

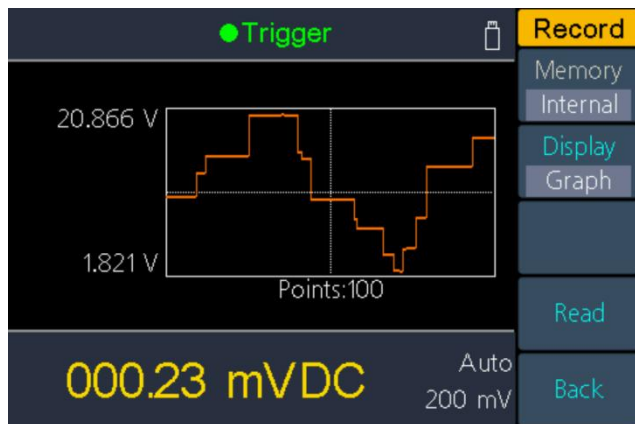
# XDM3000 Bench-type Digital Multimeter

- + 4 inch ( 480x320 ) TFT LCD
- + 5( 1/2 ) digits, 4( 1/2 )digits
- + Reading rates up to 150 readings/s
- + True RMS AC voltage / current measurement
- + Dual line display supported
- + SCPI supported - remote control, and data-sharing possible via LAN, USB, RS232 port
- + 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.



| 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 |

| Model               | XDM3051               |  | XDM3041               |  |
|---------------------|-----------------------|--|-----------------------|--|
| Function            | Measurement Range     | Optimal Accuracy<br>± (% of reading + LSB) | Measurement Range     | Optimal Accuracy<br>± (% of reading + LSB) |
| DC Voltage          | 200mV - 1000V         | 0.015 ± 0.004                              | 600mV - 1000V         | 0.02 ± 0.01                                |
| True RMS AC Voltage | 200mV - 750V          | 0.2 + 0.05                                 | 600mV - 750V          | 0.2 + 0.06                                 |
| DC Current          | 200.000µA - 10.0000 A | 0.055 + 0.005                              | 600.000µA - 10.0000 A | 0.06 + 0.02                                |
| True RMS AC Current | 20.0000mA - 10.0000 A | 0.50 + 0.10                                | 60.000mA - 10.000 A   | 0.50 + 0.10                                |
| Resistance          | 200.000 Ω             | 0.030 + 0.005                              | 600.000 Ω             | 0.040 + 0.01                               |
|                     | 2.00000 k Ω           | 0.020 + 0.003                              | 6.00000 k Ω           | 0.030 + 0.01                               |
|                     | 20.0000 k Ω           | 0.020 + 0.003                              | 60.0000 k Ω           | 0.030 + 0.01                               |
|                     | 200.000 k Ω           | 0.020 + 0.003                              | 600.000 k Ω           | 0.040 + 0.01                               |
|                     | 2.00000 MΩ            | 0.040 + 0.004                              | 6.00000 MΩ            | 0.120 + 0.03                               |
|                     | 10.0000 MΩ            | 0.250 + 0.003                              | 60.0000 MΩ            | 0.90 + 0.03                                |
|                     | 100.000 MΩ            | 1.75 + 0.004                               | 600.000 MΩ            | 1.75 + 0.03                                |

| Model            | XDM3051                       |  | XDM3041                        |  |
|------------------|-------------------------------|--|--------------------------------|--|
| Function         | Measurement Range             | optimal Accuracy<br>± (% of reading + LSB) | Measurement Range              | optimal Accuracy<br>± (% of reading + LSB) |
| Diode Test       | 2.0000v                       | 0.05 ± 0.01                                | 3.0000v                        | 0.5 ± 0.01                                 |
| continuity       | 2000Ω                         | 0.05 ± 0.01                                | 1000Q                          | 0.5 ± 0.01                                 |
| Frequency period | 20Hz - 1MHz<br>(200mv - 750V) | 0.01 + 0.003                               | 20Hz - 1 MHz<br>(600mv - 750V) | 0.01 + 0.003                               |
|                  | 20Hz - 10KHz<br>(200mA - 10A) | 0.01 + 0.003                               | 20Hz - 10KHz<br>(60mA - 10A)   | 0.01 + 0.003                               |
| Display          | 240000                        |  | 66000                          |  |

| Test Current            |   |              |  |
|-------------------------|---|--------------|--|
|                         | Measurement Range   | Test current | Accuracy: 1 year ± (% of reading +% of range ) |
| capacitance             | 2.000nF   | 200nA        | 3 + 1.0  |
|                         | 20.00nF   | 200nA        | 1 + 0.5  |
|                         | 200.0nF   | 2μA          | 1 + 0.5  |
|                         | 2.000μF   | 10μA         | 1 + 0.5  |
|                         | 200.0μF   | 100μA        | 1 + 0.5  |
|                         | 10000μF   | 1mA          | 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 - 1 000S  |              |  |
| Logging Length          | 1M Points   |              |  |
| General                 |   |              |  |
| communication Interface | USB Device/Host, RS232, LAN, and ext. trigger input   |              |  |
| Dimension ( W X H X D ) | 235 x 1 10 x 295 (mm)   |              |  |
| Device weight           | Approx. 3.00kg  |              |  |

Specifications subject to change without prior notice.

+ **Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Fuse



Multimeter Lead



Alligator Clip

# XDM2041 Bench-type Digital Multimeter

- + 4 inch ( 480 x 320 ) high resolution LCD
- + 55,000 counts
- + Up to 65 readings per second
- + True RMS AC voltage / current measurement
- + Dual line display supported
- + Trend analysis accessible in chart mode
- + SCPI supported



|                         | Measurement Range                          | Accuracy: $\pm$ ( of reading + LSB ) |
|-------------------------|--|--------------------------------------|
| DC Voltage              | 50.000mV - 1000.0V                         | 0.025% + 5                           |
| True RMS AC Voltage     | 500mv - 750v                               | 0.5% + 30                            |
| AC Voltage              | 500uA / 5000uA / 50mA / 500mA              | 0.15% +20                            |
|                         | 5A / 10A                                   | 0.5% +10                             |
| True RMS AC Current     | 500uA-500mA                                | 0.5% +20                             |
|                         | 5A-10A                                     | 1.5% +20                             |
| Resistance              | 500 $\Omega$                               | 0.1% +10                             |
|                         | 5K $\Omega$ / 50K $\Omega$ / 500K $\Omega$ | 0.1% +5                              |
|                         | 5M $\Omega$                                | 0.25% +5                             |
|                         | 50M $\Omega$                               | 0.1% +10                             |
| Four-wire resistance    | 500 $\Omega$                               | 0.1% +10                             |
|                         | 5K $\Omega$ / 50K $\Omega$                 | 0.1% +5                              |
| Diode                   | 3.0000 V                                   |                                      |
| Continuity              | 1000 $\Omega$                              |                                      |
| Frequency               | 10.000Hz-60MHz                             | $\pm$ ( 0.2% +8 )                    |
| Capacitance             | 50nF-500uF                                 | 2.5% +5                              |
|                         | 5mF-50mF                                   | 5% +8                                |
| Temperature             | K-type, PT100                              |                                      |
| Display                 | 55,000                                     |                                      |
| Logging Duration        | 15ms - 9999.999s                           |                                      |
| Logging Length          | 1,000pts                                   |                                      |
| <b>General</b>          |  |                                      |
| Communication Interface | RS232                                      |                                      |
| Dimensions ( W×H×D )    | 235 x 110 x 295 (mm)                       |                                      |
| Device Weight           | Approx. 3.00kg                             |                                      |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



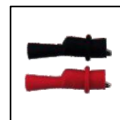
Quick Guide



Fuse



Multimeter Lead



Alligator Clip

# XDM1141 Bench-type Digital Multimeter

- + 3.5 inch ( 480x320 ) high resolution LCD
- + 55000 counts, DC voltage accuracy up to 0.05%
- + Up to 65 readings per second
- + Dual line display supported
- + SCPI support
- + Data record function, you can record the measured data into internal memory, and then read and process the recorded data with your computer



|                          | Measurement Range  | Accuracy $\pm$ ( of reading +LBS ) |
|--------------------------|--|------------------------------------|
| DC Voltage               | 50.000mV / 500.00mV / 5.0000V / 50.000V                                  | 0.05%+5                            |
|                          | 500.00V / 1000.0V  | 0.1%+5                             |
| AC Voltage               | 500mV-750V   | 1%+30 ( 20Hz~45Hz )                |
|                          |  | 0.5%+30 ( 45Hz~65Hz )              |
|                          |  | 0.7%+30 ( 65Hz~1KHz )              |
| DC Current               | 500.00UA / 5000.0UA / 50.000mA / 500.00mA                                | 0.15%+10                           |
|                          | 5.0000A / 10.000A  | 0.5%+10                            |
| AC Current               | 500UA-500mA  | 0.5%+20                            |
|                          | 5A-10A   | 1.5%+20                            |
| Resistance               | 500.00 $\Omega$ / 5.0000K $\Omega$ / 50.000K $\Omega$ / 500.00K $\Omega$ | 0.15%+5                            |
|                          | 5.0000M $\Omega$ / 50.000M $\Omega$                                      | 0.3%+5                             |
| Frequency                | 10.000Hz-60MHz   | 0.2%+10                            |
| Capacitance              | 50nF-500UF   | 2.5%+10                            |
|                          | 5mF-50mF   | 5%+10                              |
| Diode                    | 3.0000V  | 1%+10                              |
| Continuity               | 1000.0 $\Omega$  | Adjustable threshold               |
| Temperature              | K type,PT100   |                                    |
| Logging Duration         | 15ms-9999.999S   |                                    |
| Dimensions ( W x H x D ) | 200 x 87 x 150 (mm)  |                                    |
| Max Display              | 55,000   |                                    |
| Logging Length           | 1,000 points   |                                    |
| Device Weight            | $\approx$ 0.45kg   |                                    |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



Fuse



Multimeter Lead

# XDM1000 Bench-type Digital Multimeter

- + 3.5 inch ( 480x320 ) high resolution LCD
- + 55000 counts, DC voltage accuracy up to 0.05%
- + Up to 65 readings per second
- + Dual line display supported
- + Trend analysis accessible in chart mode
- + SCPI support
- + Data record function, you can record the measured data into internal memory, and then read and process the recorded data with your computer
- + models available in AC powering ( XDM1041 ) and lithium battery ( XDM1241 ), suitable for different application scenario



| XDM1041 & XDM1241    | Measurement Range                             | Accuracy: ± ( of reading + LSB ) |
|----------------------|---|----------------------------------|
| DC Voltage           | 50.000mV                                      | 0.1% + 10                        |
|                      | 500.00mV / 5.0000 V/ 50.000 V                 | 0.05% + 5                        |
|                      | 500.00 V                                      | 0.1% + 5                         |
|                      | 1000.0 V                                      | 0.1% + 10                        |
| True RMS AC Voltage  | 500mV - 750V                                  | 1% + 30 ( 20Hz-45Hz )            |
|                      |   | 0.5% + 30 ( 45Hz-65Hz )          |
|                      |   | 0.7% + 30 ( 65Hz-1KHz )          |
| DC Current           | 500uA   | 0.15% + 20                       |
|                      | 5000uA  | 0.15% + 10                       |
|                      | 50mA  | 0.15% + 20                       |
|                      | 500mA   | 0.15% + 10                       |
|                      | 5 A/ 10 A                                     | 0.5% + 10                        |
| True RMS AC Current  | 500uA - 500mA                                 | 0.5% + 20                        |
|                      | 5 A - 10 A                                    | 1.5% + 20                        |
| Resistance           | 500 Ω   | 0.15% + 10                       |
|                      | 5kΩ / 50kΩ / 500kΩ                            | 0.15% + 5                        |
|                      | 5MΩ   | 0.3% + 5                         |
|                      | 50MΩ  | 1% + 10                          |
| Diode                | 3.0000V                                       | 1% + 10                          |
| Continuity           | 1000Ω   | Adjustable threshold             |
| Frequency            | 10.000Hz - 60 MHz                             | ± ( 0.2% + 10 )                  |
| Capacitance          | 50nF - 500uF                                  | 2.5% + 10                        |
|                      | 5mF - 50mF                                    | 5% + 10                          |
| Temperature          | K type, PT100                                 |                                  |
| Max Display          | 55,000 counts                                 |                                  |
| Logging Interval     | 15m S - 9999.999 S                            |                                  |
| Logging Length       | 1,000 points                                  |                                  |
| Port                 | USB port or RS232 port, choose one of the two |                                  |
| Dimensions ( W×H×D ) | 200 x 86.5 x 64 (mm)                          |                                  |
| Device Weight        | Approx. 0.45 kg                               |                                  |

Specifications subject to change without prior notice.

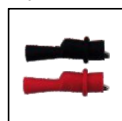
**+ Accessories** The accessories subject to final delivery.



Quick Guide



Multimeter Lead



Alligator Clip



USB to DC Cord  
( XDM1241 )



Power Cord  
( XDM1041 )

## HDS100 Oscilloscope Multimeter

- + Max Display 60000 ( HDS160 ), 20000 ( HDS120 )
- + Automatic Waveform Measurements:  
Including Vmax, Vmin, Vp-p, Vavg, Vrms, and frequency
- + User-Friendly Experience: Full Key Design, Easy Operation, and Extends Device Lifespan
- + Intelligent Probe Detection: Automatically switches measurement values based on the probe's insertion position, effectively preventing damage to the instrument due to incorrect operation
- + Efficient Energy Management: Powered by 18650 lithium batteries, providing longer usage time, making your measurement tasks more enduring
- + High-Definition Display: Equipped with a 2.8-inch IPS screen, providing a wide viewing angle and excellent display quality, ensuring clear data reading from any angle
- + Environmentally adaptive display: High-brightness, high-contrast dual-theme mode display provides a clear view in both strong light and dark light environments, optimizing the user experience



### Multimeter ( HDS160 ) Specification

|             | Measurement Range  | Optimal Accuracy<br>± ( of reading + LSB ) |
|-------------|--|--|
| DC Voltage  | 60.000mV / 600.00mV / 6.0000V / 60.000V / 600.00V / 1000.0V                    | ±( 0.05%+5 dig )                           |
| AC Voltage  | 600.00mV / 6.0000V / 60.000V / 600.00V / 750.00V                               | ±( 0.1%+30dig )                            |
| DC Current  | 600.00uA / 6000.0uA / 60.000mA / 600.00mA / 6.0000A / 10.000A                  | ±( 0.15%+10dig )                           |
| AC Current  | 600.00uA / 6000.0uA / 60.000mA / 600.00mA / 6.0000A / 10.000A                  | ±( 0.5%+20dig )                            |
| Resistance  | 600.00Ω / 6.0000kΩ / 60.000kΩ / 600.00kΩ / 6.0000MΩ / 60.000MΩ                 | ±( 0.15%+10dig )                           |
| Capacitance | 6.000nF / 60.00nF / 600.0nF / 6.000μF / 60.00μF / 600.0μF / 6.000mF / 60.00mF  | ±( 2.0%+20dig )                            |
| Frequency   | 60.00Hz / 600.00Hz / 6.0000kHz / 60.000kHz / 600.00kHz / 6.0000MHz / 60.000MHz | ±( 0.2%+10dig )                            |
| Duty Cycle  | 0.1%~99.9%( typical value: Vrms=1V,f=100Hz )                                   | ±( 1.2%+3dig )                             |
|             | 0.1%~99.9%( ≥1kHz )  | ±( 2.5%+3dig )                             |
| Diode       | 3.0000V  | ±( 1.0%+10dig )                            |
| Continuity  | 1000.0Ω  |  |
| Display     | 60000  |  |

### Other ( HDS160, HDS120 ) Specification

|                        |             |                       |              |                       |        |
|------------------------|-------------|-----------------------|--------------|-----------------------|--------|
| Low battery indication | √           | Sleep Mode            | √            | Relative Measurement  | √      |
| Backlight              | √           | Input Protection      | √            | Input Impedance       | ≥10MΩ  |
| Safety Compliance      | CATIII1000V | LCD Size              | 2.8" IPS LCD | Device Weight         | ≈0.4kg |
| Battery                | 18650 3.7V  | Dimension (L x W x H) |              | 93mm x 41.5mm x 188mm |        |

## Multimeter ( HDS120 ) Specification

|             | Measurement Range   | Optimal Accuracy<br>± ( of reading + LSB ) |
|-------------|---|--|
| DC Voltage  | 20.000mV / 200.00mV / 2.0000V / 20.000V / 200.00V / 1000.0V                     | ±( 0.1%+5dig )                             |
| AC Voltage  | 20.000mV / 200.00mV / 6.0000V / 60.000V / 600.00V / 750.00V                     | ±( 0.6%+10dig )                            |
| DC Current  | 200.00uA / 2000.0uA / 20.000mA / 200.00mA / 2.0000A / 10.000A                   | ±( 0.5%+10dig )                            |
| AC Current  | 200.00uA / 2000.0uA / 20.000mA / 200.00mA / 2.0000A / 10.000A                   | ±( 0.8%+10dig )                            |
| Resistance  | 200.00Ω / 2.0000kΩ / 20.000kΩ / 200.00kΩ / 2.0000MΩ / 20.000MΩ / 100.00MΩ       | ±( 0.3%+5dig )                             |
| Capacitance | 2.000nF / 20.00nF / 200.0nF / 2.000μF / 20.00μF / 200.0μF / 2.000mF / 20.00mF   | ±( 3.0%+10dig )                            |
| Frequency   | 200.00Hz / 2.0000kHz<br>20.000kHz / 200.00kHz / 2.0000MHz / 20.000MHz           | ±( 0.1%+5dig )                             |
| Duty Cycle  | 0.1%~99.9%( typical value: $V_{rms}=1V, f=100Hz$ )<br>0.1%~99.9%( $\geq 1kHz$ ) | ±( 1.2%+3dig )<br>±( 2.5%+3dig )           |
| Diode       | 3.0000V   | ±( 1.0%+10dig )                            |
| Continuity  | 1000.0Ω   |  |
| Display     | 20000   |  |

## Oscilloscope ( HDS160, HDS120 ) Specification

|                                    |  |                                    |                                  |
|------------------------------------|--|------------------------------------|----------------------------------|
| Analog Bandwidth                   | 1MHz ( only ACV scale )                        | Max Sample Rate                    | 5.0MSa/s                         |
| Channel                            | 1  | Input Impedance                    | ≈10MΩ                            |
| Time Base Range                    | 2.5uS - 10S/ div                               | Time Base Accuracy                 | ± ( 0.01% + 0.1div )             |
| Voltage Vertical Sensitivity Range | 30mV - 500V/grid                               | Current Vertical Sensitivity Range | 100μA - 5 A/grid                 |
| Vertical Amplitude Accuracy        | ± ( 5% + 0.2div )                              | Measurement Function               | Vmax, Vmin, Vp-p, Vavg, Vrms, Hz |
| Maximum Voltage Limit              | 1000V DC+AC Peak value                         | Maximum Current Limit              | 15A DC+AC Peak value             |
| Trigger Mode                       | Auto / Normal / Single                         | Trigger Edge                       | Rise edge / Fall edge            |
| Auto Set                           | Time base / Vertical amplitude / Trigger value |                                    |                                  |

Specifications subject to change without prior notice.

### + Accessories The accessories subject to final delivery.



Quick Guide



Multimeter Lead



USB Cable



Fuse



Bag

# OW16/OW18 Smart Multimeter

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



|                    | OW16A / B Measurement Rang   | OW18A / B Measurement Rang | Accuracy<br>± ( of reading + LSB ) |
|--------------------|--|----------------------------|------------------------------------|
| DC Voltage         | 600mV / 6.000V / 60.00V / 600.0V   |                            | ± ( 0.5%+2dig )                    |
|                    | 1000V  |                            | ± ( 0.8%+2dig )                    |
| AC Voltage         | 600.0mV  |                            | ± ( 2%+5dig )                      |
|                    | 6.000V / 60.00V / 600.0V   |                            | ± ( 0.8%+3dig )                    |
|                    | 750V   |                            | ± ( 1%+3dig )                      |
| DC Current         | ---  | 600.0μ / 6000μ             | ± ( 0.8%+2dig )                    |
|                    | 60.00mA / 600.0mA  |                            | ± ( 0.8%+2dig )                    |
|                    | 10.00A / 20.00A  |                            | ± ( 1.2%+3dig )                    |
| AC Current         | ---  | 600.0μ / 6000μ             | ± ( 1%+3dig )                      |
|                    | 60.00mA / 600.0mA  |                            | ± ( 1%+3dig )                      |
|                    | 10.00A   | 20.00A                     | ± ( 1.5%+3dig )                    |
| Resistance         | 600.0Ω / 6.000kΩ / 60.00kΩ / 600.0kΩ / 6.000MΩ                           |                            | ± ( 0.8%+2dig )                    |
|                    | 60.00MΩ  |                            | ± ( 2%+3dig )                      |
| Capacitance        | 60.00nF / 600.0nF / 6.000μ / 60.00μ                                      |                            | ± ( 3%+3dig )                      |
|                    | 600.0μ / 6.000mF / 60.00mF   |                            | ± ( 3%+5dig )                      |
| Frequency          | 9.999Hz / 99.99Hz / 999.9Hz / 9.999kHz / 99.99kHz / 999.9 kHz / 9.999MHz |                            | ± ( 0.8%+2dig )                    |
| Duty Ratio         | 0. 1%-99.9% ( typical value: RMS = 1V,f = 1 kHz )                        |                            | ± ( 1.2%+3dig )                    |
|                    | 0. 1%-99.9% ( ≥1kHz )  |                            | ± ( 2.5%+3dig )                    |
| Temperature        | - 50 °C - 400°C  |                            | ± ( 2.5%+3dig )                    |
|                    | -58 °F - 752 °F  |                            | ± ( 4.5%+5dig )                    |
| Display            | 5999   |                            |                                    |
| Frequency Response | ( 40 - 1000 ) Hz   |                            |                                    |
| Shift Rate         | 3 times / second   |                            |                                    |

# OW16 /OW18 Smart Multimeter

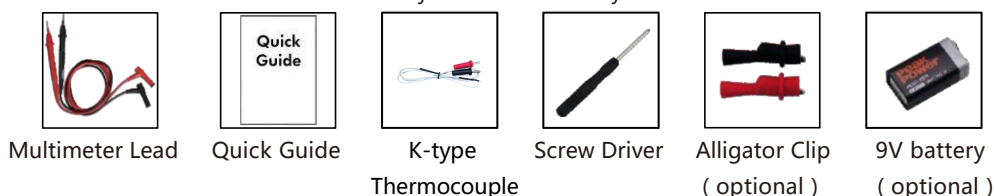
|                    | OW18D/E Measurement Rang   | Accuracy<br>± ( of reading + LSB ) |
|--------------------|--|------------------------------------|
| DC Voltage         | 2.0000V / 20.000V / 200.00V  | ±( 0.1%+10dig )                    |
|                    | 1000.0V  | ±( 0.15%+5dig )                    |
| AC Voltage         | 20.000mV / 200.00mV  | ±( 0.5%+10dig )                    |
|                    | 2.0000V / 20.000V / 200.00V  |                                    |
|                    | 750.00V  | ±( 0.8%+10dig )                    |
| DC Current         | 200.00uA   | ±( 0.5%+10dig )                    |
|                    | 2.0000mA / 20.000mA/200.00mA   |                                    |
|                    | 20.000A  | ±( 2.0%+10dig )                    |
| AC Current         | 200.00uA   | ±( 0.8%+10dig )                    |
|                    | 2.0000mA / 20.000mA / 200.00mA   |                                    |
|                    | 20.000A  | ±( 2.5%+10dig )                    |
| Resistance         | 200.00Ω  | ±( 0.5%+10dig )                    |
|                    | 2.0000kΩ   | ±( 0.3%+3dig )                     |
|                    | 20.000kΩ / 200.00kΩ / 2.0000MΩ   | ±( 0.3%+1dig )                     |
|                    | 20.000MΩ   | ±( 0.5%+1dig )                     |
| Capacitance        | 200.00MΩ   | ±( 5.0%+10dig )                    |
|                    | 2.0000nF / 20.000nF / 200.00nF / 2.0000μF / 20.000μF 200. 00μF / 2.0000mF / 20.000mF | ±( 3.0%+10dig )                    |
| Frequency          | 200. 00Hz / 2.0000kHz  | ±( 0.1%+4dig )                     |
|                    | 20. 000kHz / 200.00kHz / 2.0000MHz / 20.000MHz                                       |                                    |
| Duty Ratio         | 0. 1%~99.9% ( typical value: Vrms= 1V,f= 1kHz )                                      | ±( 1.2%+3dig )                     |
|                    | 0. 1%~99.9% ( ≥1kHz )  | ±( 2.5%+3dig )                     |
| Temperature        | - 50 °C ~400°C ( 0.1°C )   | ±( 1.0%+3°C )                      |
|                    | -58 °F ~ 752 °F( 0.1°F )   | ±( 1.2%+6°F )                      |
| Display            | 19999  |                                    |
| Frequency Response | ( 40 - 1000 ) Hz   |                                    |
| Shift Rate         | 3 times / second   |                                    |

## Special Function

|                     |  |                                  |       |
|---------------------|--|----------------------------------|-------|
| Bluetooth Module    | OW16B, OW18B, OW18E  | Auto Ranging                     | √     |
| True RMS            | √  | Automatic-manual Range Selection | √     |
| Diode Test          | √  | Input Protection                 | √     |
| LCD Backlight       | √  | Input Impedance                  | ≥10MΩ |
| On-off Warning      | √  | Low-battery Indicator            | √     |
| Flashlight          | OW18A, OW18B, OW18D, OW18E   | NCV                              | √     |
| Data Hold           | √  | Relative Measurement             | √     |
| Safety Compliance   | 600V CATⅢ ( OW16A, OW16B ) , 1000V CATⅢ ( OW18A,OW18B, OW18D, OW18E )                    |                                  |       |
| Dimension ( W×H×D ) | 147mm x 74mm x 49mm ( OW16A, OW16B ) , 190mm x 90mm x56mm ( OW18A, OW18B, OW18D, OW18E ) |                                  |       |
| Weight              | 0.29 kg( OW16A, OW16B ) , 0.32 kg( OW18A, OW18B, OW18D, OW18E )                          |                                  |       |

Specifications subject to change without prior notice.

## + Accessories The accessories subject to final delivery.



## B/D Series Smart Multimeter

- + function as 3 in 1 : data logger + 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



### Modle: D35, D35T, B35T+, D33, B33 +

|                    | 35 Series Measurement Range  | 33 Series Measurement Range   | Optimal Accuracy<br>± ( of reading + LSB ) |
|--------------------|--|---|--|
| DC Voltage         | 60.00mV / 600.0mV / 6.000V / 60.00V / 600.0V / 1000V                     | 400.0mV / 4.000V / 40.00V / 400.0V / 1000V                              | ±( 0.5%+2dig )                             |
| AC Voltage         | 60.00mV / 600.0mV / 6.000V / 60.00V / 600.0V / 750V                      | 4.000V / 40.00V / 400.0V / 750V   | ±( 0.8%+2dig )                             |
| DC Current         | 600.0A / 6.000mA / 60.00mA / 600.0mA / 6.000A / 20.00A                   | 400.0μA / 4000μA / 40.00mA / 400.0mA / 4.000A / 10.00A                  | ±( 0.8%+2dig )                             |
| AC Current         | 600.0μA / 6.000mA / 60.00mA / 600.0mA / 6.000A / 20.00A                  | 400.0μA / 4000μA / 40.00mA / 400.0mA / 4.000A / 10.00A                  | ±( 0.8%+2dig )                             |
| Resistance         | 600.0Ω / 6.000kΩ / 60.00kΩ / 600.0kΩ / 6.000MΩ / 10.00MΩ                 | 400.0Ω / 4.000kΩ / 40.00kΩ / 400.0kΩ / 4.000MΩ                          | ±( 0.8%+2dig )                             |
|                    | 60.00MΩ  | 40.00MΩ   | ±( 2%+3dig )                               |
| Capacitance        | 40.00nF / 400.0nF / 4.000μF / 40.00μF                                    | 40.00nF / 400.0nF / 4.000μF / 40.00μF                                   | ±( 2.5%+3dig )                             |
|                    | 400.0μF / 4000μF   | 100.0μF   | ±( 3%+5dig )                               |
| Frequency          | 9.999Hz / 99.99Hz / 999.9Hz / 9.999kHz / 99.99kHz / 999.9 kHz / 9.999MHz | 4.999Hz / 49.99Hz / 499.9Hz / 4.999kHz / 49.99kHz / 49.9 kHz / 4.999MHz | ±( 0.8%+2dig )                             |
| Duty Ratio         | 0. 1%-99.9%( typical value: Vrms = 1V, f = 1 kHz )                       |   | ±( 1.2%+3dig )                             |
|                    | 0. 1% -99.9% (≥1kHz)   |   | ±( 2.5%+2dig )                             |
| Temperature        | -50°C-+400°C   |   | ±( 2.5%+3dig )                             |
|                    | -58°F-+752°F   |   | ±( 4.5% +5dig )                            |
| Display            | 6000   | 3999  |  |
| Frequency Response | 40Hz - 400Hz ( D35 );<br>( 40-1000 ) Hz ( D35T B35T+ )                   | ( 40-400 ) Hz   |  |
| Shift Rate         | 3 times / s  |   |  |

|             | B41T+ Measurement Range                | Optimal Accuracy<br>± ( of reading + LSB ) |
|-------------|--|--|
| DC Voltage  | 220mV,2.2V, 22V, 220V,1000V            | ±( 0.1%+5dig )                             |
| AC Voltage  | 220mV,2.2V,22V,220V,750V               | ±( 0.8%+10dig )                            |
| DC Current  | 220μA,2200μA,22mA,220mA,20.00A         | ±( 0.5%+10dig )                            |
| AC Current  | 220μA,2200μA,22mA,220mA,20.00A         | ±( 0.8%+10dig )                            |
| Resistance  | 220Ω,2.2kΩ,22kΩ,220kΩ,2.2MΩ,22MΩ,220MΩ | ±( 0.5%+10dig )                            |
| Capacitance | 22nF,220nF,2,2μF,22μF,220μF,2.2mF      | ±( 3%+5dig )                               |
|             | >220mF                                 |  |

|                    | B41T+ Measurement Range   | Optimal Accuracy<br>± ( of reading + LSB ) |
|--------------------|---|--|
| Frequency          | 22.00Hz, 220.0Hz, 22.000kHz, 220.00kHz, 22.00Hz, 2.2000MHz, 22.000MHz | ±( 0.1%+4dig )                             |
|                    | >220MHz   |  |
| Duty Ratio         | 5.0%-94.9% ( typical value: Vrms=1V,f=1kHz ) ( resolution 0.1% )      | ±( 1.2%+3dig )                             |
|                    | 0.1%-99.9% ( ≥1kHz ) ( resolution 0.1% )                              | ±( 2.5%+3dig )                             |
| Temperature        | -50°C-400°C ( resolution 0.1°C )                                      | ±( 1.0%+5dig )                             |
|                    | -58 °F-752 °F ( resolution 0.1°F )                                    | ±( 1.2%+6dig )                             |
| Display            | 21999   |  |
| Frequency Response | ( 40-10000 )Hz  |  |
| Shift Rate         | 3 times/s   |  |

| Special Function           |                      |                         |                       |
|----------------------------|----------------------|-------------------------|-----------------------|
| Auto Ranging               | √                    | Max / Min Value         | √                     |
| Offline Recording Function | B33+, B35T +, B41T + | Bluetooth Module        | B33+, B35T + , B41T + |
| Record Length              | 10,000点              | LCD Backlight           | √                     |
| True RMS                   | B35T +, B41T +       | Data Hold               | √                     |
| Diode Test                 | √                    | Relative Measurement    | √                     |
| Audion Test                | 35 Series, 41 Series | Input Protection        | √                     |
| Auto Power-off             | √                    | Input Impedance         | 10MΩ                  |
| On-off Warning             | √                    | Dimension ( W x H x D ) | 85mm x185mmx30mm      |
| Low-battery Indicator      | √                    | Device Weight           | ≈0. 32kg              |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Multimeter Lead

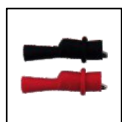


Quick Guide



K-type Thermocouple

### Options



Alligator Clip



Multi-function  
Test Bench

( excl. D33 / B33 / B33+ )



Soft Bag



# CMS Smart AC/DC Clamp Meter + Oscilloscope

- + AC/DC clamp meter + Recorder Function + Oscilloscope function 3 in 1
- + 20,000 count true RMS auto-ranging clamp meter
- + Oscilloscope: Capable of measuring both current and voltage waveforms simultaneously
- + Recorder Function: View, compare, analyze, and store measurement data via i-meter (app)
- + Inrush Current Measurement Function
- + support for Android/IOS dual systems
- + Full touch-key operation enables quick switching with one hand
- + 2.8-inch IPS LCD display with wide viewing range makes the values and waveforms clearer
- + Dual theme display adapts to different light environments
- + NCV function
- + 18650 lithium battery meeting the needs of extended operations



| Multimeter Function               | CMS101 Measurement Range  | CMS061 Measurement Range | Optimal Accuracy<br>± ( of reading + LSB ) |                         |                      |                         |   |
|-----------------------------------|---|--------------------------|--|-------------------------|----------------------|-------------------------|---|
| DC Voltage                        | 20.000mV / 200.00mV / 2.0000V / 20.000V / 200.00V / 1000.0V                   |                          | ± ( 0.1%+5dig )                            |                         |                      |                         |   |
| AC Voltage                        | 200.00mV / 2.0000V / 20.000V / 200.00V / 1000.0V                              |                          | ± ( 0.6%+10dig )                           |                         |                      |                         |   |
| DC Current                        | 20.00A / 200.0A / 1000A   | 20.00A / 200.0A / 600A   | ± ( 2.0%+5dig )                            |                         |                      |                         |   |
| AC Current                        | 20.00A / 200.0A / 1000A   | 20.00A / 200.0A / 600A   | ± ( 2.5%+5dig )                            |                         |                      |                         |   |
| Inrush Current                    | 20.00A / 200.0A / 1000A   | 20.00A / 200.0A / 600A   | ± ( 10.0%+10dig )                          |                         |                      |                         |   |
| Resistance                        | 200.0 Ω / 2.0000k Ω / 20.000k Ω / 200.00k Ω 2.0000M Ω 20.000M Ω / 100.00M Ω   |                          | ± ( 0.3%+5dig )                            |                         |                      |                         |   |
| Capacitance                       | 2.000nF / 20.00nF / 200.0nF / 2.000uF / 20.00uF / 200.0uF / 2.000mF / 20.00mF |                          | ± ( 3.0%+10dig )                           |                         |                      |                         |   |
| Frequency                         | 200.00Hz / 2.0000kHz / 20.000kHz / 200.00kHz / 2.0000MHz / 20.000MHz          |                          | ± ( 0.1%+5dig )                            |                         |                      |                         |   |
| Duty Ratio                        | 0.1%-99.9% ( Typical: Vrms=1 V, f=100Hz )                                     |                          | ± ( 1.2%+3dig )                            |                         |                      |                         |   |
|                                   | 0.1%-99.9% ( ≥1kHz )  |                          | ± ( 2.5%+10dig )                           |                         |                      |                         |   |
| <b>Oscilloscope Specification</b> |   |                          |  |                         |                      |                         |   |
| Analog bandwidth                  | Voltage: 1MHz, Current: 1kHz  | Channel                  | 1  |                         |                      |                         |   |
| Sample Mode                       | Real-time sample  | Sample Rate              | 5.0MSa/s                                   |                         |                      |                         |   |
| Input Impedance                   | 10MΩ  | Max Input Voltage        | 1000V                                      |                         |                      |                         |   |
| Max Sample Current                | 1000A   | Sensitivity              | 30mV/div ~ 500V/div                        |                         |                      |                         |   |
| Trigger Mode                      | Auto  | Trigger Type             | Rise, Fall                                 |                         |                      |                         |   |
| Automatic Measurement             | RMS, Period, Freq, Max, Min, PK-PK, Avg                                       | Sampling Depth           | 4K   |                         |                      |                         |   |
| <b>Other Function</b>             |   |                          |  |                         |                      |                         |   |
| Bluetooth Module                  | √   | Auto Power-off           | √  | True RMS                | √                    | Return zero measurement | √ |
| Input Protection                  | √   | Data Hold                | √  | LCD Backlight           | √                    | Low-battery Indicator   | √ |
| <b>Other</b>                      |   |                          |  |                         |                      |                         |   |
| Battery                           | Single section 18650 3.7V   | Display                  | 2.8 inch LCD                               | Dimension ( W x H x D ) | 248 x 94.5 x 37.8 mm |                         |   |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Multimeter Lead



Quick Guide



USB Cable



Soft Bag

# CM2100 & CM2100B Smart Clamp Meter

- + AC/ DC current, AC/ DC voltage
- + 20000 count true RMS automatic range clamp meter
- + Standard non-contact AC voltage sensing ( NCV ) function
- + VFC mode can filter high-frequency interference signals to ensure accurate measurement data.
- + AC frequency response up to 1000Hz
- + Small size, easy to carry
- + Bluetooth communication function, supporting Android and Apple phones, enabling remote data viewing and instrument control ( 2100B )
- + Support the recording function, record and analyze the measured values, share the recorded data, and work together ( 2100B )



|             | Range  | Accuracy<br>± ( of reading + LSB ) |
|-------------|--|------------------------------------|
| AC Current  | 2.000A   | ±( 3% +10dig ) in VFC ± ( 4%+10)   |
|             | 20.00A / 100.0A  | ±( 2. 5% +5dig ) in VFC ± ( 4%+10) |
| AC Voltage  | 2.0000V / 20.000V / 200.00V / 600.0V                           | ±( 0.8% +10dig ) in VFC ± ( 4%+3 ) |
| DC Current  | 2.000A   | ±( 2% +8dig )                      |
|             | 20.00A / 100.0A  | ±( 2% +3dig )                      |
| DC Voltage  | 200.00mV   | ±( 0.7% +10dig )                   |
|             | 2.0000V / 20.000V / 200.00V / 600.0V                           | ±( 0. 5% +5dig )                   |
| Resistance  | 200.0Ω   | ±( 0.8% +10dig )                   |
|             | 2.0000kΩ   | ±( 0. 5% +10dig )                  |
|             | 20.000kΩ / 200.00kΩ / 2.0000MΩ                                 | ±( 0. 5% +10dig )                  |
|             | 20.000MΩ   | ±( 1% +10dig )                     |
| Capacitance | 200.00MΩ   | ±( 5.0% +10dig )                   |
|             | 2.000nF  | ±( 4.0% +10dig )                   |
| Frequency   | 20.00nF/ 200.0nF/2.000uF/ 20.00uF / 200.0uF / 2.000mF/ 20.00mF | ±( 3.0% +10dig )                   |
|             | 200.00Hz / 20.000kHz / 200.00kHz / 2.0000MHz / 20.000MHz       | ±( 0. 1% +5dig )                   |
| Duty cycle  | 0. 1% - 99.9% ( typical: Vrms = 1 V, f = 1 kHz )               | ±( 1.2% +3dig )                    |
|             | 0. 1% - 99.9% (≥1kHz)  | ±( 2. 5% +3dig )                   |

| Other Special           |                     |                       |   |                     |                        |
|-------------------------|---------------------|-----------------------|---|---------------------|------------------------|
| Auto Ranging            | √                   | Zero                  | √ | Display             | 20000 counts           |
| Date Hold               | √                   | Low-battery Indicator | √ | Frequency Responses | 40Hz - 1000Hz          |
| Diode                   | √                   | Relative Measurement  | √ | Bluetooth Module    | √ ( only for CM2100B ) |
| Continuity Buzzer       | √                   | Input Protection      | √ | In put Impedance    | ≥10MΩ                  |
| VFC                     | √                   | Over range Alarm      | √ | Jaw Capacity        | 17mm                   |
| NCV                     | √                   | On-off Warning        | √ | Battery             | 2 x 1. 5V AAA          |
| Dimension ( L x W x D ) | 182mm x 57mm x 32mm |                       |   | Device Weight       | Approx. 0.2kg          |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Multimeter Lead



Quick Guide



Screw Driver



Soft Bag



Battery ( 1.5VAAA,optional)

# HSA2000 Handheld Multifunction Spectrum Analyzer

- + All-in-One: Spectrum Analyzer + Oscilloscope + Multimeter
- + Spectrum Analyzer: 9kHz to 3GHz frequency range, 1Hz frequency resolution
- + Oscilloscope: 70MHz-200MHz bandwidth, 250MSa/s sampling rate, 8K memory depth  
Up to 10,000wfms/s waveform refresh rate, supports auto measurements
- + Multimeter: 4 1/2 digits multimeter, supports standard measurements of voltage, current resistance, capacitance, diode, and continuity testing
- + Standard USB Type-C interface, supports PC communication



## [Digital Oscilloscope] Specification

| Model                 | HSA2307   | HSA2310               | HSA2320                           |
|-----------------------|---|-----------------------|-----------------------------------|
| Bandwidth             | 70MHz   | 100MHz                | 200MHz                            |
| Max Sample Rate       | 250MSa/s  | 500MSa/s              | 1GSa/s                            |
| Channel               | Dual  | Acquisition Model     | Sample, Peak                      |
| Record Length         | 8K  | Waveform Refresh Rate | 10000wfms/s                       |
| Probe Attenuation     | 1X,10X,100X,1000X,10000X  | Sampe Rate Range      | 5ns/div - 1000s/div, Step by1-2-5 |
| Vertical Resolution   | 10mV/div - 10V/div  | Trigger Type          | Edge                              |
| Trigger Model         | Auto, Normal, Single  | Cursor Measurement    | ΔV, ΔT                            |
| Automatic Measurement | Period, Frequency, Mean, PK-PK, Max, Min, RMS, Rise Time, Fall Time, +Width, -Width |                       |                                   |

## [Spectrum Analyzer] Specification

|   |  |                      |                           |
|---|--|----------------------|---------------------------|
| Frequency Range   | 9 kHz to 3 GHz   | Frequency Resolution | 1 Hz                      |
| Frequency sweep range   | 0 Hz, 1 Hz to the maximum frequency of the instrument          | Max input DC voltage | 50V                       |
| SSB Phase Noise<br>( 20°C-30°C, fc=1GHz )   | < -76dBc/Hz ( type )@10kHz<br>< -62dBc/Hz ( type )@100KHz      |                      |                           |
| Resolution Bandwidth(-3 dB)   | 200 Hz to 850 kHz, steps by 200Hz-1-3-10-30-100-300-600-850KHz |                      |                           |
| Displayed average noise level( DANL ) Input attenuation 0 dB, 100kHz resolution bandwidth 20°C-30°C |  |                      |                           |
| 10MHz to 2GHz   | -126dBm( type ), <-116dBm                                      | 2 GHz to 3 GHz       | -121dBm( type ), <-111dBm |

## [Multimeter] Specification

|                    |                                  |               |  |
|--------------------|----------------------------------|---------------|--|
| Full scale reading | 4 1/2 digits ( max 20000 count ) | Testing Modes | Voltage, Current, Resistance, Capacitance, Diode, Continuity |
| Input Resistance   | 10MΩ                             | Diode         | 0-2V   |
| DC Voltage         | 200.00mV - 1000.0V               | AC Voltage    | 200.00mV - 750.00V   |
| DC Voltage         | 200.00mA-10.000A                 | AC Current    | 200.00mA -1 0.000A   |
| Resistance         | 200.00Ω - 100.00MΩ               | Capacitance   | 20.000nF - 20.000mF  |

## [Other] Specification

|                         |                  |                         |               |         |                         |
|-------------------------|------------------|-------------------------|---------------|---------|-------------------------|
| Display                 | 3.5 inch LCD     | Communication Interface | USB TYPE-C    | Battery | Power adapter / Battery |
| Dimension ( L x W x D ) | 198 × 96 × 38 mm |                         | Device Weight | 0.6 kg  |                         |

Specifications subject to change without prior notice.

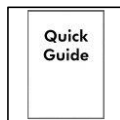
## + Accessories The accessories subject to final delivery.



Power Cord



Probe



Quick Guide



USB to Type-C Cable



Multimeter Lead

# XSA3000-R Real-Time Spectrum + Network Analyzer

- + Frequency range 9 kHz-8 GHz
- + 40 MHz maximum real-time analysis bandwidth
- + Spectrum FFT acquisition capacity 200,000 frames with Fast Refresh Rate
- + -165dBm/Hz displayed average noise level( DANL )
- + Phase Noise <-106dBc/Hz@1GHz and offset at 10kHz
- + Vector network analysis VNA function ( software optional )
- + EMI Pre-compliance Measurement Function
- + 10.4-inch multi-touch screen



| Model                                  | XSA3036-R   | XSA3060-R    | XSA3080-R    |
|--|---|--------------|--------------|
| Frequency Range                        | 9kHz-3.6 GHz  | 9kHz-6 GHz   | 9kHz-8 GHz   |
| Resolution Bandwidth( RBW )            | 1Hz-3MHz  |              |              |
| DANL                                   | -165dBm/Hz  |              |              |
| SSB Phase Noise                        | -98dBc/Hz   |              |              |
| Third-order Intercept Point( TOI )     | +14dBm  |              |              |
| Amplitude Accuracy                     | < 0.7 dB  |              |              |
| Tracking generator (optional)          | 100kHz-3.6GHz   | 100 kHz-5GHz | 100 kHz-8GHz |
| Real-time Analysis Bandwidth           | 25MHz, 40MHz  |              |              |
| Spurious-Free Dynamic Range ( SFDR )   | 60dB  |              |              |
| 100% Response Shortest Signal Duration | 7.20uS  |              |              |
| Real-time Spectrum View                | Probability Density Spectrum, Waterfall Chart, Time Power Spectrum, and 3D Spectrum |              |              |
| Vector Network Analysis,( VNA )        | Vector S11, Vector S21  |              |              |
| Network Analysis Dynamic Range         | 90dB  |              |              |
| Cable Fault Location                   | Distance to fault   |              |              |
| Advanced Measurement Functions         | CHP, ACPR, OBW, CNR, Harmonic, TOI, Monitor   |              |              |
| Vector Signal Analysis                 | AM, FM, ASK, FSK, MSK, PSK, QAM   |              |              |
| Electromagnetic Compatibility Testing  | EMI Filter and Quasi-Peak Detector, Log Scale and Limit Line                        |              |              |
| Communication interfaces               | LAN, USB Device, USB Host( USB - GPIB )   |              |              |
| Remote Control Capability              | SCPI / Labview / IVI based on USB-TMC / VXI-11/Socket / Telnet                      |              |              |
| Remote Controller                      | NI-MAX, Web Browser, Easy Spectrum software, File Explorer                          |              |              |
| Dimension ( W x H x D )                | 421mm x 221mm x 115mm   |              |              |
| Device Weight                          | ≈5.0kg  |              |              |

Specifications subject to change without prior notice.

## + Accessories The accessories subject to final delivery.



Power Cord



USB Cable



Quick Guide

# XSA800 Spectrum Analyzer

- + Frequency range 9kHz - 1.5GHz
- + -160dBm Displayed Average Noise Level ( DANL )
- + Phase noise -80dBc/Hz @1GHz and offset at 10 kHz
- + Total amplitude accuracy <0.7 dB
- + 1Hz minimum resolution bandwidth ( RBW )
- + Optional EMI Pre-Test function, optional EMC test software
- + Optional tracking generator( standard tracking generator hardware, can be remotely upgraded according to needs )
- + Waterfall plot graphic, modulation signal quality analysis, audio demodulation ect. multiple general and extended test functions.
- + Standard Pass/Fail on-site test and alert function
- + Multiple interfaces: USB Host, USB Device, LAN, earphone interface, HDMI
- + 9-inch LCD, high resolution 1280×800 pixels



| Model  | XSA805   | XSA810                            | XSA815         |
|--|--|-----------------------------------|----------------|
| Frequency Range                                | 9kHz to 500MHz   | 9kHz to 1Ghz                      | 9kHz to 1.5GHz |
| Frequency Resolution                           | 1 Hz   |                                   |                |
| Reference frequency aging rate                 | < 1 ppm/year   |                                   |                |
| SSB Phase Noise( 20°C to 30°C , fc = 500 MHz ) |  |                                   |                |
| Carrier Offset                                 | 10 kHz   | < -80dBc/ Hz                      |                |
|  | 100 kHz  | < -100dBc/ Hz                     |                |
|  | 1 MHz  | < -115dBc/ Hz                     |                |
| Resolution Bandwidth (-3 dB)                   | 1 Hz to 1 MHz, in 1 -3-5-10 sequence   |                                   |                |
| Video Bandwidth (-3 dB)                        | 10 Hz to 1 MHz, in 1 -3-5-10 sequence  |                                   |                |
| Display Average Noise Level ( DANL )           | Preamp on, Input attenuation = 0 dB, RBW =VBW = 100 Hz, sample detector, trace average ≥ 50, 20°C to 30°C , input impedance = 50 Ω ) |                                   |                |
| 100 kHz to 1 MHz                               | -135 dB m ( Typical ), <-128 dB m  |                                   |                |
| 1 MHz to 500MHz                                | -160 dB m ( Typical ), <-150 dB m  |                                   |                |
| 500 MHz to the upper                           | —  | -158 dB m ( Typical ), <-148 dB m |                |
| Trace detectors                                | positive-peak , negative-peak , normal, sample, RMS, voltage average, quasi-   |                                   |                |
| Units of level axis                            | dB m, dBμW, dBpW, dB mV, dBμV, W, V  |                                   |                |
| Tracking generator frequency (optional)        |  |                                   |                |
| Range  | 100 kHz to the upper frequency limit   |                                   |                |
| Output power level range                       | -40 dB m to 0 dB m   |                                   |                |
| Output level resolution                        | 1 dB   |                                   |                |
| Interface                                      | USB Host, USB Device, LAN, earphone interface, HDMI  |                                   |                |
| Display  | 9-inch TFT LCD, 1280 x 800 pixels  |                                   |                |
| Dimension ( W x H x D )                        | 375mm x 185mm x 120mm  |                                   |                |
| Device Weight                                  | ≈3.7kg   |                                   |                |

Specifications subject to change without prior notice.

+ **Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



N-BNC

# XSA1000P Spectrum Analyzer

- + Frequency range 9kHz - 7.5GHz
- + -163dBm Displayed Average Noise Level ( DANL )
- + Phase noise -106dBc/Hz @1GHz and offset at 10 kHz
- + Total amplitude accuracy <0.7 dB
- + 1 Hz minimum resolution bandwidth ( RBW )
- + Optional EMI Pre-Test function, optional EMC test software
- + Waterfall plot graphic, modulation signal quality analysis, audio demodulation, ect. multiple general and extended test functions.
- + Standard Pass/Fail on-site test and alert function
- + Adopt all-digital intermediate frequency technology
- + Multiple interfaces: USB Host, USB Device, LAN, earphone interface, HDMI
- + 10.4-inch multi-touch screen



| Model                                | XSA1015P  | XSA1036P  | XSA1075P  |
|--------------------------------------|---|---|---|
| Frequency Range                      | 9 kHz - 1.5 GHz   | 9 kHz - 3.6 GHz   | 9 kHz - 7.5 GHz                                   |
| Frequency Resolution                 | 1 Hz  |   |   |
| Aging rate                           | <1 ppm/Year   |   |   |
| Phase Noise ( fc = 1GHz )            | <-106dBc/ Hz @ 10 kHz offset  |   |   |
| Resolution Bandwidth (-3dB) ( RBW )  | 1 Hz to 1 MHz ( 1 -10 steps by sequence )   |   |   |
| Video Bandwidth(-3dB)( VBW )         | 10 Hz to 3 MHz  |   |   |
| Display Average Noise Level ( DANL ) | ( Preamp on, Input Attenuation = 0 dB, Sample Detector, Trace Average ≥20, 20°C to 30°C, Input Impedance = 50 Ω, RBW normalizes to 1 Hz ) |   |   |
| 100 kHz - 1 MHz                      | -135 dB m ( Typical )   |   |   |
| 1 MHz - 500 MHz                      | -160 dB m ( Typical )   |   |   |
| 500 MHz - 1. 5 GHz                   | -158 dB m ( Typical )   |   |   |
| 1. 5 GHz - 3.6 GHz                   | —   | -158dBm ( Typical )   | -158dBm ( Typical )                               |
| 3.6 GHz - 6 GHz                      | —   | —   | -154dBm ( Typical )                               |
| 6 GHz - 7. 5 GHz                     | —   | —   | -149dBm ( Typical )                               |
| Detectors                            | Positive-peak, negative-peak, normal, sample, RMS avg, voltage avg, quasi-peak  |   |   |
| Trace functions                      | Clear write, Max Hold, Min Hold, View, Blank, Average   |   |   |
| level unit                           | dB m, dBuW, dBpW, dB mV, dBuV, W, V   |   |   |
| Tracking generator                   | 100kHz - 1. 5GHz<br>(Tracking generator)  | 100 kHz - 3.6GHz<br>(Tracking generator)<br>35 MHz - 3.6 GHz<br>( Signal generator) | 100 kHz - 7. 5 GHz (Tracking generator, optional) |
| Output power level range             | -30dBm - 0dBm   | -40dBm - 0dBm   |   |
| Output power level resolution        | 1 dB  |   |   |
| Communication Port                   | USB HOST, USB DEVICE, LAN, earphone port, VGA, REF  |   |   |
| Display                              | 10.4 inches TFT LCD   |   |   |
| Dimension ( W x H x D )              | 421mm x 221mm x 115mm   |   |   |
| Device Weight                        | ≈5.0kg  |   |   |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



N-BNC

# HSA1000 Handheld Spectrum Analyzer

- + Frequency Range from 9 kHz up to 7.5 GHz
- + -160dBm Displayed Average Noise Level
- + Phase Noise -80dBc/Hz @1Gz and offset at 10kHz
- + Total Amplitude Accuracy <1.5dB
- + 10Hz Minimum Resolution Bandwidth ( RBW )
- + Standard GPS receiver, optional antenna, the latitude/longitude information and test information can be recorded
- + Li-ion battery, operating life up to 4 hours, easy replacement, you can purchase extra batteries for longer test time.
- + 8-inch (1024\*768 ) IPS LCD touchscreen, built-in light sensor to adjust the screen backlight according to the environmental light.



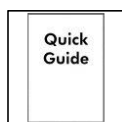
| Model                                | HSA1016(TG)  | HSA1036(TG)   | HSA1075(TG)         |
|--------------------------------------|--|---|---------------------|
| Frequency Range                      | 9 kHz - 1.6 GHz  | 9 kHz - 3.6 GHz   | 9 kHz-7. 5 GHz      |
| Frequency Resolution                 | 1 Hz   |   |                     |
| Aging rate                           | <1ppm/Year   |   |                     |
| Phase Noise ( fc = 1GHz )            | <-98dBc/ Hz @ 10 kHz offset  |   |                     |
| Resolution Bandwidth (-3dB) ( RBW )  | 10 Hz to 500 kHz ( 1 -10 steps by sequence ), 1 MHz, 3 MHz   |   |                     |
| Video Bandwidth(-3dB)( VBW )         | 10Hz to 3MHz   |   |                     |
| Display Average Noise Level ( DANL ) | ( Input Attenuation = 0 dB, Sample Detector, Trace Average ≥20, 20°C to 30°C, Input Impedance = 50 Ω, RBW normalizes to 1 Hz ) |   |                     |
| 100 kHz - 1 MHz                      | -135 dB m ( Typical )  |   |                     |
| 1 MHz - 500MHz                       | -160 dB m ( Typical )  |   |                     |
| 500MHz - 1. 5 GHz                    | -158 dB m ( Typical )  |   |                     |
| 1. 5GHz - 3.6GHz                     | —  | -158dBm ( Typical )   |                     |
| 3.6GHz - 6GHz                        | —  | —   | -154dBm ( Typical ) |
| 6GHz - 7. 5GHz                       | —  | —   | -149dBm ( Typical ) |
| Detectors                            | Positive-peak , negative-peak , sample, normal, RMS  |   |                     |
| Trace functions                      | Clear write, Max Hold, Min Hold, View, Blank , Average   |   |                     |
| level unit                           | dB m, dBuW, dBpW, dBmV, dBuV, W, V   |   |                     |
| Tracking generator (optional)        | 100 kHz-1.6 GHz  | 100 kHz-3.6 GHz ( Tracking generator )<br>35 MHz-3.6 GHz ( Signal generator ) |                     |
| Output power level range             | -30 dB m-0 dB m  |   |                     |
| Output power level resolution        | 1dB  |   |                     |
| Communication Port                   | USB HOST, USB DEVICE, LAN, earphone port   |   |                     |
| Display                              | 8 inch touch LCD   |   |                     |
| Dimension ( W x H x D )              | 265mm x 190mm x 58mm   |   |                     |
| Device Weight                        | ≈2.5kg   |   |                     |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Adapter



GPS antenna



Metal Case



Carrying Case  
( optional )

# ORF5060 Near-Field Electromagnetic Probe



|                               |  |
|-------------------------------|--|
| <b>Model</b>                  | <b>ORF5060</b>                         |
| Frequency Range               | 9 kHz - 6 GHz                          |
| <b>Port Type</b>              |  |
| Port Type                     | SMA type                               |
| Adapter                       | N-SMA                                  |
| RF Cables                     | SMA-J-SMA-J-1000mm Semi-flexible Cable |
| Port and Adapter Impedance    | 50Ω                                    |
| <b>General Specifications</b> |  |
| Operating Temperature         | 0°C-50°C                               |
| Storage Temperature           | -20°C-70°C                             |

Specifications subject to change without prior notice.

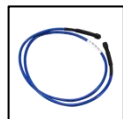
**Options** The accessories subject to final delivery.



N-N Cable



N-SMA Cable



SMA-SMA Cable



SMA-SMA Cable



N-BNC

# XDG2000 Dual-channel Arbitrary Waveform Generator

- + Max 100MHz frequency output
- + 500MSa/s Sample rate, Vertical resolution 1μHz
- + 14 bits Vertical Resolution, 10Mbit waveform length
- + Comprehensive waveform output : 6 basic waveforms, and 170 built-in arbitrary waveforms
- + Comprehensive modulation functions : AM, DSB-AM, FM, PM, ASK, FSK, PSK, BPSK, QPSK, 3FSK, 4FSK, OSK, PWM and SUM
- + High-accuracy frequency counter integrated, supported range 100mHz - 200MHz
- + SCPI, and LabVIEW supported
- + 7 inch ( 800 × 480 pixels ) LCD



| Model                                | XDG2100  | XDG2080      | XDG2060      | XDG2035        |
|--------------------------------------|--|--------------|--------------|----------------|
| Channel                              | 2  |              |              |                |
| Frequency Output                     | 100MHz   | 80MHz        | 60MHz        | 35MHz          |
| Sample Rate                          | 500MSa/s   |              |              |                |
| <b>Waveform</b>                      |  |              |              |                |
| Standard Waveform                    | sine, square, pulse, ramp, noise, and harmonic   |              |              |                |
| Arbitrary Waveform                   | exponential rise, exponential fall, sin(x)/x, step wave, and others, total 170 built-in waveforms, and user-defined arbitrary waveform |              |              |                |
| <b>Frequency ( resolution 1μHz )</b> |  |              |              |                |
| Sine                                 | 1μHz-100MHz  | 1μHz-80MHz   | 1μHz-60MHz   | 1μHz-35MHz     |
| Square                               | 1μHz - 30MHz   | 1μHz - 30MHz | 1μHz - 30MHz | 1μHz - 15MHz   |
| Pulse                                | 1μHz - 25MHz   | 1μHz - 25MHz | 1μHz - 25MHz | 1μHz - 15MHz   |
| Ramp                                 | 1μHz - 3MHz  | 1μHz - 3MHz  | 1μHz - 3MHz  | 1μHz - 3MHz    |
| Noise (-3 dB, typical)               | 60MHz  | 60MHz        | 60MHz        | 30MHz          |
| Arbitrary Waveform                   | 1μHz - 15MHz   | 1μHz - 15MHz | 1μHz - 15MHz | 1μHz - 15MHz   |
| Harmonic                             | 1μHz - 50MHz   | 1μHz - 40MHz | 1μHz - 30MHz | 1μHz - 17.5MHz |
| Waveform Length                      | 2 points -10M points   |              |              |                |
| <b>Amplitude</b>                     |  |              |              |                |
| into 50Ω load                        | 1mVpp - 10Vpp (≤ 25MHz), 1mVpp - 5Vpp (≤60MHz), 1mVpp - 2.5Vpp (≤100MHz),  |              |              |                |
| <b>Modulation</b>                    |  |              |              |                |
| Type                                 | AM, DSB - AM, FM, PM, ASK, FSK, PSK, BPSK, QPSK, 3FSK, 4FSK, OSK, PWM, SUM   |              |              |                |
| <b>Frequency Counter</b>             |  |              |              |                |
| Function                             | Frequency, period, +width, -width, +duty, and -duty  |              |              |                |
| Frequency Range                      | 100mHz - 200MHz  |              |              |                |
| <b>Input / Output</b>                |  |              |              |                |
| Input Mode                           | frequency counter, external modulation input, external trigger input, Internal clock output, external reference clock input / output   |              |              |                |
| Communication Interface              | USB Host, USB Device, LAN, RS232 ( optional )  |              |              |                |
| <b>Mechanical specifications</b>     |  |              |              |                |
| Dimension ( W x H x D )              | 340 x 177 x 90 mm,   |              |              |                |
| Device Weight                        | Approx. 2.5kg  |              |              |                |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Q9 Cable

# XDG 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 (800 x 600) high resolution LCD, multi-point touch screen, more user-friendly operation experience



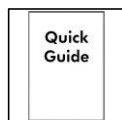
| Model                                | NDG202   | NDG162        | NDG122        | NDG102        | NDG082       |
|--------------------------------------|--|---------------|---------------|---------------|--------------|
| Channel                              | 2  |               |               |               |              |
| Frequency Output                     | 200MHz   | 160MHz        | 120MHz        | 100MHz        | 80MHz        |
| Sample Rate                          | 1.25GSa/s  |               |               |               |              |
| <b>Waveform</b>                      |  |               |               |               |              |
| 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 |               |               |               |              |
| <b>Frequency ( resolution 1μHz )</b> |  |               |               |               |              |
| Sine                                 | 1μHz - 200MHz  | 1μHz - 160MHz | 1μHz - 120MHz | 1μHz - 100MHz | 1μHz - 80MHz |
| Square                               | 1μHz - 50MHz   | 1μHz - 50MHz  | 1μHz - 50MHz  | 1μHz - 40MHz  | 1μHz - 30MHz |
| Pulse                                | 1μHz - 25MHz   |               |               |               |              |
| Ramp                                 | 1μHz - 5MHz  |               |               |               |              |
| Noise (-3 dB, typical)               | 120MHz   |               |               |               |              |
| Wave Length                          | 2 - 1 M pts  |               |               |               |              |
| <b>Amplitude</b>                     |  |               |               |               |              |
| Amplitude ( high resistance )        | 2mVpp - 20Vpp (≤40MHz), 2mVpp - 10Vpp (≤80MHz), 2mVpp - 5Vpp (≤120MHz), 2mVpp - 2Vpp (≤200MHz)   |               |               |               |              |
| <b>Modulation</b>                    |  |               |               |               |              |
| Type                                 | AM, FM, PM, PWM, FSK, 3FSK, 4FSK, PSK, OSK, ASK, BPSK, sweep, and burst  |               |               |               |              |
| <b>Frequency Counter</b>             |  |               |               |               |              |
| Function                             | Frequency, Period, +Width, -Width, +Duty, and -Duty  |               |               |               |              |
| Frequency Range                      | 7 digits 100mHz - 200MHz   |               |               |               |              |
| <b>Input / Output</b>                |  |               |               |               |              |
| Input Mode                           | counter, external modulation input, external trigger input, external reference clock input / output                                    |               |               |               |              |
| Communication Interface              | USB Host, USB Device, LAN  |               |               |               |              |
| <b>Mechanical</b>                    |  |               |               |               |              |
| Dimension ( W x H x D )              | 340 x 177 x 90 mm  |               |               |               |              |
| Device Weight                        | Approx. 2. 50 kg   |               |               |               |              |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Q9 Cable

# AG-S Single-channel Arbitrary Waveform Generator

- + Advanced DDS technology, up to 10MHz frequency output
- + 125MS/s sample rate, and 1uHz 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 inch high resolution (480 x 320 pixels) LCD



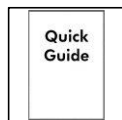
| Model                                | AG051   | AG051F  | AG1011                         | AG1011F   |
|--------------------------------------|---|---|--------------------------------|---|
| Channel                              | single + trigger  |   |                                |   |
| Frequency Output                     | 5MHz  |   | 10MHz                          |   |
| Sample Rate                          | 125MSa/s  |   |                                |   |
| Vertical Resolution                  | 14bits  |   |                                |   |
| <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 (-3 dB, typical)               | 5MHz  |   |                                |   |
| Wave Length                          | 1μHz - 5MHz   |   |                                |   |
| Amplitude Range                      | 1mVpp - 12.5Vpp (50Ω), 1mVpp - 25Vpp ( high impedance )   |   |                                |   |
| <b>Modulation ( optional )</b>       |   |   |                                |   |
| Modulation Waveform                  | /   | AM, FM, PM, FSK, Sweep, Burst   | /                              | AM, FM, PM, FSK, Sweep, Burst   |
| Modulation Frequency                 | /   | 2mHz - 20.00 kHz<br>( FSK 2mHz - 100kHz )   | /                              | 2mHz - 20.00 kHz<br>( FSK 2mHz - 100kHz )   |
| <b>Input / Output</b>                |   |   |                                |   |
| Display                              | 4 inch (480 x 320 pixels) TFT LCD   |   |                                |   |
| Input Mode                           | external reference clock input  | external modulation input, external trigger input, and external reference clock input | external reference clock input | external modulation input, external trigger input, and external reference clock input |
| Communication Interface              | USB Device  |   |                                |   |
| <b>Mechanical</b>                    |   |   |                                |   |
| Dimension ( W x H x D )              | 235 × 110 × 295 mm  |   |                                |   |
| Device Weight                        | Approx. 3.00 kg   |   |                                |   |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Q9 Cable

# AG Dual-channel Arbitrary Waveform Generator

- + Advanced DDS technology, max 60MHz frequency output
- + Up to 300MS/s sample rate, and 1uHz 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



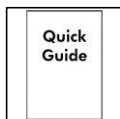
| Model                                      | AG1012   | AG1012F          | AG1022       | AG1022F           | AG2052F                            | AG2062F |
|--|--|------------------|--------------|-------------------|------------------------------------|---------|
| Channel                                    | 2  |                  |              |                   |                                    |         |
| Frequency Output                           | 10MHz  |                  | 25MHz        |                   | 50MHz                              |         |
| Sample Rate                                | 125MSa/s   |                  |              |                   | 300MSa/s                           |         |
| Vertical Resolution                        | 14bits   |                  |              |                   |                                    |         |
| <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                       |         |
| Square                                     | 1μHz - 5MHz  |                  | 1μHz - 5MHz  |                   | 1μHz - 25MHz                       |         |
| Pulse                                      | 1μHz - 5MHz  |                  | 1μHz - 5MHz  |                   | 1μHz - 10MHz                       |         |
| Ramp                                       | 1μHz - 1MHz  |                  |              |                   |                                    |         |
| Noise (-3 dB, typical )                    | 25MHz  |                  |              |                   |                                    |         |
| Wave Length                                | 2 - 8Kpts  |                  |              |                   | 2 - 1 Mpts                         |         |
| <b>Amplitude</b>                           |  |                  |              |                   |                                    |         |
| Amplitude Range                            | 1mVpp - 10Vpp ( 50Ω ), 1mVpp - 20Vpp ( high impedance )  |                  |              |                   |                                    |         |
| <b>Modulation ( excl. AG1012, AG1022 )</b> |  |                  |              |                   |                                    |         |
| Modulation Waveform                        | AM, FM, PM, FSK,Sweep, Burst   |                  |              |                   | AM, FM, PM, FSK, PWM, Sweep, Burst |         |
| Modulation Frequency                       | 2mHz to 20.00KHz ( FSK 2mHz - 100KHz )   |                  |              |                   |                                    |         |
| <b>Mechanical</b>                          |  |                  |              |                   |                                    |         |
| Dimension ( W x H x D )                    | 235mm x110mm x 295mm   |                  |              |                   |                                    |         |
| Device Weight                              | Approx. 3.00 kg  |                  |              |                   |                                    |         |
| <b>Power Amplifier Module ( optional )</b> |  |                  |              |                   |                                    |         |
| Bandwidth ( at full power )                | DC - 100kHz  | Max Output Power | 10W          | Max Input Voltage | 22Vpp                              |         |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Q9 Cable

# DGE3000 Arbitrary Waveform Generator

- + Up to 60MHz frequency output, Max 300MSa/s sample rate
- + Vertical Resolution :14 bits, max 100K Arb waveform length
- + Comprehensive waveform output: 5 basic waveforms, and 160 built-in arbitrary waveforms
- + Comprehensive modulation functions: AM, FM, PM, PWM, FSK, 3FSK, 4FSK, PSK, ASK, BPSK, OSK, DSB-AM and QPSK
  - + SCPI and LabVIEW supported
- + 3.6 inch TFT LCD, all settings can be fully displayed



| Model                                | DGE3032   | DGE3062      | DGE3031      | DGE3061      |
|--------------------------------------|---|--------------|--------------|--------------|
| Channel                              | 2   |              | 1            |              |
| Frequency Output                     | 30MHz   | 60MHz        | 30MHz        | 60MHz        |
| Sample Rate                          | 125MSa/s  | 300MSa/s     | 125MSa/s     | 300MSa/s     |
| Standard Waveform                    | sine, square, pulse, ramp, noise  |              |              |              |
| Arbitrary Waveform                   | exponential rise, exponential fall, sin(x)/x, step wave, and others, total 160 built-in waveforms                     |              |              |              |
| <b>Frequency ( resolution 1μHz )</b> |   |              |              |              |
| Sine                                 | 1μHz - 30MHz  | 1μHz - 60MHz | 1μHz - 30MHz | 1μHz - 60MHz |
| Square                               | 1μHz - 15MHz  | 1μHz - 20MHz | 1μHz - 15MHz | 1μHz - 20MHz |
| Pulse                                | 1μHz - 15MHz  | 1μHz - 20MHz | 1μHz - 15MHz | 1μHz - 20MHz |
| Ramp                                 | 1μHz - 1MHz   | 1μHz - 2MHz  | 1μHz - 1MHz  | 1μHz - 2MHz  |
| Noise (-3 dB, typical)               | 20MHz   |              |              |              |
| Arbitrary Waveform                   | 1 μHz - 10MHz, waveform length: 2-8 k points  |              |              |              |
| <b>Amplitude</b>                     |   |              |              |              |
| Amplitude Range                      | high resistance: 2mVpp - 20Vpp (≤10MHz), 2mVpp - 10Vpp (≤60MHz)<br>50Ω: 1mVpp - 10Vpp (≤10MHz), 1mVpp - 5Vpp (≤60MHz) |              |              |              |
| DC Offset Range ( AD+DC )            | ±( 10Vpk - Amplitude Vpp/2 ) high resistance, ±( 5Vpk - Amplitude Vpp/2 ) 50 Ω  |              |              |              |
| <b>Modulation</b>                    |   |              |              |              |
| Type                                 | AM, FM, PM, PWM, FSK, 3FSK, 4FSK, PSK, ASK, BPSK, OSK, DSB - AM, QPSK, SUM, Sweep, Burst                              |              |              |              |
| Frequency Counter Function           | frequency, period   |              |              |              |
| Frequency Range                      | 100mHz - 200MHz, 7 digits   |              |              |              |
| <b>Input / Output</b>                |   |              |              |              |
| Input mode                           | external modulation input, external trigger input, external reference clock input / output                            |              |              |              |
| Communication Interface              | USB Host, USB Device  |              |              |              |
| Dimension ( W x H x D )              | 200mm x 92mm x 157 mm   |              |              |              |
| Device Weight                        | Approx. 0.80 kg   |              |              |              |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Quick Guide



USB to DC Cord



Power Adaptor



BNC to Alligator Clips



Q9 Cable  
( only for DGE3032, DGE3062 )

# DGE2000 Arbitrary Waveform Generator

- + Up to 70MHz frequency output, Max 300MSa/s sample rate
- + Vertical Resolution :14 bits, max 8K Arb waveform length
- + Comprehensive waveform output :  
5 basic waveforms, and 150 built-in arbitrary waveforms
- + Comprehensive modulation functions :  
AM, FM, PM, FSK, Sweep, Burst
- + SCPI, and LabVIEW supported
- + 3.6 inch TFT LCD, all settings can be fully displayed



| Model   | DGE2035  | DGE2070      |
|---|--|--------------|
| Channel   | 2  |              |
| Frequency Output  | 35MHz  | 70MHz        |
| Sample Rate   | 125MSa/s   | 300MSa/s     |
| Standard Waveform   | sine, square, pulse, ramp, and noise   |              |
| Arbitrary Waveform  | exponential rise, exponential fall, s in (x)/x, step wave, and others, total 150 built-in waveforms, and user-defined arbitrary waveform |              |
| <b>Frequency ( resolution 1μHz )</b>  |  |              |
| Sine  | 1μHz - 35MHz   | 1μHz - 70MHz |
| Square  | 1μHz - 15MHz   | 1μHz - 20MHz |
| Pulse   | 1μHz - 15MHz   | 1μHz - 20MHz |
| Ramp  | 1μHz - 1MHz  | 1μHz - 2MHz  |
| Noise ( -3 dB, typical )  | 20MHz  |              |
| Arbitrary Waveform  | 1 μHz - 10MHz, waveform length: 2-8k points  |              |
| <b>Amplitude ( Unless otherwise specified, the load is assumed to be 50Ω. )</b> |  |              |
| Amplitude Range   | 1mVpp - 8Vpp (≤10MHz), 1mVpp - 5Vpp (≤70MHz)   |              |
| DC Offset Range ( AD+DC )   | ±(10 Vpk - Amplitude Vpp/2 ) high resistance; ±(5Vpk - Amplitude Vpp/2 ) 50 Ω  |              |
| <b>Modulation</b>   |  |              |
| Type  | AM, FM, PM, FSK, Sweep, Burst  |              |
| Internal Modulation Frequency   | 2mHz-100kHz  |              |
| <b>Input / Output</b>   |  |              |
| Display   | 3.6-inch TFT LCD with resolution 480 x 272   |              |
| Communication Interface   | USB Device   |              |
| Dimension ( W×H×D )   | 200 x 68.5mm x 74 mm   |              |
| Device Weight   | Approx. 0.50 kg  |              |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Quick Guide



USB to DC Cord



Power Adppter



Q9 Cable



BNC to Alligator Clips

# DGE1000 Single-channel Arbitrary Waveform Generator

- + Up to 60MHz frequency output, Max 300MSa/s sample rate
- + Vertical Resolution :14 bits, max 8K Arb waveform length
- + Comprehensive waveform output :  
5 basic waveforms, and 150 built-in arbitrary waveforms
- + Comprehensive modulation functions :  
AM, FM, PM, FSK, Sweep, Burst
- + SCPI, and LabVIEW supported
- + 3.6 inch TFT LCD, all settings can be fully displayed



| Model   | DGE1030  | DGE1060      |
|---|--|--------------|
| Channel   | 1  |              |
| Frequency Output  | 35MHz  | 60MHz        |
| Sample Rate   | 125MSa/s   | 300MSa/s     |
| Standard Waveform   | sine, square, pulse, ramp, and noise   |              |
| Arbitrary Waveform  | exponential rise, exponential fall, sin(x)/x, step wave, and others, total 150 built-in waveforms, and user-defined arbitrary waveform |              |
| <b>Frequency ( resolution 1μHz )</b>  |  |              |
| Sine  | 1μHz - 35MHz   | 1μHz - 60MHz |
| Square  | 1μHz - 15MHz   | 1μHz - 20MHz |
| Pulse   | 1μHz - 15MHz   | 1μHz - 20MHz |
| Ramp  | 1μHz - 1MHz  | 1μHz - 2MHz  |
| Noise (-3 dB, typical)  | 20MHz  |              |
| Arbitrary Waveform  | 1 μHz - 10MHz, waveform length: 2-8 k points   |              |
| <b>Amplitude ( Unless otherwise specified, the load is assumed to be 50Ω. )</b> |  |              |
| Amplitude Range   | 1mVpp - 8Vpp (≤10MHz), 1mVpp - 5Vpp (≤70MHz),  |              |
| DC Offset Range ( AD+DC )   | ±( 10Vpk - Amplitude Vpp/2 ) high resistance; ±( 5Vpk - Amplitude Vpp/2 ) 50 Ω   |              |
| <b>Modulation</b>   |  |              |
| Type  | AM, FM, PM, FSK, Sweep, Burst  |              |
| Internal Modulation Frequency   | 2mHz - 100kHz  |              |
| <b>Input / Output</b>   |  |              |
| Display   | 3.6-inch TFT LCD with resolution 480 x 272   |              |
| Communication Interface   | USB Device   |              |
| Dimension ( W×H×D )   | 200 x 68.5mm x 74 mm   |              |
| Device Weight   | Approx. 0.50 kg  |              |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Quick Guide



USB to DC Cord



Power Adaptor



BNC to Alligator Clips

# OWH67 High Power DC Power Supply

- + 1/2 2U standard 19-inch rack
- + Supports wide voltage input (85V-265V)
- + High precision constant power output of 1200W/1500W/3000W, wider output voltage/current range
- + High output resolution 10mV / 1mA
- + Supports 100-step LIST waveform programmable output
- + CV / CC priority, with adjustable rise/fall time
- + Built-in discharge circuit for output
- + Supports photovoltaic simulator output function, embedded with EN50530, Sandia and other PV standard curves for direct evaluation of PV inverter MPPT efficiency.
- + Supports analog input and output as well as dry contact functionality
- + 3.9" TFT LCD, capable of real-time display of voltage/current/power curves and online recording of 1-minute data



**3.9" TFT LCD color screen displays real-time voltage/current curves, records 1-minute data online, and integrates source-meter capabilities for easy detection and capture of load anomalies.**



### Programmable LIST Waveform Output Function

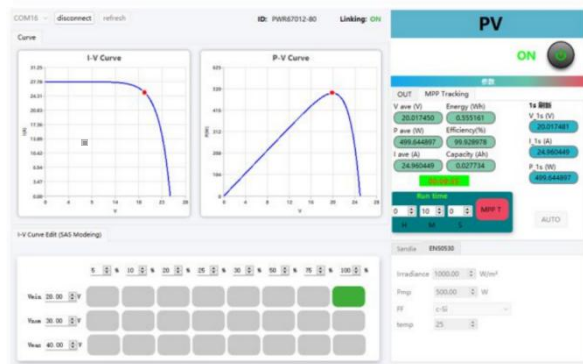
Power supply supports up to 100 sequence steps, with step durations from 1 ms to 28 hours. Users can customize each step for sequential constant voltage or constant current output, meeting specific testing requirements effectively.

| STEP | VOLTAGE ( V ) | CURRENT ( A ) | TIME ( s ) |
|------|---------------|---------------|------------|
| 1    | 10.00         | 00.500        | 1.000      |
| 2    | 12.00         | 00.500        | 1.000      |
| 3    | 14.00         | 00.500        | 1.000      |
| 4    | 16.00         | 00.500        | 1.000      |
| 5    | 18.00         | 00.500        | 1.000      |
| 6    | 20.00         | 00.500        | 1.000      |

Ver : 1.0.0

### Capable of both Outputting and Testing ( optional )

The power supply supports photovoltaic simulator output function, with built-in EN50530, Sandia, and other PV standard curves, allowing users to easily evaluate the MPPT efficiency of PV inverters.



### Parallel Mode

The power supply supports multiple units in both parallel and series configurations, expanding the maximum power to 9 kW, with a maximum voltage output of 600V and maximum current output of 300A.



the parallel unit functions as individual unit

no calibration needed at parallel connection mode

For more units in series or parallel, please contact us.

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

| Model   |         | OWH67012                                     | OWH67020    | OWH67030    |
|---|---------|--|-------------|-------------|
| Power   |         | 1200W  | 2000W       | 3000W       |
| Power Supply  |         | 85Vac-265Vac, 45-65Hz                        |             |             |
| Load Regulation<br>± (% of Output+Offset) (10%-90%) | CV      | ≤0.03%+10mV                                  | ≤0.03%+10mV | ≤0.03%+10mV |
|   | CC      | ≤0.05%+30mA                                  | ≤0.05%+30mA | ≤0.05%+30mA |
| linear Regulation<br>± (% of Output+Offset)         | CV      | ≤0.01%+10mV                                  | ≤0.01%+10mV | ≤0.01%+10mV |
|   | CC      | ≤0.05%+30mA                                  | ≤0.05%+30mA | ≤0.05%+30mA |
| Settings Resolution                                 |         | 10mV/1mA                                     |             |             |
| Read Back Resolution                                |         | 10mV/1mA                                     |             |             |
| Settings Accuracy ( 25°C±5°C, within 12 months )    |         | ≤0.05% ± 20mV ; ≤0.1% ± 30mA                 |             |             |
| Read Back Accuracy ( 25°C±5°C )                     |         | ≤0.05% ± 20mV ; ≤0.1% ± 30mA                 |             |             |
| Noise and ripple (*)                                | Voltage | ≤100mVp-p                                    | ≤150mVp-p   | ≤150mVp-p   |
|   | Current | ≤50mArms                                     | ≤30mArms    | ≤50mArms    |
| Temperature Coefficient ( 0°C - 40°C )              |         | 100ppm/°C ( Voltage ), 200ppm/°C ( Current ) |             |             |
| Read Back Temperature Coefficient                   |         | 100ppm/°C ( Voltage ), 200ppm/°C ( Current ) |             |             |
| recovery time ( 0% ~ 100% load )                    |         | ≤5ms   |             |             |
| Operation Temperature                               |         | 0-40°C                                       |             |             |
| Communication Interface                             |         | USB, LAN (optional)                          |             |             |
| Display   |         | 3.9 inch LCD                                 |             |             |
| Dimension ( W x H x D )                             |         | 214.6 x 8 x 453 (mm)                         |             |             |
| Device Weight                                       |         | 6.40kg                                       | 6.80kg      | 6.80kg      |

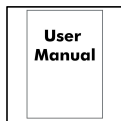
| Order No.     | Order Information                |
|---------------|----------------------------------|
| OWH67012-80L  | 0-80.000V/0-30.000A/1200.0W; 1ch |
| OWH67012-150L | 0-150.000V/0-20.000A/1200.0W;1ch |
| OWH67012-300L | 0-300.000V/0-10.000A/1200.0W;1ch |
| OWH67020-150L | 0-150.000V/0-20.000A/2000.0W;1ch |
| OWH67020-300L | 0-300.000V/0-10.000A/2000.0W;1ch |
| OWH67030-150L | 0-150.000V/0-30.000A/3000.0W;1ch |
| OWH67030-300L | 0-300.000V/0-15.000A/3000.0W;1ch |
| OWH67-S       | solar panel simulator            |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



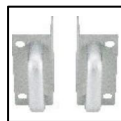
Power Cord



User Manual



USB Cable



Handle

# OWP-H High Power DC Power Supply

- + 2U/ 3U standard embedded height
- + High output resolution 1 mV / 0.1 mA
- + Constant power output, and wider output voltage, current range
- + SCOPE display mode to read voltage / current / power curve directly
- + CV / CC priority, with adjustable rise/fall time
- + List edit function for 50 group timed output
- + Function generating function to get access to rich dynamic waveform
- + Remote voltage compensation
- + Parallel by multi-device to expand power range up to 128KW
- + Support to save/ recall 128 group application data
- + 4.3 " TFT LCD
- + Standard RS485 communication interface, and optional dry node/ analog interface
- + Smart temperature sensitive fan



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

|                                       | 1KW                            | 2KW                        | 3KW            | 6KW                            | 8KW |
|---------------------------------------|--------------------------------|----------------------------|----------------|--------------------------------|-----|
| Power                                 | 1-phase, 220VAC±10%, 50 - 60Hz |                            |                | 3-phase, 380VAC±10%, 50 - 60Hz |     |
| <b>DC Voltage</b>                     |                                |                            |                |                                |     |
| Output Voltage Accuracy               | < 0.1% of rated value          |                            |                |                                |     |
| Load Regulation                       | < 0.05% of rated value         |                            |                |                                |     |
| Linear Regulation ( ±10% of Δ UAC )   | < 0.05% of rated value         |                            |                |                                |     |
| Adjustment Time (with 10 - 100% load) | < 5ms                          |                            |                |                                |     |
| Slew Rate ( 10 - 90% )                | < 20ms-60s                     |                            |                |                                |     |
| Voltage Compensation                  | < 5 % of rated voltage         |                            |                |                                |     |
| Ripple                                | < 0.1% of rated value          |                            |                |                                |     |
| <b>DC Current</b>                     |                                |                            |                |                                |     |
| Output Current Accuracy               | < 0.15% of rated value         |                            |                |                                |     |
| Load Regulation ( 1 - 100% )          | < 0.1% of rated value          |                            |                |                                |     |
| Linear Regulation ( ±10% of Δ UAC )   | < 0.05% of rated value         |                            |                |                                |     |
| Power Accuracy                        | < 0.3% of rated value          |                            |                |                                |     |
| <b>Insulation</b>                     |                                |                            |                |                                |     |
| AC Input to Enclosure                 | 1500VDC                        |                            |                |                                |     |
| AC Input to DC Output                 | 1500VDC                        |                            |                |                                |     |
| DC Output to Enclosure ( PE )         | 2000VDC                        |                            |                |                                |     |
| <b>Other</b>                          |                                |                            |                |                                |     |
| Protection                            | OVP, OCP, OLP, OTP             |                            |                |                                |     |
| Digital Interface                     | RS485, RS232 ( optional )      |                            |                |                                |     |
| Dry Contact Input/Output              | √                              |                            |                |                                |     |
| Cooling                               | air                            |                            |                |                                |     |
| Operating Temperature                 | -5°C-45°C                      |                            |                |                                |     |
| Storage Temperature                   | -20°C-60°C                     |                            |                |                                |     |
| Relative Humidity                     | < 80%                          |                            |                |                                |     |
| Dimension ( W x H x D )               | 325 x 88 x 450mm (1KW)         | 425 x 88 x 450mm (2KW,3KW) |                | 425 x 132 x 551mm (6KW, 8KW)   |     |
| Device Weight                         | 9.00kg (1KW)                   | 11.00 kg (2KW)             | 14.00 kg (3KW) | 25.00 kg (6KW.8KW)             |     |

Specifications subject to change without prior notice.

| Model    | Voltage | Current | Power | Interface               |
|----------|---------|---------|-------|-------------------------|
| OWP1006H | 60.00V  | 30.000A | 1000W | CAN, RS485, dry contact |
| OWP1010H | 100.00V | 15.000A | 1000W | CAN, RS485, dry contact |
| OWP1020H | 200.00V | 8.0000A | 1000W | CAN, RS485, dry contact |
| OWP1030H | 300.00V | 5.0000A | 1000W | CAN, RS485, dry contact |
| OWP2004H | 45.000V | 100.00A | 2000W | CAN, RS485, dry contact |
| OWP2006H | 60.000V | 80.000A | 2000W | CAN, RS485, dry contact |
| OWP2008H | 80.000V | 60.000A | 2000W | CAN, RS485, dry contact |
| OWP2010H | 100.00V | 45.000A | 2000W | CAN, RS485, dry contact |
| OWP2015H | 150.00V | 30.000A | 2000W | CAN, RS485, dry contact |
| OWP2020H | 200.00V | 23.000A | 2000W | CAN, RS485, dry contact |
| OWP2030H | 300.00V | 15.000A | 2000W | CAN, RS485, dry contact |
| OWP2040H | 400.00V | 12.000A | 2000W | CAN, RS485, dry contact |
| OWP2050H | 500.00V | 9.0000A | 2000W | CAN, RS485, dry contact |
| OWP2060H | 600.00V | 8.0000A | 2000W | CAN, RS485, dry contact |
| OWP3004H | 45.000V | 100.00A | 3000W | CAN, RS485, dry contact |
| OWP3006H | 60.000V | 80.000A | 3000W | CAN, RS485, dry contact |
| OWP3008H | 80.000V | 60.000A | 3000W | CAN, RS485, dry contact |
| OWP3010H | 100.00V | 45.000A | 3000W | CAN, RS485, dry contact |
| OWP3015H | 150.00V | 30.000A | 3000W | CAN, RS485, dry contact |
| OWP3020H | 200.00V | 23.000A | 3000W | CAN, RS485, dry contact |
| OWP3030H | 300.00V | 15.000A | 3000W | CAN, RS485, dry contact |
| OWP3040H | 400.00V | 12.000A | 3000W | CAN, RS485, dry contact |
| OWP3050H | 500.00V | 9.0000A | 3000W | CAN, RS485, dry contact |
| OWP3060H | 600.00V | 8.0000A | 3000W | CAN, RS485, dry contact |
| OWP6010H | 100.00V | 100.00A | 6000W | CAN, RS485, dry contact |
| OWP6015H | 150.00V | 67.000A | 6000W | CAN, RS485, dry contact |
| OWP6020H | 200.00V | 50.000A | 6000W | CAN, RS485, dry contact |
| OWP6025H | 250.00V | 40.000A | 6000W | CAN, RS485, dry contact |
| OWP6030H | 300.00V | 34.000A | 6000W | CAN, RS485, dry contact |
| OWP6040H | 400.00V | 25.000A | 6000W | CAN, RS485, dry contact |
| OWP6050H | 500.00V | 20.000A | 6000W | CAN, RS485, dry contact |
| OWP6060H | 600.00V | 17.000A | 6000W | CAN, RS485, dry contact |
| OWP6100H | 1000.0V | 10.000A | 6000W | CAN, RS485, dry contact |
| OWP6150H | 1500.0V | 4.0000A | 6000W | CAN, RS485, dry contact |
| OWP8010H | 100.00V | 100.00A | 8000W | CAN, RS485, dry contact |
| OWP8015H | 150.00V | 67.000A | 8000W | CAN, RS485, dry contact |
| OWP8020H | 200.00V | 50.000A | 8000W | CAN, RS485, dry contact |
| OWP8025H | 250.00V | 40.000A | 8000W | CAN, RS485, dry contact |
| OWP8030H | 300.00V | 34.000A | 8000W | CAN, RS485, dry contact |
| OWP8040H | 400.00V | 25.000A | 8000W | CAN, RS485, dry contact |
| OWP8050H | 500.00V | 20.000A | 8000W | CAN, RS485, dry contact |
| OWP8060H | 600.00V | 17.000A | 8000W | CAN, RS485, dry contact |
| OWP8100H | 1000.0V | 10.000A | 8000W | CAN, RS485, dry contact |
| OWP8150H | 1500.0V | 5.0000A | 7500W | CAN, RS485, dry contact |

**+ Accessories** The accessories subject to final delivery.



Quick Guide



Power Cord (1KW)



Power Cord (2/3KW)

# SPM DC Power supply & Multimeter

- + DC power supply+multimeter
- + Small body for easy carry
- + 2.8 inch color LCD display
- + USB communication interface, support SCPI

### Power Supply Specifications

- + 150W/300W output power
- + High resolution: 10mV / 1 mA
- + List waveform editing output, editable 10 groups of timing output function
- + Over voltage / over current protection
- + Output voltage and current curve monitoring function

### Multimeter Specifications :

- + 4 1/2 digits multimeter
- + Support Voltage, Current, Capacitance, Resistance, Continuity, and Diode test



| Model                                 | SPM3051                           | SPM6053 | SPM3103 | SPM6103 |
|---------------------------------------|-----------------------------------|---------|---------|---------|
| Channel                               | 1                                 |         |         |         |
| Interface                             | USB Device, USB Host (5V1A)       |         |         |         |
| Dimension (W x H x D) / Device Weight | 82 x 142 x 226 mm, Approx. 2.5 kg |         |         |         |

**DC Power Specifications** \* Noise bandwidth 20MHz, ripple bandwidth 1 MHz, connect 10uF electrolytic capacitor in parallel with 0.1uF ceramic capacitor to the output terminal for testing.

|                                     |                                  |         |        |         |                    |
|-------------------------------------|----------------------------------|---------|--------|---------|--------------------|
| Rated Output<br>(0°C-40°C)          | Voltage                          | 0 - 30V | 0 -60V | 0 - 30V | 0 -60V             |
|                                     | Current                          | 5A      | 5A     | 10A     | 10A                |
|                                     | Power                            | 150W    | 300W   | 300W    | 300W               |
| Load Regulation                     | ≤30mV (Voltage); ≤20mA (Current) |         |        |         |                    |
| Power Regulation                    | ≤30mV (Voltage); ≤20mA (Current) |         |        |         |                    |
| Setting Resolution                  | 10mV (Voltage); 1mA (Current)    |         |        |         |                    |
| Readback Resolution                 | 10mV (Voltage); 1mA              |         |        |         |                    |
| Ripple/ Noise(*)                    | ≤30mVp-p (Voltage)               |         |        |         | ≤50mVp-p (Voltage) |
|                                     | ≤3mVrms (Voltage)                |         |        |         | ≤5mVrms (Voltage)  |
|                                     | ≤30mAp-p (Current)               |         |        |         |                    |
| Response Time (50%-100% rated load) | ≤1.0ms                           |         |        |         |                    |
| Storage                             | 4 groups of data                 |         |        |         |                    |

### Multimeter Specifications

|                    |  |            |   |
|--------------------|--|------------|---|
| Full Scale Reading | 4½ digits  | Auto Range | √ |
| Measure            | Voltage, Current, Capacitance, Resistance, Continue, Diode (0-2V) test   |            |   |
| Voltage            | DCV: 200.00mV: ±(0.3%±10digit), 2.0000V, 20.000V, 200.00V, 1000V: ±(0.3%±5digit),<br>ACV: 200.00mV, 2.0000V, 20.000V, 200.00V: ±(0.8%±10digit) 750V: ±(1%±10digit) |            |   |
| Current            | DCA: 200.00mA:±(0.8%±10digit), 10.000A: ±(2.5%±10digit),<br>ACA: 200.00mA:±(1%±10digit), 10.000A: ±(2.8%±10digit)  |            |   |
| Impedance          | 00Ω, 2.0000kΩ, 20.000kΩ, 200.00kΩ, 2.0000MΩ: ±(0.8%±10digit),<br>20.000MΩ: ±(1%±3digit), 100MΩ: ±(5%±10digit)  |            |   |
| Capacitance        | 20.000nF, 200.00nF, 2.0000uF, 20.000uF, 200.00uF, 2.0000mF: ±(3.0%±10digit)  |            |   |

Noise bandwidth 20MHz,ripple bandwidth 1MHz, connect 10uF electrolytic capacitor in parallel with 0.1uF ceramic capacitor to eht output terminal for testing.

Specifications subject to change without prior notice.

### + Accessories The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Test Leads ( optional )

# SPS Programmable DC power supply

- + Fan less to achieve ultra-quiet design
- + Small body for easy carry
- + High resolution: 10mV / 1mA
- + List waveform editing output, editable 10 groups of timing output function
- + Low ripple / noise
- + Over voltage / over current protection
- + Output voltage and current curve monitoring function
- + 2.8-inch TFT LCD display
- + USB communication interface, support SCPI



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

| Model  | SPS6051                    |               | SPS3081      |
|--|----------------------------|---------------|--------------|
| Input  | 85V-265V (45- 65Hz)        |               |              |
| Rated Output<br>(0°C-40°C)                   | Voltage                    | 0 - 60V       | 0 - 30V      |
|  | Current                    | 0 - 5A        | 0 - 8A       |
|  | Power                      | 150W          | 120W         |
| Load Regulation                              | Voltage                    | ≤30mV         |              |
|  | Current                    | ≤20mA         |              |
| Power Regulation                             | Voltage                    | ≤30mV         |              |
|  | Current                    | ≤20mA         |              |
| Setting Resolution                           | Voltage                    | 10mV          |              |
|  | Current                    | 1mA           |              |
| Readback Resolution                          | Voltage                    | 10mV          |              |
|  | Current                    | 1mA           |              |
| Setting Accuracy<br>(25°C±5°C)               | Voltage                    | ≤0.05% ± 20mV | ≤0.1% ± 20mV |
|  | Current                    | ≤0.05% ± 20mA | ≤0.2% ± 20mA |
| Readback Accuracy<br>(25°C±5°C)              | Voltage                    | ≤0.05% ± 20mV | ≤0.1% ± 20mV |
|  | Current                    | ≤0.05% ± 20mV | ≤0.2% ± 20mA |
| Ripple/ Noise(*)                             | Voltage                    | ≤30mVp-p      | ≤30mVp-p     |
|  | Voltage                    | ≤4mVrms       | ≤5mVrms      |
|  | Current                    | ≤10mA p-p     | ≤30mA p-p    |
| Output temperature coefficient<br>(0°C-40°C) | Voltage                    | 100ppm/°C     |              |
|  | Current                    | 200ppm/°C     |              |
| Readback temperature coefficient             | Voltage                    | 100ppm/°C     |              |
|  | Current                    | 200ppm/°C     |              |
| Response Time ( 50%-100% rated load )        | ≤1.0ms                     |               |              |
| Storage                                      | 4 groups of data           |               |              |
| Display                                      | 2.8 inch color LCD display |               |              |
| Interface                                    | USB Device                 |               |              |
| Dimension ( W x H x D )                      | 82 × 142 × 226 (mm)        |               |              |
| Device Weight                                | Approx. 1.8kg              |               |              |

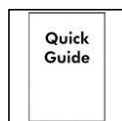
Noise bandwidth 20MHz, ripple bandwidth 1MHz, connect 10uF electrolytic capacitor in parallel with 0.1uF ceramic capacitor to the output terminal for testing.

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



Fuse



USB Cable



Test Leads ( optional )

# SPE Single Channel Digital DC Power Supply

- + Ultra-thin body, portable and easy to use
- + 150W / 200W / 300W constant power design, wide application range
- + Over voltage / over current protection
- + Power-on automatic output setting function, suitable for nattended occasions
- + 4 groups of Memory shortcut parameters for quick output
- + USB Device communication port, support SCPI
- + Constant voltage CV/constant current CC mode, effectively protect the circuit



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

| Model  |         | SPE3051(U)  | SPE3102(U) | SPE6102(U) | SPE6053(U)                          | SPE3103(U) | SPE6103(U) | SPE8104   | SPE8205  |
|--|---------|---|------------|------------|-------------------------------------|------------|------------|---|--|
| Rated Output<br>(0°C-40°C)                   | Voltage | 0 - 30V   | 0 - 30V    | 0 - 60V    | 0 - 60V                             | 0 - 30V    | 0 - 60V    | 0 - 80V   | 0 - 80V  |
|  | Current | 5A  | 10A        | 10A        | 5A                                  | 10A        | 10A        | 10A   | 20A  |
|  | Power   | 150W  | 200W       | 200W       | 300W                                | 300W       | 300W       | 400W  | 500W   |
| OVP  |         | 31V   | 31V        | 61V        | 61V                                 | 31V        | 61V        | 85V   | 85V  |
| OCP  |         | 5.1A  | 10.1A      | 10.1A      | 5.1A                                | 10.1A      | 10.1A      | 11A   | 21A  |
| OTP  |         | 85°C  |            |            |                                     |            |            |   |  |
| USB Output                                   |         | 5V/ 1A ( SPE series ) or 18W output, for fast charging under QC 2.0, QC 3.0, BC 1.2, and mainstream quick charging protocols ( SPE-U series ) |            |            |                                     |            |            |   | —  |
| Load Regulation                              |         | ≤20mV ( Voltage ), ≤10mA ( Current )  |            |            |                                     |            |            |   |  |
| Power Regulation                             |         | ≤20mV ( Voltage ), ≤10mA ( Current )  |            |            |                                     |            |            |   |  |
| Setting Resolution                           |         | 10mV / 1mA  |            |            |                                     |            |            |   |  |
| Readback Resolution                          |         | 10mV / 1mA  |            |            |                                     |            |            |   |  |
| Setting Accuracy<br>(25°C±5°C)               |         | ≤0.1% ± 20mV ( Voltage ), ≤0.1% ± 20mA ( Current )  |            |            |                                     |            |            |   | ≤0.05% ± 20mV (Voltage)<br>≤0.05% ± 20mA (Current) |
| Readback Accuracy<br>(25°C±5°C)              |         | ≤0.1% ±20mV ( Voltage ), ≤0.1% ± 20mA ( Current )   |            |            |                                     |            |            |   | ≤0.05% ± 20mV (Voltage)<br>≤0.05% ± 20mA (Current) |
| Ripple/ Noise (*)                            |         | ≤50mVp-p, ≤15mA p-p   |            |            |                                     |            |            |   |  |
| Response Time<br>( 50%-100% rated load )     |         | ≤1.0ms  |            |            |                                     |            |            |   | ≤5.0ms   |
| Output temperature<br>coefficient (0°C-40°C) |         | 100ppm/°C ( Voltage ),<br>200ppm/°C ( Current )   |            |            | Readback temperature<br>coefficient |            |            | 100ppm/°C ( Voltage ),<br>200ppm/°C ( Current ) |  |
| Storage                                      |         | 4 groups of data  |            |            | Display                             |            |            | 2.8 inch color LCD display                      |  |
| Interface                                    |         | USB Device  |            |            | Dimension ( W x H x D ) / Weight    |            |            | 82 × 142 × 226 mm, Approx. 1.8kg                |  |

\*Noise bandwidth 20MHz, ripple bandwidth 1MHz, connect 10uF electrolytic capacitor in parallel with 0.1uF ceramic capacitor to the output terminal for testing.

Specifications subject to change without prior notice.

## + Accessories The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Fuse



Test Leads ( optional )

# SP Single Channel Digital DC Power Supply



- + Small body for easy carry
- + 150W/ 300W maximum output power
- + Constant power design, providing a combination of multiple ranges of voltage and current settings
- + Low ripple/ noise
- + Over voltage/over current protection
- + Intelligent temperature control fan cooling
- + Support RS232 digital communication

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

| Model  |                          | SP3051               | SP3101       | SP6101       | SP6053       | SP3103  | SP6103       |
|--|--------------------------|----------------------|--------------|--------------|--------------|---------|--------------|
| Rated Output<br>(0°C-40°C)                   | Voltage                  | 0 - 30V              | 0 - 30V      | 0 -60V       | 0 -60V       | 0 - 30V | 0 -60V       |
|  | Current                  | 5A                   | 10A          | 10A          | 5A           | 10A     | 10A          |
|  | Power                    | 150W                 |              |              | 300W         |         |              |
| Load Regulation                              | Voltage                  | ≤30mV                |              |              |              |         |              |
|  | Current                  | ≤30mA                |              |              |              |         |              |
| Power Regulation                             | Voltage                  | ≤20mV                |              |              |              |         |              |
|  | Current                  | ≤20mA                |              |              |              |         |              |
| Setting Resolution                           | Voltage                  | 10mV                 |              |              |              |         |              |
|  | Current                  | 1mA                  |              |              |              |         |              |
| Readback Resolution                          | Voltage                  | 10mV                 |              |              |              |         |              |
|  | Current                  | 1mA                  |              |              |              |         |              |
| Value Resolution<br>(25°C±5°C)               | Voltage                  | ≤0.1% ± 20mV         |              | ≤0.1% ± 30mV | ≤0.1% ± 20mV |         | ≤0.1% ± 30mV |
|  | Current                  | ≤0.1% ± 10mA         |              |              |              |         |              |
| Readback Value Resolution<br>(25°C±5°C)      | Voltage                  | ≤0.1% ±20mV          |              | ≤0.1% ± 30mV | ≤0.1% ± 20mV |         | ≤0.1% ± 30mV |
|  | Current                  | ≤0.1% ± 10mA         |              |              |              |         |              |
| Ripple/Noise (*)<br>(20Hz-20MHz)             | Voltage                  | ≤30mVp-p             |              | ≤50mVp-p     | ≤30mVp-p     |         | ≤50mVp-p     |
|  | Voltage                  | ≤3mVrms              |              | ≤5mVrms      | ≤3mVrms      |         | ≤5mVrms      |
|  | Current                  | ≤30mA <sub>p-p</sub> |              |              |              |         |              |
| Output temperature<br>coefficient (0°C-40°C) | Voltage                  | ≤0.3% ± 10mV         |              | ≤0.3% ± 20mV | ≤0.3% ± 10mV |         | ≤0.3% ± 20mV |
|  | Current                  | ≤0.3% ± 10mA         | ≤0.3% ± 20mA |              |              |         |              |
| Read Back Temperature<br>Coefficient         | Voltage                  | ≤0.3% ± 10mV         |              | ≤0.3% ± 20mV | ≤0.3% ± 10mV |         | ≤0.3% ± 20mV |
|  | Current                  | ≤0.3% ± 10mA         | ≤0.3% ± 20mA |              |              |         |              |
| Response Time                                | ≤1.0ms                   |                      |              |              |              |         |              |
| Storage                                      | 5 groups of data         |                      |              |              |              |         |              |
| Working Temperature                          | 0-40°C                   |                      |              |              |              |         |              |
| Interface                                    | RS232                    |                      |              |              |              |         |              |
| Display                                      | 4 inch color LCD display |                      |              |              |              |         |              |
| Dimension ( W x H x D )                      | 117 x 194 x 295 mm       |                      |              |              |              |         |              |
| Device Weight                                | Approx. 3. 00kg          |                      |              |              |              |         |              |

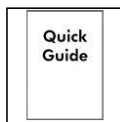
\*Noise bandwidth 20MHz,ripple bandwidth 1MHz, connect 10uF electrolytic capacitor in parallel with 0.1uF ceramic capacitor to eht output terminal for testing.

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



Fuse



Test Leads  
( optional )



RS232 to USB Module  
( optional )

# P4000 Single 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



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

| Model                                     | P4305                      | P4603                   |
|---|----------------------------|-------------------------|
| Output Power                              | 150W                       | 180W                    |
| DC Output Rating                          | 0 - 30V / 0 - 5A * 1-CH    | 0 - 60V / 0 - 3A * 1-CH |
| Load Regulation                           | ≤0.01%+3mV, ≤0.01% + 3mA   |                         |
| Power Regulation                          | ≤0.01% + 3mV, ≤0.01% + 3mA |                         |
| Setting Resolution                        | 1mV, 1mA                   |                         |
| Readback Resolution                       | 1mV, 1mA                   |                         |
| Settings Accuracy (25°C±5°C)              | ≤0.03% + 10mV, ≤0.1% + 5mA |                         |
| Readback Value Resolution (25°C±5°C)      | ≤0.03% + 10mV, ≤0.1% + 5mA |                         |
| Ripple/Noise (20Hz-20MHz) (*)             | ≤4mVp-p, ≤1mVrms, ≤4mArms  |                         |
| Output Temperature Coefficient (0°C-40°C) | ≤0.03% + 10mV, ≤0.1% + 5mA |                         |
| Read Back Temperature Coefficient         | ≤0.03% + 10mV, ≤0.1% + 5mA |                         |
| Response Time                             | 100 μs                     |                         |
| Storage                                   | 5 groups of data           |                         |
| Working Temperature                       | 0-40°C                     |                         |
| Interface                                 | USB ( optional ), RS232    |                         |
| Display                                   | 3.7 inch colored LCD       |                         |
| Dimension ( W x H x D )                   | 117 x 194mm x 295 mm       |                         |
| Device Weight                             | Approx. 5.8kg              |                         |

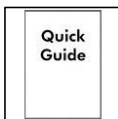
\*Noise bandwidth 20MHz,ripple bandwidth 1MHz, connect 10uF electrolytic capacitor in parallel with 0.1uF ceramic capacitor to eht output terminal for testing.

Specifications subject to change without prior notice.

## + Accessories The accessories subject to final delivery.



Power Cord



Quick Guide



Fuse



Test Leads  
( optional )



RS232 to USB Module  
( optional )

# ODP Triple Channel Programmable DC Power Supply

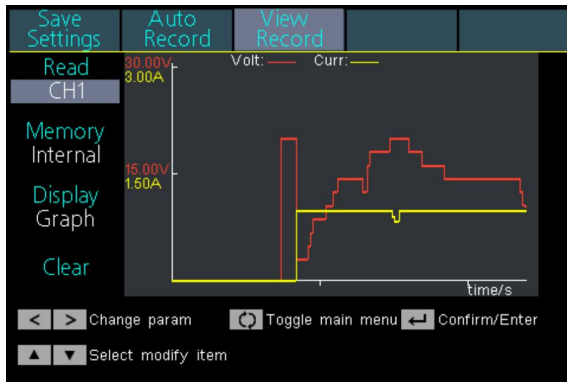
Max  
**378W**  
power output

- + 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, LabVIEW and USB TMC protocol supported



## Creative Data Recording Function

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



| NO. | Volt   | 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   | Channel                                | Max Output Power | Output Range                  |
|---------|--|------------------|-------------------------------|
| ODP3033 | 3 ( independent controllable channel ) | 198W             | 30V / 3A    30V / 3A, 6V / 3A |
| ODP3053 |  | 318W             | 30V / 5A    30V / 5A, 6V / 3A |
| ODP3063 |  | 378W             | 30V / 6A    30V / 6A, 6V / 3A |
| ODP6033 |  | 378W             | 60V / 3A    60V / 3A, 6V / 3A |

| Model                   | ODP3033   | ODP3053         | ODP3063 | ODP6033 |
|-------------------------|---|-----------------|---------|---------|
| Display                 | 4 inch color LCD 480 x 320 pixels, 65536 colors |                 |         |         |
| Dimension ( W x H x D ) | 250 × 158 × 358 mm                              |                 |         |         |
| Device Weight           | Approx. 9.80kg                                  | Approx. 12.00kg |         |         |

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

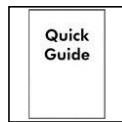
| Model                                     |  | ODP3033     |     | ODP3053 |     | ODP3063 |     | ODP6033 |     |           |
|---|--|-------------|-----|---------|-----|---------|-----|---------|-----|-----------|
| Channel                                   |  | CH1         | CH2 | CH1     | CH2 | CH1     | CH2 | CH1     | CH2 | CH3       |
| Output Ratings (0°C - 40°C)               | Voltage  | 0-30V       |     | 0-30V   |     | 0-30V   |     | 0-60V   |     | 0-6V      |
|   | Over Voltage Protection  | 31V         |     | 31V     |     | 31V     |     | 61V     |     | 7V        |
|   | Current  | 0-3A        |     | 0-5A    |     | 0-6A    |     | 0-3A    |     | 0-3A      |
|   | Over Current Protection  | 3.1A        |     | 5.1A    |     | 6.1A    |     | 3.1A    |     | 3.1A      |
| 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         |     |         |     |         |     |         |     |           |
| Settings Accuracy (25°C ± 5°C)            | Voltage  | ≤0.03%+10mV |     |         |     |         |     |         |     |           |
|   | Current  | ≤0.1%+8mA   |     |         |     |         |     |         |     | ≤0.1%+5mA |
| Readback Value Resolution (25°C±5°C)      | Voltage  | ≤0.03%+10mV |     |         |     |         |     |         |     |           |
|   | Current  | ≤0.1%+8mA   |     |         |     |         |     |         |     | ≤0.1%+5mA |
| Ripple/Noise (20Hz-20MHz)                 | Voltage  | ≤2mVp-p     |     |         |     |         |     |         |     | ≤3mVp-p   |
|   | Voltage  | ≤300μVrms   |     |         |     |         |     |         |     |           |
|   | Current  | ≤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   |     |         |     |         |     |         |     |           |
| Parallel Settings Accuracy                | Voltage  | ≤0.02%+5mV  |     |         |     |         |     |         |     |           |
|   | Current  | ≤0.1%+30mA  |     |         |     |         |     |         |     |           |
| Programmable Output                       | Storage  | 1Mpts       |     |         |     |         |     |         |     |           |
|   |  | 100 groups  |     |         |     |         |     |         |     |           |
|   | Time Setting   | second      |     |         |     |         |     |         |     |           |
| Data Recording                            | 10K groups ( of voltage, current and power data ) recording capacity |             |     |         |     |         |     |         |     |           |
| Working Temperature                       | 0-40°C   |             |     |         |     |         |     |         |     |           |
| Interface                                 | USB Host, USB Device, RS232, LAN, Support USB TMC protocol           |             |     |         |     |         |     |         |     |           |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Fuse



Test Leads ( optional )

# ODP Dual Channel Programmable DC Power Supply

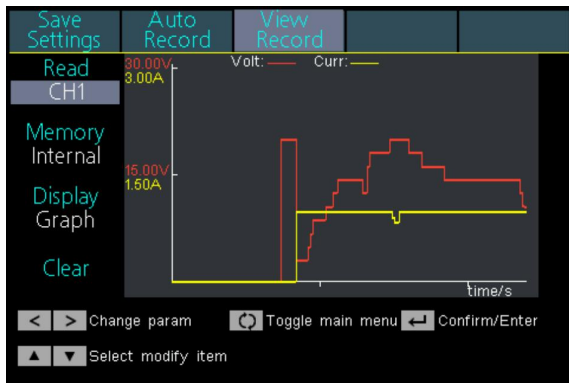


- + Two independent controllable channels + sense ( ODP3122, ODP6062 )
- + Two independent controllable channels + fixed ( ODP3032 )
- + Max output resolution : 1mV / 1mA
- + Low ripples / low noise
- + Up to 100 group timers
- + Over-voltage / Over-current protection
- + Data-logging function: could record the read back voltage and current, display recorded data in chart
- + 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 ( ODP3122, ODP6062 )

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



| NO. | Volt   | 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            | ODP3032  | ODP3122                                       | ODP6062                            |
|------------------|--|---|------------------------------------|
| Channel          | 2 ( independent controllable channel ) + fixed | 2 ( independent controllable channel ) +sense |                                    |
| Max Output Power | 195W   | 378W  |                                    |
| Output Range     | 0 - 30V / 0 - 3A , 5V / 3A                     | 0 - 30V / 0-12A ,<br>0 - 6V /0 - 3A           | 0 - 60V /0 - 6A,<br>0 - 6V /0 - 3A |

| Model                   | ODP3032   | ODP3122         | ODP6062 |
|-------------------------|---|-----------------|---------|
| Display                 | 4 inch color LCD 480 x 320 pixels, 65536 colors |                 |         |
| Dimension ( W x H x D ) | 250 x 158 x 358 mm                              |                 |         |
| Device Weight           | Approx. 10.5kg                                  | Approx. 12.00kg |         |

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

| Model                                  |              | ODP3032                              | ODP3122   | ODP6062 |
|--|--------------|--------------------------------------|---|---------|
| Load Regulation                        | Voltage      | $\leq 0.01\% + 3\text{mV}$           | $\leq 0.01\% + 3\text{mV}$  |         |
|  | Current      | $\leq 0.1\% + 3\text{mA}$            | $\leq 0.01\% + 3\text{mA}$  |         |
| Line Regulation                        | Voltage      | $\leq 0.01\% + 3\text{mV}$           | $\leq 0.01\% + 3\text{mV}$  |         |
|  | Current      | $\leq 0.2\% + 3\text{mA}$            | $\leq 0.01\% + 3\text{mA}$  |         |
| Setting Resolution                     | Voltage      | 1mV                                  | 1mV   |         |
|  | Current      | 1mA                                  | 1mA   |         |
| Read Back Resolution                   | Voltage      | 1mV(<10V), 10mV( $\geq 10\text{V}$ ) | 1mV   |         |
|  | Current      | 1mA                                  | 1mA   |         |
| Settings Accuracy<br>(25°C $\pm$ 5°C)  | Voltage      | $\leq 0.05\% + 3\text{mV}$           | $\leq 0.03\% + 10\text{mV}$   |         |
|  | Current      | $\leq 0.1\% + 3\text{mA}$            | $\leq 0.1\% + 8\text{mA}$   |         |
| Read Back Accuracy<br>(25°C $\pm$ 5°C) | Voltage      | $\leq 0.05\% + 3\text{mV}$           | $\leq 0.03\% + 10\text{mV}$   |         |
|  | Current      | $\leq 0.1\% + 3\text{mA}$            | $\leq 0.1\% + 8\text{mA}$   |         |
| Noise and Ripple<br>(20Hz - 20MHz)     | Voltage      | $\leq 2\text{mVp-p}$                 |   |         |
|  | Voltage      | $\leq 300\mu\text{Vrms}$             |   |         |
|  | Current      | $\leq 3\text{mA}_{\text{rms}}$       |   |         |
| Programmable Output                    | Storage      | 100 groups                           |   |         |
|  | Time Setting | second                               |   |         |
| Data Recording                         |              | /                                    | 10K groups ( of voltage, current and power data )<br>recording capacity |         |
| Working Temperature                    |              | 0 - 40°C                             |   |         |
| Communication Interface                |              | USB Device, RS232                    | USB Host& Device, RS232, and LAN  |         |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



USB Cable



Fuse



Test Leads ( optional )

# ODP3031 Single Channel Programmable DC Power Supply

- + One controllable channel + fixed
- + Max output resolution : 1mV / 1mA
- + Low ripples / low noise : <300  $\mu$ Vrms / 2 mVpp
- + Over-voltage / Over-current protection
- + Up to 100 group timers
- + Up to 10 group preset system configurations
- + Auto-cooling system
- + 4 inch high resolution ( 480 x 320 pixels ) LCD
- + USB2.0, and RS232 serial port digital communication supported



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

| Model                                     | ODP3031                                      |                                |
|---|--|--------------------------------|
| Channel                                   | Single Channel                               |                                |
| Channel Output                            | 105W   |                                |
| DC Output Rating                          | 0 - 30V / 0 - 3A * 1 -CH 5V/ 3A fixed output |                                |
| Load Regulation                           | Voltage                                      | $\leq 0.01\% + 3mV$            |
|   | Current                                      | $\leq 0.1\% + 3mA$             |
| Power Regulation                          | Voltage                                      | $\leq 0.01\% + 3mV$            |
|   | Current                                      | $\leq 0.2\% + 3mA$             |
| Setting Resolution                        | Voltage                                      | 1mV                            |
|   | Current                                      | 1mA                            |
| Readback Resolution                       | Voltage                                      | 1mV(< 10V), 10mV( $\geq 10V$ ) |
|   | Current                                      | 1mA                            |
| Settings Accuracy (5°C $\pm$ 5°C)         | Voltage                                      | $\leq 0.05\% + 3mV$            |
|   | Current                                      | $\leq 0.1\% + 3mA$             |
| Readback Value Resolution (5°C $\pm$ 5°C) | Voltage                                      | $\leq 0.05\% + 3dig$           |
|   | Current                                      | $\leq 0.1\% + 3dig$            |
| Ripple/Noise (20Hz - 20MHz)               | Voltage                                      | $\leq 2mVp-p$                  |
|   | Voltage                                      | $\leq 300\mu Vrms$             |
|   | Current                                      | $\leq 3mArms$                  |
| Storage                                   | 100 groups                                   |                                |
| Display                                   | 4 inch colored LCD                           |                                |
| Interface                                 | USB Device, RS232                            |                                |
| Dimension ( W x H x D )                   | 250 x 158 x 358 mm                           |                                |
| Device Weight                             | Approx. 7.00kg                               |                                |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



Power Cord



Quick Guide



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Test Leads ( optional )



RS232 to USB Module ( optional )

## OEL8500 Electronics Load

- + OEL8512 Series: DC 600V/40A, total power up to 400W
- + OEL8511 Series: DC 600V/20A, total power up to 200W
- + Dynamic mode: up to 5kHz
- + Readback resolution: 1mV/0.1mA
- + Over voltage/Over current/Overpower/Over temperature/Reverse Voltage protection
- + 4 static modes: CC, CV,CR,CP
- + Supports CC dynamic mode and short-circuit simulation
- + Adjustable current rise time range: 0.001A/μs~2A/μs
- + Supports multi-unit parallel operation ( except CV mode ), Communicates via RS485, and can be expanded to 10 units for a total of 4kW
- + Built-in RS232 and USB Device interfaces, supporting SCPI protocol and host computer communication
- + ½ 2U, standard rack mount size
- + 3.9-inch TFT LCD display



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

| Model                | OEL8512           | OEL8512B | OEL8512C | OEL8511           | OEL8511B | OEL8511C |        |
|----------------------|-------------------|----------|----------|-------------------|----------|----------|--------|
| Rated Output         | Voltage           | 0-150V   | 0-300V   | 0-600V            | 0-150V   | 0-300V   | 0-600V |
|                      | Current           | 0-40A    |          |                   | 0-20A    |          |        |
|                      | Power             | 400W     |          |                   | 200W     |          |        |
| Min. Operate Voltage | 1.1V@40A          |          |          | 0.8V@20A          |          |          |        |
| <b>CV Mode</b>       |                   |          |          |                   |          |          |        |
| Range                | 0-150V            | 0-300V   | 0-600V   | 0-150V            | 0-300V   | 0-600V   |        |
| Resolution           | 1mV               |          |          | 1mV               |          |          |        |
| Accuracy             | 0.05%+0.05%FS     |          |          | 0.05%+0.05%FS     |          |          |        |
| <b>CC Mode</b>       |                   |          |          |                   |          |          |        |
| Range                | 0-40A             |          |          | 0-20A             |          |          |        |
| Resolution           | 1mA               |          |          | 1mA               |          |          |        |
| Accuracy             | 0.03%+0.03%FS     |          |          | 0.03%+0.03%FS     |          |          |        |
| <b>CR Mode</b>       |                   |          |          |                   |          |          |        |
| Range                | 0.05Ω - 7.5kΩ     |          |          | 0.05Ω - 7.5kΩ     |          |          |        |
| Accuracy *1          | 0.1%+0.01%R       |          |          | 0.1%+0.01%R       |          |          |        |
| <b>CP Mode</b>       |                   |          |          |                   |          |          |        |
| Range                | 400W              |          |          | 200W              |          |          |        |
| Resolution           | 10mW              |          |          | 10mW              |          |          |        |
| Accuracy*1           | 0.1%+0.1%FS       |          |          | 0.1%+0.1%FS       |          |          |        |
| <b>Dynamic Mode</b>  |                   |          |          |                   |          |          |        |
| T1&T2                | 0.1ms-50s         |          |          | 0.1ms-50s         |          |          |        |
| Rise/Fall Slope      | 0.01A/ms-2000A/ms |          |          | 0.01A/ms-2000A/ms |          |          |        |
| Min. Rise Time       | 20us              |          |          | 20us              |          |          |        |

| Model            | OEL8512     |                | OEL8512B    |                | OEL8512C    |                |
|------------------|-------------|----------------|-------------|----------------|-------------|----------------|
| Voltage Readback |             |                |             |                |             |                |
| Range            | 0-15V       | 0-150V         | 0-30V       | 0-300V         | 0-60V       | 0-600V         |
| Resolution       | 1mV         |                |             |                |             |                |
| Accuracy         | 0.03%+7.5mV | 0.03%+0.025%FS | 0.03%+7.5mV | 0.03%+0.025%FS | 0.03%+7.5mV | 0.03%+0.025%FS |

| Model            | OEL8511     |                | OEL8511B    |                | OEL8511C    |                |
|------------------|-------------|----------------|-------------|----------------|-------------|----------------|
| Voltage Readback |             |                |             |                |             |                |
| Range            | 0-15V       | 0-150V         | 0-30V       | 0-300V         | 0-60V       | 0-600V         |
| Resolution       | 1mV         |                |             |                |             |                |
| Accuracy         | 0.03%+7.5mV | 0.03%+0.025%FS | 0.03%+7.5mV | 0.03%+0.025%FS | 0.03%+7.5mV | 0.03%+0.025%FS |

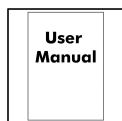
| Model                   | OEL8512  | OEL8512B | OEL8512C | OEL8511        | OEL8511B | OEL8511C |
|-------------------------|--|----------|----------|----------------|----------|----------|
| Current Readback        |  |          |          |                |          |          |
| Range                   | 0-40A  |          |          | 0-20A          |          |          |
| Resolution              | 0.1mA  |          |          | 0.1mA          |          |          |
| Accuracy                | 0.03%+0.03%FS  |          |          | 0.03%+0.03%FS  |          |          |
| Power Readback          |  |          |          |                |          |          |
| Range                   | 0-400W   |          |          | 0-200W         |          |          |
| Resolution              | 10mW   |          |          | 10mW           |          |          |
| Accuracy                | 0.1%+0.1%FS  |          |          | 0.1%+0.1%FS    |          |          |
| Protection              |  |          |          |                |          |          |
| Overpower Protection    | >OPP, 10ms delay protect   |          |          |                |          |          |
| Overvoltage Protection  | >OVP, 0.1ms delay protect  |          |          |                |          |          |
| Overcurrent Protection  | >OCP, 0.1ms delay protect  |          |          |                |          |          |
| Overtemperature         | 85°C   |          |          |                |          |          |
| Short                   |  |          |          |                |          |          |
| CC Mode                 | >40A   |          |          | >20A           |          |          |
| CV Mode                 | 0V   |          |          | 0V             |          |          |
| CR Mode                 | 50mΩ   |          |          | 50mΩ           |          |          |
| General                 |  |          |          |                |          |          |
| Interface               | RS-232 SCPI support  |          |          |                |          |          |
| Heat Dissipation        | Internal intelligent fan with forced air cooling   |          |          |                |          |          |
| Safety                  | Complies with European EMC Directive 89/336/EEC for Class A testing and measurement products |          |          |                |          |          |
| Withstand Voltage       | 500V/DC/1mA ( output to ground ); 1.5kVAC/5mA ( Input to ground )                            |          |          |                |          |          |
| Input Power             | 110V ±10% or 220V ±10%;50Hz/60Hz   |          |          |                |          |          |
| Dimension ( W x H x D ) | 375 x 215 x 88 mm  |          |          |                |          |          |
| Device Weight           | Approx. 4.00kg   |          |          | Approx. 2.00kg |          |          |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



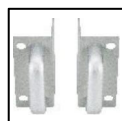
Power Cord



Manual



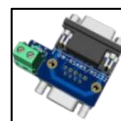
Fuse



Handle  
( optional )



RS232  
( optional )



Parallel Module  
( optional )



Test Leads (20A)  
( optional )

# LCR2000 LCR Meter

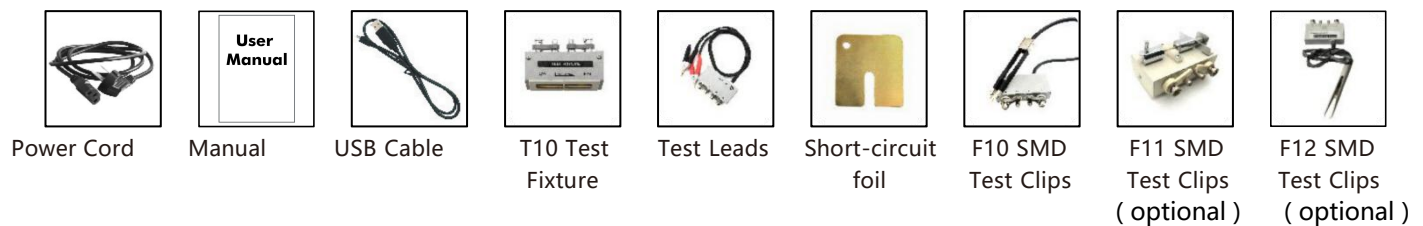
- + Consecutive test frequency
- + Basic accuracy : 0.05%
- + Measuring speed up to 40 times per second
- + Use 9-range test, auto, lock and nominal  
( the instrument automatically selects the best range based on nominal value )
- + DCR measurement and internal D.C. bias voltage ( $\pm 2.5V$ )
- + 3.5" color LCD
- + Interface : RS-232C, Handler, USB Host / Device
- + Support SCPI and ModbusRTU communication protocol



| Model                   | LCR2300  | LCR2200       | LCR2100       | LCR2020      |
|-------------------------|--|---------------|---------------|--------------|
| Test Function           | Cs-Rs, Cs-D, Cp-Rp, Cp-D, Lp-Rp, Lp-Q, Ls-Rs, Ls-Q, G-B, R-X, Z- $\theta$ r, Z- $\theta$ d, DCR  |               |               |              |
| Monitor Parameter       | Z, D, Q, r, d, R, X, G, B, Y, Vac, Lac, $\Delta$ , $\Delta$ %  |               |               |              |
| Basic Accuracy          | 0.05%( Slow/Med ), 0.1%( Fast )  |               |               |              |
| Test Frequency          | 10Hz - 300kHz  | 10Hz - 200kHz | 10Hz - 100kHz | 10Hz - 20kHz |
| Display Rang            | L: 0.00001uH - 9999.99H<br>C: 0.00001pF - 9999.99mF<br>R,X,Z: 0.00001 $\Omega$ - 99.9999M $\Omega$<br>B, G: 0.01nS - 999.999S<br>D: 0.00001 - 9.99999<br>Q: 0.00001 - 99999.9<br>$\theta$ d: -179.999 $^\circ$ - 179.999 $^\circ$<br>$\theta$ r: -3.14159 - 3.14159<br>%: -999.999% - 999.999% |               |               |              |
| Output impedance        | 30 $\Omega$ , 50 $\Omega$ , 100 $\Omega$   |               |               |              |
| Ranging                 | Auto, Hold and Nominal range. Total 9 Ranges   |               |               |              |
| DC Bias ( Internal )    | -2.50V - +2.50V  |               |               |              |
| Correction Function     | OPEN/SHORT   |               |               |              |
| Beep Feature            | OFF/PASS/FAIL and HIGH/LOW tone  |               |               |              |
| Storage                 | built-in 10 files  |               |               |              |
| Trigger Mode            | Internal, Manual, External and Remote Trigger  |               |               |              |
| Interface               | USB Host / Device, RS232, Handler  |               |               |              |
| Display                 | 3.5 inch LCD   |               |               |              |
| Dimension ( W x H x D ) | 264 x 107 x 350 mm   |               |               |              |
| Device Weight           | Approx. 3.00kg   |               |               |              |

Specifications subject to change without prior notice.

**+ Accessories** The accessories subject to final delivery.



# OWM5500 Smart Anemo Meter

- + 7 kinds of measurement: wind speed, air volume, temperature, humidity, etc., Supports Pufu wind rating
- + Charts display mode, can analyze trends, and perform statistics on data
- + Built-in 8000 sets of data storage, which can be stored automatically or manually, and supports data zero clearing with one click
- + Multi - gear setting, automatic power off, energy saving
- + Built-in lithium battery, can be connected to the charging bank through USB TYPE-C interface, providing longer use time
- + Support APP remote control
- + Supports the data graph mode, and can export the data for further analysis through PC software



### 7 Blades airfoil fan design more accurate data collection

Replaceable airfoil wheel to ensure long-term data accuracy and improve measurement accuracy.



### Full functional measurement

7 measurement values, supporting beaufort scale.



### Data record analysis function

Equipped with PC software, which can monitor the anemometer through USB Type-C interface, and extract the recorded data of the anemometer for further analysis.



### Lithium battery power supply

Built-in 1x 18650 lithium battery, which can be charged by the power bank, prolong the use of time.



| Measurement Type                      | Icon | Name       | Unit                                | Range            | Resolution | Accuracy | Response Time |
|---------------------------------------|------|------------|-------------------------------------|------------------|------------|----------|---------------|
| Wind speed                            |      | WIND SPD   | m/s, km/h, ft/s, kt, mph            | 0.6 - 40 m/s     | 0.1m/s     | ±3%+0.1  | 0.5s          |
| Temperature                           |      | TEMP       | °C, °F                              | -10 - 50 °C      | 0.1°C      | ±1.0°C   | 0.5s          |
| Humidity                              |      | HUMIDITY   | %RH                                 | 5 - 95 %RH       | 0.1%RH     | ±5.0%RH  | 0.5s          |
| Dew point                             |      | DEW POINT  | °C, °F                              | -40 - 50°C       | 0.1°C      | ±2.0°C   | 0.5s          |
| Wet bulb temperature                  |      | WET BULB   | °C, °F                              | -40 - 50°C       | 0.1°C      | ±2.0°C   | 0.5s          |
| Wind chill                            |      | WIND CHILL | °C, °F                              | -40 - 50°C       | 0.1°C      | ±2.0°C   | 0.5s          |
| Air volume                            |      | AIR FLOW   | CMS, CFS                            | 0.001 - 300.0CMS | 0.001CMS   |          | 0.5s          |
| Dimension ( W x H x D )/Device Weight |      |            | 136.5 × 30 × 64.5 mm, Approx. 0.2kg |                  |            |          |               |

Specifications subject to change without prior notice.

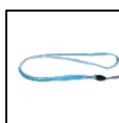
### + Accessories The accessories subject to final delivery.



Quick Guide



USB cable( Type-c )



Lanyard

## Differential probe



| Model                          | OD5140                   | OD5070                  | OD5015                  |
|--------------------------------|--------------------------|-------------------------|-------------------------|
| Bandwidth(-3dB)                | 100MHz                   | 50MHz                   | DC-100MHz (-3dB)        |
| Attenuation Ratio              | 1:1000;1:100             |                         |                         |
| Accuracy                       | ±1%                      |                         |                         |
| Input Impedance                | 10MΩ//2PF                |                         | 4MΩ//2PF                |
| Output Voltage (50KΩ Load)     | 7V                       |                         |                         |
| Offset                         | < ±5mV                   |                         |                         |
| Input Impedance                | 50Ω                      |                         |                         |
| CMRR                           | -80dB@60Hz, -50dB@100KHz |                         |                         |
| Input Differential Vp-p        | 14KV@1/1000 1.4KV@1/100  | 7000V@1/1000 700V@1/100 | 1500V@1/1000 150V@1/100 |
| Power Requirements ( options ) | 6VDC/300mA mains adaptor |                         |                         |
| Length of BNC Cable            | 90cm                     |                         |                         |
| Length of Input Leads          | 60cm                     |                         |                         |
| Weight                         | Approx. 500g             |                         |                         |
| Dimension ( WxHxD )            | 186x84x38mm              |                         | 165x69x26mm             |

## Current Probe



| Model                   | CP024                |                    |             |                       |            |              |                |
|-------------------------|----------------------|--------------------|-------------|-----------------------|------------|--------------|----------------|
| Test Range              | 1 mA - 400A          | AC<br>Current      | Range       | AC 4A                 | AC 40A     | AC 200A      | AC 200A - 400A |
| Resolution              | 1 mA                 |                    | Accuracy    | ±2.0% rdg±5d          |            | ±3.0% rdg±5d |                |
| Bandwidth               | DC ~ 200KHz ( ±3dB ) |                    | Sensitivity | 1 mV/ 10mA            | 1 mV/0. 1A | 1 mV/ 1A     |                |
| Jaw Size                | 23mm ( Max )         | DC<br>Current      | Range       | DC 4A                 | DC 40A     | DC 200A      | DC 200-400A    |
| Auto zero at Power- on  | √                    |                    | Accuracy    | ±1.5%rdg±5d           |            | ±3.0%rdg±5d  |                |
| Power Supply            | 9V 6LR61 Battery     |                    | Sensitivity | 1mV/10mA              | 1mV/0.1A   | 1mV/1A       |                |
| Operating Temperature   | 0°C to 40°C ≤70% RH  | operating Humidity |             | --10°C to 60°C 70% RH |            |              |                |
| Dimension ( W x H x D ) | 180 x 68 x 32 mm     |                    |             |                       |            |              |                |
| Weight                  | Approx. 250g         |                    |             |                       |            |              |                |

# High Voltage Probe



| Model                | OH5040  | OH5018  |
|----------------------|---|---|
| Max. Working Voltage | DC+AC ( peak )40KVCATII<br>AC( rms ): 27KVCATII | DC+AC ( peak )18KVCATII<br>AC( rms ): 12KVCATII |
| Thepulse             | <27KVp-p  | <12KVp-p  |
| Max. Loading Current | 43μA  | 90μA  |
| Bandwidth(-3dB)      | 50MHz   | 100MHz  |
| noise                | >60dBat1KHz, >50dBat1MHz                        |   |
| Attenuation Ratio    | 1000: 1   |   |
| Accuracy             | DC:≤3%;AC:≤3%(1KHz)                             |   |
| Impedance            | 900MΩ   | 200MΩ   |
| Input Capacitor      | 2PF   | 1.5PF   |
| Cable Length         | 2m±0.2m   |   |
| Temperature          | ≤200PPM/°C                                      |   |
| Operation Temp       | -10 ~ 55°C                                      |   |
| Dimension            | 80( W ) x 80( H ) x 320( L ) mm                 |   |
| Device Weight        | Approx. 460g                                    |   |

| Model                | OH5007  |
|----------------------|---|
| Max. Working Voltage | DC: 0-10KV<br>AC( rms ): 0 ~ 7KV; Vpp: 0-20KV( Pulse )          |
| Bandwidth(-3dB)      | 50MHz   |
| noise                | >60dB(1KHz), >50dB(1MHz)  |
| Attenuation Ratio    | 1: 1000   |
| Accuracy             | DC:±3%( DCto10KV)<br>AC:±3%(1KHz/1KV/1KHzRMS)<br>-3dB:0 ~ 40MHz |
| Impedance            | 100MΩ±5%  |
| Input Capacitor      | 3.0PF±0.5PF   |
| Cable Length         | 2m±0.2m   |
| Temperature          | ≤200PPM/°C  |
| Operation Temp       | 0 ~ +50°C   |
| Dimension            | 340mm x 80Φ ( cylindrical )                                     |
| Device Weight        | Approx. 250g  |



| Model                   | CP-07+                 |                    |             |                       |            |
|-------------------------|------------------------|--------------------|-------------|-----------------------|------------|
| Test Range              | 400mA - 4A             |                    | Range       | DCA 400mA             | DCA 4A     |
| Resolution              | 0.1 mA                 | DCCurrent          | Accuracy    | ±1.5% rdg±5d          |            |
| Bandwidth               | DC ~ 1MHz ( ± 3dB)     |                    | Sensitivity | 1 mV/ 1 mA            | 1 mV/ 10mA |
| Jaw Size                | 5mm ( Max )            |                    | Range       | ACA 400mA             | ACA 4A     |
| Auto Zero at Power-on   | √                      | ACCCurrent         | Accuracy    | ±2.0% rdg±5d          |            |
| Power Supply            | 9V 6F22 Battery        |                    | Sensitivity | 1 mV/ 1 mA            | 1 mV/ 10mA |
| Operating Temperature   | 0°C to 40°C<br>≤70% RH | Operating Humidity |             | -10°C to 60°C ≤70% RH |            |
| Dimension ( W x H x D ) | 215 x 36 x 58 mm       |                    |             |                       |            |
| Device Weight           | Approx. 200g           |                    |             |                       |            |

## Current Probe



| Model                   | OC5010                                |
|-------------------------|---------------------------------------|
| Measuring Range         | 0.05A-10A    10A-100A                 |
| Voltage                 | 1V Peak                               |
| Conversion Ratio        | 100mA/V    10mA/V                     |
| Bandwidth               | 100KHz                                |
| Diameter mouth diameter | 11.8mm                                |
| Operating temperature   | 0°C - 50°C                            |
| Battery                 | 9V Alkaline battery                   |
| Accuracy                | 2%                                    |
| Dimension ( W x H x D ) | 231 × 67 × 36 ( mm ) , 2m             |
| Weight                  | Approx. 330g ( Containing batteries ) |

## Oscilloscope Probe



| Model             | OW3060                             | OW3100                             | OW3150                              | OW3200                              |
|-------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| Attenuation Ratio | 1X or 10X                          | 1X or 10X                          | 1X or 10X                           | 1X or 10X                           |
| Bandwidth         | 6MHz / 60MHz                       | 6MHz / 100MHz                      | 6MHz / 150MHz                       | 6MHz / 200MHz                       |
| Input R           | 1MΩ or 10MΩ                        | 1MΩ or 10MΩ                        | 1MΩ or 10MΩ                         | 1MΩ or 10MΩ                         |
| Input C           | 1X:85pF-115pF<br>10X:14.5pF-17.5pF | 1X:85pF-115pF<br>10X:14.5pF-17.5pF | 1X:85pF -115pF<br>10X:14.5pF-17.5pF | 1X:85pF -115pF<br>10X:14.5pF-17.5pF |
| Max Input Voltage | 1X: <200V<br>10X: <600V            | 1X: <200V<br>10X: <600V            | 1X: <200V<br>10X: <600V             | 1X: <200V<br>10X: <600V             |

|                   |                                    |
|-------------------|------------------------------------|
| Model             | OW3300                             |
| Attenuation Ratio | 1X or 10X                          |
| Bandwidth         | 6MHz/ 300MHz                       |
| Input R           | 1MΩ or 10MΩ                        |
| Input C           | 1X:85pF-115pF<br>10X:14.5pF-17.5pF |
| Max Input Voltage | 1X: <200V<br>10X: <600V            |

# Oscilloscope Probe



|                   |                                    |                                    |                                    |
|-------------------|------------------------------------|------------------------------------|------------------------------------|
| Model             | P2060                              | P2100                              | P2250                              |
| Attenuation Ratio | 1X or 10X                          | 1X or 10X                          | 1X or 10X                          |
| Bandwidth         | 60MHz                              | 100MHz                             | 200MHz                             |
| Input R           | 1MΩ or 10MΩ                        | 1MΩ or 10MΩ                        | 1MΩ or 10MΩ                        |
| Input C           | 1X: 70pF -120pF<br>10X: 14pF -18pF | 1X: 70pF -120pF<br>10X: 14pF -18pF | 1X: 70pF -120pF<br>10X: 14pF -18pF |
| Max Input Voltage | 1X: <200V<br>10X: <600V            | 1X: <200V<br>10X: <600V            | 1X: <200V<br>10X: <600V            |



|                   |       |        |        |
|-------------------|-------|--------|--------|
| 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             | TH3100A          |
| Attenuation Ratio | 100X             |
| Bandwidth         | 100MHz           |
| Input R           | 100MΩ            |
| Input C           | 3. 5pF - 10. 5pF |
| Max Input Voltage | <5KV             |



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