

HANDHELD DIGITAL STORAGE OSCILLOSCOPE & MULTIMETER



Two-In-One Function : Dual Channel Oscilloscope and True RMS DMM

GDS-122 is a multi-function measurement tool. By using the oscilloscope functionalities, you can measure simple waveforms, use advanced measurement functions, and configure system settings. The multimeter functionality includes three major items (Voltage, Current, and Impedance) and three additional items (Diode, Continuity, and Capacitance). The current measurement and capacitance measurement use extension modules to deal with large current and small capacitance, respectively. Delta measurement and automatic range switching features offer flexibility and convenience.

Dual Waveform Math

The waveform math function runs mathematical operations between CH1 and CH2 waveform, and then shows the result in the display. It offers 5 math function, CH1-CH2, CH2-CH1, CH1+CH2, CH1 x CH2, CH1/CH2.

Automatic Measurement

The automatic measurement function measures the input signal's characteristics and lists them in the top left corner of the display. The measurement items are Frequency, Period, Mean Voltage, Peak-to-Peak Voltage, Cycle Voltage (True RMS).

Autoset Function

The autoset function automatically configures the following parameters according to the input signal. It can offer CH1/CH2 on/off, Vertical scale/level, Horizontal scale/level, Trigger level.

Self Calibration

The self calibration function automatically configures internal parameters to maintain the sensitivity and accuracy. Run the self calibration in the following cases.

When the temperature changes more than 5 degrees Celsius during operations
When operating the GDS-122 in a new benchtop or field environment.

6 Hours Running Time Li-ion Battery & Very Light Weight

GDS-122 is equipped with a Li-ion battery, which is able to maintain its normal operation for about 6 hours. After pressing the power key, press any key (for example the MENU key) to enter the oscilloscope or multimeter mode. See the battery level icon at the top left corner of the display and connect the power cord if the level is < 25%. With only 690g light weight and compact size, GDS-122 well fits into outdoor applications.

Free PC Software

The GDS-122 PC software, included in the CD-ROM, allows you to view the waveforms in your familiar PC environment large display and mouse operation. Multiple cursors provide flexible waveform measurements. The PC Software is through from USB connection.

GDS-122 (20MHz)

FEATURES

- 20 MHz Bandwidth
- 100 MS/s Realtime Sampling Rate
- Digital Storage Oscilloscope & Multimeter
- True RMS Multimeter Volts, Amps, Ohms, Continuity, Diode
- Dual Independent Floating Isolated Channels (for Multimeter and Between Oscilloscope and Multimeter)
- Trigger Modes Free Run, Single Shot, Edge, Video
- USB Interfaces
- 6 Hour Capacity Li-ion Rechargeable Battery
- 3.8" Color LCD, Resolution: 320 x 240
- Light Weight at 690g

APPLICATIONS

- Automotive Testing
- Electric Cooling Fans Maintain & Development
- Industrial Troubleshooting
- Installation Maintain
- Circuit Repair & Debug

GDS-122



GW INSTEK

Made to Measure

SPECIFICATIONS

VERTICAL	Analog Digital Converter A/D Sensitivity Range V/div Displacement Range Analog Bandwidth Single Bandwidth Low Frequency Response AD Coupling,-3dB Rise Time Typical One at the BNC DC Gain Accuracy DC Measurement Accuracy Average Value Sampling Mode	With the resolution of 8 bits,make sampling on both channels synchronously 5mV/div 5V/div at the input BNC $\pm 50V(500mV\ 5V), \pm 1V(5mV\ 200mV)$ 20MHz Full bandwidth $\pm 5Hz$ at the BNC 17.5ns $\pm 5\%$ The voltage difference (V) between any two points on the waveform after averaging the captured waveforms more than16: $\pm(5\% \text{ reading} + 0.05 \text{ divisions})$
TRIGGER	Trigger Sensitivity Edge Triggering Triggering Lever Range Triggering Level Accuracy (Typical) Trigger Displacement Make a 50% Level Setting (Typical) Trigger Sensitivity Signal System and Line/Field Frequency	DC coupling : CH1 and CH2: 1div (DC full bandwidth) AC coupling : Same as the DC coupling when it is equal to or larger than 50Hz ± 6 divisions from the screen center ± 0.3 divisions 655 divisions for pre-triggering and 4 divisions for post- triggering Operation with the input signal frequency equal to or larger than 50Hz 2 divisions of peak-to-peak value Support the NTSC, PAL and SECAM broadcasting systems of any field or line frequency
HORIZONTAL	Sampling Rate Range Waveform Interpolation Record Length Scanning Speed Range S/div Sampling Rate and Relay Time Accuracy Time Interval (T) Measurement Accuracy Full Bandwidth	10S/s~100MS/s $\sin x / x$ 6K points on each channel 5ns/div 5s/div, stepping in the "1-2.5-5" mode. $\pm 100ppm$ (any time interval which is equal to or larger than 1ms) Single: $\pm(1 \text{ sampling interval time} + 100ppm \times \text{reading} + 0.6ns)$ >average 16 : $\pm(1 \text{ sampling interval time} + 100ppm \times \text{reading} + 0.4ns)$
INPUT	Input Coupling Input Impedance Probe Attenuation Coefficient Max. Input Voltage Channel Delay Time (Typical)	DC, AC $1M\Omega \pm 2\%$ connected in parallel with $20pF \pm 3pF$ 1X, 10X, 100X, 1000X 400V (peak) 150ps
SAMPLING	Sampling Modes Sampling Rate	Normal sampling Peak detection Average value 100 MSa/s
MEASUREMENT	Cursor Measurement Auto Measurement	Voltage difference (V) and time difference (T) between cursors Peak-to-peak value,average value,root mean square value,frequency and cycle
MULTIMETER SPECIFICATIONS	Input Impedance Voltage Max Input VAC Frequency Max Input Current Impedance Capacitance Diode	10M Ω VDC: 400mV, 4V, 400V $\pm(1\% + 1 \text{ digit})$ DC 400V 4V, 40V, 400V $\pm(1\% + 3 \text{ digit})$ 40Hz ~ 400Hz AC 400V (Virtual value) DCA : 40mA, 400mA $\pm(1.5\% + 1 \text{ digit})$; 20A: $\pm(3\% + 3 \text{ digit})$ DAA : 40mA $\pm(1.5\% + 3 \text{ digit})$, 400mA $\pm(2\% + 1 \text{ digit})$; 20A: $\pm(5\% + 3 \text{ digit})$ 400 Ω $\pm(1\% + 3 \text{ digit})$, 4K Ω , 40K Ω , 400K Ω , 4M Ω $\pm(1\% + 1 \text{ digit})$, 40M Ω $\pm(1.5\% + 3 \text{ digit})$ 51.2nF ~ 100uF $\pm(3\% + 3 \text{ digit})$ 0V ~ 1.5V On/Off measurement < 50 (± 30) beeping
GENERAL SPECIFICATIONS	Display Power Adapter Operating Temperature	Display type : 3.8" color liquid crystal display Display resolution : 320 (horizontal) x 240 (vertical) pixels Display color : 4096 colors Power supply : 100-240 VAC, 50/60Hz, CAT II ; Power consumption : < 6W Used battery : 0~50 °C (32~122 °F);Power adapter : 0~40 °C (32~104 °F)

Note : (*)USE "REL" Mode

Specifications subject to change without notice. DS-1220GD1DH

ORDERING INFORMATION

GDS-122 Handheld Digital Storage Oscilloscope & Multimeter

ACCESSORIES:

User Manual x 1, Probe x 2, Multimeter test lead x 2, AC-DC adaptor x 1,
 Probe adjustment tool x 1, Soft Carrying case x 1, 1kHz square wave cable x 1,
 Extension module for large current measurement x 1,
 Extension module for small capacitance measurement x 1,
 USB communication cable x 1, CD-ROM (PC software) x 1

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