

## 25MHz/40MHz/60MHz/100MHz DIGITAL STORAGE OSCILLOSCOPE



GDS-1000 Series is a general purpose 2-channel oscilloscope and originally designed to meet educational and industrial requirements without specializing in DSO features. This series provides four selective bandwidths of 25MHz, 40MHz, 60MHz, and 100MHz. Together with innovative human machine interface design plus an "A+" class 1 \* TFT color LCD display without any defect pixel, users will enjoy better measurement experience!

GDS-1000 series offers dual sampling mode, giving users two options for 250MS/s Real-Time sampling or 25GS/s high-speed Equivalent sampling rate. What's more, with high-speed wave handling capability, more advanced triggering functions, and 2.5 kg light-weight design, it is a powerful functional oscilloscope with the best price than ever. Ultimately, GDS-1000 series is considered for the replacement of analog oscilloscope and further promoted as a personal DSO affordable to any situation such as each student in educational labs, service technicians, or industrial field needing big quantity.

Besides, the requirement of measuring data exchange and analysis is intergraded into the GDS-1000 series. The convenient PC standard interface is also available, such as USB interface and SD card socket. This two build-in standard interface capability enable the performance of remote control or data transferring to a desktop/laptop for documenting purpose and enhance your work efficiency.

### Easy to use

Several acquisition mode and 19 auto measurement functions help user to measure the accurate property of waveforms. The advanced auto-set function makes GDS-1000 series catch waveform automatically and display waveform quickly. With arithmetic functions, FFT function keeps user being aware of the results by updating value immediately. Without almost extra-calculation GDS-1000 series can provide sufficient information of testing.

### SD Card & USB Device supported

A total of 17 waveforms could be saved into the internal memory for later recall and display, and 2 saved reference waveforms plus 2 live waveforms could be shown on the screen at the same time for comparison. SD card mass storage and USB device port are supported, providing storage/transfer of measurement data and remote control for diversified solutions

\* Refer to the ISO 13406-2 classes I standard. Most manufacturers apply class II.

## GDS-1000 Series

### FEATURES

- 2 Channels, Full Bandwidth From 25MHz ~ 100MHz
- 250MSa/s Realtime Sampling Rate, 25GSa/s ET Sampling Rate
- 4k Memory Length Per Channel
- Peak Detect as Fast as 10ns
- Save/Recall of 15 Front Panel Settings & Waveforms
- "A+" Class 5.6" TFT Color Display Without any defect Pixel
- 6-Digit Realtime Frequency Counter
- SD Card & USB Device Supported

### GDB-02 Oscilloscope Education and Training Kit



### APPLICATIONS

- Laboratories and Educational Facilities
- Product Testing and Quality Assurance
- Service Operation and Post-Sales Support
- Product Development and Debugging

**GDS-1000 Series**

**GW INSTEK**

Made to Measure

| SPECIFICATIONS          |                                            |                                                                                                                                                                                                         |                 |                |                 |
|-------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|-----------------|
|                         |                                            | GDS-1022                                                                                                                                                                                                | GDS-1042        | GDS-1062       | GDS-1102        |
| VERTICAL                | Channels                                   | 2                                                                                                                                                                                                       | 2               | 2              | 2               |
|                         | Bandwidth                                  | DC~25MHz(−3dB)                                                                                                                                                                                          | DC~40MHz(−3dB)  | DC~60MHz(−3dB) | DC~100MHz(−3dB) |
|                         | Rise Time                                  | <14ns Approx.                                                                                                                                                                                           | <8.75ns Approx. | <5.8ns Approx. | <3.5ns Approx.  |
|                         | Sensitivity                                | 2mV/div ~ 5V/div (1-2-5 increments)                                                                                                                                                                     |                 |                |                 |
|                         | Accuracy                                   | ± (3% x  Readout  + 0.1 div + 1mV)                                                                                                                                                                      |                 |                |                 |
|                         | Input Coupling                             | AC, DC & Ground                                                                                                                                                                                         |                 |                |                 |
|                         | Input Impedance                            | 1MΩ± 2%, ~16pF                                                                                                                                                                                          |                 |                |                 |
|                         | Polarity                                   | Normal & Invert                                                                                                                                                                                         |                 |                |                 |
|                         | Maximum Input                              | 300V (DC+AC peak), CATII                                                                                                                                                                                |                 |                |                 |
|                         | Waveform Signal Process                    | + , − , FFT                                                                                                                                                                                             |                 |                |                 |
|                         | Offset Range                               | 2mV/div ~ 50mV/div : ±0.4V ; 10mV/div ~ 500mV/div : ±4V ; 1V/div ~ 5V/div : ±40V                                                                                                                        |                 |                |                 |
|                         | Bandwidth Limit                            | None                                                                                                                                                                                                    |                 |                | 20MHz (- 3dB )  |
| TRIGGER                 | Sources                                    | CH1 , CH2 , Line , EXT                                                                                                                                                                                  |                 |                |                 |
|                         | Modes                                      | AUTO, NORMAL, SINGLE, TV, Edge, Pulse                                                                                                                                                                   |                 |                |                 |
|                         | Coupling                                   | AC , DC , LF rej. , HF rej. , Noise rej.                                                                                                                                                                |                 |                |                 |
|                         | Sensitivity                                | DC ~ 25MHz: Approx. 0.5div or 5mV; 25MHz ~ 40/60/100MHz: Approx. 1.5div or 15mV                                                                                                                         |                 |                |                 |
| EXT TRIGGER             | Range                                      | ±15V                                                                                                                                                                                                    |                 |                |                 |
|                         | Sensitivity                                | DC ~ 25MHz : ~ 50mV ; 25M ~ 40/60/100MHz : ~100mV                                                                                                                                                       |                 |                |                 |
|                         | Input Impedance                            | 1MΩ ±2% , ~ 16pF                                                                                                                                                                                        |                 |                |                 |
|                         | Maximum Input                              | 300V (DC + AC peak) , CATII                                                                                                                                                                             |                 |                |                 |
| HORIZONTAL              | Range                                      | 1ns/div ~ 10s/div (1-2-5 increments); ROLL : 250ms/div ~ 10s/div                                                                                                                                        |                 |                |                 |
|                         | Modes                                      | MAIN, WINDOW, WINDOW ZOOM, ROLL, X-Y                                                                                                                                                                    |                 |                |                 |
|                         | Accuracy                                   | ±0.01%                                                                                                                                                                                                  |                 |                |                 |
|                         | Pre-Trigger                                | 10 div maximum                                                                                                                                                                                          |                 |                |                 |
|                         | Post-Trigger                               | 1000 div                                                                                                                                                                                                |                 |                |                 |
|                         | X-Y MODE                                   | X-Axis Input                                                                                                                                                                                            | Channel 1       |                |                 |
|                         | Y-Axis Input                               | Channel 2                                                                                                                                                                                               |                 |                |                 |
|                         | Phase Shift                                | ±3° at 100kHz                                                                                                                                                                                           |                 |                |                 |
| SIGNAL ACQUISITION      | Real-Time Sample Rate                      | 250MSa/s maximum                                                                                                                                                                                        |                 |                |                 |
|                         | Equivalent Sample Rate                     | 25GSa/s maximum                                                                                                                                                                                         |                 |                |                 |
|                         | Vertical Resolution                        | 8 Bits                                                                                                                                                                                                  |                 |                |                 |
|                         | Record Length                              | 4K Points maximum                                                                                                                                                                                       |                 |                |                 |
|                         | Acquisition Mode                           | Normal, Peak Detect, Average                                                                                                                                                                            |                 |                |                 |
|                         | Peak Detection                             | 10ns(500ns/div ~ 10s/div)                                                                                                                                                                               |                 |                |                 |
|                         | Average                                    | 2 , 4 , 8 , 16 , 32 , 64 , 128 , 256                                                                                                                                                                    |                 |                |                 |
| CURSORS AND MEASUREMENT | Voltage Measurement                        | V <sub>pp</sub> , V <sub>amp</sub> , V <sub>avg</sub> , V <sub>rms</sub> , V <sub>hi</sub> , V <sub>lo</sub> , V <sub>max</sub> , V <sub>min</sub> , Rise Preshoot/ Overshoot , Fall Preshoot/Overshoot |                 |                |                 |
|                         | Time Measurement                           | Freq , Period , Rise Time , Fall Time , Positive Width , Negative Width , Duty Cycle                                                                                                                    |                 |                |                 |
|                         | Cursors Measurement                        | Voltage difference between cursors (ΔV) Time difference between cursors (ΔT)                                                                                                                            |                 |                |                 |
|                         | Auto Counter                               | Resolution : 6 digits ; Accuracy : ±2%<br>Signal Source: All available trigger source except the Video trigger mode                                                                                     |                 |                |                 |
| CONTROL PANEL FUNCTION  | Autoset                                    | Adjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically                                                                                                                          |                 |                |                 |
|                         | Save Setup                                 | Up to 15 sets of measurement conditions                                                                                                                                                                 |                 |                |                 |
|                         | Save Waveform                              | 15 sets of waveform                                                                                                                                                                                     |                 |                |                 |
| DISPLAY                 | TFT LCD Type                               | 5.6 inch                                                                                                                                                                                                |                 |                |                 |
|                         | Display Resolution                         | 234 (Vertically) x 320 (Horizontally) Dots                                                                                                                                                              |                 |                |                 |
|                         | Display Graticule                          | 8 x 10 divisions                                                                                                                                                                                        |                 |                |                 |
|                         | Display Brightness                         | Adjustable                                                                                                                                                                                              |                 |                |                 |
| INTERFACE               | USB Device                                 | USB1.1 & 2.0 full speed compatible (printers and flash disk not supported)                                                                                                                              |                 |                |                 |
|                         | SD Card Slot                               | Image (BMP) waveform data (CSV) and setup (SET)                                                                                                                                                         |                 |                |                 |
| POWER SOURCE            | Line Voltage Range                         | AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection                                                                                                                                                           |                 |                |                 |
| MISCELLANEOUS           | Multi-Language Menu                        | Available                                                                                                                                                                                               |                 |                |                 |
|                         | Online Help                                | Available                                                                                                                                                                                               |                 |                |                 |
| DIMENSIONS & WEIGHT     | 310(W) × 142 (H) × 140(D)mm, Approx. 2.5kg |                                                                                                                                                                                                         |                 |                |                 |

Specifications subject to change without notice. DS-1000GD1DH

| ORDERING INFORMATION                                                                                   |                                                   |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| GDS-1022 25MHz, 2-channel, Color LCD Display DSO                                                       | GDS-1062 60MHz, 2-channel, Color LCD Display DSO  |
| GDS-1042 40MHz, 2-channel, Color LCD Display DSO                                                       | GDS-1102 100MHz, 2-channel, Color LCD Display DSO |
| ACCESSORIES :                                                                                          |                                                   |
| User manual x 1, Power cord x 1                                                                        |                                                   |
| Probe-GTP-060A-4 : 60MHz ( 10 : 1/1 : 1 ) Switchable Passive Probe for GDS-1022/1042 (one per channel) |                                                   |
| Probe-GTP-060A-2 : 60MHz ( 10 : 1/1 : 1 ) Switchable Passive Probe for GDS-1062 (one per channel)      |                                                   |
| Probe-GTP-100A : 100MHz ( 10 : 1/1 : 1 ) Switchable Passive Probe for GDS-1102 (one per channel)       |                                                   |
| Optional Accessories                                                                                   |                                                   |
| GTL-242 USB Cable, USB 1.1 A-B TYPE CABLE, 4P                                                          |                                                   |

Global Headquarters

#### GOOD WILL INSTRUMENT CO., LTD.

No. 7-1, Jhongsing Road, Tucheng City, Taipei County 236, Taiwan  
T +886-2-2268-0389 F +886-2-2268-0639  
E-mail: marketing@goodwill.com.tw

U.S.A. Subsidiary

#### INSTEK AMERICA CORP.

3661 Walnut Avenue Chino, CA 91710, U.S.A.  
T +1-909-5918358 F +1-909-5912280  
E-mail: sales@instek.com

Malaysia Subsidiary

#### GOOD WILL INSTRUMENT (M) SDN. BHD.

27, Persiaran Mahsuri 1/1, Sunway Tunas,  
11900 Bayan Lepas, Penang, Malaysia.  
T +604-6309988 F +604-6309989  
E-mail: sales@goodwill.com.my

China Subsidiary

#### INSTEK ELECTRONIC (SHANGHAI) CO., LTD.

8F, of NO.2 Building, No.889 Yishan Road, Shanghai China  
T +86-21-6485-3399 F +86-21-5450-0789  
E-mail: marketing@instek.com.cn

Japan Subsidiary

#### INSTEK JAPAN CORPORATION

4F, Prosper Bldg, 1-3-3 Iwamoto-Cho Chiyoda-Ku,  
Tokyo 101-0032 Japan  
T +81-3-5823-5656 F +81-3-5823-5655  
E-mail: info@instek.co.jp

Korea Subsidiary

#### GOOD WILL INSTRUMENT KOREA CO., LTD.

Room No.805, Ace Hightech-City B/D 1 Dong,  
Mullae-Dong 3Ga 54-66, Yeongduengpo-Gu, Seoul, Korea  
T +82-2-3439-2205 F +82-2-3439-2207  
E-mail : sales@gwinstek.co.kr

**GW INSTEK**

www.gwinstek.com.tw