CE

GDS-2000 Series

- **200/100/60 MHz Bandwidth**

- **2 or 4 Input Channels**

- **1GSa/s Real-Time and 25GSa/s Equivalent-Time Sampling**

- **25k Points Record Length Maximum**

- **Large 5.6-in TFT Color Display**

- **USB Host/Device: Support USB Printer and USB Flash Drive**

- **Battery Operation (optional)**

- **Color Printout**

1GSa/s Real-Time Sampling

4CH Selection

USB Flash Drive

Battery Operation (Optional)

APPLICATIONS

- **Education Lab and Training Institution**

- **Production Test and Quality Inspection**

- **Repair and After-Service**

- **Circuit Design and Debug**

Summary of features

Rich selections of bandwidth and channel, 200/100/60MHz and 2/4ch, cover major applications in laboratories, production lines, or field services. 1GSa/s high sampling rate and 25k point deep memory give much detailed view into the target waveforms , keeping high sampling rate . USB host and slave connection allows data save and recall, screen image printout, and remote control. TFT color LCD display with wide viewing angle eliminates obscurity in any situation . Battery operation option gives a much-desired mobility in rapidly changeable environments.

Signal Detection

GDS-2000 Series pick up signals even in the most extreme cases, powered by 1GSa/s real time and 25GSa/s equivalent sampling rate combined with 3 types of acquisition modes: sample, peak detect, and average. 25k points of deep memory collects more information of a given waveform, guiding us into further signal details. 4 types of flexible triggers add another signal capturing flexibility: edge , video (NTSC, PAL, SECAM) with line selection, pulse-width, and delay/event using external trigger signal (for 2CH models).

Measurement Functions

A variety of measurement shortcuts reduce repetitive manual operations and save your precious time. Autoset automatically configures the horizontal scale , the vertical scale , and the trigger , giving an instant view of almost any signal . 27 types of automatic measurements include voltage , frequency (time) , and delay . GDS-2000 Series run and update results of all the relevant measurements in real time. You can view the results independently , or together in a single display view . Add and subtract math operation, with 4 types of FFT are also provided : flattop , blackman , hanning , and rectangular . Go/NoGo test function detects a user-defined incoming waveform shape, and can also send a signal to external devices in case of detection. Program and play feature automatically runs predefined sequence and setup , boosting productivity in routine measurements like production line inspection.

Data Transfer and Printout

USB host connector transfers data quickly and easily between USB flash drive, which guarantees almost unlimited amount of memory. Internal storage includes 4 sets of reference waveform and 20 sets of general-use memory area. GDS-2000 Series handle three types of data : display image (*.bmp) for viewing waveform shape and pasting into documents and presentations,panel setting (*.set) for saving and restoring system setup, and waveform configuration (*.csv) for further analysis of signal information. Printout of display image, color or grayscale, is available through the printer connected to the USB host port. You can set the printout or data saving preference to allow a single-press operation for consecutive works.

Setup Recovery and Transfer

The last panel setting is internally stored in nonvolatile memory, ready to be recovered on the next power up . When the measurement environment frequently changes, or if you want to transfer the setup to another GDS-2000 Series, switching between multiple system settings is done by saving and recalling setup files (*.set) Using USB flash drive . When the setup gets complicated, you can always recover the default system setting in a simple two-step operation.

Remote Access

IEEE based remote control commands include most of the panel operations and the syntax conforms to universally accepted IEEE 488.2 standard . Proprietary PC software with GUI operation, downloadable from GW Instek website, allows you to use your familiar mouse & keyboard, utilizing the larger PC screen. Three types of remote control interface with flexible connection settings are provided: USB device, RS-232, and GPIB (optional).

Portability

Battery operation option with typ . 3 hours of running time gives a much-desired mobility. built-in self-calibration and probe compensation help maintaining maximum accuracy even when environment or testing accessories changes . Language support helps you collaborating in multicultural working environments.

GW INSTEK

Made to Measure

SPECIFICATIONS

		GDS-2062/2064	GDS-2102/2104	GDS-2202/2204
VERTICAL	Channels Bandwidth Rise Time	2/4 DC ~ 60MHz (−3dB) 5.8ns Approx.	2/4 DC ~ 100MHz (−3dB) 3.5ns Approx.	2/4 DC ~ 200MHz (−3dB) 1.75ns Approx.
	Sensitivity Accuracy Input Coupling Input Impedance Polarity Maximum Input Waveform Signal Process Offset Range Bandwidth Limit	2mV/div ~ 5V/div (1-2-5 increments) ± (3% x |Readout|+0.05 div x Volts/div+0.8mV) AC, DC & Ground 1M±2%, ~16pF Normal & Invert 300V (DC+AC peak), CATII + , − , FFT 2mV/div ~ 20mV/div : ±0.5V ; 50mV/div ~ 200mV/div : ±5V ; 500mV/div ~ 2V/div : ±50V ; 5V/div : ±300V 20MHz (−3dB)		
TRIGGER	Sources Modes Coupling Sensitivity	CH1 , CH2 , Line , EXT(2CH Only) / (CH3,CH4) Auto-Level, AUTO, NORMAL, SINGLE, TV, Edge, Pulse Width Time-delay(2CH Only), Event-delay(2CH Only) AC , DC , LF rej. , HF rej. , Noise rej. DC ~ 25MHz : Approx. 0.5div or 5mV 25MHz ~ 60/100/200MHz : Approx. 1div or 10mV		
EXT TRIGGER **(2CH Only)**	Range Sensitivity Input Impedance Maximum Input	±15V DC ~ 30MHz : ~ 50mV ; 30M ~ 60/100/200MHz : ~100mV 1MΩ ±2% , ~ 16pF 300V (DC＋AC peak) , CATII		
HORIZONTAL	Range Modes Accuracy Pre-Trigger Post-Trigger	1ns/div ~ 10s/div (1-2-5 increments); ROLL : 250ms/div ~ 10s/div MAIN, WINDOW, WINDOW ZOOM, ROLL, SCAN, X-Y ±0.01% 20 div maximum 1000 div		
X-Y MODE	X-Axis Input Y-Axis Input Phase Shift	Channel 1 Channel 2 ±3°at 100kHz		
SIGNAL ACQUISITION	Real-Time Sample Rate Equivalent Sample Rate Vertical Resolution Record Length Acquisition Mode Peak Detection Average	1GSa/s maximum 25GSa/s maximum 8 Bits 25K Dots maximum Normal, Peak Detect, Average 10ns 2 , 4 , 8 , 16 , 32 , 64 , 128 , 256		
CURSORS AND MEASUREMENT	Voltage Measurement Time Measurement Delay Measurement Cursors Measurement Auto Counter	V_{pp} , V_{amp} , V_{avg} , V_{rms} , V_{hi} , V_{lo} , V_{max} , V_{min} , Rise Preshoot/ Overshoot , Fall Preshoot/Overshoot Freq , Period , Rise Time , Fall Time , Positive Width , Negative Width , Duty Cycle Eight different delay measurement Voltage difference between cursors (△V) Time difference between cursors (△T) Resolution : 6 digits Accuracy : ±2% Signal Source: All available trigger source except the Video trigger mode		
CONTROL PANEL FUNCTION	Autoset Save Setup Save Waveform	Adjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically Up to 20 sets of measurement conditions 24 sets of waveform		
DISPLAY	TFT LCD Type Display Resolution Display Graticule Display Brightness	5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions ; 8 x 12 divisions (menu off) Adjustable		
INTERFACE	Go/NoGo Output RS-232 Interface GPIB Interface (Option) USB	5V Maximum/10mA TTL Open Collector Output DB 9-pin male DTE RS-232 interface Fully programmable with IEEE 488.2 compliance USB Host/Device 2.0 full speed supported		
POWER SOURCE	Line Voltage Range Battery Power(Option)	AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection Battery : 11.1V Li-Ion battery pack Charge Time : 8 hours (Power ON) Operating Time : 3 hours , depending on operating condition		
MISCELLANEOUS	Multi-Language Menu Online Help Time Clock	Available Available Time and Date, Provide the Date/Time for saved data		
DIMENSIONS & WEIGHT		254Dx142Hx310W(mm), Approx. 4.3kg		

Specifications subject to change without notice. DS-2000GD0DH

Ordering Information
GDS-2062 60MHz, 2-channel, Color LCD Display DSO
GDS-2064 60MHz, 4-channel, Color LCD Display DSO
GDS-2102 100MHz, 2-channel, Color LCD Display DSO
GDS-2104 100MHz, 4-channel, Color LCD Display DSO
GDS-2202 200MHz, 2-channel, Color LCD Display DSO
GDS-2204 200MHz, 4-channel, Color LCD Display DSO

Option
Opt. 01: GPIB Interface
Opt. 02: Battery power
(Factory installed, include additional
  DC Power & Battery charger circuits
  and Li-Ion Battery pack x 2)

Standard Accessories
Probe-GTP-060A:60MHz x10/x1 Switchable Passive Probe for GDS-2062/2064
Probe-GTP-250A:250MHz x10/x1 Switchable Passive Probe for GDS-2202/2204
Probe-GTP-100A:100MHz x10/x1 Switchable Passive Probe for GDS-2102/2104
User Manual
Power cord