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GDS-1000 Series DSO New Product Announcement

GOOD WILL INSTRUMENT is announcing to the global market the new digital storage oscilloscope GDS-1000 series. The GDS-1000 is a general purpose 2-channel oscilloscope and originally designed to meet requirement in education and industrial fields without special 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 Ⅰ* 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, the GDS-1000 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.

GDS-1000 Series Main Features

SD Card & USB Device supported

Memory and Interface

Up to 17 waveforms on the screen could be saved into the internal memory for later recall, and 2 saved reference waveforms plus 2 live ones 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.

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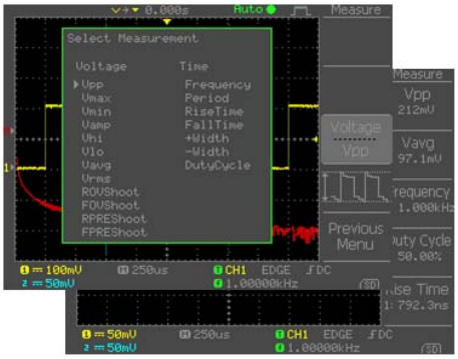
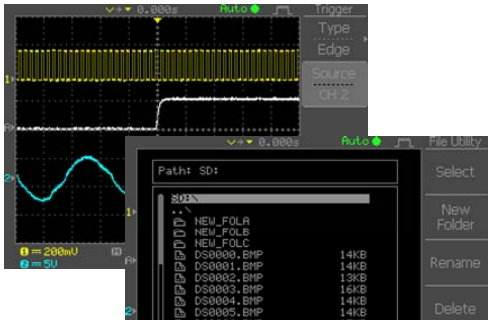


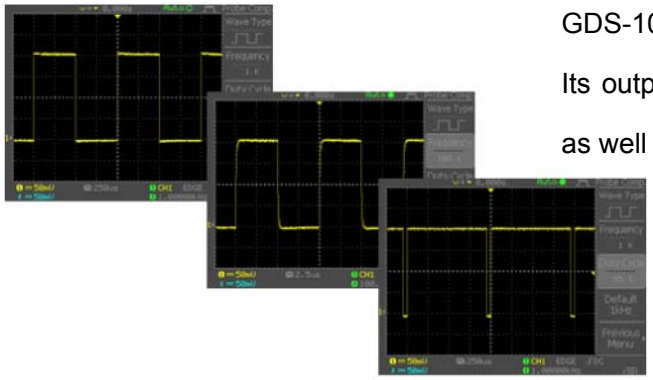
Automatic measurement function

The Auto Measurement function shows the snapshot of all voltage and time related readings of an input signal simultaneously on the display

Easy to use

The 19 Auto Measurement functions, FFT Measurement, Advanced Triggering, Multi-Language Screen Menu and On-Line Help manual are all standard features of the GDS-1000 series.





Enhanced CAL signal output

GDS-1000 series has an enhanced 1kHz calibration signal. Its output frequency is adjustable from 1 kHz to 100 kHz as well as the duty cycle adjustable by 5%~95%.

Autoset Disable Function

For the educational purpose, instructors might not want to use Autoset function on the DSO when they are teaching how to use oscilloscope for the measurement. The GDS-1000 series can disable the Autoset function, enabling students to manually operate oscilloscope functions to further enrich their learning experience.

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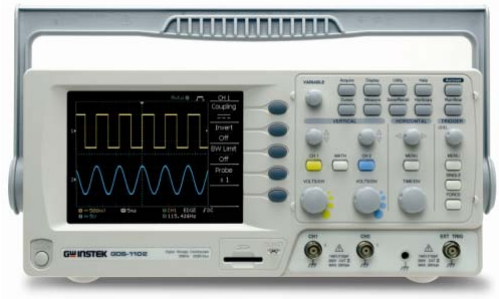
GDS-1000 Series Product Description



GDS-1022, 25MHz, 2CH with TFT Color LCD Display

GDS-1042, 40MHz, 2CH with TFT Color LCD Display

GDS-1062, 60MHz, 2CH with TFT Color LCD Display

GDS-1102,100MHz, 2CH with TFT Color LCD Display

Key Specifications

- 2 channels, full bandwidth from 25MHz to 100MHz.
- Dual sampling mode: 250MSa/s Real-time sampling rate & 25GSa/s ET sampling rate
- 4000 points memory length per channel
- Save/Recall of 15 front panel settings & waveforms
- 5.6" TFT color display for all models
- 19 auto measurements and Built in 6 digit real-time frequency counter
- Advanced trigger: Pulse Width, TV-Line
- PC interface support: SD card for graphic/ data file storage and USB Device for PC connection
- Arithmetic operators – Add, subtract, FFT
- Multi-language option* and Built-in Help Menu
- Compact size: 310(W) × 140(D) × 142(H) mm

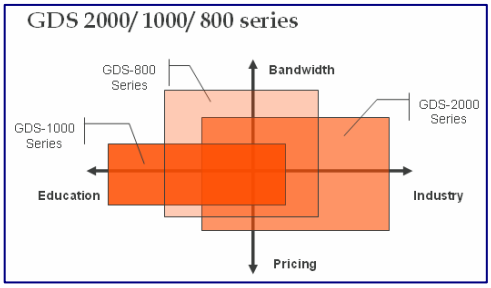
* For more languages, GW Instek will be continuously devoted to support more language versions which will be released and updated via webpage.

Selection Guide

	GDS-1022	GDS-1042	GDS-1062	GDS-1102
Bandwidth	**25MHz**	**40MHz**	**60MHz**	**100MHz**
Channels	**2**			
Sampling Rate	**250MSa/s (real-time sampling) & 25GSa/s (equivalent-time sampling)**			
Record length	**4k Points per channel**			
Display	**5.6" Color TFT LCD**			
SD Card slot	**Standard**			
USB Device				
Calibration Output				

GDS-1000 Product Position

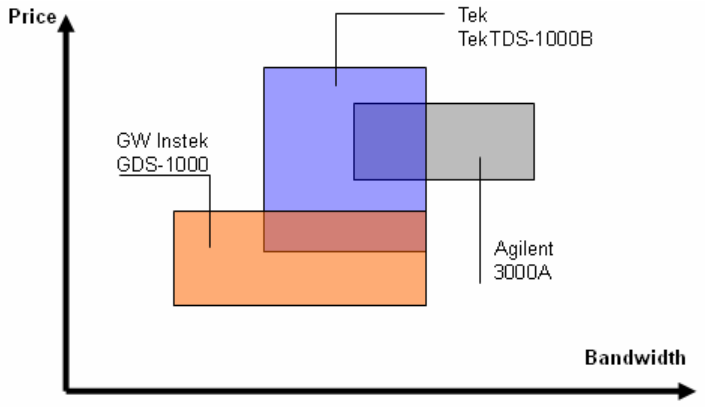
1. Win over other DSO players in the same range with far better Price/Performance value
2. 25MHz/ 60MHz models to target the educational field with function and price advantage over competitors such as Tektronix.
3. Estimated 80% replacement for all color models of GDS-800 series
4. GDS-1000, GDS-2000 & GDS-800 together provide a full range of DSO selection in the GWinstek product lineup.



Specification Comparison

Colored area indicates best performance.

	GDS-1000 Series 	**TDS 1000B** 	**Agilent 3000A** 
Bandwidth	**25**/ 40/ 60/ 100MHz	40/ 60/ 100MHz	60/ 100/ **150/ 200MHz**
Channel	2	2	2
Display	**TFT Color display**	STN Color/ Mono. display	Mono./ Color STN display
Record length	**4k point**	2.5k point	**4k point**
Sampling Rate	RT:250MSa/s; **ET:25GSa/s**	**RT:500MSa/s or 1GSa/s**	**RT:500MSa/s**
Horizontal scale	**1ns**~10s/div	5ns~**50s**/div	2ns~**50s**/div
Peak detection	**10ns**	12ns	12ns
Auto measurement	**19**	11	11
FFT	Yes	Yes	Yes
Enhanced CAL. Output	**Yes**	No	No
Auto Set Disable	**Yes**	No	No
interface	USB/ **SD**	USB/ **GPIB (Opt.)**	USB/ **RS232&GPIB (Opt.)**
Size	**310(W) x 140(D) x 142(H) mm**	**326(W) x 124(D) x 158(H) mm**	300(W) x 290(D) x 150(H) mm



Product Position

GDS-1000 vs. Tek & Agilent

Target Markets and Associated Features

1. **Education**
   25MHz/ 40MHz/ 60MHz/ 100MHz bandwidth, Price leader for tender bid. TFT Color Display, FFT function, SD card Mass Storage, USB Device supporting Remote control function
2. **Manufacturing**
   100MHz and 60MHz, 19 Auto Measurements, Compact Size, USB Device supporting Remote control function
3. **Service**
   100MHz and 60MHz, Light Weight and Compact Size, SD card Mass Storage support

Key Dates for Product Announcement

1. Order queue open (07' November 20)
2. Distributor Announcement (07' November 20)
3. Global Market Announcement (07' December)
4. Market Promotion Activities (07' December)
5. Demo Units Shipped to Distributors (07' December)
6. Mass quantity order fulfillment (07' December)

Service Policy

1. **3 year warranty.** GDS-1000 series carry 3 year warranty to enhance reliability competency.
   The exception for the warranty is LCD Display with 1 year warranty
   Commitment to the Zero Defect Pixel Policy. GW Instek is the first to stand out and make a promise to users worldwide to guarantee LCD panels with zero defect pixel in selected GDS-1000/ 2000 series. Even if only one defect pixel is found, a free panel exchange is guaranteed within 30 days of original purchase.

2. **Service Support.** The service instructions in the Service Manual will help distributors repairing defective units promptly. Should the board replacement is necessary to fix the defective unit, the board swapping service support is provided by Good Will Instrument to facilitate the repair jobs done at the distributor's site.

3. **Firmware upgrade through Website**. GW Instek continues to provide after sales support through its website. The most updated version of firmware and PC software of GDS-1000 series will be posted on the distributor zone at http://www.gwinstek.com.tw for free download and then upgraded via SD Card.

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Comparing with existing GDS Series

Colored area indicates best performance.

	GW Instek GDS 1000 Series	GW Instek GDS 800 Series	GW Instek GDS 2000 Series
Bandwidth	25MHz~100MHz	60MHz~250MHz	60MHz~200MHz
Channels	2	2	2 / 4
Record Length	4k points	125k points	25k points
Real-time sampling rate	250MSa/s	100MSa/s	1GSa/s
Equivalent sampling rate	25GSa/s	25GSa/s	25GSa/s
Display	5.6" TFT LCD	5.7" STN LCD	5.6" TFT LCD
Horizontal scale	1ns/div ~ 10s/div	1ns/div ~ 10s/div	1ns/div ~ 10s/div
Vertical scale	2mV/div ~ 5V/div	2mV/div ~ 5V/div	2mV/div ~ 5V/div
Auto measurement	19	15	27
Enhanced CAL Function	Yes	No	Yes
SD Card slot	Yes	No	No
USB Host Port	No	No	Yes
USB Device Port	Yes	Yes (optional for GDS-806/810)	Yes
RS232 interface	No	Yes (optional for GDS-806/810)	Yes
GPIB interface	No	Optional	Optional
Battery operation	No	No	Yes
Dimension and weight.	310(W) x 140(D) x 142(H) mm 2.5kg	310 (W) x 254 (D) x 142(H) mm 4.3kg	310 (W) x 254(D) x 142(H) mm 4.1kg

Order Information

GDS-1022, 25MHz, 2CH with TFT Color LCD Display
GDS-1042, 40MHz, 2CH with TFT Color LCD Display
GDS-1062, 60MHz, 2CH with TFT Color LCD Display
GDS-1102, 100MHz, 2CH with TFT Color LCD Display

Standard Accessories

Probe: GTP060A-4 (one per channel):
60MHz x10/x1 Switchable Passive Probe for GDS-1022/ 1042
Probe: GTP060A-2 (one per channel):
60MHz x10/x1 Switchable Passive Probe for GDS-1062
Probe: GTP100A-2 (one per channel):
100MHz x10/x1 Switchable Passive Probe for GDS-1102
Instruction manual
Power cord

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GDS-1000 Series Specifications

Model-Specific

GDS-1022	Bandwidth (–3dB)	DC coupling: DC ~ 25MHz AC coupling: 10Hz ~ 25MHz
	Bandwidth Limit	None
	Trigger Sensitivity	Approx. 0.5div or 5mV
	External Trigger Sensitivity	~ 50mV
	Rise Time	< 14ns
GDS-1042	Bandwidth (–3dB)	DC coupling: DC ~ 40MHz AC coupling: 10Hz ~ 40MHz
	Bandwidth Limit	None
	Trigger Sensitivity	0.5div or 5mV (DC ~ 25MHz) 1.5div or 15mV (25MHz~40MHz)
	External Trigger Sensitivity	~ 50mV
	Rise Time	< 8.75ns
GDS-1062	Bandwidth (–3dB)	DC coupling: DC ~ 60MHz AC coupling: 10Hz ~ 60MHz
	Bandwidth Limit	20MHz (−3dB)
	Trigger Sensitivity	0.5div or 5mV (DC ~ 25MHz) 1.5div or 15mV (25MHz~60MHz)
	External Trigger Sensitivity	~ 50mV (DC~25MHz) ~ 100mV (25MHz~60MHz)
	Rise Time	< 5.8ns
GDS-1102	Bandwidth (–3dB)	DC coupling: DC ~ 100MHz AC coupling: 10Hz ~ 100MHz
	Bandwidth Limit	20MHz (−3dB)
	Trigger Sensitivity	0.5div or 5mV (DC ~ 25MHz) 1.5div or 15mV (25MHz~100MHz)
	External Trigger Sensitivity	~ 50mV (DC~25MHz) ~ 100mV (25MHz~100MHz)
	Rise Time	< 3.5ns

Common

Vertical	Sensitivity	2mV/div~5V/Div (1-2-5 increments)
	Accuracy	± (3% x |Readout|+0.1div + 1mV)
	Bandwidth	See model-specific specifications
	Rise Time	See model-specific specifications
	Input Coupling	AC, DC, Ground
	Input Impedance	1MΩ±2%, ~16pF
	Polarity	Normal & Invert
	Maximum Input	300V (DC+AC peak), CAT II
	Math Operation	+, –, FFT
	Offset Range	2mV/div~50mV/div: ±0.4V 10mV/div~500mV/div: ±4V 1V/div~5V/div: ±40V
Trigger	Sources	CH1, CH2, Line, EXT
	Modes	Auto, Normal, Single, TV, Edge, Pulse Width
	Coupling	AC, DC, LFrej, HFrej, Noise rej
	Sensitivity	See model-specific specifications
	TV Trigger Sensitivity	0.5div of synchronization signal
External trigger	Range	DC: ±15V, AC: ±2V
	Sensitivity	See model-specific specifications
	Input Impedance	1MΩ±2%, ~16pF
	Maximum Input	300V (DC+AC peak), CATII

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Horizontal	Range	1ns/div~10s/div, 1-2-5 increment
	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	250M Sa/s maximum
	Equivalent	25G Sa/s maximum
	Vertical Resolution	8 bits
	Record Length	4k points
	Single Shot	4k points record, 25MHz bandwidth
	Acquisition	Normal, Peak Detect, Average
	Peak Detection	10ns (500ns/div ~ 10s/div)
	Average	2, 4, 8, 16, 32, 64, 128, 256
Cursors and Measurement	Voltage	Vpp, Vamp, Vavg, Vrms, Vhi, Vlo, Vmax, Vmin, Rise Preshoot/ Overshoot, Fall Preshoot/ Overshoot
	Time	Freq, Period, Rise Time, Fall Time, + Width, – Width, Duty Cycle
	Cursors	Voltage difference (ΔV) and Time difference (ΔT) between cursors Reciprocal of ΔT in Hertz (1/ΔT)
	Auto Counter	Resolution: 6 digits, Accuracy: ±2% Signal source: All available trigger source except the Video trigger
Trigger Frequency Counter	Resolution	6 digits
	Frequency Range	20Hz minimum to rated bandwidth
	Accuracy	±2%
	Signal Source	All trigger source except the Video trigger
Control Panel Function	Autoset	Automatically adjust Vertical Volt/div, Horizontal Time/div, and Trigger level
	Save/Recall	Up to 15 sets of measurement conditions and waveforms
Display	LCD	5.6 inch, TFT, brightness adjustable
	Resolution (dots)	234 (Vertical) x 320 (Horizontal)
	Gratitude	8 x 10 divisions
	Display Contrast	Adjustable
Interface	USB Slave Connector	USB1.1 & 2.0 full speed compatible (printers and flash disk not supported)
	SD Card Slot	Image (BMP), waveform data (CSV), and setup (SET)
Probe Compensation Signal	Frequency range	1kHz ~ 100kHz adjustable, 1kHz step
	Duty cycle	5% ~ 95% adjustable, 5% step
	Amplitude	2Vpp±3%
Power Source	Line Voltage	100V~240V AC, 47Hz~63Hz
	Power Consumption	18W, 25VA maximum
	Fuse Rating	1A slow, 250V
Operation Environment	Ambient temperature 0 ~ 50°C Relative humidity ≤ 80% @35°C	
Storage Environment	Ambient temperature –20 ~ 70°C Relative humidity ≤ 80% @70°C	
Dimensions	140 (D) x 142 (H) x 310 (W) mm	
Weight	Approx. 2.5kg	