GDS-900 Series

100 MHz Digital Storage Oscilloscope

CE | USB | PC Software | Labview Driver

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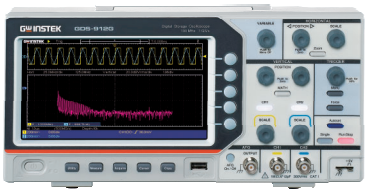

Front Panel

Rear Panel

FEATURES

* 100 MHz Bandwidth, 2 Input Channels
* 1 GS/s Real-time Sampling Rate Maximum
* Standard 25 MHz Arbitrary Function Generator for GDS-912G
* 20 Mpts Memory Depth per Channel
* Support 30 Automatic Waveform Measurements
* 6 digit High-precision Frequency Counter
* 2048 pts FFT Frequency Domain Signal Display
* 7" 800 x 480 TFT LCD Display

APPLICATIONS

- Educational Market - General Purpose Instruction
- Industrial Sector - Fundamental R&D Measurement Applications

Balanced pricing and specifications, lightweight form with advanced features - featherweight in size, heavyweight in performance.

Before 2000, digital storage oscilloscope technology was dominated by European, American, and Japanese manufacturers. In 2000, GW Instek took the lead by launching the GDS-830, the first 100 MHz digital storage oscilloscope (DSO) independently developed in the Chinese-speaking world. After 25 years of development, 100 MHz entry-level digital storage oscilloscopes have become a stronghold of Chinese brands. The newly released GDS-912/912G digital storage oscilloscopes by GW Instek feature a 7-inch widescreen display with 15 horizontal divisions, offering 50 % more signal display area. The series provides a maximum sampling rate of 1 GSa/s and a memory depth of 20 Mpts per channel, enabling the capture of long-duration transients and maintaining its sampling rate at middle and low speed time bases through long memory settings. With 30 automatic measurement parameters, the oscilloscope allows users to quickly and easily analyze various signal conditions. The Area parameter supports waveform integration - an example application being the integration calculation of energy (in joules) from a power waveform (watts * seconds). The +PulseCount feature enables fast data acquisition in applications such as stepper motor control (number of pulses per unit time) or industrial sewing machines (number of stitches per unit time). Other counting parameters include - PulseCount, RiseEdgeCnt, and FallEdgeCnt. The Cursor RMS function allows users to measure the RMS value within a specified interval using cursors - ideal for measuring the transient RMS of inrush currents. The built-in FFT function offers six window types: Hamming, Rectangular, Blackman, Hanning, Kaiser, and Bartlett. It supports simultaneous display of time and frequency domains, helping users understand the signal's frequency content. To prevent measurement errors, a passive probe compensation test is included. If the test result indicates under- or over-compensation, users can adjust the variable capacitor on the passive probe and re-test after proper compensation is achieved. The series also features automatic signal type detection and a second-level auto setup menu to speed up and improve measurement accuracy. The series' multi-language interface supports 10 languages - Traditional Chinese, Simplified Chinese, English, Russian, German, Spanish, French, Italian, Japanese, and Korean - helping reduce the learning curve for users worldwide. These specifications and features match or exceed those offered by others in the same category, all weighted in a lightweight of 1.1 kg, which reflects the product's design philosophy: “balanced pricing and specifications, lightweight form with advanced features - featherweight in size, heavyweight in performance.”

SPECIFICATIONS

Model	GDS-912	GDS-912G
Bandwidth	100 MHz	100 MHz
Channel	2	2
Bandwidth Limit	20 MHz	20 MHz
Calculated Rise Time	3.5 ns (calculated)	3.5 ns (calculated)
Vertical Sensitivity		
Resolution	8 bits: 2 mV/div to 10 V/div	
Input Coupling	AC, DC, GND	
Input Impedance	1 MΩ±2 % , in parallel with 12 pF±5 pF	
DC Gain Accuracy	±3 %	
Polarity	Normal & Invert	
Maximum Input Voltage	300 Vrms	
Offset Position Range	±1 V (2 mV/div to 100 mV/div) ; ±60 V (200 mV/div to 10 V/div)	
Waveform Signal Process	＋, －, ×, ÷, FFT	
Trigger		
Source	CH1 ,CH2	
Trigger Mode	Auto 、Normal 、Single	
Trigger Type	Edge, Video (NTSC 、PAL 、SECAM), ALT	
Holdoff Range	100 ns to 10 s	
Coupling	AC, DC	
Sensitivity	1 div	
Horizontal		
Time Base Range	2 ns/div to 1000 s/div (1-2-5 increments)	
Pre-trigger	Max. Record Length	
Post-trigger	Record Length / 2	
Time Base Accuracy	±100 ppm	
Real Time Sample Rate	1 GS/s(per-channel)*	
Record Length	20 Mpts / CH	
Acquisition Mode	Normal, Peak detect, Average, Single	
Peak Detection	2.5 ns	
Average	4, 16, 64, 128 selectable	
X-Y Mode		
X-Axis Input	CH1	
Y-Axis Input	CH2	
Phase Shift	±3 degrees	
Cursors and Measurement		
Cursors	△V and △T between cursors, auto cursor	
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 (Rising), Delay A→B (Falling), Cycle RMS, Cursor RMS, Screen Duty, Phase, +PulseCount, -PulseCount, RiseEdgeCnt, FallEdgeCnt, Area, and Cycle Area.	
Control Panel Function		
Auto Counter	Available	
Autoset	Single button, automatic setup of all channels for vertical, horizontal and trigger systems. With "Cancel Autoset"	
Save Setup	8 set	
Save Waveform	16 waveforms	
Display		
TFT LCD Type	7 inch LCD	
Display Resolution	800 horizontal × 480 vertical pixels	
Interpolation	sin (x)/ x	
Waveform Display	Dots, vectors, variable persistence (1 s 、2 s 、5 s), infinite persistence	
Display Graticule	8 x 15 divisions	
Display Mode	Y-T and X-Y	
Interface		
USB	USB 2.0 Host/Device (Only one type is supported at a time can't use both at the same time.),Host mode: Supporting Mass Storage Class (FAT16 / 32) Device mode: Supporting USBTMC Class	
AFG Specifications (GDS-912G Only)		
Channel	–	1
Sample Rate		125 MSa/s
Vertical Resolution		14 bit
Max. Frequency		25 MHz
Standard Waveform		Sine wave, square wave, ramp wave, pulse wave, arbitrary wave
Built-in ARB Waveform		Sinc, exponential rise, exponential decline, Gaussian more than 16 kinds
Output Range		0.05 $V_{peak\ to\ peak}$ to 3 $V_{peak\ to\ peak}$ (50 Ω)
Output Resolution		1 mV
Output Accuracy		± (1 % of setting + 1 mVpp) typical value; 1 kHz sine 0 V offset
Offset Range		± (3 V – amplitude Vpp / 2)
Offset Resolution		± (1 % of |setting| + 1 mV + amplitude Vpp * 0.5 %)
Sine		
Frequency Range	–	0.1 Hz to 25 MHz
Flatness		Relative to 100 kHz Sine wave, 1 Vpp , 50 Ω
Harmonic Distortion		-35 dBc
Stray (Non-harmonic)		-40 dBc
Total Harmonic Distortion		0.8 %
S/N Ratio		50 dB
Square/Pulse		
Frequency Range	–	0.1 Hz to 5 MHz
Rise/Fall Time		Square <30 ns ; Pulse > 12 ns
Overshoot		<5 %
Duty Cycle		Square: 50 % ; Pulse: 0.4 % to 99.6 %
Min. Pulse Width		100 ns
Jitter		±100 ppm
Ramp		
Frequency Range	–	0.1 Hz to 1 MHz
Linearity		<2 % of peak output (typical 1 kHz,1 Vpp, symmetry 50 %)
Symmetry		0 % to 100 %
Miscellaneous		
Multi-language Menu	Available	
Operation Environment	Temperature: 0 °C to 40 °C ; Relative Humidity ≤ 90 %	
Power Consumption	16 Watts approx.	
Dimensions & Weight	301 (W) × 152 (H) × 70 (D) mm ; Approx. 1.1 kg	

NOTE: 1. The specifications apply when the GDS-900 Series is powered on for at least 30 minutes under +20 °C to +30 °C .
2. (*) At 1000-point record length

Specifications subject to change without notice. DS-900ID1DH

ORDERING INFORMATION

GDS-912 100 MHz, 2 channels, Digital Storage Oscilloscope

GDS-912G 100 MHz, 2 channels, Digital Storage Oscilloscope, 25 MHz AFG

ACCESSORIES

Power cord x 1, BNC Cable x 1 (only for GDS-912G), USB Cable x 1, 100 MHz(10:1/1:1)Switchable passive probe for GDS-900 Series x 2

FREE DOWNLOAD

Software OpenWave Software **Driver** USB Driver ; LabView Driver

OPTIONAL ASSESSORIES

GAK-003 50 Ω Impedance Adapter
GTL-246 USB Cable, USB 2.0, A-B Type, 1200 mm
GCP-300 300 kHz/200 A Current probe
GCP-530 50 MHz/30 A Current probe
GCP-500 500 kHz/150 A Current probe
GCP-1030 100 MHz/30 A Current probe
GCP-1000 1 MHz/70 A Current probe
GTP-033A Oscilloscope Probe, 35 MHz 1:1 Passive Probe, BNC(P/M)
GCP-206P Power supply for current probe(2 input channel)
GCP-425P Power supply for current probe(4 input channel)
GDP-025 25 MHz High voltage differential probe
GDP-050 50 MHz High voltage differential probe
GDP-100 100 MHz High voltage differential probe
GCP-0275 2 MHz/750 A Current probe
GCP-0550 5 MHz/500 A Current probe
GCP-2525 25 MHz/250 A Current probe
GTP-100B-4 100 MHz(10:1/1:1)Switchable passive probe

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