500/350/250/150MHz DIGITAL STORAGE OSCILLOSCOPE

GDS-3000 Series

CE | USB High Speed | PC Software | Labview Driver | PictBridge Compatible

VPO Visual Persistence Oscilloscope

The GDS-3000 Series digital storage oscilloscope is a full-featured and powerful tool that allows you to tackle complex measurement issues with ease.
The GDS-3000 Series, carrying a maximum bandwidth of 500MHz, is equipped with a real-time sampling rate up to 5GSa/s and an equivalent-time sampling rate of 100GSa/s. The large 8-inch SVGA TFT LCD screen, combined with the advanced digital signal processing technology – VPO, provides meticulous detail and clarity for the displayed waveforms. The GDS-3000 Series gives you confidence not to miss any part of the test signal in the product verification and debugging stages and allows you to speed up your task without hesitation.

Rich Features

With widespread applications of embedded system using serial bus communications, resolving unexpected issues, such as propagation delay and bus contention, is often a challenge to design and testing engineers. The GDS-3000 Series provides (optional) design and testing engineers with powerful tools for the communication analysis and debugging of the most popular serial interface projects including I^2C ,SPI and UART.
To fulfill the increasing power measurement demands, as a green energy trend, GDS-3000 provides an embedded power-measurement software (optional), which includes measurements of Power Quality, Harmonics, Ripple and Inrush Current, meeting requirements of most power measurement standards.

Hi-tech Platform

With 5GSa/s sampling and Visual Persistence Oscilloscope (VPO) technology, GDS-3000 displays waveforms truthfully and captures less-frequently-occurred signals, like glitches or runts, simultaneously without missing any spot of waveform information. A unique Split-screen feature allows each input channel to be operated independently with respective setting and waveform display. This gives users flexibility to use GDS-3000 Series as a multi-scope-in-one DSO.
To alleviate the burden of manual operation and to reduce human error, additional features such as auto range are used to automatically adjust the horizontal and vertical scale of a displayed signal so that waveforms are displayed with the best possible viewing ratio.
The I/O Interfaces give you a good range of choices and convenience. In the front panel, a USB host port is used for easy data access. And in the rear panel, another USB port can be used for remote control or for screen printout directly from PictBridge compatible printers. In addition, RS-232 and LAN interfaces provide the flexibility supporting broad range of applications. The SVGA video output port allows you to display the screen on an external projector or monitor for information sharing and discussion.

Unique Signal Processing -VPO

The GDS-3000 VPO (Visual Persistence Oscilloscope) technology adopts a very unique signal-processing design. To significantly increase the data processing speed and the waveform capture rate, GDS-3000 uses FPGA platform to replace conventional serial microprocessor architecture. This unique technology allows the GDS-3000 Series to show waveforms in a fashion like that of an analog oscilloscope. The VPO three dimension waveform display, containing the information of amplitude, time and intensity, provides more useful signal contents for the analysis of rapid-changed events, such as video, jitter and infrequent signals.

FEATURES

- 500/350/250/150MHz Bandwidth
- Dual Sampling Modes: 5GSa/s Real-Time Sampling Rate and 100GSa/s Equivalent Time Sampling Rate
- 25k Points Memory for Each Input Channel
- VPO (Visual Persistence Oscilloscope) Technology to Display Less-Frequently-Occurred Signals
- 8" 800 x 600 High Resolution TFT LCD Display
- Unique Split Screen System with Independent Setting for Each Input Channel
- Three Input Impedance Selections: 50Ω/75Ω/1MΩ
- Optional Power Measurement Software for Power Supply Measurement and Analysis
- Optional Serial BUS Triggering and Decoding Software Supporting I^2C, SPI and UART
- Support GW APP Software-Easy Upgrade of Feature New Function

Front

Rear Panel

APPLICATIONS

- Industrial and Educational R&D Labs
- Product Testing and Quality Assurance
- Power Supply and Serial BUS Design
- System Integration & Debugging
- Maintenance & Repair Service

SPECIFICATIONS

		GDS-3152	GDS-3154	GDS-3252	GDS-3254	GDS-3352	GDS-3354	GDS-3502	GDS-3504
VERTICAL	**Channels**	2Ch+EXT	4Ch+EXT	2Ch+EXT	4Ch+EXT	2Ch+EXT	4Ch+EXT	2Ch+EXT	4Ch+EXT
	Bandwidth	DC~150MHz(-3dB)		DC~250MHz(-3dB)		DC~350MHz(-3dB)		DC~500MHz(-3dB)	
	Rise Time	2.3ns		1.4ns		1ns		700ps	
	Bandwidth Limit	20MHz		20M/100MHz		20M/100M/200MHz		20M/100M/200/350MHz	
		The bandwidth of the 75Ω input impedance is limited to 150MHz only							
	Vertical Resolution	8 bits							
	Vertical Resolution(1MΩ)	2mV~5V/div							
	Vertical Resolution(50/75Ω)	2mV~1V/div							
	Input Coupling	AC, DC, GND							
	Input Impedance	1MΩ// 15pF approx.							
	DC Gain Accuracy	±(3% X |Readout| + 0.1div + 1mV)							
	Polarity	Normal , Invert							
	Maximum Input Voltage(1MΩ)	300Vrms, CAT I							
	Maximum Input Voltage(50/75Ω)	5 Vrms , CAT I							
	Offset Position Range	2mV/div ~ 100mV/div : ±0.5V ; 200mV/div ~ 5V/div : ±25V							
	Waveform Signal Process	Add, Subtract, Multiply, and Divide waveforms, Differentiation, Integration (App installation required)FFT, FFTrms ; FFT : Spectral magnitude. Set FFT vertical scale to Linear RMS or dBV RMS, and FFT window to Rectangular, Hamming, Hanning or Blackman-Harris.							
TRIGGER	**Source**	2CH model: CH1, CH2, Line , EXT ; 4CH model: CH1 , CH2 , CH3 , CH4 , Line , EXT							
	Trigger Mode	Auto (Supports Roll Mode for 100 ms/div and slower), Normal, Single							
	Trigger Type	Edge, Pulse Width, Video, Runt, Rise & Fall, Alternate, Glitch Trigger, Duration Trigger, Slope Trigger Event-Delay(1~65,535 events),Time-Delay(10ns~10s),I²C,SPI,UART(optional)							
	Trigger Holdoff Range	10ns ~ 10s							
	Coupling	AC, DC, LF rej. , Hf rej. , Noise rej.							
	Sensitivity	DC~30MHz Approx. 1div or 10mV; 50MHz~150MHz Approx. 1.5div or 15mV; 150MHz~350MHz Approx. 2div or 20mV; 350MHz~500MHz Approx. 2.5div or 25mV							
EXT TRIGGER	**Range**	±15V							
	Sensitivity	DC ~ 150MHz Approx. 100mV 150MHz ~ 250MHz Approx. 150mV;250MHz ~ 350MHz Approx. 150mV;350MHz~500MHz Approx. 200mV							
	Input Impedance	1MΩ±3%, ~16pF							
HORIZONTAL	**Range**	1ns/div ~ 100s/div (1-2-5 increments; GDS-3502/3504 1-2.5-5 increments) ROLL : 100ms/div ~ 100s/div							
	Pre-trigger	10 div maximum							
	Post-trigger	1,000 div max (depend on time base)							
	Accuracy	±20 ppm over any ≥1 ms time interval							
X-Y MODE	**X-Axis Input/Y-Axis Input**	Channel 1; Channel 3/Channel 2; Channel 4							
	Phase Shift	±3°at 100kHz							
SIGNAL ACQUISITION	**Real Time Sample Rate**	2.5GSa/s	5GSa/s	2.5GSa/s	5GSa/s	5GSa/s	5GSa/s	4GSa/s	4GSa/s
	ET Sample Rate	100GSa/s maximum for all models							
	Record Length	25k points							
	Acquisition Mode	Normal, Average, Peak detect, High resolution, Single Average: 2 ~ 256 waveforms ; Peak detect: 2ns							
CURSORS AND MEASUREMENT	**Cursors**	Amplitude, Time, Gating available							
	Automatic Measurement	28 sets: Vpp , Vamp , Vavg , Vrms , Vhi , Vlo , Vmax , Vmin , Rise Preshoot/ Overshoot , Fall Preshoot/Overshoot, Freq , Period , Rise time , Fall time , Positive width , Negative width , Duty cycle, Phase, and eight different delay measurements (FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF)							
	Cursors measurement	Voltage difference between cursors (△V) Time difference between cursors (△T)							
	Auto counter	6 digits, range from 2Hz minimum to the rated bandwidth							
POWER MEASUREMENTS (OPTION)	**Power Quality Measurements**	VRMS, VCrest factor, Frequency, IRMS, ICrest factor, True power, Apparent power, Reactive power, Power factor, Phase angle.							
	Harmonics	Freq, Mag, Mag rms, Phase, THD-F, THD-R, RMS							
	Ripple Measurements	Vripple ,Iripple							
	In-rush current	First peak, second peak							
CONTROL PANEL FUNCTION	**Autoset**	Single-button, automatic setup of all channels for vertical, horizontal and trigger systems, with undo autoset							
	Auto-Range	Allow automatically adjusts the time base and/or the vertical scale of displayed waveform when the frequency and/or the amplitude of input signal changed.							
	Save Setup	20set							
	Save Waveform	24set							
DISPLAY SYSTEM	**TFT LCD Type**	8" TFT LCD SVGA color display(LED Back-light)							
	Waveform Update Rate	3500 wfms/sec							
	Display Resolution	800 horizontal x 600 vertical pixels (SVGA)							
	Interpolation	Sin(x)/x & Equivalent time sampling							
	Waveform Display	Dots, Vectors, Variable persistence, Infinite persistence							
	Display Graticule	8 x 10 divisions							
	Display Brightness	Adjustable							
INTERFACE	**RS-232C**	DB-9 male connector							
	USB Port	2 sets USB 2.0 high-speed host port ;1 set USB high-speed 2.0 device port							
	Ethernet Port	RJ-45 connector, 10/100Mbps							
	SVGA Video Port	DB-15 female connector, monitor output for display on SVGA monitors							
	GPIB	GPIB-to-USB Adapter (Optional)							
	Go/NoGo BNC	5V Max/10mA TTL open collector output							
	Internal Flash Disk	64MB							
	Kensington Style Lock	Rear-panel security slot connects to standard Kensington-style lock							
	Line Output	3.5mm stereo jack for Go/NoGo audio alarm							
OPERATING ENVIRONMENT	**Temperature**	0°C ~ 50°C, Relative Humidity≤80% at 40°C or below ; ≤45% at 41°C~50°C							
POWER SOURCE MISCELLANEOUS	**Line Voltage Range**	AC 100V ~ 240V, 48Hz ~ 63Hz, auto selection							
	Multi-Language Menu	Available							
	On-Line Help	Available							
	Time clock	Time and date, provide the date/time for saved data							
DIMENSIONS & WEIGHT	400(W) X 200(H) X 130(D)mm, Approx. 4 kg								

* Three-year warranty, excluding probes & LCD display panel.

Specifications subject to change without notice. DS-3000GD2DH

ORDERING INFORMATION

GDS-3502	500MHz, 2-Channel, Visual Persistence DSO
GDS-3504	500MHz, 4-Channel, Visual Persistence DSO
GDS-3352	350MHz, 2-Channel, Visual Persistence DSO
GDS-3354	350MHz, 4-Channel, Visual Persistence DSO
GDS-3252	250MHz, 2-Channel, Visual Persistence DSO
GDS-3254	250MHz, 4-Channel, Visual Persistence DSO
GDS-3152	150MHz, 2-Channel, Visual Persistence DSO
GDS-3154	150MHz, 4-Channel, Visual Persistence DSO

ACCESSORIES

User manual x 1 ,Power cord x 1
GTP-151R : 150MHz 10:1 passive probe for GDS-3152/3154 (one per channel)
GTP-251R : 250MHz 10:1 passive probe for GDS-3252/3254 (one per channel)
GTP-351R : 350MHz 10:1 passive probe for GDS-3352/3354 (one per channel)
GTP-501R : 500MHz 10:1 passive probe for GDS-3502/35054 (one per channel)

FREE DOWNLOAD

PC Software FreeWave software **Driver** USB driver ; LabView driver

OPTION

DS3-PWR	Power analysis software: Power quality/Harmonic/Ripple/In-rush current measurements
DS3-SBD	Serial Bus analysis software: I²C/SPI/UART(only 4 channel models support SPI function)

OPTIONAL ACCESSORIES

GUG-001	GPIB to USB adapter
GTP-033A	35MHz 1:1 Passive probe
GTP-352R	350MHz 20:1 Passive probe
GDP-025	25MHz High voltage differential probe
GDP-050	50MHz High voltage differential probe
GDP-100	100MHz High voltage differential probe
GCP-005	1kHz/5A Current probe
GCP-020	10kHz/200A Current probe
GCP-100	100kHz/100A Current probe
GCP-530	50MHz/30A Current probe
GCP-1030	100MHz/30A Current probe
GCP-206P	Power supply for current probe (2 input channel)
GCP-425P	Power supply for current probe (4 input channel)
GTL-248	GPIB Cable, Double Shielded, 2000mm
GTL-251	USB-GPIB Adapter, GPIB-USB-HS, USB 2.0, Hi-Speed USB compliance, 2000mm
GSC-008	Soft Carrying Case
GTL-110	Test lead, BNC to BNC connector
GTL-232	RS-232C cable, 9-pin female to 9-pin female, Null modem for computer
GTL-246	USB 2.0 cable, A-B type cable 4P, 1800mm
GRA-411	Rack Adapter Panel
GDB-03	Oscilloscope Education and Training Kit
GKT-100	Deskew fixture

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