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 I2C, 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.

Convenient platform
With SCSa/s sampling and Visual Persistence Oscilloscope (VPO) technology, GDS-3000 displays waveforms truthfully and captures less-frequently-appeared 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 rapidly changed events, such as video, jitter and infrequent signals.
**SPECIFICATIONS**

**VERTICAL**

<table>
<thead>
<tr>
<th>Channels</th>
<th>GDS-3152</th>
<th>GDS-3154</th>
<th>GDS-3252</th>
<th>GDS-3254</th>
<th>GDS-3352</th>
<th>GDS-3354</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandwidth</td>
<td>DC~150MHz(-3dB)</td>
<td>DC~150MHz(-3dB)</td>
<td>DC~250MHz(-3dB)</td>
<td>DC~250MHz(-3dB)</td>
<td>DC~150MHz(-3dB)</td>
<td>DC~150MHz(-3dB)</td>
</tr>
<tr>
<td>Rise Time</td>
<td>2.3ms</td>
<td>2.3ms</td>
<td>1.4ms</td>
<td>1.4ms</td>
<td>1.4ms</td>
<td>1.4ms</td>
</tr>
</tbody>
</table>

**TRIGGER**

- **Source**: CH1, CH2, 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
- **Pre-trigger**: 10ns ~ 10s
- **Post-trigger**: AC, DC, LF rej., HF rej., Noise rej.
- **Sensitivity**: DC~30MHz Approx. 0.5div or 5mV; 30MHz~150MHz Approx. 1.5div or 15mV; 150MHz~350MHz Approx. 2div or 20mV

**EXT TRIGGER**

- **Range**: ±15V
- **Sensitivity**: DC~30MHz Approx. 50mV; 30MHz~150MHz Approx. 100mV
- **Input Impedance**: 1MΩ ± 1%, 10MHz
- **Accuracy**: ±20 ppm over any ±1 ms time interval

**HORIZONTAL**

- **Range**: 1ns/div ~ 50s/div (1-2-5 increments); ROLL: 100ms/div ~ 100s/div
- **Accuracy**: 0.01%
- **Time & Data**: Provides the Data/Time for saved data

**CURSOR AND MEASUREMENT**

- **Automatic Measurement**: Amplitude, Time, Gating available
- **Cursor measurement**: 28 sets: Vpp, Vavg, Vrms, Vmin, Vmax, Rise, Fall, Positive Width, Negative Width, Duty Cycle, Phase, and eight different delay measurements (FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF)
- **Voltage difference between cursors (ΔV)**: Time difference between cursors (ΔT)
- **Normal**, **Invert**: 1M 3%, ~16pF

**POWER MEASUREMENTS (OPTION)**

- **Power Quality Measurements**: RMS, Freq, Crest Factor, Harmonics, Filter, Power Factor, Phase Angle, Phase Angle, Phase Angle, Phase Angle
- **Current**: 20A (Max.)
- **Accuracy**: ±0.1% or 0.1mV
- **Ripple Measurements**: 20mV/div ~ 1V/div; 100mV/div ~ 5V/div for all models
- **Voltage**: 20A (Max.)
- **Accuracy**: ±0.1% or 0.1mV

**DISPLAY SYSTEM**

- **Resolution**: 800 horizontal x 600 vertical pixels (SVGA)
- **Display Brightness**: Adjustable
- **Display Graticule**: Normal, Invert
- **Line Output**: Rear-panel security slot connects to standard Kensington-style lock
- **Waveform Output**: 3.5mm stereo jack for Go/NoGo audio alarm
- **Ripple Measurements**: 2mV/div ~ 5V/div; 20mV/div ~ 100mV/div
- **Accuracy**: ±0.1% or 0.1mV

**INTERFACE**

- **USB Interface**: USB 2.0 t x 2, USB 3.0 t x 1
- **Power Source**: AC 100V ~ 240V, 60Hz ~ 50Hz, Auto selection

**MISCELLANEOUS**

- **Multi-Language Menu**: Available
- **On-Line Help**: Available
- **Power Source**: 24VAC
- **Dimensions**: 200(W) x 150(D) x 60(H) mm
- **Weight**: Approx. 4 kg

**ACCESSORIES**

- **User manual x 1**, **Power cord x 1**
- **Options**: GPIB to USB Converter
- **Options (continued)**: GPIB-1000, GPIB-3000

**ORDERING INFORMATION**

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

**OPTION**

- **DS-48** Power analysis software: Power quality/Harmonic/Ripple/Inrush current measurements
- **DS-86** Series Bus analysis software: 1C/SP/IUART/RS-232/422/485 (for 4-channel models only)

**FREE DOWNLOAD**

- **PC Software**: FreeWave software
- **Driver**: USB driver, LabView Driver

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