### 150MHz/100MHz/60MHz DIGITAL STORAGE OSCILLOSCOPE



GDS-1000A Series is a general purpose 2channel oscilloscope and originally designed to meet educational and industrial requirements without specializing in DSO features. This series provides three selective bandwidths of 60MHz, 100MHz and 150MHz together with innovative human machine interface design plus an TFT color LCD display, users will enjoy better measurement experience!

GDS-1000A series offers dual sampling mode, giving users two options for 1GSa/s Real-Time sampling or 25GSa/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, GDS-1000A series 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.

Besides, the requirement of measuring data exchange and analysis is intergraded into the GDS-1000A series. The convenient PC standard interface is also available, such as USB interface and SD card socket. This two build-in standard interface capability enable the performance of remote control or data transferring to a desktop/laptop for documenting purpose and enhance your work efficiency.

#### Easy to use

Several acquisition mode and 27 auto measurement functions help user to measure the accurate property of waveforms. The advanced auto-set function makes GDS-1000A Series catch waveform automatically and display waveform quickly. With arithmetic functions, FFT function keeps user being aware of the results by updating value immediately. Without almost extracalculation GDS-1000A series can provide sufficient information of testing.

#### SD Card & USB Device supported

A total of 15 waveforms could be saved into the internal memory for later recall and display, and 2 saved reference waveforms plus 2 live waveforms 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.



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## **GDS-1000A Series**

#### **FEATURES**

- 150/100/60 MHz Bandwidths
- Sample Rates up to 1 GSa/s Real-Time Maximum, 25Gsa/s Equivalent-Time
- 2M Points Record Length Maximum
- 2mV~10V Vertical Scale
- 1ns~50s Horizontal Range
- TFT LCD Display Panel
- Up to 27 Automatic Measurements
- Up to 10ns Peak Detection for Glitch Capture
- Advanced Video, Pulse Width Trigger
- Cursor Tracking
- Versatile Math Functions + ,- , X , FFT , FFTrms
- SD Card Supported
- On-Line Help and Multi-Language Operating Supported

# GDB-02 Oscilloscope Education and Training Kit



### APPLICATIONS

- Laboratories and Educational Facilities
- Product Testing and Quality Assurance
- Service Operation and Post-Sales Support
- Product Development and Debugging



# **GDS-1000A Series**

Channels Bandwitch Bandwitch Sensitivity         2 DC-60MHz(138b) (2,5m Approx.         2 DC-100MHz(34b) (2,5m Approx.         2 DC-150MHz(34b) (2,5m Approx.           2m/Qdv - 10V/dv - 10V/dv - 102 Sincements) Figure Coupling         2m/Qdv - 10V/dv - 102 Sincements) Topol Impolative Waremost input Impolative Coupling Part Trigger Part Trigger Waremost input Impolative Waremost input Impolative Waremost input Impolative Coupling Part Impolative Waremost input Impolative Coupling Part Impolative Coupling Part Trigger Part Trigger Part Trigger Waremost input Impolative Part Trigger Waremost input Impolatit Part Parteno Waremost input Impolative Part Part Part Part Pa			GDS-1062A	GDS-1102A	GDS-1152A	
Bandwith Ise Time         DC-60MHr(38) -3.5m SApprox.         DC-100MHr(38) -3.5m SApprox.         DC-130MHr(38) -2.3m SApprox.           Sensitivity Input Torophing Input Torophing Input Torophing Input Torophing Sensitivity Norman 2 Invest Value Value Description         Comman 2 Invest Normal	VERTICAL	Channels				
Sensitivity Control         Zensitivity (AC) 2-5 increments) (AC) 2-5 increments)						
Accuracy Input Coupling Input Coupling Not Not Not Not Not Not Not Not Not Not		Rise Time	<5.8ns Approx.	<3.5ns Approx.	<2.3ns Approx.	
Input Coupling Fuel Impet and the fuel impet an			2mV/div ~ 10V/div (1-2-5 increments)			
Input Impediance PolarityIMU 22 29, -15 pF Normal & Invert1000 (DC-AC peak), CATII Wardom Signal Poes Officet Range Bandwidth Limit3000 (DC-AC peak), CATII -2004/14/-5 3000 (Jdv: 5000 V/dv: 14V; 1V/dv - 10V/dv: -14V/dv -2004/14/-5 3000 (Jdv: 5000 V/dv: 5000 V/dv: 14V; 1V/dv - 10V/dv: -14V -2004/14/-5 3000 (Jdv: 5000 V/dv: 5000 V/dv: 5000 V/dv: 5000 V/dv: 14V; 1V/dv - 10V/dv: -14V -2004/14/-5 3000 (Jdv: 5000 V/dv: 5						
Polarity '         Normal & Inverie           Wardmum Input         300V (Cr.4C pe pak), CATII           Wardmum Input         200/Cr.4C pe pak), CATII           TRIGGER         Sources           Bandwidth Limit         200/Hz (2 438)           TRIGGER         Sources           ALTIC, NOMAL, SINCEL, TV, Edge, Pulse width           Maximum Input           DC = ZSHMEz = SOMV; ZSM = Ed(100/150MHz: Approx. 1.5div or 15mV           DC = ASHMEZ = SOMV; ZSM = Ed(100/150MHz: Approx. 1.5div or 15mV           MAIN, WINDOW, WINDOW, WINDOW, ROLL, XY           Modes           Accuracy           Accuracy           Polarity           Polarity           CY MODE           Varial Resolution           Real-Tine Sample Rate           EGIVAL ACQUISITION           Real-Tine Sample Rate           EGIVAL ACQUISITION           Read-Tine Sample Rate           EGIVAL ACQUISITION						
Water         Y., -, Y., FFT. FFTms           Confect Range Bandwidth Limit         20/Hiz (-36M) 20/Hiz (-36B)         20/Hiz (-36B)           TRIGCER         Sources Modes         CH1, CH2, Line, EXT AUTO, NORMAL, SINCLE, TV, Edge, Pulse width AC, D. C, LF, rej., HF rej., Noker rej. Sensitivity         CH1, CH2, Line, EXT AUTO, NORMAL, SINCLE, TV, Edge, Pulse width AC, D. C, LF, rej., HF rej., Noker rej. Sensitivity           EXT TRIGCER         Range Sensitivity         CC - 23MHz: Approx. DSci or SmV; 25M + 60/100/150MHz: -000mV Input Impedance           HORIZONTAL         Range Sensitivity         DC - 23MHz: -50mV; 25M - 60/100/150MHz: -100mV Int (1-22%, -15pF 300/UC + AC peak), CAT11           HORIZONTAL         Range Modes Accuracy Post-Trigger         Ins/div - 50s/div (1-2-5 increments); ROLL; 250ms/div - 50s/div MAIN, WINDOW, WINDOW 200M, ROLL, X-Y 4001%           CY MODE         X-Axis Input Post-Trigger         Channel 1 Channel 2 ZM Points maximum Acquisition Mode Post-Solf Pase Shift           SIGNAL ACQUISITION         Real-Time Sample Rate Solf Solf Solf Solf Solf Solf Solf Solf			Normal & Invert			
Offset Range Bandwidth Limit         2mV/Jdiv : 30.4V; 10mV/div : 40.V; 10mV/div : 40.V; 10/Hv/div : 10.V/div : 24.0V           TRIGGER         Sources Modes Modes Sensitivity         CH1, CH2, Line, EXT AUTO, NORMAL, SINCLE, TV, Edge, Pulse width AC, DC, L Fer, H, FF, J, Noise ref, DC - 25MHz: Approx. 0.5div or 5mV: 25M - 60/100/150MHz: Approx. 1.5div or 15mV           EXT TRIGGER         Range Sensitivity Input Impedance Modes Autor         1520           IORIZONTAL         Range Sensitivity Input Impedance Modes Autor         1520           IORIZONTAL         Range Sensitivity Input Impedance Modes Autor         1520           IORIZONTAL         Range Modes Autor         1526           IORIZONTAL         Range Modes Autor         1526           IORIZONTAL         Range Modes Autor         1530/100/100           IORIZONTAL         Kaki Input Y-Axis Input Y-Axis Input Autor         150/65           IORIZONTAL         Channel 1 Channel 2 Y-Axis Input Y-Axis Input		•	+, -, X, FFT, FFTrms			
Bandwidth Limit         200Hz (.388)           TRIGGER         Sources Modes         CH1 (.P.12, Line, DCT AUTO, NORMAL, SINCLE, TV, Edge, Pulse width AC, D.C., LF, rej., Note rej.           EXT TRIGGER         Range Sensitivity Input Impedance         CH1 (.P.12, Line, DCT AUTO, NORMAL, SINCLE, TV, Edge, Pulse width AC, D.C., LF, rej., Note rej.           EXT TRIGGER         Range Sensitivity Input Impedance         DC - 25MHz; Approx. DSdiv or SMV; 25M - 60/100/150MHz; -100mV           HORIZONTAL         Range Maximum Impedance         Ins/div - 50s/div (1-2:5 increments); ROLL; 250ms/div - 50s/div MAIN, WINDOW,						
RICGER         Sources Modes         CH1, CH2, Line, EXT Cupping         Ch2, Cupping         Ch2, Cupping         CH1, CH2, Line, EXT Cupping         CH1, CH2, Line, EXT Cupping <thch2, cupping<="" th="">         CH1, CH2, Line, EXT Cupping</thch2,>		J J				
Modes Coupling SensitivityAUTO, NORMAL, SINCLE, TV, Edge, Pulse width Coupling AC, DC, LF Fei, HFei, Prio, Noise rcj. DC - 25MHz - 60/100/150MHz: Approx. 1.5div or 15mVXXT TRIGCERRange Sensitivity Input Impedance Maximum Input15V DC - 25MHz - 50mV ; 25M + 60/100/150MHz : -100mV4ORIZONTALRange Maximum InputTns,Idv - 50s/div (1-2-3 increments); ROLL : 250ms/div - 50s/div Modes Accuracy to 01% dv maximum Post-TriggerTns,Idv - 50s/div (1-2-3 increments); ROLL : 250ms/div - 50s/div 10.04 v maximum to 01% dv maximum Post-Trigger4ORIZONTALRange Maximum InputTns,Idv - 50s/div (1-2-3 increments); ROLL : 250ms/div - 50s/div 10.00 d/v4VMDEX-Axis Input Y-Xis Input Phase ShiftChannel 1 Channel 1 Channel 2 23 1100kHz5IGNAL ACQUISITIONReal-Time Sample Rate Equivalent Sample Rate Equivalent Sample Rate Recod Lenging Rate Accuracy Pask Detect, Average Normal, Peak Det						
Cupling SensitivityC., DC, L. Frej, . HF rej, . Nisse rej. DC - 25MHz: Approx. 0.5div or 5mV; 25MHz - 60/100/150MHz: Approx. 1.5div or 15mVEXT TRIGGERRange Sensitivity Input Impedance Maximum Input±15V DC - 25MHz: -50mV; 25M - 60/100/150MHz: -100mV 100/1250MHz: -100mV 100/1250MHz: -100mV 100/1250MHz: -100mV 100/1250MHz: -50s/div Advised approx. 1.5div or 15mV10RIZONTALRange Maximum Input Modes Accuracy Pre-Frigger 10 div Pre-Frigger10.12/25, - 1.5giv 10 div 10 div 100 div10RIZONTALRange Maximum Pre-Frigger Post. Trigger 10 div Pre-Frigger 10 div Pre-Frigger 10 div Pastimum Post. Trigger Post. Trigger 10 div Pastimum Post. Trigger 10 div Pastimum Post. Trigger 10 div 253/s maximum 263/s f maxim	EXT TRIGGER					
EXT TRIGGER       Range Sensitivity Input Impedance Modes Accuracy Pre-Trigger       ±15V DC = 25MHz: - 50mV; 25M - 60/100/150MHz: -100mV         HORIZONTAL       Range Modes Accuracy Pre-Trigger       ±15V DC = 25MHz: - 50mV; 25M - 60/100/150MHz: -100mV         HORIZONTAL       Range Modes Accuracy Pre-Trigger       ±15V DC = 25MHz: - 50mV; 25M - 60/100/150MHz: -100mV         HORIZONTAL       Range Modes Accuracy Pre-Trigger       ±16V DC = 25MHz: - 50mV; 25M - 60/100/150MHz: -100mV         SIGNAL ACQUISITION       X-Axis Input Phase Shift       Channel 1 Channel 2 ±3 at 100kHz         SIGNAL ACQUISITION       Real-Time Sample Rate Equivalent Sample Rate Cost SGSA/s maximum       25SG/s/s maximum 8 Bits         ZURSORS AND MEASUREMENT       Voltage Measurement Time Measurement Cursors Measurement Auto Counter       Yoltage Measurement Cursors Measurement Auto Counter       Yoltage Measurement Cursors Measurement Auto Counter       Yoltage Measurement Cursors Measurement Auto Counter       Yoltage View View View View Note, Niew Preshoot/Overshoot, Fall Preshoot/Overshoot Poisplay Resolution : 6 digits Accuracy: 27% Siest Softwore         DISPLAY       TFI LCD Type Display Resolution Display Britiness SN 10 divisions A 10 divisions A 10 divisions       S4 (Vertically x 20 (Horizontal TIME/DIV) and Trigger level automatically Up to 15 sets of measurement conditions 15 sets of waveform         DISPLAY       TFI LCD Type Display Resolution Display Britiness       S6 inch 23 (Vertically x 20 (Horizontal IIME/DIV) and Trigger level automatically Up to 15 sets of measurement conditions 15 sets of						
Sensitivity Input Impedance Maximum Input         DC - 25M + : - 50mV ; 25M - 60/100/150MHz : - 100mV Maximum Input           HORIZONTAL         Range Modes Accuracy Pre-Trigger 100 div maximum Post-Trigger 100 div maximum Post-Trigger Notes Shift         Ins/div - 50s/div (1-2-5 increments); ROLL : 250ms/div - 50s/div 40.01%           CY MODE         X-Axis Input Y-Axis Input Phase Shift         Ins/div - 50s/div 40.01%         Ins/div - 50s/div 40.01%           SIGNAL ACQUISITION         Real-Time Sample Rate Equivalent Sample Rate Same Sample Same Sample Sample Cate Sample Sample Rate Cursors Measurement Cursors Me						
InputInputInputInput300V (DC + AC peak), CATII4ORIZONTALRange ModesIns/div ~ 50s/div (1-2.5 increments); ROLL: 250ms/div ~ 50s/div4ORIZONTALRange ModesIns/div ~ 50s/div (1-2.5 increments); ROLL: 250ms/div ~ 50s/div4ORIZONTALRange ModesIns/div ~ 50s/div (1-2.5 increments); ROLL: 250ms/div ~ 50s/div4ORIZONTALReiner Pet-Trigger 10 div maximum Post-TriggerIo div maximum Channel 1 Channel 2 25 at 1000 div4CY MODEX-Axis Input Y-Axis Input Equivalent Sample Rate Equivalent Sample Rate Record Length Accuracy 2.7 4. 8, 16, 32, 64, 128, 256Io Sic Samaimum 25 CSS /s maximum 25 CSS /s maximum 25 CSS /s maximum 2.7 4. 8, 16, 32, 64, 128, 2562URSORS AND MEASUREMENT Cursors Measurement Cursors Measurement Acquisition Mode Delay Measurement Cursors Measurement Auto CounterVise Time, Positive Width, Negative Width, Duty Cycle Delay Measurement Voltage (Ifferent delay measurement Auto CounterVise Time, Positive Width, Negative Width, Duty Cycle Signal Source: All available trigger source except the Video trigger modeADJUSTABLE PROBE CONTROL PANEL FUNCTION Save Setup Save WaveformAdjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically Dis 5 dir of measurement conditions Save Setup Save Setup Save WaveformS6 inch 234 (Vertical IV) X320 (Horizontal) Adjust Vertical IV S120 (S0) and setup (SET)DISPLAYUSB Device Display Resolution Display Resolution Display Resolution Display Signal Source: All available Adjustable AdjustableS0 (Indivisions AdjustablePOWER SOURCE WISELLANEOUS <td< td=""><td></td><td></td><td>100/1501/11 100 1/</td><td></td></td<>				100/1501/11 100 1/		
Maximum Input         300V (DC + AC peak), CATII           HORIZONTAL         Range Modes Accuracy Dest-Trigger         Ins/div ~ 50s/div (1.2.5 increments); ROLL: 250ms/div ~ 50s/div MAIN, WINDOWZ ZOOM, ROLL, X.Y ±0.01%           Yer Trigger         10 div maximum Post-Trigger         1000 div           Yer Trigger         1000 div           SiGNAL ACQUISITION         Real-Time Sample Rate Vertical Resolution Record Length Acquisition Mode Peak Detection         Channel 1 CS3/s maximum 25CS3/s max						
HORIZONTAL       Range Modes Accuracy Pres-Trigger       Ins/div – 50s/div (1-2-5 increments); ROLL: 250ms/div – 50s/div MAIN, WINDOW, WINDOW ZOOM, ROLL, X-Y 2001%         KY MODE       X-Avis Input Y-Axis Input Phase Shift       Channel 1 Channel 2 - 13 at 100kHz         SIGNAL ACQUISITION       Real-Time Sample Rate Equivalent Sample Rate Pase Chift       IGSa/s maximum 25CSa/s maximum Record Length Acquisition Mode Peak Detection Average       IGSa/s maximum 25CSa/s maximum 25CSa/s maximum Record Length Average         CURSORS AND MEASUREMENT       Voltage Measurement Time Measurement Auto Counter       Vp, Vamp, Vaw, Vms, Vhi, Vo, Vmax, Vmin, Rise Preshoot/Overshoot, Fall Preshoot/Overshoot Average         CURSORS AND MEASUREMENT       Freq. Period Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle Eight difference between cursors (AV) Time difference between cursors (AV) Time difference between cursors (AT) Resolution : 6 digits Accuracy: 12% Signal Source: All available trigger source except the Video trigger mode         DISPLAY       Freq.equency Range Display Resolution Save Waveform       Adjust Vertical VOIT/DIV, Horizontal TIME/DIV, and Trigger level automatically Up to 15 sets of maxeform conditions         DISPLAY       USB Device SD Card Stot       USB Device Save Giston       Sa (Hcrically) x 320 (Horizontally) Dots S x 10 divisions A djustable         NTERFACE       USB Device SD Card Stot       USB Avel Stard Save Available       Available						
Modes     MAIN, WINDOW, WINDOW, ZOOM, ROLL, X-Y       Accuracy     501%       Vertraiger     Dol vir       Yer-Trigger     Dol vir       Yer-Trigger     Dol vir       Yer-Trigger     Channel 1       Curracy     Y-Axis Input       Y-Axis Input     Channel 1       Channel 1     Channel 1       Channel 2     SIGNAL ACQUISITION       Real-Time Sample Rate     IGSa/s maximum       Equivalent Sample Rate     IGSa/s maximum       Acquisition Mode     Sold Normal, Peak Detect, Average       Yerical Resolution     Normal, Peak Detect, Average       Onsci Sold Normal, Peak Detect, Average     Onsci Sold Vir	HORIZONTAL					
Pec-TriggerOld vi maximum 1000 divC-Y MODEX-Axis Input Y-Axis Input Phase ShiftChannel 1 Channel 2 Channel 2 SignAL ACQUISITIONSIGNAL ACQUISITIONReal-Time Sample Rate Equivalent Sample Rate Vertical Resolution Acquisition Mode Peak Detection Normal, Peak Detect, Average 1006 (SOGs/si maximum 2.4.8, 16, 32, 64, 128, 256SURSORS AND MEASUREMENT COMPENSATION SIGNALValue Measurement Delay Measurement Cursors Measurement Cursors Measurement Signal Signal		Modes	MAÍN, WINDOW, WINDOW ZOOM, ROLL, X-Y			
Post-Trigger1000 divCY MODEX-Axis Input Y-Asis Input Phase ShiftChannel 2 +3'a 100kHzSIGNAL ACQUISITIONReal-Time Sample Rate Equivalent Sample Rate Basis Acquisition Mode Peac Detection Verrical Resolution Record LengthCISA/s maximum 25G/3/s maximum 2000 2.4,8,16,32,64,128,256CURSORS AND MEASUREMENT Delay Measurement Cursors Measurement Cursors Measurement Cursors Measurement Cursors Measurement Cursors Measurement Cursors Measurement Cursors Measurement Cursor Measurement College Contere Advocurec 2: 12% Sigral Source: All available trigger source except the Video trigger mode Sigral Source: All available trigger source except the Video trigger level automatically Up to 15 sets of measurement conditions 15						
CV MODEX-Axis Input Y-Axis Input Phase ShiftChannel 1 Channel 2 H3 at 100kHzSIGNAL ACQUISITIONReal-Time Sample Rate Equivalent Sample Rate Acquisition Mode Peak Detection Acquisition Mode Peak Detection Year ge1CSa/s maximum 2SCSa/s maximum 8 Bits 2 SCSa/s maximum 8 Bits 9 Points maximum 9 Points Measurement 1 Time Measurement 1 Curssons Measurement 1 Curssons Measurement 1 Curssons Measurement 2 Points Points Measurement 2 Points Point						
Y-Axis Input Phase ShiftChannel 2 ±3' at 100kHzSIGNAL ACQUISITION SIGNAL ACQUISITIONReal-Time Sample Rate Equivalent Sample Rate (yeirical Resolution Record Length Acquisition Mode Peak Detection AverageICSa/s maximum 2SGs/s maximum 8 Bits 2M Points maximum Normal, Peak Detect, Average 10ns (S00ns/div ~ 50s/div) 2, 4, 8, 16, 32, 64, 128, 256CURSORS AND MEASUREMENT CURSORS AND MEASUREMENT Delay Measurement Cursors Measurement Auto CounterVoltage Measurement Cursors Measurement Auto CounterVoltage difference between cursors ( $\Delta$ V) Time difference between cursors ( $\Delta$ T) Resolution : 6 digits Signal Source: All available trigger source except the Video trigger modeDJUSTABLE PROBE COMTROL PANEL FUNCTION DISPLAYFrequency Range Sue Setup Save Setup Save Setup Signal Source: All available trigger source except the Video trigger modeDISPLAYTFT LCD Type Display Resolution Display Graticule Display Graticule Display Graticule Display Graticule Display Resolution Bis divisions AdjustableSignal Source: All available trigger source and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)NTERFACEUSB Device USB David SlotUSB 118, 22.0 (Horizontal TIME/DIV, and setup (SET) AvailableNTERFACEUSB Device USB Card SlotUSB 118, 22.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)OWER SOURCELine Voltage Range AvailableAvailable AvailableOWER SOURCELine Voltage Range AvailableAvailableMISCELLANEOUSOutie HelpAvailable	X-Y MODE					
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Equivalent Sample Rate Percord Length Acquisition Mode Peak Detection Acquisition Mode Peak Detection Peak Detection Acquisition Mode Peak Detection Peak Detection Stange Transport Peak Detection Peak Detection Stange Transport Peak Detection Peak DetectionPeak Detection Peak DetectionUSDEDE Pook Detect Peak Detect Average Pook Detect Peak Detect Peak Detect Average Peak Detect Average Pook Detect Peak Detect Average Peak Detec		Phase Shift				
Vertical Resolution Record Length Acquisition Mode Peak Detection8 Bits' 2M Points maximum 2M Points maximum 2, 4, 8, 16, 32, 64, 128, 256CURSORS AND MEASUREMENT Delay Measurement Delay Measurement Auto CounterVoltage Measurement Pereq, Period, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle Eight different delay measurement Coursors Measurement Auto CounterVpp, Vamp, Vamg, Vmms, Vhio, Vmax, Vmin, Rise Preshoot/Overshoot, Fall Preshoot/Overshoot Freq, Period, Rise Time, Positive Width, Negative Width, Duty Cycle Eight different delay measurement Coursors Measurement Auto CounterKesolution : 6 digits Accuracy: ±2% Signal Source: All available trigger source except the Video trigger modeADJUSTABLE PROBE COMPROAEFrequency Range Duty Cycle Range1kHz ~ 100kHz, 1kHz/STEP 5% ~ 95%, 5%/STEPCONTROL PANEL FUNCTION Display Craticule Display CraticuleAdjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically 15 sets of measurement conditions 15 sets of measurement conditions 15 sets of measurement conditions 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions AdjustableNTERFACELine Voltage Range USB DeviceUSB 1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)OVER SOURCELine Voltage Range Available Available Available Available Available AvailableAction 240V, 48Hz ~ 63Hz, Auto selection	SIGNAL ACQUISITION					
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Peak Detection Average10ns (500ns/div ~ 50s/div) 2,4,8,16,32,64,128,256CURSORS AND MEASUREMENT CURSORS AND MEASUREMENTVoltage Measurement Delay Measurement Delay Measurement Cursors Measurement Auto CounterVp, 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 Eight different delay measurement Voltage difference between cursors (ΔV) Time difference between cursors (ΔV) Time difference between cursors (ΔV) Time difference between cursors (ΔT) Resolution : 6 digits Accuracy: ±2% Signal Source: All available trigger source except the Video trigger modeADJUSTABLE PROBE COMPENSATION SIGNALFrequency Range Duty Cycle RangeAdjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically Up to 15 sets of measurement conditions 15 sets of measurement conditions 15 sets of waveformDISPLAYTFT LCD Type Display Brightness5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 × 10 divisions AdjustableNTERFACEUSB Device SD Card SlotUSB 11 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)POWER SOURCELine Voltage Range AvailableAVailableMISCELLANEOUSMulti-Language Menu AvailableAvailable						
Average2, 4, 8, 16, 32, 64, 128, 256CURSORS AND MEASUREMENT Time Measurement Cursors Measurement Cursors Measurement Auto CounterVp, Vamp, Vamp, Vms, Vms, Vh, Vlo, Vmax, Vmin, Rise Preshoot/Overshoot, Fall Preshoot/Overshoot Freq, Period, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle Eight difference between cursors ( $\Delta$ T) Resolution : 6 digits Accuracy : ±2% Signal Source: All available trigger source except the Video trigger modeADJUSTABLE PROBE COMPENSATION SIGNALFrequency Range Duty Cycle Range1kHz ~ 100kHz, 1kHz/STEP 5% ~ 95%, 5%/STEPCONTROL PANEL FUNCTION DISPLAYAutoset Save Setup Save WaveformAdjust Vertical VOLIT/DIV, Horizontal TIME/DIV, and Trigger level automatically 0 to 15 sets of measurement conditions 15 sets of waveformDISPLAYTFT LCD Type Display Graticule Display Brightness5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions AdjustableNTERFACEUSB Device SD Card SlotUSB1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)POWER SOURCE MISCELLANEOUSMulti-Language Menu Online HelpAvailable						
CURSORS AND MEASUREMENT       Voltage Measurement Time Measurement Delay Measurement Cursors Measurement Auto Counter       V <sub>pp</sub> , V <sub>amp</sub> , V <sub>amp</sub> , V <sub>ms</sub> , V <sub>hi</sub> , V <sub>lo</sub> , V <sub>max</sub> , V <sub>min</sub> , 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 (△V) Resolution : 6 digits Accuracy : ±2% Signal Source: All available trigger source except the Video trigger mode         ADJUSTABLE PROBE COMPENSATION SIGNAL       Frequency Range Duty Cycle Range Signal Source: All available trigger source except the Video trigger mode         COMPENSATION SIGNAL       Autoset Save Setup Save Waveform       1kHz ~ 100kHz, 1kHz/STEP 5% ~ 95%, 5%/STEP         CONTROL PANEL FUNCTION       Autoset Save Setup Save Setup Save Waveform       Adjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically Up to 15 sets of measurement conditions 15 sets of waveform         DISPLAY       TFT LCD Type Display Graticule Display Resolution Display Graticule Display Graticule Display Graticule Display Resolution Display Graticule Display Graticule Display Graticule Display Graticule Display Graticule Display Graticule Display Graticule Display Graticule Display Graticule Display Brethetee SD Card Slot       USB 1.1 & 2.0 full						
Time Measurement Delay Measurement Auto CounterFreq. Period, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle Eight different delay measurement Voltage difference between cursors ( $\Delta$ V) Time difference between cursors ( $\Delta$ T) Resolution : 6 digits Accuracy : ±2% Signal Source: 141 available trigger source except the Video trigger modeADJUSTABLE PROBE COMPENSATION SIGNALFrequency Range Duty Cycle Range1kHz ~ 100kHz, 1kHz/STEP 5% ~ 95%, 5%/STEPCONTROL PANEL FUNCTION DISPLAYAutoset Save Setup Save WaveformAdjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically Up to 15 sets of measurement conditions 15 sets of waveformDISPLAYTFT LCD Type Display Brightness5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions AdjustableNTERFACEUSB Device SD Card SlotUSB 1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)POWER SOURCELine Voltage Range MUISCELLANEOUSAC 100V ~ 240V, 48Hz ~ 63Hz, Auto selectionMUSCELLANEOUSMulti-Language Menu Online HelpAvailable	CURSORS AND MEASUREMENT	-		V Rise Preshoot/Overshoot	Fall Preshoot/Overshoot	
Cursors Measurement Auto CounterVoltage difference between cursors (△V) Time difference between cursors (△T) Resolution : 6 digits Accuracy : ±2% Signal Source: All available trigger source except the Video trigger modeADJUSTABLE PROBE COMPENSATION SIGNALFrequency Range Duty Cycle Range1kHz ~ 100kHz, 1kHz/STEP 5% ~ 95%, 5%/STEPCONTROL PANEL FUNCTIONAutoset Save Setup Save WaveformAdjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically Up to 15 sets of measurement conditions 15 sets of measurement conditions 15 sets of waveformDISPLAYTFT LCD Type Display Resolution Display Graticule DIsplay Brightness5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions AdjustableNTERFACEUS B Device SD Card SlotUSB 1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)POWER SOURCELine Voltage Range Multi-Language Menu Online HelpAct 100V ~ 240V , 48Hz ~ 63Hz , Auto selection			Freq, Period, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle			
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Accuracy : ±2%       Signal Source: All available trigger source except the Video trigger mode         ADJUSTABLE PROBE COMPENSATION SIGNAL       Frequency Range Duty Cycle Range       1kHz ~ 100kHz, 1kHz/STEP 5% ~ 95%, 5%/STEP         CONTROL PANEL FUNCTION       Autoset Save Setup Save Waveform       Adjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically Up to 15 sets of measurement conditions         DISPLAY       TFT LCD Type Display Graticule Display Graticule Display Brightness       5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions Adjustable         NTERFACE       US B Device SD Card Slot       USB1.1 & 2.0 full speed compatible (printers and flash disk not supported) mage (BMP) waveform data (CSV) and setup (SET)         POWER SOURCE       Line Voltage Range       AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection         MISCELLANEOUS       Multi-Language Menu Online Help       Available				$(\Delta V)$ Time difference between curso	ors $(\Delta I)$	
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COMPENSATION SIGNAL       Duty Cycle Range       5% ~ 95%, 5%/STEP         CONTROL PANEL FUNCTION       Autoset Save Setup Save Waveform       Adjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically Up to 15 sets of measurement conditions         DISPLAY       TFT LCD Type Display Resolution Display Brightness       5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions         NTERFACE       USB Device SD Card Slot       USB1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)         POWER SOURCE       Line Voltage Range       AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection         MISCELLANEOUS       Multi-Language Menu Online Help       Available				ource 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 15 sets of measurement conditions         DISPLAY       TFT LCD Type Display Resolution Display Graticule Display Brightness       5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions         NTERFACE       USB Device SD Card Slot       USB 1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)         POWER SOURCE       Line Voltage Range       AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection         MISCELLANEOUS       Multi-Language Menu Online Help       Available	•					
Save Setup Save Waveform     Up to 15 sets of measurement conditions       DISPLAY     TFT LCD Type Display Resolution Display Resolution Display Brightness     5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions       NTERFACE     USB Device SD Card Slot     USB.1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)       POWER SOURCE     Line Voltage Range     AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection       MISCELLANEOUS     Multi-Language Menu Online Help     Available			· · ·	al TIME (DIV) and Trigger level sub-	actically	
Save Waveform     15 sets of waveform       DISPLAY     TFT LCD Type Display Resolution Display Graticule Display Graticule Display Brightness     5.6 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions Adjustable       NTERFACE     USB Device SD Card Slot     USB1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP) waveform data (CSV) and setup (SET)       POWER SOURCE     Line Voltage Range     AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection       MISCELLANEOUS     Multi-Language Menu Online Help     Available					latically	
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MISCELLANEOUS Multi-Language Menu Online Help Available						
Online Help Available	POWER SOURCE			uto selection		
	MISCELLANEOUS					

#### **ORDERING INFORMATION**

 GDS-1062A
 60MHz, 2 channel, 1GSa/s & 2M Memory DSO

 GDS-1102A
 100MHz, 2 channel, 1GSa/s & 2M Memory DSO

 GDS-1152A
 150MHz, 2 channel, 1GSa/s & 2M Memory DSO

#### ACCESSORIES

User manual x1, Power cord x1 Probe GTP-060A-4 or equivalent : 60MHz (10:1/ 1:1) Switchable passive probe for GDS-1062A (one per channel) Probe GTP-100A-4 or equivalent : 100MHz (10:1/ 1:1) Switchable passive probe for GDS-1102A (one per channel) Probe GTP-150A-2 or equivalent : 150MHz (10:1/ 1:1) Switchable passive probe for GDS-1152A (one per channel)

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