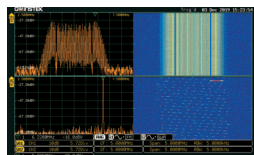
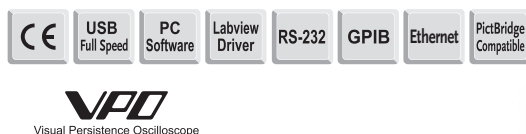
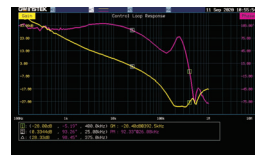


GDS-3000A 系列

1 GHz 數位儲存示波器



光譜圖



控制迴路分析

特點

- * 5 GSa/s即時取樣率
- * 每通道 200 Mpts 記憶體深度
- * 200,000 wfm/s 波形更新率
- * 10.2 吋 800 x 480 TFT LCD 顯示
- * 490,000分段記憶體與波形搜尋功能優化長記憶體使用效率
- * 縮放視窗, 播放/暫停提供快速瀏覽波形
- * 38 種自動量測功能
- * 高解析度擷取模式
- * I²C/SPI/UART/CAN/LIN串列匯流排觸發與解碼功能
- * 雙通道頻譜分析儀(DC to 2.5 GHz)包含光譜圖功能
- * 雙通道25 MHz任意波形產生器
- * 選配13種電源分析量測項目
- * 選配16通道邏輯分析儀(MSO)
- * 靈活的遠程控制連接
(標配: USB/LAN/RS-232; 選配: GPIB)

應用範圍

- * 工業界及教育研發實驗室
- * 產品訓練及品質保證測試
- * 電源供應器及串列匯流排設計
- * 系統整合及產品偵錯
- * 日常保養及維修服務

GDS-3000A系列數位示波器，分別具備 1 GHz 的頻寬，高達5 GSa/s即時取樣率與200 M點的記憶長度，讓使用者不會錯過任何待測訊號的細節，並搭配10.2吋超大顯示器提供使用者工作所需的最佳量測儀器。

為了滿足各類型應用需求，GDS-3000A系列搭配包括串列解碼和分析，25 MHz 任意/函數產生器和DVM/頻率計數器等標準配備，標配的雙通道頻譜分析儀可同時觀察兩個通道上的頻譜，可個別設定中心頻率、頻率範圍以及解析度頻寬，更快獲得深入的頻域分析，內建全新的光譜圖 (Spectrogram) 功能提供了相關的頻域成份分析，簡便的功能操作與優異的運算性能，協助使用者能快速針對其設計中的時域與頻域的信號量測進行除錯。

其電源分析套件可用於電源品質、切換損耗、諧波失真、漣波、湧浪電流、調變分析、安全工作區域、負載瞬態、電源效率、B-H曲線、控制迴路分析、電源供應器抑制比與電源開/關分析等13種電源量測項目，並且內建頻率響應分析 (FRA) APP，藉由控制迴路分析功能，使用者可透過便捷的測試設定更快速，更有效地進行相關設計、校驗、驗證和測試。

GDS-3000A系列內建固緯電子的 GCP-530/1030 (DC to 50 M/100 MHz) 或同類型電流探棒之供應電源插頭，使用者可直接將電流探棒 接內建供應電源插頭即可正常使用，不需額外為電流探棒單獨購買昂貴的電源供應器。

GDS-3000A系列不僅僅是示波器，除了前述功能外，還可選配 1 GSa/s 取樣率16個數位輸入通道的邏輯分析儀，可用於混合訊號分析是市場上具備高性價比示波器的最佳選擇。



規 格

		GDS-3102A	GDS-3104A
VERTICAL	Channels	2 CH+EXT	
	Bandwidth	DC to 1 GHz (-3 dB)@50 Ω input impedance; DC to 500 MHz (-3 dB)@1 MΩ input impedance 350 ps 20 MHz/100 MHz/200 MHz/350 MHz ^{*1}	
	Calculated Rise Time Bandwidth Limit		
	Vertical Resolution	8 bits, (Max.12 bits with Hi Res) For 1 MΩ input impedance : 1 mV ^{*2} to 10 V/div For 50 Ω input impedance:1 mV ^{*2} to 1 V/div AC, DC, GND 1 MΩ// 22 pF approx. 1 mV : ±5 % full scale ; ≥2 mV : ±3 % full scale Normal , Invert 300 Vrms, CAT II 5 Vrms For 1 MΩ input impedance : 1 mV/div to 20 mV/div : ±1 V; 50 mV/div to 500 mV/div : ±10 V ; 1 V/div to 5 V/div: ±100 V ; 10 V/div: ±1000 V For 50 Ω input impedance : 1 mV/div to 50 mV/div : ±1 V ; 100 mV/div to 1 V/div: ±10 V +, - x, ÷FFT, User Defined Expression FFT: Spectral magnitude. Set FFT Vertical Scale to Linear RMS or dBV RMS, and FFT Window to Rectangular, Hamming, Hanning or Blackman	
	Input Coupling Input Impedance DC Gain Accuracy Polarity Maximum Input Voltage(1 MΩ) Maximum Input Voltage(50 Ω) Offset Position Range		
	Waveform Signal Process		
TRIGGER	Source Trigger Mode Trigger Type Trigger Holdoff Range Coupling Sensitivity	2 CH model: CH1, CH2, Line , EXT ; 4 CH model: CH1 , CH2 , CH3 , CH4 , Line , EXT Auto(Supports Roll Mode for 100 ms/div and slower), Normal, Single Edge, Pulse Width(Clitch), Video, Pulse Runt, Rise & Fall(Slope),Time out, Alternate, Event-Delay(1 to 65,535 events), Time-Delay (Duration, 4 ns to 10 s), Bus(I ² C,SPI,UART,CAN,LIN) 4 ns to 10 s AC, DC, LF rej. , HF rej. , Noise rej. 1 div	
EXT TRIGGER	Range Sensitivity Input Impedance	±20 V DC to 100 MHz Approx. 100 mV ; 100 MHz to 350 MHz Approx. 150 mV 1 MΩ ± 3 % // 22 pF	
HORIZONTAL	Range Pre-trigger Post-trigger Accuracy	1 ns/div to 1000 s/div (1-2-5 increments); ROLL : 100 ms/div to 1000 s/div 10 div maximum 10,000,000 div max (depend on time base) ±5 ppm, about ±2 ppm increase in error per year	
X-Y MODE	X-Axis Input/Y-Axis Input Phase Shift	Channel 1, Channel 3 (for 4 CH model); Channel 2, Channel 4 (for 4 CH model) ±3° at 100 kHz	
SIGNAL ACQUISITION	Real Time Sample Rate Record Length Acquisition Mode Number of Segments	5 GSa/s half channels; 2.5 GSa/s all channels Max.200 Mpts/CH Normal, Average, Peak detect, High resolution, Single ; Average: Selectable from 2 to 512, Peak detect: 400 ps 1 to 490,000 maximum	
CURSORS AND MEASUREMENT	Cursors Automatic Measurement Cursors Measurement Auto Counter	Amplitude, Time, Gating available; Unit:Seconds(s), Hz(1/s), Phase(degree), Ratio(%) 38 sets with indicator: Pk-Pk, Max, Min, Amplitude, High, Low, Mean, Cycle Mean, RMS, Cycle RMS, Area, Cycle Area, ROVShoot, FOVShoot, RPRESShoot, FPRESShoot, Frequency, Period, RiseTime, FallTime, +Width, -Width, Duty Cycle, +Pulses, -Pulses, +Edges, -Edges, %Flicker, Flicker Idx ,FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF, Phase Voltage difference between cursors (△ V) Time difference between cursors (△ T) 6 digits, range from 2 Hz minimum to the rated bandwidth	
CONTROL PANEL FUNCTION	Autoset Save Setup Save Waveform Save Reference Waveform	Single-button, automatic setup of all channels for vertical, horizontal and trigger systems, with “Undo Autoset”, “Fit Screen” / “ AC Priority” mode, and “Fine Scale” functions. 20 sets 20 sets 4 sets	
POWER MEASUREMENTS (Option)		Power Quality, Harmonics, Ripple, In-rush current, Switching Loss, Modulation, SOA, Transient, Efficiency, B-H curve, Control Loop Response, PSRR, Turn On/Off	
AWG	Channels Sample Rate Vertical Resolution Max. Frequency Waveforms Output Range Output Resolution Output Accuracy Offset Range Offset Resolution Sine Square/Pulse Ramp	2 200 MSa/s 14 bits 25 MHz Sine, Square, Pulse, Ramp, DC, Noise, Sinc, Gaston, Lorentz, Exponential Rise, Exponential Fall, Haversine, Cardiac 20 mVpp to 5 Vpp, HighZ; 10 mVpp to 2.5 Vpp, 50 Ω 1 mV 2 % (1 kHz) ±2.5 V, High Z; ±1.25 V, 50 Ω 1 mV Frequency Range:100 mHz to 25 MHz; Flatness(relative to 1 kHz): ± 0.5 dB < 15 MHz, ±1 dB (15 MHz to 25 MHz); Harmonic Distortion:-40 dBc; Stray(Non-harmonic):-40 dBc; Total Harmonic Distortion: 1 % ; S/N Ratio:40 dB Frequency Range:100 mHz to 15 MHz ; Rise/Fall time: <15 ns ; Overshoot: <3 % ; Duty cycle Square:50 % & Pulse:0.4 % to 99.6 % ; Min. Pulse Width:30 ns ; Jitter:500 ps Frequency Range:100 mHz to 1 MHz ; Linearity: 1 % ; Symmetry: 0 % to 100 %	
SPECTRUM ANALYZER	Frequency Range Span Resolution Bandwidth Reference Level Vertical Units Vertical Position Vertical Scale Display Average Noise Level Spurious Response Frequency Domain Trace Types Detection Methods FFT Windows	DC to 2.5 GHz(Max.) dual channel with spectrogram (based on advanced FFT). Notice: Frequency which exceeds analog front end bandwidth is uncalibrated 1 kHz to 2.5 GHz(Max.) 1 Hz to 2.5 MHz(Max.) -80 dBm to +40 dBm in steps of 5 dBm dBV RMS; Linear RMS; dBm -12 divs to +12 divs 1 dB/div to 20 dB/div in a 1-2-5 Sequence 1 V/div < -40 dBm, Avg : 16 ; 100 mV/div < -60 dBm, Avg : 16 ; 10 mV/div < -80 dBm, Avg : 16 2nd harmonic distortion < 35 dBc ; 3rd harmonic distortion < 40 dBc Normal ; Max Hold ; Min Hold ; Average (2 to 256) Sample ; +Peak ; -Peak ; Average FFT Factor : Hanning 1.44 ; Rectangular 0.89 ; Hamming 1.30 ; Blackman 1.68	

規 格		
LOGIC ANALYZER (Option)	Sample Rate Bandwidth Record Length Input Channels Trigger Type Thresholds Quad Threshold Selections User-defined Threshold Range Maximum Input Voltage Minimum Voltage Swing Vertical Resolution	Per Channel 1G Sa/s 200 MHz Per Channel 10 M pts (max) 16 Digital (D15 to D0) Edge, Pattern, Pulse Width, Serial bus (I ² C, SPI, UART, CAN, LIN), Parallel Bus Settable thresholds for: D0 to D3, D4 to D7,D8 to D11 ,D12 to D15 TTL, CMOS(5 V,3.3 V,2.5 V), ECL, PECL,0 V ,User Defined ±5 V ±40 V ±250 mV 1 bit
FREQUENCY RESPONSE ANALYSIS	Frequency Range Input and Output Sources Number of Test Points Dynamic Range Test Amplitude Test Results Manual Measurements Plot Scaling	20 Hz to 25 MHz Channel 1 to 2 for 2 CH model ; Channel 1 to 4 for 4 CH model 10, 15, 30, 45, 90 points per decade selectable for logarithm scale; 2 to 1000 points selectable for linear scale > 80 dB (typical) 10 mVpp to 2.5 Vpp into 50 Ω, 20 mVpp to 5 Vpp into High-Z, Fixed test amplitude or custom amplitude for each decade Logarithmic or linear overlaid gain and phase plot, may also overlay with reference plots for cross comparison. Test results saved in csv format for offline analysis Tracking gain and phase markers Auto-scaled during test
DISPLAY SYSTEM	TFT LCD Type Waveform Update Rate Display Resolution Interpolation Waveform Display Display Graticule Display Mode	10.2" TFT LCD WVGA color display 200,000 wfms/sec max. 800 horizontal x 480 vertical pixels (WVGA) Sin (x)/x Dots, Vectors, Variable persistence(16 ms to 4 s), Infinite persistence,gray and color waveforms 8 x 10 divisions YT,XY
INTERFACE	RS-232C USB Port Ethernet Port VGA Video Port Optional GPIB Module Go/NoGo BNC Kensington Style Lock Power Supply Receptacles	DB-9 male connector USB 2.0 high-speed host port x 1 ; USB high-speed 2.0 device port x 1 RJ-45 connector, 10 M/100 Mbps with HP Auto-MDIX DB-15 female connector, monitor output for display on VGA monitor Fully programmable with IEEE488.2 compliance 5 V Max/10 mA open collector output Rear-panel security slot connects to standard Kensington-style lock ±12 V/500 mA for current probe usage. 2 sets for 2 CH model; 4 sets for 4 CH model
MISCELLANEOUS	Operating Line Voltage Range Multi-Language Menu On-Line Help Time Clock Internal Flash Disk Installed APP User Define Key	0 °C to 50 °C, Relative Humidity ≤ 80 % at 40 °C or below ; ≤ 45 % at 41 °C to 50 °C AC 100 V to 240 V, 50 Hz to 60 Hz, auto selection. power consumption:100 W Available Available Time and date, provide the date/time for saved data 800 Mega bytes Single-Level Cell flash memory Go/NoGo, DVM, DataLog, Digital Filter, Frequency Response Analyzer, Mask, Mount Remote Disk, Demo User can select one of the several different preset functions as shortcut key
DIMENSIONS &	420(W) mm X 253(H) mm X 113.8(D) mm, Approx. 4.6 kg	

Note : GDS-3000A 全系列機種提供三年保固 (LCD顯示器以及測試棒除外)

規格若有局部變更，恕不另行通知！ DS-3000AID2DS

購 買 資 訊		
GDS-3102A 1 GHz, 2 通道, 數位儲存示波器 GDS-3104A 1 GHz, 4 通道, 數位儲存示波器		
附 件 資 訊		
Power cord x 1 GTP-501R : 500 MHz 10:1 passive probe for GDS-3102A/3104A (one per channel)		
附 件		
DS3A-PWR Power Analysis Software (Free try during warranty) DS3A-GPIB GPIB Interface (Factory Pre-installed) DS3A-16LA 16 Channel Logic Analyzer		
免 費 下 載		
PC Software	OpenWave software	Driver LabView driver

選 購 附 件			
GTP-033A	35 MHz 1:1 Passive probe	GTL-248	GPIB Cable, Double Shielded, 2000 mm
GTP-352R	350 MHz 20:1 Passive probe	GTL-110	Test lead, BNC to BNC connector
GDP-025	25 MHz High voltage differential probe	GTL-232	RS-232C cable, 9-pin female to 9-pin female
GDP-050	50 MHz High voltage differential probe	GTL-246	USB 2.0 cable, A-B type,1800 mm
GDP-100	100 MHz High voltage differential probe	GTP-1501R	1.5 GHz 10:1 Passive probe
GCP-300	300 kHz/200 A Current probe	GCP-0275	2 MHz/750 A Current probe
GCP-500	500 kHz/150 A Current probe	GCP-0550	5 MHz/500 A Current probe
GCP-530	50 MHz/30 A Current probe	GCP-2525	25 MHz/250 A Current probe
GCP-1000	1 MHz/70 A Current probe	GDP-1020P	1 GHz/20 V High Frequency Differential Probe
GCP-1030	100 MHz/30 A Current probe		
GKT-100	Deskew Fixture	GDP-2035H	200 MHz/3500 Vpk High Voltage Differential Probe
GRA-443	Rack Adapter Panel		

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