

GDM-8255A/8251A

199999/120000 Counts Dual Display Digital Multimeter

FEATURES

- VFD Two Colors Display
- 0.012% DCV Accuracy
- True RMS (AC, AC+DC)
- 9 Major Measuring Functions and 10 Advanced Measurement Functions
- 2W/4W Resistance Measurement
- High Voltage 1000V and 10A Current Range
- Standard Interface : RS-232C, USB Device, Digital I/O
- Free PC Software (DMM-VIEWER), LabVIEW Driver
- Optional 18 Channels Scanner Card (GDM-SC1 for GDM-8255A only)

GW INSTEK
Made to Measure Since 1975

PANEL INTRODUCTION



1. Primary Display
2. Secondary Display
3. Input Terminal
4. SHIFT/EXIT Key
5. Power Switch
6. Measurement Function Keys
7. Operation Keys
8. Display ON/OFF Key
9. Scanner Card Slots
10. Digital I/O
11. USB Device
12. CAL Key Port
13. RS-232

199999/120000 COUNTS DUAL DISPLAY DIGITAL MULTIMETER

Is the resolution of your current multimeter inadequate to read the smallest signal? Need an easy to use multimeter with data-logging? Take a look at the GoodWill GDM-825xA series 5 1/2 digit dual-display digital multimeter. It features a DC voltage accuracy of 0.012% with an industry-leading response time. With robust hardware and software the GDM-825xA series will save time on debugging and analysis whilst saving you money.

The GDM-825xA series can measure up to 10A of current, 2/4 wire resistances, and features other advanced functions such as a simultaneous dual display measurements and a convenient remote control function for easy of use compared to other instruments in its market.

FEATURES

- GDM-8255A : 199,999 Counts Display
GDM-8251A : 120,000 Counts Display
- VFD Two Colors Display
- 0.012% DCV Accuracy
- True RMS (AC, AC+DC)
- 9 Major Measuring Functions and 10 Advanced Measurement Functions
- 2W/4W Resistance Measurement
- High Voltage 1000V and 10A Current Range
- Standard Interface : RS-232C, USB Device, Digital I/O
- Free PC Software (DMM-VIEWER), LabVIEW Driver
- Optional 18 Channels Scanner Card (GDM-SC1 for GDM-8255A only)

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GDM-8255A

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GDM-8251A

A. RICH MEASURING FUNCTIONS WITH ENHANCED FEATURES

Advanced Measurement	Basic Measurement					
	AC/DCV	AC/DCI	2/4W	Hz/P	°C/°F	±(-11)
dB	✓	—	—	—	—	—
dBm	✓	—	—	—	—	—
Max/Min	✓	✓	✓	✓	✓	—
Relative	✓	✓	✓	✓	✓	—
Hold	✓	✓	✓	✓	✓	—
Compare	✓	✓	✓	✓	✓	—
Math	✓	✓	✓	✓	✓	—
Dual Measurement	✓	✓	✓	✓	—	—

Nine major measuring functions such as DCV/ACV, DCI/ACI, 2w/4w Resistance, Diode, Frequency, Continuity test and Temperature are provided on the GDM-8255A / 8251A. The 0.012% DC voltage accuracy provides great precision for the DC voltage applications. In addition to the major measuring functions there are several advanced measuring functions such as Max, Min, dB, dBm, REL/REL#, Hold, Compare and Math functions (MX+B, %, 1/X) to enhance the effectiveness of measuring results.

C. DIVERSE MEASURING COMBINATIONS WITH VFD DUAL COLOR DISPLAY



Offering a variety of dual display combinations, the GDM-8255A/8251A allows a main measurement function and an auxiliary measurement function to be displayed at the same time. The dual measuring function will save measurement time when dealing with applications requiring multiple simultaneous parameters. The high quality dual color VFD (Vacuum Fluorescent Display) is strongly illuminated with a clear contrast for both red and green.

E. CONVENIENT PC SOFTWARE



For convenient remote control and long data captures, the GDM-8255A/8251A is accompanied with free software, DMM-Viewer. This software allows users to remotely control the GDM-8255A/8251A without the need to issue commands or develop new program interfaces. DMM-Viewer's software interface resembles the GDM-8255A/8251A front panel, shortening training. For data capturing through a PC, the software allows you to observe measurement results before saving to a file for further study. Additionally saved files can be loaded and viewed as a graph. With DMM-Viewer, operating the GDM-8255A / 8251A multimeter can be much more effective.

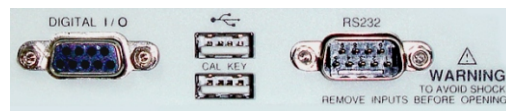
B. FAST MEASUREMENT SPEED & TRANSFER RATE

Mode	Resolution	Measurement Speed	Transfer Speed
Fast	3½ digits	60 readings/second	Typical 17mS
Medium	4½ digits	30 readings/second	Typical 34mS
Slow	5½ digits	10 readings/second	Typical 100mS



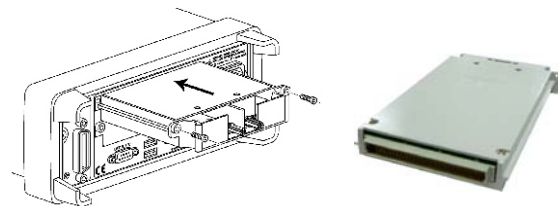
The GDM-8255A / 8251A offer selectable measurement speed rates under different modes. The speed rates allow you to maximize measurement efficiency while maintaining sufficient accuracy. In fast mode, the instrument delivers 60 readings/sec (see table below), adequately meeting today's speed demands. The display can be turned off by pressing the OUTPUT ON/OFF button at anytime. When using remote control, the display can be turned off to increase the measurement speed by reducing the operating load.

D. MULTIPLE STANDARD INTERFACES



The GDM-8255A/8251A provide multiple interfaces for PC connection as standard: RS232C and USB. With RS232 and USB as standard, remote control and data transfer is faster and smoother. Without the need for expensive propriety communication interfaces, costs are significantly reduced for PC control and monitoring. In addition, the digital I/O terminal outputs comparison measurement results to control external devices for ATE applications and the VCC output can be used as a power source for TTL or CMOS circuits.

F. EFFECTIVE MULTIPLE MEASUREMENT SCANNER CARD



The optional scanner card (GDM-SC1), creates a self-contained multipoint measurement solution with plug-in design. This approach eliminates the complexities of multipoint measurements and data processing. The scanner lets users effectively measure multiple channels connected to a single GDM-8255A. Each scanner card has 16 general purpose channels and 2 extra channels for current (ACI, DCI) measurements. All channels are fully isolated (Hi and Lo). Up to two scanner cards can be inserted into each multimeter for a maximum of 36 channels. These optional modules not only provide customers with a complete hands-free multiple measurement solution, but also provide a cost effect upgrade path compared to purchasing dedicated instruments. (OPTIONAL FOR GDM-8255A ONLY)

SPECIFICATIONS

		GDM-8255A	GDM-8251A
FULL SCALE		199999 Counts	120000 Counts
SAMPLE RATE		Slow : 5 1/2 digits, 10 readings/second Medium : 4 1/2 digits, 30 readings/second Fast : 3 1/2 digits, 60 readings/second	
DC VOLTAGE	Range Accuracy Input Impedance	100mV, 1V, 10V, 100V, 1000V 5 ranges ±(0.012% rdg + 5 digits) 10MΩ	
AC VOLTAGE True RMS	Range Accuracy Input Impedance	100mV, 1V, 10V, 100V, 750V 5 ranges 20Hz~45Hz : ±(1% rdg + 100 digits) 45Hz ~ 10kHz : ±(0.2% rdg + 100 digits) 10kHz ~ 30kHz : ±(1% rdg + 100 digits) 30kHz~100kHz : ±(3% rdg + 200 digits) 1.1MΩ in parallel with approx. 100pF	
DC CURRENT	Range Accuracy	10mA, 100mA, 1A, 10A 4 ranges 10mA, 100mA : ±(0.05% rdg + 15 digits) 1A, 10A range : ±(0.2% rdg + 5 digits)	
AC CURRENT TRUE RMS	Range Accuracy	10mA, 100mA, 1A, 10A 4 ranges 10mA, 100mA range : 20Hz ~ 50Hz : ±(1.5% rdg + 100 digits) 50Hz ~ 10kHz : ±(0.5% rdg + 100 digits) 10kHz~20kHz : ±(2% rdg + 200 digits) 1A, 10A range : 50Hz ~ 10kHz : ±(1% rdg + 100 digits)	
RESISTANCE	Range 2W Accuracy 4W Accuracy	100Ω, 1kΩ, 10kΩ, 100kΩ, 1MΩ, 10MΩ, 100MΩ 7 ranges 100Ω range : ±(0.1% rdg + 8digits) (*) 1kΩ range : ±(0.08% rdg + 5 digits) (*) 10kΩ ~ 1MΩ 3 ranges : ±(0.06% rdg + 5digits) 10MΩ range : ±(0.3% rdg + 5 digits) 100MΩ range : ±(3% rdg + 8 digits) 100Ω range : ±(0.05% rdg + 8 digits) (*) 1kΩ ~ 1MΩ 4 ranges : ±(0.05% rdg + 5 digits) 10MΩ range : ±(0.3% rdg + 5 digits) 100MΩ range : ±(3% rdg + 8 digits)	
FREQUENCY		10Hz ~ 800kHz : 0.1V ; Accuracy : ±(0.05% rdg + 15 digits) 100kHz ~ 600kHz : 1V ; Accuracy : ±(0.05% rdg + 3 digits) 600kHz ~ 800kHz : 2.5V ; Accuracy : ±(0.05% rdg + 3 digits)	
DIODE TEST		Open Circuit Voltage 2.0V, Test Current 0.5mA; Accuracy : ±(0.025% rdg + 5 digits)	
CONTINUITY BEEPER		1 ~ 1000Ω Define by user; Accuracy : ±(0.08% rdg + 5 digits)	
TEMPERATURE		0°C ~ 300°C : J, K, T Type	
OTHER FUNCTIONS		Auto range / Manual, Math : MX + B / % / 1/X Max, Min, dBm, dB, REL, Hold, Compare, Store, Recall	
DISPLAY		VFD, Two colors display	
INTERFACE		Digital I/O, USB, RS-232C	
POWER SOURCE		AC 100V~240V ± 10%, 50/60Hz	
DIMENSIONS & WEIGHT		265(W) x 107(H) x 350(D) mm, Approx. 2.6 kg	

NOTE : (*)USE "REL" Mode

Specifications subject to change without notice. DM-8255A51AGD1BH

ORDERING INFORMATION	
GDM-8255A	199999 Counts Dual Display Digital Multimeter
GDM-8251A	120000 Counts Dual Display Digital Multimeter
ACCESSORIES : Quick start user manual x 1, Power cord x 1, Test lead GTL-117 x 1, USB Cable GTL-247 x 1 CD x 1 (including complete user manual, upgrade program and PC software DMM Viewer), Calibration key GDM-01 x 1 (Compatible with Fluke 5720A/5725A calibrators only)	
Optional Accessories	
GTL-108A	4W Type test lead
GTL-232	RS232C Cable, 9-pin female to 9-pin, null modem for computer
Option	
Opt.01	Scanner Card GDM-SC1 (GDM-8255A only)

GDM-SC1 SCANNER CARD		
Specifications		
Maximum Voltage	250V	
Maximum Current	2A	
Connection		
Item	No. of Wire	No. of Channels
DCV, ACV	2 wires (H, L)	16 (CH 1 ~ 16)
DCI, ACI	2 wires (H, L)	2 (CH 17, 18)
2W Resistance	2 wires (H, L)	16 (CH 1 ~ 16)
4W Resistance	4 wires (Input H, L+Sense H, L)	8 pairs (CH1 Input & 9sense, 2&10, ... &&16)
Diode/Continuity	2 wires (H, L)	16 (CH 1 ~ 16)
Period/Frequency	2 wires (H, L)	16 (CH 1 ~ 16)
Temperature	2 wires (H, L)	16 (CH 1 ~ 16)

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