



GDM-834X Series

5000 Counts Dual Measurement Multimeter

3 Year WARRANTY

FEATURES

- 50000 Counts Vacuum Fluorescent Display with Two Colors
- Dual Measurement
- Fast Measurement Rate Up to 40 readings/s for DCV
- 0.02% DCV Basic Accuracy
- Auto/Manual Ranging
- True RMS (AC, AC+DC)
- 11 Measurement Functions
- Max./Min., REL, MX+B, 1/X, Ref %, Compare, Hold, dB, dBm
- Standard USB Device for Communicating to PC
- Temperature Measurement (GDM-8342 only)
- USB Storage for Data Collection (GDM-8342 only)
- Optional GPIB (factory install for GDM-8342 only)

GW INSTEK
Simply Reliable

Unrestrained Storage and Connection

Data storage no longer be bound by transmission wires

GW INSTEK rolls out the new generation Dual Measurement Multimeter -- the GDM-834X Series, which has two models - GDM-8341 and GDM-8342. Its exceptional features include 50,000 counts, VFD dual-display, 0.02% basic DC voltage accuracy and a USB protocol connector to provide users with measurement precision, lucid data observation, and the convenience to connect with the personal computer.

The GDM-834X Series not only supports the fundamental measurement items provided by general multimeters, but also equips with capacitance and temperature measurement functions. Furthermore, the GDM-834X Series also provides many auxiliary functions to meet the measurement requirements for manufacturing process tests, educational experiments and testing facilities.

With respect to storing and retrieving data, the GDM-834X Series has two methods to offer: first, the USB flash drive storage function--- operating alone without connecting with a computer; second, USB interface (virtual COM port) and optional GPIB interface (must be installed in factory) for automatic measurement system users to conveniently save and retrieve data.

PANEL INTRODUCTION



A. CONVENIENT USB FLASH DRIVE STORAGE FUNCTION

The major distinction between GDM-8342 and products in the same category is that GDM-8342 provides USB flash drive storage function, which allows users to conveniently save data into a USB flash drive through a simple and proper setting. This unique function, different from other digital multimeters which must first save data into its own internal memory then transfer out the file, or connect multimeters with a computer to retrieve data, not only saves operational time but also cuts down the cost and time of developing programs. The USB flash drive storage function incorporates two modes -- basic and advanced, which can be selected from the front panel. When the basic mode is on, data will be saved into an automatically established new folder (time of established file will be determined by system default) and the starting time of data logging will use a fixed time marker (00hr: 00min: 00sec). For advanced mode, users can designate a file path to save data or establish a new folder and the starting time of data logging is determined by users' inputs (for instance: 23hr: 45min: 32sec). The number of data files can be saved in one second is determined by the speed of selected function.



The USB storage function allows each flash drive to establish 100 folders (GW000 ~ GW099). Each folder has a capacity of saving 5,000,000 data files (which are divided into 100 sub-file names, therefore, each sub-file name can save 50,000 data files. Take folder GW000 as an example, internal file names are GW000_00 ~ GW00_99). The storage format is CSV, which can open files and conduct file analysis by existing tools. (such as Microsoft Excel)

B. SELECTABLE MEASUREMENT SPEEDS



Will not Decrease Displayed Digits Because of Selecting Different Speeds

| Function vs. Speed | Slow | Medium | Fast |
|--------------------|------|--------|------|
| DCV/DCI/R | 5 | 10 | 40 |
| ACV/ACI | 5 | 10 | 40 |
| Continuity/Diode | 10 | 20 | 40 |
| Frequency/Period | 1 | 10 | 76 |
| Capacitance | 2 | 2 | 2 |

The GDM-834X Series has three selectable measurement speeds-fast/medium/slow. For instance, the DC voltage measurement can reach 40 readings per second on the fast mode, which can maximize the effectiveness of each measurement.

C. DUAL MEASUREMENT/DUAL DISPLAY



| | ACV | DCV | ACI | DCI | Hz/P |
|------|-----|-----|-----|-----|------|
| ACV | ✓ | ✓ | ✓ | ✓ | ✓ |
| DCV | ✓ | ✓ | ✓ | ✓ | ✓ |
| ACI | ✓ | ✓ | ✓ | ✓ | ✓ |
| DCI | ✓ | ✓ | ✓ | ✓ | ✓ |
| Hz/P | ✓ | ✓ | ✓ | ✓ | ✓ |

The GDM-834X Series, similar to GW INSTEK's 6 1/2 and 5 1/2 digits multimeters, equips with dual display to support the possible combinations of measurement items. For example, the DC voltage and current or DC voltage with AC element will appear when monitoring components of test wiring. The results of each measurement will simultaneously appear on different displays that not only save users' precious time but also exempt users from the trouble of selecting displays while reading measurement results.

D. VARIOUS MEASUREMENT ITEMS AND FUNCTIONALITIES



The GDM-834X Series provides various measurement items and functionalities compared with that of the products of same category. There are twelve major measurement items of this series including AC voltage/current, DC voltage/current, AC+DC voltage/current, two-wired resistance, capacitance, Frequency/ period, diode and continuity beeper test. Temperature measurement is an optional

| Auxiliary Functions | MAJOR MEASUREMENT ITEMS | | | | | | |
|---------------------|-------------------------|---|---|------|-------|-------|-------|
| | V | I | R | Hz/P | Temp* | Diode | Capa. |
| dB | ✓ | - | - | - | - | - | - |
| dBm | ✓ | - | - | - | - | - | - |
| Max/Min | ✓ | ✓ | ✓ | ✓ | ✓ | - | ✓ |
| Relative | ✓ | ✓ | ✓ | ✓ | ✓ | - | ✓ |
| Hold | ✓ | ✓ | ✓ | ✓ | ✓ | - | - |
| Compare | ✓ | ✓ | ✓ | ✓ | ✓ | - | ✓ |
| Math | ✓ | ✓ | ✓ | ✓ | ✓ | - | - |

function for GDM-8342. Many auxiliary functions, such as maximum/minimum values, reading hold, relative values, dB, dBm, algorithms (MX+B, 1/X, %) and comparison, are designed to reinforce the major measurement items to satisfy users' daily working requirements.

E. COMMAND COMPATIBILITY & FREE SOFTWARE-REMOTE CONTROL AND DATA RETRIEVING



For GDM-8246 users, the GDM-834X Series also provides a complete command compatibility (SYSTEM\LANG\COMP). Users can replace machines through the simple setting of the GDM-834X Series without worrying the extra cost to modify the existing program and the delay of production time.

The GDM-834X Series provides free USB protocol connection software-Excel ADDins for users' easy access. After installing the

software, Microsoft Excel will establish Marco for users to directly control the setting of the GDM-834X Series to record the results of the measurements. The recorded data will be synchronously transformed into graphic displays via Excel drawing function that not only eliminates the cost and time of developing programs but also overcomes the compatibility issue of different programming languages.

SPECIFICATIONS *1*2

DC CHARACTERISTICS

DC VOLTAGE

| Range(*3) | Resolution | Input Resistance | Accuracy 1 Year (23°C±5°C) |
|-----------|------------|------------------|----------------------------|
| 500.00mV | 10μV | 10MΩ or >10GΩ | 0.02 + 4 |
| 5.0000V | 100μV | 10MΩ or >10GΩ | 0.02 + 4 |
| 50.000V | 1mV | 11.1MΩ | 0.02 + 4 |
| 500.00V | 10mV | 10.1MΩ | 0.02 + 4 |
| 1000.0V | 100mV | 10MΩ | 0.02 + 4 |

RESISTANCE

| Range(*3) | Resolution | Test Current | Accuracy 1 Year (23°C±5°C) |
|-----------|------------|--------------|----------------------------|
| 500.00Ω | 10mΩ | 0.83mA | 0.10 + 5 (*4) |
| 5.0000kΩ | 100mΩ | 0.83mA | 0.10 + 3 (*4) |
| 50.000kΩ | 1Ω | 83μA | 0.10 + 3 |
| 500.00kΩ | 10Ω | 8.3μA | 0.10 + 3 |
| 5.0000MΩ | 100Ω | 830nA | 0.10 + 3 |
| 50.000MΩ | 1kΩ | 560nA//10MΩ | 0.30 + 3 |

DC CURRENT

| Range(*3) | Resolution | Burden Voltage | Accuracy 1 Year (23°C±5°C) |
|-----------|------------|----------------|----------------------------|
| 500.00μA | 10nA | 0.06Vmax. | 0.05 + 5 |
| 5.0000mA | 100nA | 0.6Vmax. | 0.05 + 4 |
| 50.000mA | 1μA | 0.14Vmax. | 0.05 + 4 |
| 500.00mA | 10μA | 1.4Vmax. | 0.10 + 4 |
| 5.0000A | 100μA | 0.5Vmax. | 0.25 + 5 |
| 10.000A | 1mA | 0.8Vmax. | 0.25 + 5 |

CONTINUITY

| Range(*3) | Resolution | Test Current | Accuracy 1 Year (23°C±5°C) |
|-----------|------------|--------------|----------------------------|
| 5000.0Ω | 100mΩ | 0.83mA | 0.10 + 5 |

DIODE TEST (*7)

| Range(*3) | Resolution | Test Current | Accuracy 1 Year (23°C±5°C) |
|-----------|------------|--------------|----------------------------|
| 5.0000V | 100μV | 0.83mA | 0.05 + 5 |

CAPACITANCE

| Range(*3) | Resolution | Test Current | Accuracy 1 Year (23°C±5°C) |
|-------------------|------------|--------------|----------------------------|
| 5.000nF : 0.5~1nF | 0.001nF | 8.3μA | 2.00 + 20 |
| 5.000nF : 1~5nF | 0.001nF | 8.3μA | 2.00 + 10 |
| 50.00nF : 5~10nF | 0.01nF | 8.3μA | 2.00 + 30 |
| 50.00nF : 10~50nF | 0.01nF | 8.3μA | 2.00 + 10 |
| 500.0nF | 0.1nF | 83μA | 2.00 + 4 |
| 5.000μF | 1nF | 0.56mA | 2.00 + 4 |
| 50.00μF | 10nF | 0.83mA | 2.00 + 4 |

FREQUENCY AND PERIOD CHARACTERISTICS

FREQUENCY / PERIOD

| Range | Accuracy 1 Year (23°C±5°C) |
|----------------|----------------------------|
| 10Hz ~ 500Hz | 0.01 + 5 |
| 500Hz ~ 500kHz | 0.01 + 3 |
| 500kHz ~ 1MHz | 0.01 + 5 |

General

| | |
|---------------------|---|
| Display Interface | VFD, Two Colors Display |
| Power Source | USB device, USB Host (GDM-8342 only) |
| Power Consumption | AC 100 V / 120 V / 220 V / 240 V ±10%, 50-60Hz Max. 15VA |
| Dimensions & Weight | 265(W) x 107(H) x 302(D) mm, approx. 2.9kg |

ORDERING INFORMATION

| | |
|---------------------------|---|
| GDM-8342 with GPIB | 50000 counts Dual Measurement Multimeter with USB Host/Device and opt.01 GPIB |
| GDM-8342 | 50000 counts Dual Measurement Multimeter with USB Host/Device |
| GDM-8341 | 50000 counts Dual Measurement Multimeter with USB Device |

ACCESSORIES

Safety Instruction Sheet x 1, Power cord x 1, Test lead GTL-207A x 1, CD x 1 (including complete user manual, USB driver and PC software)

AC CHARACTERISTICS

True RMS AC (or AC+DC – AC Coupled) Voltage (*5*6)

| Range(*3) | Resolution | Frequency or etc. | Accuracy 1 Year (23°C±5°C) |
|-----------|------------|-------------------|----------------------------|
| 500.00mV | 10μV | 30Hz ~ 50Hz | 1.00 + 40 |
| | | 50Hz ~ 10kHz | 0.50 + 40 |
| | | 10kHz ~ 30kHz | 2.00 + 60 |
| | | 30kHz ~ 100kHz | 3.00 + 120 |
| 5.0000V | 100μV | 30Hz ~ 50Hz | 1.00 + 20 |
| | | 50Hz ~ 10kHz | 0.35 + 15 |
| | | 10kHz ~ 30kHz | 1.00 + 20 |
| | | 30kHz ~ 100kHz | 3.00 + 50 |
| 50.000V | 1mV | 30Hz ~ 50Hz | 1.00 + 20 |
| | | 50Hz ~ 10kHz | 0.35 + 15 |
| | | 10kHz ~ 30kHz | 1.00 + 20 |
| | | 30kHz ~ 100kHz | 3.00 + 50 |
| 500.00V | 10mV | 30Hz ~ 50Hz | ---- |
| | | 50Hz ~ 10kHz | 0.50 + 15 |
| | | 10kHz ~ 30kHz | 1.00 + 20 |
| | | 30kHz ~ 100kHz | 3.00 + 50 |
| 750.0V | 100mV | 30Hz ~ 50Hz | ---- |
| | | 50Hz ~ 10kHz | 0.50 + 15 |
| | | 10kHz ~ 30kHz | ---- |
| | | 30kHz ~ 100kHz | ---- |

True RMS AC (or AC+DC – AC Coupled) Current (*5*6)

| Range(*3) | Resolution | Frequency | Accuracy 1 Year (23°C±5°C) |
|-----------|------------|--------------|----------------------------|
| 500.00μA | 10nA | 30Hz ~ 50Hz | 1.50 + 50 |
| | | 50Hz ~ 2kHz | 0.50 + 40 |
| | | 2kHz ~ 5kHz | 1.50 + 50 |
| | | 5kHz ~ 20kHz | 3.00 + 75 |
| 5.0000mA | 100nA | 30Hz ~ 50Hz | 1.50 + 40 |
| | | 50Hz ~ 2kHz | 0.50 + 20 |
| | | 2kHz ~ 5kHz | 1.50 + 40 |
| | | 5kHz ~ 20kHz | 3.00 + 60 |
| 50.000mA | 1μA | 30Hz ~ 50Hz | 1.50 + 40 |
| | | 50Hz ~ 2kHz | 0.50 + 20 |
| | | 2kHz ~ 5kHz | 1.50 + 40 |
| | | 5kHz ~ 20kHz | 3.00 + 60 |
| 500.00mA | 10μA | 30Hz ~ 50Hz | 1.50 + 40 |
| | | 50Hz ~ 2kHz | 0.50 + 20 |
| | | 2kHz ~ 5kHz | 1.50 + 40 |
| | | 5kHz ~ 20kHz | 3.00 + 60 |
| 5.0000A | 100μA | 30Hz ~ 50Hz | 2.00 + 40 |
| | | 50Hz ~ 2kHz | 0.50 + 30 |
| 10.000A | 1mA | 30Hz ~ 50Hz | 2.00 + 40 |
| | | 50Hz ~ 2kHz | 0.50 + 30 |

TEMPERATURE CHARACTERISTICS

THERMOCOUPLES

| Type | Range | Resolution | Accuracy(*7) 1 Year (23°C±5°C) |
|-----------|-------------------|------------|--------------------------------|
| J / T / K | -200 °C ~ +300 °C | 0.1 °C | 2 °C |

Note: The specifications apply when the DMM is warmed up for at least 30 minutes and operates in slow rate.

1. All specifications are ensured only under main (1st) display.
2. Accuracy : ± (% of reading + digits)
3. 2% overrange on all ranges, except 10A. is 20% overrange.
4. REL function is on.
5. The accuracy of AC+DC is equal to AC with 10 more digits added.
6. AC Characteristics are for sinewave input > 5% of range.
7. Specifications do not include probe accuracy.

Specifications subject to change without notice.

DM-8300GD2BH

OPTION

Opt.1 GPIB Interface * Factory installed for GDM-8342 only.

OPTIONAL ACCESSORIES

| | |
|-----------------|---|
| GTL-205A | Temperature probe adaptor with thermocouple(K-type), Approx. 1000mm |
| GTL-246 | USB Cable, A-B type, Approx. 1200mm |
| GTL-248 | GPIB Cable, Double Shielded, 2000mm |
| GRA-422 | Rack Mount Kit |
| GDM-TL1 | Test Lead Set |
| GSC-014 | Soft Carrying Case for DMM Accessory |

Global Headquarters

GOOD WILL INSTRUMENT CO., LTD.

T +886-2-2268-0389 F +886-2-2268-0639

China Subsidiary

GOOD WILL INSTRUMENT (SUZHOU) CO., LTD.

T +86-512-6661-7177 F +86-512-6661-7277

Malaysia Subsidiary

GOOD WILL INSTRUMENT (SEA) SDN. BHD.

T +604-6111122 F +604-6115225

Europe Subsidiary

GOOD WILL INSTRUMENT EURO B.V.

T +31(0)40-2557790 F +31(0)40-2541194

U.S.A. Subsidiary

INSTEK AMERICA CORP.

T +1-909-399-3535 F +1-909-399-0819

Japan Subsidiary

TEXIO TECHNOLOGY CORPORATION.

T +81-45-620-2305 F +81-45-534-7181

Korea Subsidiary

GOOD WILL INSTRUMENT KOREA CO., LTD.

T +82-2-3439-2205 F +82-2-3439-2207

India Subsidiary

GW INSTEK INDIA LLP.

T +91-80-6811-0600 F +91-80-6811-0626

GW INSTEK

Simply Reliable



Website



Facebook



LinkedIn