

# Unrestrained Storage and Connection

Data storage no longer be bound by transmission wires



## GDM-8300 Series

3 Year WARRANTY

### 50000 Counts Dual Measurement Multimeter

- 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)



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**GW INSTEK**  
Simply Reliable

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

### ORDERING INFORMATION

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

#### ACCESSORIES

Safety Instruction Sheet x 1, Power cord x 1, Test lead GTL-207 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      | 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        | 30 z ~ 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-8300GD1DH

#### OPTION

Opt.1 GPIB Interface

#### OPTIONAL ASSESSORIES

|                |  |
|----------------|--|
| <b>GTL-205</b> | Temperature probe adaptor with thermocouple (K-type), Approx. 1000mm |
| <b>GTL-246</b> | USB Cable, A-B type, Approx. 1200mm                                  |
| <b>GTL-251</b> | GPIB-USB-HS (high Speed)   |

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