Digital Multimeter

GDM-8200A Series

QUICK USER GUIDE

ISO-9001 CERTIFIED MANUFACTURER

GWINSTEK

July 2011

Table of Contents

INTRODUCTION

The GDM-8200A series quick start guide is intended for users who are not familiar with the instrument and need a tutorial for quickly accessing its major functionalities. For more details such as parameters, remote control commands, optional scanner, digital I/O, and specifications, refer to the user manual.

This manual consists of the following chapters. Power up the instrument according to the "Powering up" chapter, and then pick up the relevant chapter according to your needs.

- Powering up
- Basic (measurement)
    - Voltage/Current
    - Resistance
    - Diode/Continuity/Frequency/Period/Temperature
- Advanced (measurement)
    - dBm/dB/Max/Min/Relative/Dual display
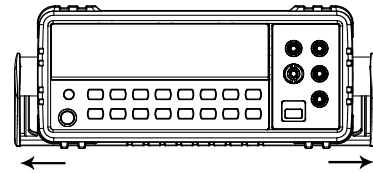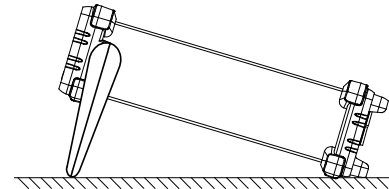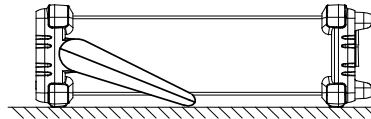   - Measurement combinations

Front panel overview

Shift key

Measurement keys

Input terminals

Power Switch

Display on/off switch
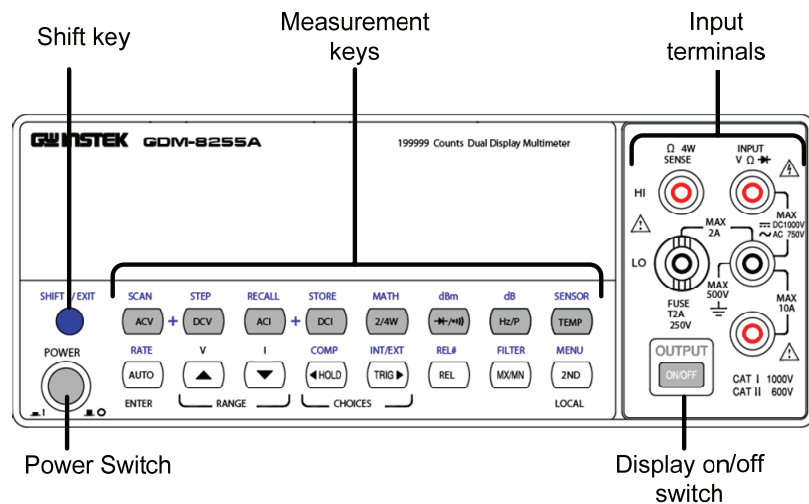
POWERING UP

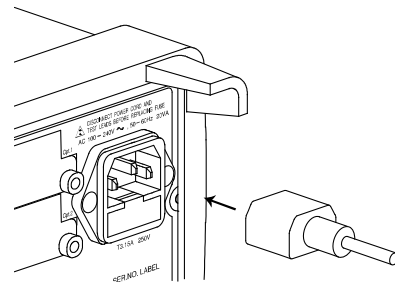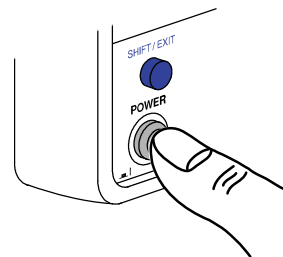| 1. Tilt stand	Pull out the handle sideways and rotate it.	
	Horizontal position	Tilt position

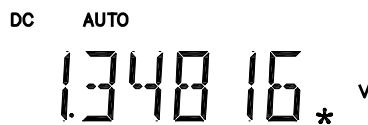| 2. Connect the power cord	Connect the power cord to the AC Voltage input.

3. Press the power switch	Push the main power switch on the front panel to turn the instrument on.

The display contents appear and you are ready to make measurements.

DC   AUTO

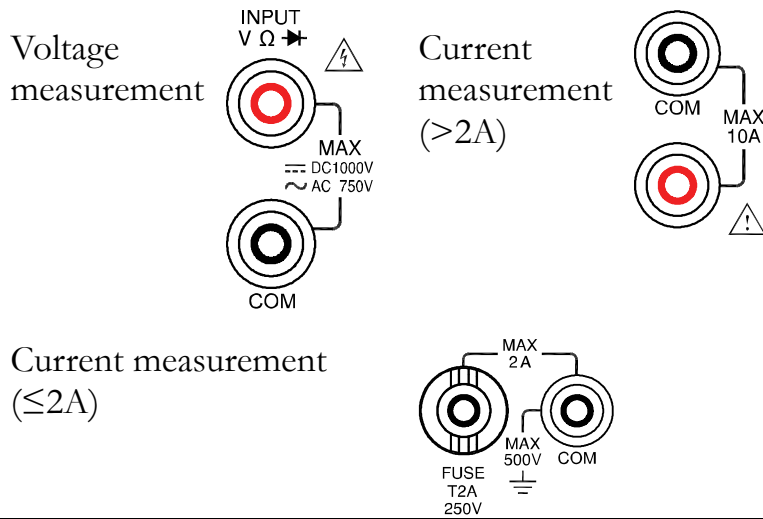1.34816. v   11

Powering up the instrument is completed

BASIC MEASUREMENT

Voltage/Current

Measurement item: DCV, ACV, (DC+AC)V, DCI, ACI, (DC+AC)I

| 1. Connect the test leads | Voltage measurement | INPUT V Ω ⊣⊢ ⚡ MAX --- DC1000V ~ AC 750V COM | Current measurement (>2A) | COM MAX 10A ⚠ |

Current measurement (≤2A)

MAX 2 A
MAX 500V COM
FUSE T2A 250V

2. Press the measurement key

Press the measurement keys on the front panel (For (DC+AC)V or (DC+AC)I, press both keys together). The measurement result will appear on the display.

DCV	ACV	(DC+AC)V	DCI	ACI	(DC+AC)I
DCV	ACV	ACV + DCV	DCI	ACI	ACI + DCI

AC, DC, or AC+DC   Automatic ranging   Refresh rate   Unit   Selected range

ACDC   AUTO   S

048.095 m *   V

100 mV

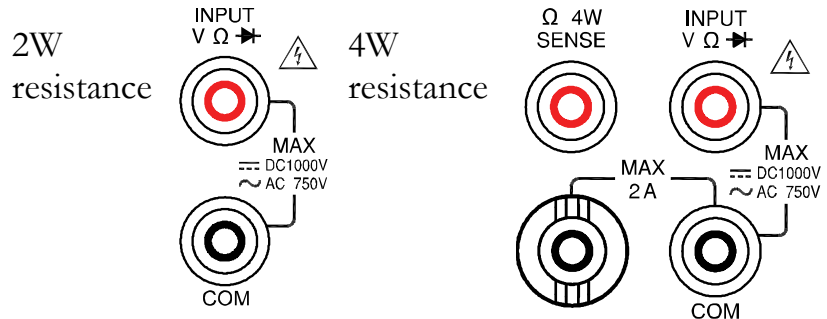Manual ranging   To select the measurement range manually, press the Up/Down keys.   ▲ ▼ RANGE

For further details, see the Voltage or Current section, Basic Measurement chapter in the user manual
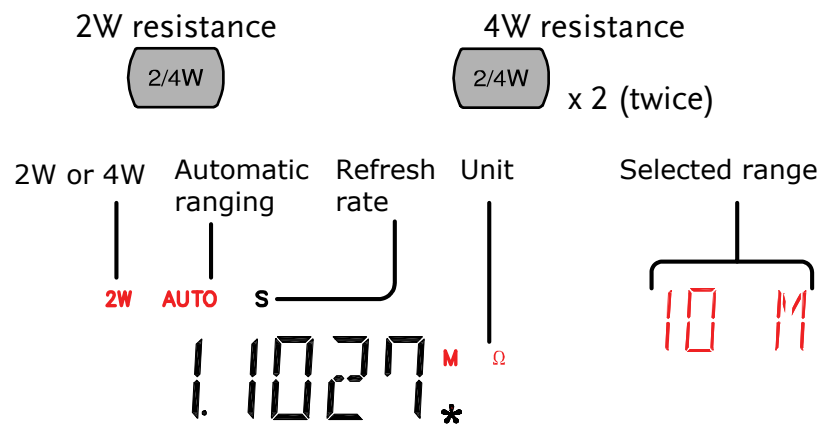
Resistance

Measurement item: 2W resistance, 4W resistance
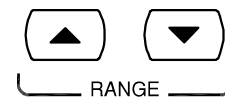
1. Connect the test leads

   2W resistance

   4W resistance

2. Press the measurement key

   Press the measurement keys on the front panel. The measurement result will appear on the display.

   2W resistance
   [2/4W]

   4W resistance
   [2/4W] x 2 (twice)

   2W or 4W   Automatic   Refresh   Unit   Selected range
               ranging   rate

Manual ranging   To select the measurement range manually, press the Up/Down keys.

For further details, see the Resistance section, Basic Measurement chapter in the user manual
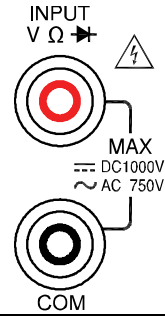
Diode/Continuity/Hz/Period/Temp

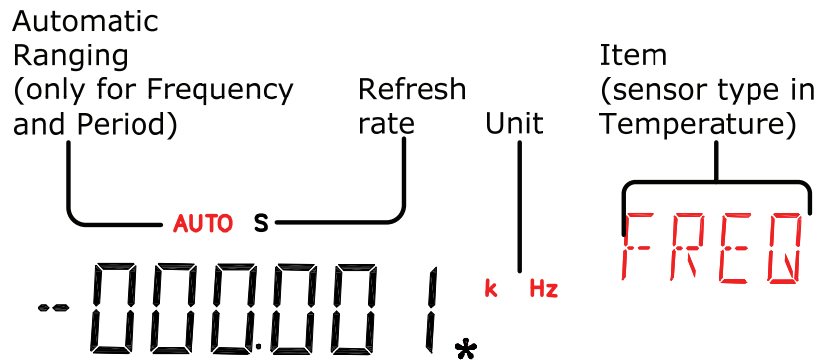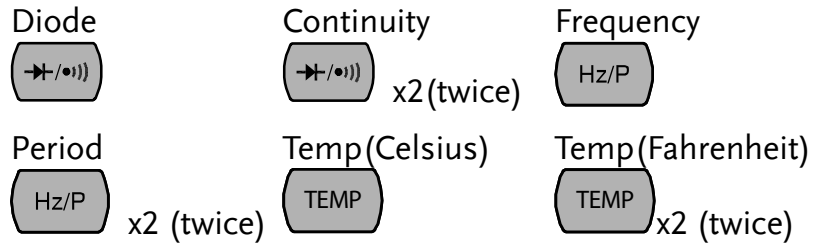Measurement item: Diode test, Continuity test, Frequency, Period, Temperature

1. Connect the test leads	All items share the same terminal. • Diode/Continuity • Frequency/Period • Temperature

INPUT
V Ω ⊬

MAX
⎓ DC1000V
∼ AC 750V

COM

2. Press the measurement key

Press the measurement keys on the front panel (For Continuity, Period, and Fahrenheit temp, press the same key twice). The measurement result will appear on the display.

Diode

⊬/•))

Continuity

⊬/•)) x2(twice)

Frequency

Hz/P

Period

Hz/P x2 (twice)

Temp(Celsius)

TEMP

Temp(Fahrenheit)

TEMP x2 (twice)

Automatic Ranging (only for Frequency and Period)

Refresh rate

Unit

Item (sensor type in Temperature)

AUTO S

-- 00000 1.
k Hz
*

FREQ

For further details, see the Diode/Continuity/Frequency/Period/Temperature section, Basic Measurement chapter in the user manual

ADVANCED MEASUREMENT

Measurement item: dBm, dB, Max, Min, Relative, Dual display

1. Make a basic measurement	Follow the procedures in the Basic measurement chapter, page6. For measurement combinations (basic + advanced, dual display), see page10.
2. Press the measurement key	Press the measurement keys on the front panel. The measurement result will appear on the display.

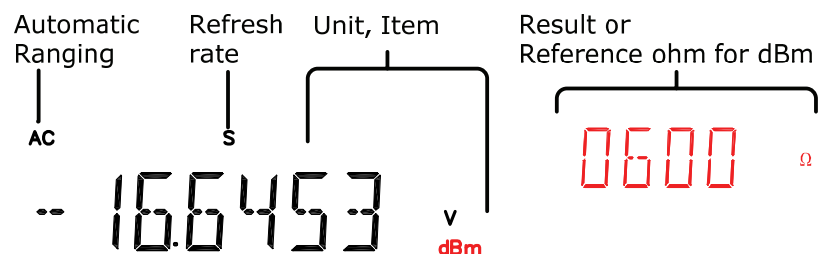| Item	Keys	Descriptions
dBm	dBm ⯈⯇/•)))	Shows $10*\log_{10}(1000*Vrdg^2/Rref)$
dB	dB Hz/P	Shows $(dBm - dBmref)$
Max	MX/MN	Shows the maximum reading
Min	MX/MN x 2	Shows the minimum reading
Relative	REL	Shows the relative value compared with the reference
Dual display	2ND → ACV	Shows the result of another measurement item (example: AC Voltage as the 2nd item)

Automatic Ranging — AC
Refresh rate — S
Unit, Item
Result or Reference ohm for dBm

-- 16.6453 V dBm   0600 Ω

For further details including other measurement items (Hold, Compare, and Math), see the Advanced Measurement chapter in the user manual.

Measurement Combinations

Basic + Advanced measurement combinations

Advanced Measurement	Basic Measurement					
	AC/DCV	AC/DCI	2/4W	Hz/P	TEMP	✦/•)))
dB	●	—	—	—	—	—
dBm	●	—	—	—	—	—
Max/Min	●	●	●	●	●	—
Relative	●	●	●	●	●	—
Hold (*)	●	●	●	●	●	—
Compare (*)	●	●	●	●	●	—
Math (*)	●	●	●	●	●	—
Dual Display	●	●	●	●	—	—

(*): For Hold, Compare and Math function details, see the Advanced Measurement chapter in the user manual.

Dual display combinations

Combinations	Any of the following items can be combined together for dual display measurements (for example ACV + Hz, DCV + DCI)

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

Note	Selecting other functions (such as 2W resistance) is possible but may not be useful, and their accuracies are not guaranteed.