QUICK START GUIDE

GDM-904X

GDM-9041/GDM-9042

EN

SAFETY INSTRUCTIONS

Safety Symbols

These safety symbols may appear in the user manual or on the instrument.

 Warning	Warning: Identifies conditions or practices that could result in injury or loss of life.
 Caution	Caution: Identifies conditions or practices that could result in damage to the instrument or to other properties.
	DANGER High Voltage
	Attention Refer to the Manual
	Protective Conductor Terminal
	Earth (ground) Terminal
	Do not dispose electronic equipment as unsorted municipal waste. Please use a separate collection facility or contact the supplier from which this instrument was purchased.

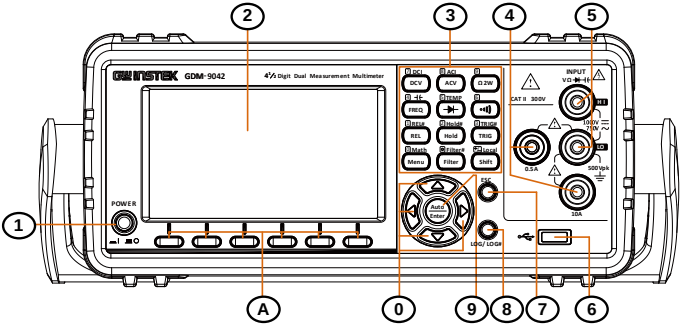
GETTING STARTED

Main Features

Performance	• The highest DCV accuracy: 0.02% • The highest current:10A • The highest voltage: 1000V • The highest ACV frequency response: 100 kHz
Features	• 50000 count display • Multi functions: ACV, DCV, ACI, DCI, R, C, Hz, Temp*, Continuity, Diode test, MAX/MIN, REL, dBm, Hold, MX+B, 1/X, REF%, dB, Compare. • Manual or Auto ranging • AC true RMS • Data Logging to USB* • Data logging to PC using an Excel Add-In
Interface	• USB device/ GPIB (optional) • USB device port supports USBCDC and USBTMC • USB Host for GDM-9042
Software	• Excel Addins
Note	• *These features are only available on the GDM-9042

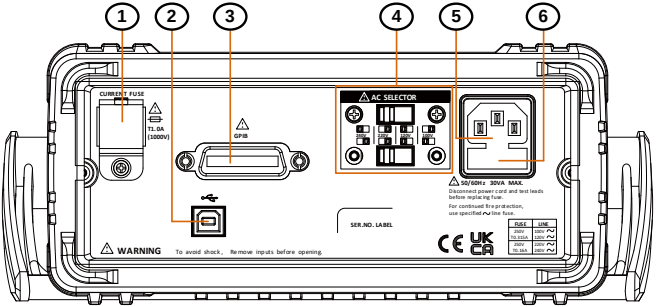
Appearance

Front Panel Overview



Description	
1. Power Switch	2. Main Display
3. Measurement Keys	4. AC/DC Current Input Terminals
5. HI and LO Input Terminals	6. USB Host Port
7. ESC (Escape) Key	8. Screenshot / Data log Key
9. Auto Range/Enter Key	10. Arrow Keys
11. Function keys (F1 through F6, functions vary per modes)	

Rear Panel Overview

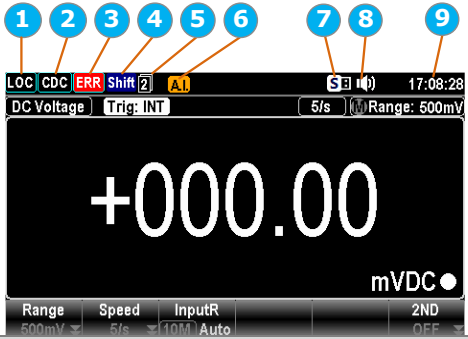


Description	
1. Current Fuse Box	2. USB Connector (B Type)
3. GPIB Connector (optional)	4. Alternate Input Switch
5. AC Mains Input (Power Cord Socket)	6. AC Mains Line Voltage Selector and Fuse Socket

STATUS BAR

Background Identify each icon within the top status bar.

Status Bar Display



Item	Description
1	Local / Remote control icon
2	USB-CDC / USB-TMC / GPIB interface icon
3	Error icon for commands from remote control
4	Shift key identification icon
5	The first and second function menu switch icon
6	Auto Identification for input source measurement
7	USB flash drive connection icon
8	Beep / Key Sound setting icon
9	Time display

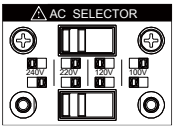
START UP

Power Up

Steps

1. Before the power is turned on, confirm the input power supply meets the following conditions:

   100 V/120 V/220 V/240 V ±10 %, 50/60 Hz

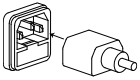


2. The fuse is a slow-blow fuse.

   T 0.16 A (220 V/240 V),
   T 0.315 A (100 V/120 V)

   Confirm that the fuse is of the correct type and rating before connecting the power cord.

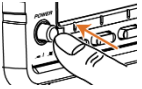
3. Connect the power cord to the AC Voltage input.



Note

Make sure the ground connector on the power cord is connected to a safety ground. This will affect the measurement accuracy.

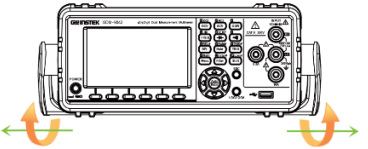
4. Push the power button until click to turn on the main power switch on the front panel.



5. The screen firstly shows the logo brand of GWINSTEK followed by the message “Load the parameter [Last] is ok” indicating the last parameter is loaded in the initial startup.

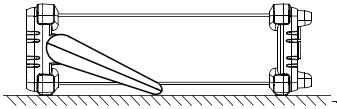
Set Up

Horizontal/Tile/Vertical Application



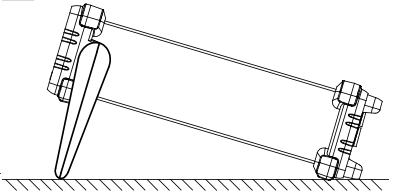
Pull out the handle sideways and rotate clockwise for the applications below.

Horizontal



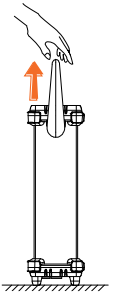
Place the unit horizontally.

Tilt



Rotate the handle for tilt stand.

Vertical



Place the handle vertically for hand carry.

BASIC MEASUREMENT OVERVIEW

Background	Basic measurement refers to several types of measurements assigned to the upper 2 row keys on front panel. 	
Measurement type	ACV	AC Voltage
	DCV	DC Voltage
	ACI	AC Current
	DCI	DC Current
	Ω 2W	2-wire Resistance
	•))	Continuity
	FREQ ⊣⊢	Frequency/Capacitance
	TEMP ▶|◀	Temperature/Diode
Advanced measurement	Advanced measurement mainly refers to the operation using the result obtained from one or more of the basic measurements.	

Refresh Rate

Background

Refresh rate defines how frequently the GDM-9041/9042 captures and updates measurement data. A faster refresh rate yields a lower accuracy and resolution. A slower refresh rate yields a higher accuracy and resolution. Consider these tradeoffs when selecting the refresh rate.

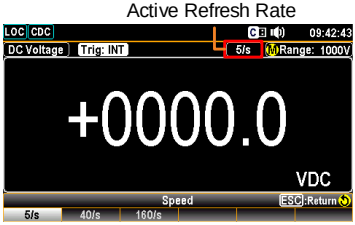
Measurement Type	Refresh Rate Available		
DCV/DCI/ 2W	5/s	40/s	160/s
ACV/ACI	5/s	40/s	160/s
Continuity / Diode	10/s	40/s	160/s
Frequency & Period	1s	100ms	10ms
Capacitance	2/s		
Temperature	5/s	40/s	160/s

Selection Procedure

Press the left or right Arrow keys to change the refresh rate.

Also, press the F2 (Speed) key to select a desired refresh rate. Press corresponding function key in accord with the desired option on display.

The refresh rate will be shown at the upper right corner of the display. See the example below.

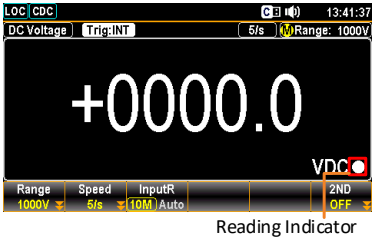


Note

The refresh rate cannot be set for capacitance measurement.

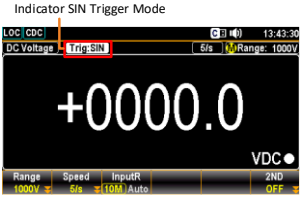
Reading indicator

The reading indicator , which is in the lower-right corner of display, flashes according to the defined refresh rate setting.



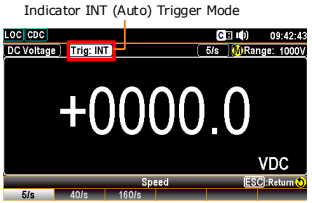
Internal (Automatic) Triggering

Overview	By default, the GDM-9041/9042 automatically triggers measurement according to the set refresh rate. See the previous page for refresh rate setting details. The TRIG key, on the other hand, can be used to manually trigger once per click.
SIN (Manual) Trigger	Simply press the TRIG key to SIN trigger mode, which signifies manual triggering measurement. Pressing once stands for trigger for single time.



INT (Auto) Trigger	Press and hold the TRIG key for 2 seconds to change to INT (Auto) trigger mode, which stands that automatic triggering measurement per refresh rate.

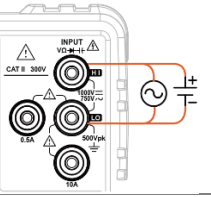
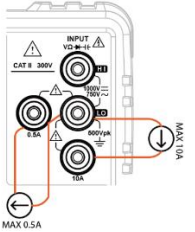
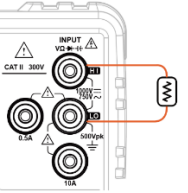
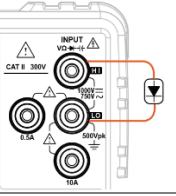
(Press & hold for 2 seconds)



Note

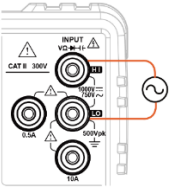
SIN triggering is not supported for capacitance measurements.

Test Leads Connection

ACV/DCV	Connect the test lead between the Input HI and Input LO terminals. The display updates the reading.	
ACI/DCI	Connect the test lead between the 10 A terminal and the COM terminal or DC/AC 0.5 A terminal and the COM terminal, depending on the input current. For current ≤ 0.5 A use the 0.5 A terminal; For current up to 12 A use the 10 A terminal. The display updates the reading.	
2W	For 2W measurement, connect the test leads between the Input HI terminal and the LO terminal.	
Diode	Connect the test lead between the Input HI terminal and the LO terminal; Anode-V, Cathode-COM. The display updates the reading.	

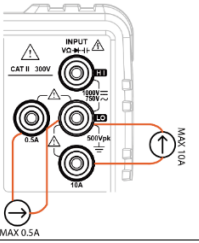
Frequency

In terms of current, connect test leads between the 0.5 A terminal and the LO terminal or DC/AC 10 A terminal and the LO terminal. The display updates the reading.



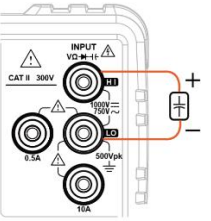
Period

In terms of current, connect test leads between the 0.5 A terminal and the LO terminal or DC/AC 10 A terminal and the LO terminal. The display updates the reading.



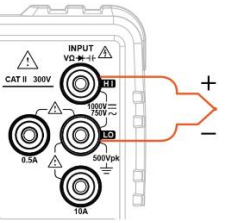
Capacitance

Connect the test lead between the Input HI terminal and the LO terminal; Positive-HI, Negative-LO. The display updates the reading.



Temperature

Connect the sensor lead between the Input HI terminal and the LO terminal. The display updates the reading.



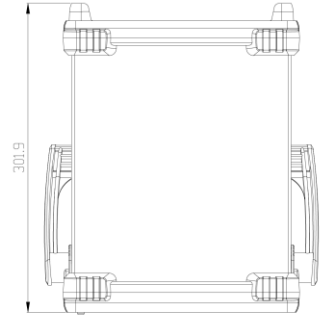
SPECIFICATIONS

- Calibration: Yearly
- Operating Temperature Specification: 18 to 28˚C (64.4 to 82.4˚F)
- Relative Humidity: 80% (Non condensing)
- Accuracy: ± (% of Reading + Digits)
- AC measurements are based on a 50% duty cycle.
- The power supply cable must be grounded to ensure accuracy.
- All specifications are applicable to the main (1st) display only.

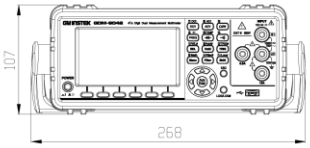
General Specifications

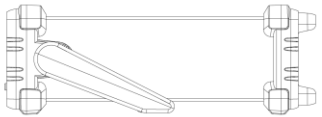
Specification Conditions:
Temperature: 23 ˚C ±5 ˚C
Humidity: <80% RH, 75% RH for resistance measurement readings greater than 10 MΩ.
Operating Environment: (0 to 50˚C)
Temperature Range: 0 to 35 ˚C, Relative Humidity: <80% RH; >35 ˚C, Relative Humidity: <70% RH
Indoor use only
Altitude: 2000 meters
Pollution degree 2
Storage Conditions (-10 to 70 ˚C)
Temperature Range: 0 to 35 ˚C, Relative Humidity: <90% RH; >35 ˚C, Relative Humidity: <80% RH
General:
Power Consumption: Max 30 VA
Dimensions: 268 mm x 107 mm x 302 mm
Weight: Approximately 3.2 kg

Dimension



All dimensions are shown in millimeters.





Declaration of Conformity

We
GOOD WILL INSTRUMENT CO., LTD.
declare that the below mentioned product
satisfies all the technical relations application to the product within the scope of council:
Directive: EMC; LVD; WEEE; RoHS
The product is in conformity with the following standards or other normative documents

◎ **EMC**	
EN 61326-1 :	Electrical equipment for measurement, control and laboratory use — EMC requirements
Conducted & Radiated Emission EN 55011 / EN 55032	Electrical Fast Transients EN 61000-4-4
Current Harmonics EN 61000-3-2 / EN 61000-3-12	Surge Immunity EN 61000-4-5
Voltage Fluctuations EN 61000-3-3 / EN 61000-3-11	Conducted Susceptibility EN 61000-4-6
Electrostatic Discharge EN 61000-4-2	Power Frequency Magnetic Field EN 61000-4-8
Radiated Immunity EN 61000-4-3	Voltage Dip/ Interruption EN 61000-4-11 / EN 61000-4-34
◎ **Safety**	
EN 61010-1 :	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

GOODWILL INSTRUMENT CO., LTD.
No. 7-1, Jhongsing Road, Tucheng District, New Taipei City 236, Taiwan
Tel: +886-2-2268-0389 Fax: +886-2-2268-0639
Web: http://www.gwinstek.com Email: marketing@goodwill.com.tw

GOODWILL INSTRUMENT (SUZHOU) CO., LTD.
No. 521, Zhujiang Road, Snd, Suzhou Jiangsu 215011, China
Tel: +86-512-6661-7177 Fax: +86-512-6661-7277
Web: http://www.instek.com.cn Email: marketing@instek.com.cn

GOODWILL INSTRUMENT EURO B.V.
De Run 5427A, 5504DG Veldhoven, The Netherlands
Tel: +31-(0)40-2557790 Fax: +31-(0)40-2541194
Email: sales@gw-instek.eu