

GDM-452 (NEW)

DC Voltage

Range	Resolution	Accuracy	Input Impedance	Fixed Value Input
200mV	10 μ V	$\pm(0.05\%+3)$	Around 10M Ω	250Vac/ dc rms
2V	100 μ V	$\pm(0.1\%+3)$		600Vrms / 850Vpp
20V	1mV			
200V	10mV			
600V	100mV	$\pm(0.15\%+5)$		

AC Voltage

Range	Resolution	Accuracy 40~400Hz	Input Impedance	Fixed Value Input
200mV	10 μ V	$\pm(0.8\%+10)$	Around 10M Ω	250Vac/ dc rms
2V	100 μ V	$\pm(0.5\%+10)$		600Vrms / 850Vpp
20V	1mV	$\pm(0.6\%+10)$		
200V	10mV	$\pm(0.8\%+15)$		
600V	100mV			

• GDM-452:

- Display : effective average value

DC Current

Range	Resolution	Accuracy	Overload Protection
2mA	0.1 μ A	$\pm(0.5\%+5)$	Fuse: 200mA/250V, ϕ 5 x 20mm
20mA	1 μ A		
200mA	10 μ A	$\pm(0.8\%+5)$	
10A	1mA	$\pm(2.0\%+10)$	Fuse : 10A/250V, ϕ 6 x 25mm

Remarks:

- Maximum input current: 10A (For current over 5A: measuring time shall not exceed 15 second.
- Measured voltage drop: 200mV for all range

GDM-451 (OLD)

DC Voltage

Range	Resolution	Accuracy	Input Impedance	Fixed Value Input
200mV	10 μ V	$\pm(0.05\%+3)$	Around 10M Ω	250Vac/ dc rms
2V	100 μ V	$\pm(0.1\%+3)$		750Vrms / 1000Vpp
20V	1mV			
200V	10mV			
1000V	100mV	$\pm(0.15\%+5)$		

AC Voltage (True rms)

Range	Resolution	Accuracy 40~400Hz	Input Impedance	Fixed Value Input
200mV	10 μ V	$\pm(0.5\%+10)$	Around 2M Ω	250Vac/ dc rms
2V	100 μ V			750Vrms / 1000Vpp
20V	1mV			
200V	10mV			
750V	100mV			

• GDM-451:

- Display : effective average value

DC Current

Range	Resolution	Accuracy	Overload Protection
2mA	0.1 μ A	$\pm(0.5\%+5)$	Fuse: 0.5A/250V
20mA	1 μ A		
200mA	10 μ A	$\pm(0.8\%+5)$	
20A	1mA	$\pm(2.0\%+10)$	No Fused

Remarks:

- 20A range: Continuous measurement for less than 10 seconds with intervals of more than 15 minutes between measurements.
- Measured voltage drop: 200mV for all range

AC Current (True rms)

Range	Resolution	Accuracy	Overload Protection
		40~400Hz	
2mA	0.1μA	±(0.8%+10)	Fuse: 200mA/250V, φ5 x 20mm
20mA	1μA		
200mA	10μA	±(1.2%+10)	
10A	1mA	±(2.5%+10)	Fuse : 10A/250V, φ6 x 25mm

Remarks:

- Maximum input current: 10A (For current over 5A: measuring time shall not exceed 15 second.
- Measured voltage drop: 200mV for all range
- Display: True RMS value (Waveform coefficient is not more than 5)

Resistance

Range	Resolution	Accuracy	Overload Protection
200Ω	0.01Ω	±(0.5%+10)	250V dc or ac (rms)
2kΩ	0.1Ω	±(0.3%+3)	
20kΩ	1Ω	±(0.3%+1)	
200kΩ	10Ω		
2MΩ	100Ω		
20MΩ	1kΩ	±(0.5%+1)	

Remarks:

- Open circuit voltage: About 3V (for 200Ωrange)
- Please short-circuit the test leads when using 200Ω range to measure, and subtract this shorted value from all subsequent measured values so as to obtain accurate reading.

Capacitance

Range	Resolution	Accuracy	Overload Protection	Remark
20nF	1pF	±(4.0%+20)	mA to V terminal : 200mA/250V, φ5 x 20mm	The test signal is about 400Hz, 40mVrms
200nF	10pF			
2μF	100pF			
20μF	1nF			

AC Current

Range	Resolution	Accuracy	Overload Protection
		40~400Hz	
20mA	1μA	±(0.8%+10)	Fuse: 200mA/250V, φ5 x 20mm
200mA	10μA	±(1.2%+10)	
20A	1mA	±(2.5%+10)	

Remarks:

- 20A range: Continuous measurement for less than 10 seconds with intervals of more than 15 minutes between measurements.
- Measured voltage drop: 200mV for all range
- Display : effective average value

Resistance

Range	Resolution	Accuracy	Overload Protection
200Ω	0.01Ω	±(0.5%+10)	250V dc or ac (rms)
2kΩ	0.1Ω	±(0.3%+1)	
20kΩ	1Ω		
200kΩ	10Ω		
2MΩ	100Ω		
20MΩ	1kΩ	±(0.5%+12)	
200MΩ	10kΩ	±[5.0%(rdg-1000)+10]	

Remarks:

- Short-circuit the test leads when using 200Ω and 200MΩ range to measure, and subtract this shorted value from all subsequent measured values so as to obtain accurate reading.

Capacitance


Range	Resolution	Accuracy	Overload Protection	Remark
20nF	0.1pF	±(3.0%+40)	mA to V terminal : 250Vac	The test signal is about 400Hz, 40mVrms
200nF	1pF	±(4.0%+10)		
2μF	100pF			
20μF	1nF			

Frequency

Model	Range	Accuracy	Maximum Resolution
Frequency	20kHz	$\pm(1.5\%+5)$	1Hz


- Overload Protection: 250V (rms)
- Input sensitivity: $\leq 200\text{mVrms}$
- The maximum input Amplitude: $\leq 30\text{Vrms}$

Diode Test

Range	Instructions	Testing conditions
	Display approximate value of forward voltage drop for diode	Positive DC current is about 1mA and reverse DC voltage is about 2.8V

- Overload Protection: 250Vdc or ac effective value

Continuity Test

Range	Resolution	Testing conditions
	If resistance $\leq 30\Omega$, the buzzer sounds; Display approximate k Ω value.	Open circuit voltage is about 3V (Vpp)

- Overload Protection: 250Vdc or ac effective value


Temperature Measurement

Frequency

Model	Range	Accuracy	Maximum Resolution
Frequency	20kHz	$\pm(1.5\%+5)$	1Hz


- Overload Protection: 250V (rms)
- Input sensitivity: $\leq 200\text{mVrms}$
- The maximum input Amplitude: $\leq 60\text{Vdc}$ or 30Vrms

Diode Test

Range	Instructions	Testing conditions
	Display approximate value (500~800 mV) of forward voltage drop for diode	Open circuit is about 2.8V

- Overload Protection: 250Vdc or ac effective value
- Resolution: 0.1mV

Continuity Test

Range	Resolution	Testing conditions
	If resistance $\leq 70\Omega$, the buzzer sounds	Open circuit voltage is about 3V (Vpp)

- Overload Protection: 250Vdc or ac effective value
- Resolution: 0.1mV

Temperature Measurement

Range	Resolution	Accuracy	Overload Protection
°C	0.1°C	(-40~0°C): $\pm(3\%+40)$	250Vac
		(>0~400°C): $\pm(1\%+30)$	
		(>400~1000°C): $\pm(2.0\%+50)$	

Other Functions

MODEL	GDM-452
Max. Display	19999
Auto Ranging	
Analog Bar	
True RMS	
Display Backlight	
Fused 10A Range	✓
Auto Power off	✓
Diode	✓
Continuity	✓
Temperature	
Duty Cycle(%)	
Transistor (hFE)	
REL	
Data Hold	✓
Peak Hold	
MAX MIN	
RS232C	



Other Functions:

MODEL	GDM-451
Max. Display	19999
Auto Ranging	
Analog Bar	
True RMS	
Display Backlight	✓
Fused 10A Range	
Auto Power off	✓
Diode	✓
Continuity	✓
Temperature	✓
Duty Cycle(%)	
Transistor (hFE)	
REL	
Data Hold	✓
Peak Hold	
MAX MIN	
RS232C	

