

## GDM-398 (NEW)

## DC Voltage

Range	Resolution	Accuracy	Input Impedance	Fixed Value Input
400mV	0.1mV	$\pm(0.8\%+3)$	Around $>3000M\Omega$	1000V dc/ac (Vpp)
4V	0.001V	$\pm(0.5\%+1)$	Around $10M\Omega$	
40V	0.01V			
400V	0.1V			
1000V	1V	$\pm(1.0\%+3)$		

## AC Voltage

Range	Resolution	Accuracy 45~400Hz	Input Impedance	Fixed Value Input
400mV	0.1mV	$\pm(1.0\%+3)$	Around $>3000M\Omega$	1000V dc/ 750Vrms ac
4V	0.001V		Around $10M\Omega$	
40V	0.01V			
400V	0.1V			
750V	1V	$\pm(1.2\%+5)$		

## Remarks:

- Displays effective value of a sine wave. mV range is applicable from 5% of range to 100% of range.

## DC Current

Range	Resolution	Accuracy	Overload Protection
400 $\mu$ A	0.1 $\mu$ A	$\pm(1.0\%+2)$	Fuse 1: F600mA H 1000V, $\phi$ 6.35 x 31.8mm
4000 $\mu$ A	1 $\mu$ A	$\pm(1.2\%+3)$	
40mA	0.01mA		
400mA	0.1mA	$\pm(1.5\%+3)$	Fuse 2: F10A H 1000V, $\phi$ 10.3 x 38.1mm
4A	0.001A		
10A	0.01A		

## Remarks:

- When  $\leq 5A$ : Continuous measurement is allowed.
- When  $> 5A$ : Continuous measurement for less than 10 seconds with intervals of more than 15 minutes between measurements.

## GDM-394 (OLD)

## DC Voltage

Range	Resolution	Accuracy	Input Impedance	Overload Protection
400mV	0.1mV	$\pm(0.8\%+3)$	$\geq 10M\Omega$	1000V DC/ 750Vrms AC continuous
4V	1mV	$\pm(0.8\%+1)$		
40V	10mV			
400V	100mV			
1000V	1V	$\pm(1.0\%+3)$		

## AC Voltage

Range	Resolution	Accuracy 40~400Hz	Input Impedance	Fixed Value Input
4V	1mV	$\pm(1.0\%+5)$	$\geq 10M\Omega$	1000V DC/ 750Vrms AC continuous
40V	10mV			
400V	100mV			
750V	1V	$\pm(1.2\%+5)$		

## Remarks:

- Displays effective value of a sine wave (mean value response).

## DC Current

Range	Resolution	Accuracy	Overload Protection
400 $\mu$ A	0.1 $\mu$ A	$\pm(1.0\%+2)$	0.5A , 250V, fast type Glass fuse, $\phi$ 5 x 20mm
4000 $\mu$ A	1 $\mu$ A	$\pm(1.2\%+3)$	
40mA	0.01mA		
400mA	0.1mA	$\pm(1.5\%+5)$	10A, 250V, fast type Glass fuse, $\phi$ 5 x 20mm
4A	0.001A		
10A	0.01A		

## Remarks:

- 4A & 10A range: Continuous measurement for less than 10 seconds with intervals of more than 15 minutes between measurements.

### AC Current

Range	Resolution	Accuracy 45Hz~400Hz	Overload Protection
400μA	0.1μA	±(1.2%+5)	Fuse 1: F600mA H 1000V,φ6.35 x 31.8mm
4000μA	1μA		
40mA	0.01mA	±(1.5%+5)	
400mA	0.1mA		
4A	0.001A	±(2.0%+5)	Fuse 2: F10A H 1000V,φ10.3 x 38.1mm
10A	0.01A		

#### Remarks:

- When ≤ 5A: Continuous measurement is allowed.
- When > 5A: Continuous measurement for less than 10 seconds with intervals of more than 15 minutes between measurements.
- Displays the effective value of a sine wave.

### AC Current

Range	Resolution	Accuracy 40Hz~400Hz	Overload Protection
400μA	0.1μA	±(1.5%+5)	0.5A , 250V, fast type Glass fuse, φ5 x 20mm
4000μA	1μA		
40mA	0.01mA	±(2.0%+5)	
400mA	0.1mA		
4A	0.001A	±(2.5%+5)	10A, 250V, fast type Glass fuse, φ5 x 20mm
10A	0.01A		

#### Remarks:

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- 4A & 10A range: Continuous measurement for less than 10 seconds with intervals of more than 15 minutes between measurements.
- Displays the effective value of a sine wave (mean value response).

### Resistance

Range	Resolution	Accuracy	Overload Protection	Remark
400Ω	0.1Ω	±(1.2%+2)	1000V dc / ac (Vpp)	When measuring below 2kΩ, apply REL Δ to ensure measurement accuracy.
4kΩ	0.001kΩ	±(1.0%+2)		
40kΩ	0.01kΩ			
400kΩ	0.1kΩ			
4MΩ	0.001MΩ	±(1.2%+2)		
40MΩ	0.01MΩ	±(1.5%+2)		

### Resistance

Range	Resolution	Accuracy	Overload Protection	Remark
400Ω	0.1Ω	±(1.2%+2)	1000V dc	When measuring under 400Ω, apply REL Δ to ensure measurement accuracy.
4kΩ	1Ω	±(1.0%+2)		
40kΩ	10Ω			
400kΩ	100Ω			
4MΩ	1kΩ	±(1.2%+2)		
40MΩ	10kΩ	±(1.5%+2)		

#### Remarks:

### Capacitance

Range	Resolution	Accuracy	Overload Protection	Remark
40nF	0.01nF	±(3.0%+5)	1000V dc / ac (Vpp)	There is around 10nF residual reading when the circuit is open
400nF	0.1nF			
4μF	0.001μF			
40μF	0.01μF	±(4.0%+5)		
400μF	0.1μF			
4000μF	1μF	unspecified		

### Capacitance

Range	Resolution	Accuracy	Overload Protection	Remark
40nF	10pF	±(3.0%+10) with REL	1000Vp	
400nF	100pF	±(3.0%+5)		
4μF	1nF			
40μF	10nF			
100μF	100nF	±(4.0%+5)		

Frequency

Model	Range	Accuracy	Maximum Resolution
Frequency	10Hz~10MHz	±(0.1%+4)	0.01Hz
Duty Cycle	0.1%~999.9%	unspecified	0.1%

- Remarks:
- Overload Protection: 1000Vdc/ ac (Vpp)
  - Input Amplitude: (DC offset is zero)
    - When 10Hz ~ 10MHz: 200mV ≤ a ≤ 30Vrms
    - When measuring on line frequency or duty cycle under AC Voltage and Current measurement mode, the input amplitude and frequency response must satisfy the following requirement:  
Input amplitude ≥ range × 30%  
Frequency response: ≤ 400Hz

Diode Test

Model	Resolution	Remarks	Overload Protection
GDM-398	0.001V	Open circuit voltage around 2.8V	1000Vdc / ac (Vpp)

Continuity Test

Model	Resolution	Overload Protection
GDM-398	0.1Ω	1000Vdc / ac (Vpp)

- Remarks:
- Open circuit voltage is around 0.45V.
  - Broken circuit resistance value is around > 35Ω, the buzzer does not beep.
  - Good circuit resistance value is ≤ 10Ω, the buzzer beeps continuously.

Frequency / Duty Cycle

Model	Range	Accuracy	Maximum Resolution
Frequency	10Hz~10MHz	±(0.1%+3)	
Duty Cycle	0.1%~99.9%	unspecified	0.01%

- Remarks:
- Overload Protection: 1000Vp
  - Sensitivity:
    - When ≤ 1MHz: 300mVrms ≤ input sensitivity ≤ 30Vrms
    - When > 1MHz: 600mVrms ≤ input sensitivity ≤ 30Vrms

Diode Test

Model	Resolution	Remarks	Overload Protection
GDM-394	1mV	Open circuit voltage around 1.48	1000Vp

- Remarks:
- Display approximate forward voltage drop reading 0.5~0.8V

Continuity Test

Model	Resolution	Overload Protection
GDM-394	0.1Ω	1000Vp

- Remarks:
- Open circuit voltage is around 0.45V.
  - Approximate value is ≤ 100Ω, the buzzer beeps continuously.
  - Range : 400.0Ω

Temperature Measurement

Temperature Measurement

Transistor hFE

Transistor hFE

Range	Resolution	Remark
hFE	1β	I <sub>bo</sub> ≈10μA; 1000β MAX

RS232C Serial Port - No functional

Other Functions

MODEL	GDM-398
Max. Display	3999
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	✓
EF Function	✓



Other Functions:

MODEL	GDM-394
Max. Display	3999
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	✓
EF Function	✓

