

INTRODUCTION

Digital Multimeter Model DM-454 (True RMS) is an auto ranging multimeter. The enclosure Structure design adopted advance “co-injection” technique in order to provide sufficient insulation.

This Meter can measure AC/DC Voltage and Current, Resistance, Diode, Continuity Buzzer, Capacitance, Frequency, In addition to the conventional measuring functions, there is data hold, relative mode, peak measurement, low battery display,

Peak Hold ■ Data Hold ■ Relative Measurement

GENERAL SPECIFICATION

- Maximum Voltage between any Terminals and Grounding, Refer to the different ranges input protection voltage
- Fused Protection for μ A mA Input Terminal 1A H 240V 6x25mm
- Fused Protection for 10A Input Terminal :10A H 240V 6x25mm
- Display
- Maximum reading 22000 , analogue bar graph 46 segments
- Measurement Speed : Updates 2~3 times/second.
- Range : Auto or Manual
- Polarity Display : Auto
- Overload Indication : Display OL
- Battery Deficiency : Display
- Peak Hold / Data Hold / Relative Measurement
- Battery Type : One Piece of 9V (NEDA 1604 or 6F22 or 006P)
- Under the influence of radiation Radio – Frequency Electromagnetic Field Phenomenon, the captioned model have a measurement error, it will be back to normal when the interference is removed
- Dimension (HxWxL): 180 x 87 x 47mm.
- Weight: Approximate 370g (battery include).
- Safety/Compliance:
- IEC61010 CAT III 1000V 600V Overvoltage and double insulation standard.
- Certification: {
- Temperature
- Operating : 0°C to +40°C (32°F to + 104°F)
- Storage : - 10°C to +50°C (14°F + 122 °F)
- Relative Humidity :
- <75% @ 0 ~ 30°C below
- < 50% @ 30 ~ 40°C

TECHNICAL SPECIFICATION

Accuracy $\pm a\%$ reading + b digits guarantee for 1 year.

Operating temperature 18°C ~ 28°C

Relative humidity < 75%



*Technical Specifications & Appearance are subject to change without prior notice

DC Voltage

Range	Resolution	Accuracy	Input Impedance	Fixed Value Input
220mV	0.01mV	± (0.1%+5)	Around >3000MΩ	1000V DC / 750V AC
2.2V	0.0001V	± (0.1%+2)		
22V	0.001V			
220V	0.01V			
1000V	0.1V	± (0.1%+5)	Around 10MΩ	

AC Voltage (T-RMS)

Range	Resolution	Accuracy		Input Impedance	Fixed Value Input
		45~1kHz	>1kHz~10kHz		
220mV	0.01mV	± (1.0%+10)	± (1.5%+50)	Around >3000MΩ	1000V DC / 750V AC
2.2V	0.0001V	± (0.8%+10)	± (1.2%+50)	Around 10MΩ	
22V	0.001V		± (2.0%+50)		
220V	0.01V		± (3.0%+50)		
750V	0.1V	± (1.2%+10)	± (3.0%+50)		

- True RMS is applicable from 10% of range to 100% of range
- AC Crest factor can be up to 3.0 except 1000V where it is 1.5
- A residual reading of 10 digits with test leads shorted, will not affect stated accuracy

DC Current

Range	Resolution	Accuracy	Overload Protection
220uA	0.01uA	(0.5%+10)	Fuse 1: F1A H 240V (CE) 6×25mm
2200uA	0.1uA		
22mA	0.001mA		
220mA	0.01mA		
10A	0.001A	(1.2%+50)	Fuse 2: F10A H 240V (CE) 6×25mm

Remarks:

- When <5A : Continuous measurement is allowed
- When >5A : Continuous measurement less than 10 seconds at an interval more than 15 minutes

AC Current (T-RMS)

Range	Resolution	Accuracy		Overload Protection
		45~1kHz	>1kHz~10kHz	
220uA	0.01uA	(0.8%+10)	(1.2%+50)	Fuse 1: F1AH 240V (CE), 6×25mm
2200uA	0.1uA			
22mA	0.001mA	(1.2%+10)	(1.5%+50)	
220mA	0.01mA			
10A	0.001A	(1.5%+10)	>1kHz~5kHz (2.0%+50)	Fuse 2: F10AH 240V (CE), 6×25mm

Remarks:

- When <5A : Continuous measurement is allowed
- When >5A : Continuous measurement less than 10 seconds at an interval more than 15 minutes
- True RMS is applicable from 10% of range to 100% of range
- AC crest factor can be up to 3.0 except 1000V where it is 1.5
- A residual reading of 10 digits with test leads shorted, will not affect stated accuracy

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Resistance

Range	Resolution	Accuracy	Overload Protection	Remarks
220Ω	0.01 Ω	±(0.5%+10)	1000V DC / 750V AC	when measuring below 2k Ω, apply REL to ensure measurement accuracy
2.2kΩ	0.0001kΩ			
22kΩ	0.001kΩ			
220 kΩ	0.01kΩ			
2.2MΩ	0.0001MΩ	±(0.8%+10)		
22MΩ	0.001MΩ	±(1.5%+10)		
220MΩ	0.01MΩ	±(3.0%+50)		

Capacitance

Range	Resolution	Accuracy	Overload Protection	Remarks
22nf	0.001nF	±(3.0%+5)	1000V DC / 750V AC	There is around 50pF residual reading when the Circuits is open TO measure a small value of capacitance use REL to ensure accuracy
220nF	0.01nF			
2.2uF	0.0001uF			
22uF	0.001uF	±(4.0%+5)		
220uF	0.01uF			
2.2mF	0.0001mF			
22mF	0.001mF			
220mF	0.01mF	Unspecified		

Frequency

Model	Range	Accuracy	Maximum Resolution
DM-454	10Hz~220MHz	(0.01%+5)	0.001Hz

- Overload Protection : 1000V DC / 750V AC
- Input Amplitude : (DC electric level is zero)
- When 10Hz~10MHz: 300mV <a < 30vrms
When > 10MHz ~40MHz : 400mV <a < 30vrms
When > 40MHz : unspecified

Diode Test

Model	Resolution	Remarks	Overload Protection
DM-454	0.0001V	Open circuits Voltage around 2.8V	1000V DC / 750V DC

Continuity Test

Model	Resolution	Overload Protection
DM-454	0.01Ω	1000V DC / 750V AC

- Open Circuit Voltage is around – 1.2V.
- Broken Circuit Resistance Value is around > 30Ω the buzzer does not beep
- Good Circuit Resistance Value is <10Ω, the buzzer beeps continuously

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