

INTRODUCTION

Metravi DT-425T is a handheld auto-ranging clamp meter having 4,000 counts 3 3/4 digit backlit LCD display. The circuit design of the instrument uses the large scale integrated circuit Σ/Δ analog digital converter as core, with the full-range over-load protection circuit and a unique appearance design, makes it a dedicated 'Must-Have' instrument. It is used to measure AC/DC Voltage, AC Current, DC Current, Resistance, Diode, Circuit on-off, Capacitance, Temperature, Frequency and Duty cycle, and it is also equipped with functions as data-hold, maximum/minimum data measurement, relative value measurement, flashlight, NCV, under voltage display and Auto OFF.

SAFETY

The instrument is designed and produced in strict accordance with IEC/EN 61010-1, IEC/EN 61010-2-032 and IEC/EN 61010-2-033, safety standards, and complies with the safety standard of double insulation, over-voltage CAT III 600V and pollution level 2. Please observe the following operation instruction, otherwise, the instrument provided protection is likely to be damaged.

Conforms to UL STD. 61010-1, 61010-2-032, 61010-2-033; Certified to CSA STD. C22.2 NO. 61010-1, IEC STD. 61010-2-032, IEC STD. 61010-2-033

HOLD : Freezes the displayed data.

MAX / MIN : Records the maximum and minimum values displayed

REL : Helps to perform Relative measurement

FLIGHT : Switches the flash light ON to access dark areas.



GENERAL SPECIFICATION

- Liquid crystal display** : 4000 Counts, 3-3/4 Digits Backlit LCD.
- Polarity display** : Automatic positive and negative polarity display.
- Over-load display** : Display in "OL" or "-OL".
- Battery voltage display** : When the battery voltage is lower than the working voltage, "🔋" symbol will be displayed.
- Sampling rate** : Approximately 3 times/second.
- Sensor type** : Hall effect sensor.
- Measured position error** : When measuring the current, $\pm 1.0\%$ additional error may occur if it fails to put the source to be measured on the central position of the clamp.
- Impact-resistant strength** : 1 m height impact can be borne.
- Maximum opening dimension of clamp head** : Diameter of 30mm.
- Electromagnetic field effect**: When the electromagnetic field interference exists, it probably displays unstable or incorrect readings.
- Power requirements** : Three AAA 1.5V batteries.
- Auto OFF function** : 15m for automatic switch off; with disable function.
- Dimension** : 228mmx77mmx41 mm.
- Weight** : Approximately 265g (battery included).

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

ENVIRONMENTAL LIMITATION

Working environment : Indoor use.
 Maximum altitude : 2,000m.
 Safety regulations : IEC/EN 61010-1; IEC/EN 61010-2-032; IEC/EN 61010-2-033.
 CAT III 600V; Pollution grade : 2
 Operating temperature and humidity : 0°C - 30°C (not larger than 80% RH), 30°C - 40°C (not larger than 75% RH), 40°C - 50°C (not larger than 45% RH).
 Storage temperature and humidity : -20°C -+ 60°C (not larger than 80% RH).

ELECTRICAL SPECIFICATION

Accuracy : ± (% reading + word count), calibration period is a year
 Ambient temperature : 23°C ± 5°C.
 Ambient humidity : ≤ 75%RH.
 Temperature coefficient : 0.1 x(accuracy)/°C.

AC Current (\tilde{A}) T-RMS

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
40.00A	0.01A	±(2.5%+5)	600A
600.0A	0.1A	±(2.5%+5)	

Display : true virtual value; applicable to 10% to 100% of the measurement range.
 Frequency response : 40Hz-400Hz.

DC Current (\bar{A})

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
40.00A	0.01A	±(2.0%+3)	600A
600.0A	0.1A		

AC Voltage (\tilde{V}) T-RMS

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
4.000V	0.001V	±(1.2%+5)	600V DC/AC
40.00V	0.01V		
400.0V	0.1V		
600V	1V	±(1.5%+5)	

Applicable to 10% to 100% of the measurement range.
 Voltage input impedance ≥10MΩ.
 Frequency response: 40Hz-400Hz.

DC Voltage (\bar{V})

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
400.0mV	0.1mV	±(1.0%+8)	600V DC/AC
4.000V	0.001V	±(0.8%+1)	
40.00V	0.01V	±(0.8%+3)	
400.0V	0.1V		
600V	1V	±(1.0%+3)	

Voltage input impedance ≥10MΩ.

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Resistance (Ω)

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
400.0 Ω	0.1 Ω	$\pm(1.2\%+2)$	600V DC/AC
4.000k Ω	0.001k Ω	$\pm(1.0\%+2)$	
40.00k Ω	0.01k Ω		
400.0k Ω	0.1k Ω		
4.000M Ω	0.001M Ω	$\pm(1.2\%+3)$	
40.00M Ω	0.01M Ω	$\pm(2\%+5)$	

Conductivity test ()

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
400.0 Ω	0.1 Ω	$\leq 30\Omega$ the buzzer will ring / (OFF) $\geq 70\Omega$, the buzzer will not ring Open-circuit voltage is about 1.2V	600V DC/AC

Diode test ()

Measurement Range	Resolution Ratio	Overload Protection	Accuracy
4.000V	0.001V	600V DC/AC	open-circuit voltage is about 3.3V, and measurable PN junction \leq forward voltage drop value of 3V. Normal voltage value of silicon PN junction is about 0.5-0.8V.

Capacitance ()

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
40.00nF	0.01nF	$\pm(4.0\%+25)$	600V DC/AC
400.0nF	0.1nF	$\pm(4.0\%+5)$	
4.000 μ F	0.001 μ F		
40.00 μ F	0.01 μ F		
400.0 μ F	0.1 μ F	$\pm(10\%)$	
4.000mF	0.001mF		
40.00mF	0.01mF	For reference only	

Frequency Hz

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
10Hz ~ 1MHz	0.01 Hz ~ 1KHz	$\pm(0.1\%+4)$	600V DC/AC

≤ 100 KHz: 100mVrms \leq input amplitude ≤ 20 Vrms.

> 100 KHz-1 MHz: 200mVrms \leq input amplitude ≤ 20 Vrms.

NCV

Measurement Range	Accuracy
NCV	≥ 100 Vrms, < 10mm audio and visual alarm

Temperature ($^{\circ}$ C) Only for DT-425T

Measurement Range	Resolution Ratio	Accuracy	Overload Protection
-40 $^{\circ}$ C ~ 40 $^{\circ}$ C	1 $^{\circ}$ C	$\pm(3.0\%+5)$	600V DC/AC
40 $^{\circ}$ C ~ 400 $^{\circ}$ C			
400 $^{\circ}$ C ~ 1000 $^{\circ}$ C		$\pm(1.0\%+3)$	
-40 $^{\circ}$ F ~ 104 $^{\circ}$ F	1 $^{\circ}$ F	$\pm(3.0\%+10)$	
104 $^{\circ}$ F ~ 752 $^{\circ}$ F			
752 $^{\circ}$ F ~ 1832 $^{\circ}$ F		$\pm(1.0\%+6)$	

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