

Professional True RMS Industrial Digital Multimeter with built-in Thermal Imager, having TFT color LCD display, providing fast A/D converting sampling time, high accuracy. It is easy to find and solve the problems of production equipments using Bluetooth technology. Measurement safety with double molded plastic housing design and IP65 waterproof function.

# DT-9889

## Thermal Imaging Multimeter

### Key Features

- 6000 count 2.8" TFT Color LCD display
- Built-in Thermal imager with Max, Min and Center cross targeting
- 50Hz, fast thermal image frame rate
- DC Voltage
- AC, AC + DC TRMS Voltage
- DC Current
- AC, AC + DC TRMS Current
- Resistance and Continuity Test
- Diode Test
- Capacitance
- Frequency
- Duty Cycle
- Temperature with K-type probe
- Flexible Clamp for measuring high current upto 3000A
- IP- 65 , Dust and Waterproof
- Bluetooth Connectivity
- Smartphone app with real time data logging, trend capture and sharing
- Long lasting Rechargeable battery

### Environment

Reference Temperature	18°C ~ 28°C (64°F ~ 82°F)
Operating Temperature	5°C ~ 40°C (41°F ~ 104°F)
Allowable Relative Humidity	<80%RH
Storage Temperature	-20° ~ 60°C (-4°F~140°F)
Storage Humidity	<80%RH

### Reference Standards

Safety	IEC/EN61010-1
EMC	IEC/EN 61326-1
Insulation	Double Insulation
Pollution Level	2
Overvoltage category	CAT IV 600V, CAT III 1000V
Max operating altitude	2000m (6562ft)




# DT-9889 Thermal Imaging Multimeter

## Mechanical Characteristics

Size ( L x W x H)	175 x 85 x 55mm (7 x 3 x 2in)
Weight (batteries included)	540g

## Power Supply

Battery type	1x7.4V rechargeable Li-ION battery, 2300mAh
Battery charger power supply	100/240V AC, 50/60Hz, 10VDC, 1A
Low battery indication	Symbol  on the display
Auto Power Off	After 15 ~ 60 minutes idling (can be disabled)
Fuses	F10A/1000V, 10x38mm (input 10A)
	F800mA/1000V, 6x32mm (input mA uA)

## Display

Conversion	TRMS
Characteristics	Colour TFT, 6000 dots with bargraph
Sampling frequency	3 times/s



## Input Protection Limits

Function	Maximum input
V DC or V AC	1000V DC/AC RMS
mA AC/DC	800mA 1000V fast acting fuse
A AC/DC	10A 1000V fast acting fuse
Frequency, Resistance, Capacitance Duty Cycle, Diode Test, Continuity	1000V DC/AC rms
Temperature	1000V DC/AC rms

Surge Protection: 8kV peak per IEC 61010



## Technical Specifications

### Thermal Imager

Field of view (FOV) / Minimum focus distance	21° x 21° / 0.5m
Spatial resolution (IFOV)	4.53 mrad
IR resolution	80x80 pixels
Thermal sensitivity / NETD	<0.1°C @ + 30°C (+86°F) / 100mK
Image frequency	50Hz
Focus mode	Focus free
Focal length	7.5mm
Focal Plane Array (FPA) / Spectral range	Uncooled microbolometer / 8 ~ 14 um
Object temperature range	-20°C to +260°C (-4°F to +500°F)
Accuracy	±3°C (±5.4°F) or ±3% of reading (Environment temperature 10°C ~ 35°C, object temperature >0°C)

Accuracy calculated as [% reading + (num. digits\* resolution)] at 18°C ~ 28°C <75% RH

Contact :

**CEM INSTRUMENTS (INDIA) PVT. LTD**

32A, Ganesh Chandra Avenue. 4th Floor, Kolkata-700013

Tel: 033-22511376, 22159759

Email: info@cem-instruments.in / info@cem-india.com

Web: www.cem-instruments.in / www.cem-india.com



## DC Voltage

Range	Resolution	Accuracy	Input impedance	Overload Protection
600.0mV	0.1mV	±(0.09% of reading + 5 digits)	>10MΩ	1000V DC/AC RMS
6.000V	0.001V			
60.00V	0.01V			
600.0V	0.1V	±(0.2% of reading + 5 digits)		
1000V	1V			

## AC+DC TRMS Voltage

Range	Resolution	Accuracy (50Hz / 1kHz)	Input Impedance	Overload Protection
6.000V	0.001V	±(2.4% of reading + 20 digits)	>10MΩ	1000V DC/AC RMS
60.00V	0.01V			
600.0V	0.1V			
1000V	1V			

## AC TRMS Current

Range	Resolution	Accuracy* (50Hz ~ 1kHz)	Overload Protection
600.0uA	0.1uA	±(1.2% of reading + 5 digits)	Quick fuse 800mA/1000V
6000uA	1uA		
60.00mA	0.01mA		
600.0mA	0.1mA		
10.00A	0.01A	±(1.5% of reading + 8 digits)	Quick fuse 10A/1000V

\*Accuracy specified from 5% to 100% of the measuring range, sine wave.  
Accuracy PEAK function: ±10% of reading

## AC Current via Flexible Clamp

Range	Resolution	(50Hz ~ 60Hz)	(61Hz ~ 1kHz)	Overload Protection
30.00A	0.01A	±(0.8% of reading + 5 digits)	±(2.4% of reading + 5 digits)	1000V DC/AC RMS
300.0A	0.1A			
3000A	1A			

## Frequency (Electronic Circuits)

Range	Resolution	Accuracy	Overload Protection
60.00Hz	0.01Hz	±(0.09% of reading + 5 digits)	1000V DC/AC RMS
600.0Hz	0.1Hz		
6.000kHz	0.001kHz		
60.00kHz	0.01kHz		
600.0kHz	0.1kHz		
6.000MHz	0.001MHz		
10.00MHz	0.01MHz		

Sensitivity: • >2Vrms (@ 20% ~ 80% duty cycle) and f <100kHz  
• >5Vrms (@ 20% ~ 80% duty cycle) and f >100kHz

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## AC TRMS Voltage

Range	Resolution	Accuracy*		Overload Protection
		(50Hz ~ 60Hz)	(61Hz ~ 1kHz)	
6.000V	0.001V	±(0.8% of reading + 5 digits)	±(2.4% of reading + 5 digits)	1000V DC/AC RMS
60.00V	0.01V			
600.0V	0.1V			
1000V	1V			

- \*Accuracy specified from 10% to 100% of the measuring range, sine wave
- Input impedance: >9MΩ
- Accuracy PEAK function: ±10% rdg, PEAK response time: 1ms

## DC Current

Range	Resolution	Accuracy	Overload Protection
600.0uA	0.1uA	±(0.9% of reading + 5 digits)	Quick fuse 800mA/1000V
6000uA	1uA		
60.00mA	0.01mA		
600.0mA	0.1mA		
10.00A	0.01A	±(1.5% of reading + 8 digits)	Quick fuse 10A/1000V

## AC + DC TRMS Current

Range	Resolution	Accuracy* (50Hz ~ 1kHz)	Overload Protection
600.0uA	0.1uA	±(3.0% of reading + 20 digits)	Quick fuse 800mA/1000V
6000uA	1uA		
60.00mA	0.01mA		
600.0mA	0.1mA		
10.00A	0.01A		Quick fuse 10A/1000V

## Frequency (Electrical Circuits)

Range	Resolution	Accuracy	Overload Protection
40.00Hz ~ 10kHz	0.01 Hz ~ 0.001kHz	±(0.5% of reading)	1000V DC/AC RMS

Sensitivity: 2V RMS

## Duty Cycle

Range	Resolution	Accuracy
5.0% ~ 95.0%	0.1%	±(1.2% of reading + 2 digits)

Pulse frequency range: 40Hz~10kHz, Pulse amplitude: ±5V (100us~100ms)

## Capacitance

Range	Resolution	Accuracy	Overload Protection
60.00nF	0.01nF	±(1.5% of reading + 20 digits)	1000V DC/AC RMS
600.0nF	0.1nF	±(1.2% of reading + 8 digits)	
6.000uF	0.001uF	±(1.5% of reading + 8 digits)	
60.00uF	0.01uF	±(1.2% of reading + 8 digits)	
600.0uF	0.1uF	±(1.5% of reading + 8 digits)	
6000uF	1uF	±(2.5% of reading + 20 digits)	



## Diode Test

Function	Test Current	Max voltage with open circuit
→ ←	<1.5mA	3.3VDC

## Temperature with K-type probe

Range	Resolution	Accuracy*	Overload Protection
-40.0°C ~ 600.0°C	0.1°C	±(1.5% of reading + 3°C)	1000V DC/AC RMS
600.0°C ~ 1000.0°C	1°C		
-40.0°F ~ 600.0°F	0.1°F	(1.5% of reading + 5.4F)	
600°F ~ 1800°F	1°F		

\*Instrument accuracy without probe; Specified accuracy with stable environmental temperature at ±1°C for long-lasting measurements, reading increases by 2°C

## Resistance and Continuity Test

Range	Resolution	Accuracy	Buzzer	Overload Protection
600.0Ω	0.1Ω	±(0.5% of reading + 10 digits)	>50Ω	1000V DC/AC RMS
6.000kΩ	0.001kΩ	±(0.5% of reading + 5 digits)		
60.00kΩ	0.01kΩ			
600.0kΩ	0.1kΩ			
6.000MΩ	0.001MΩ			
60.00MΩ	0.01MΩ	±(2.5% of reading + 10 digits)		

## Accessories:

Power Adapter, Test Leads, K-Type Temperature Probe, User Manual, 2 Batteries, Software, SD Card, Gift Box with Carrying Case and Magnetic Hanging belt.

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