English

Product Datasheet

Stock No: 179-9512

True RMS Thermal Multimeter

EN

Key Features

- 6000 count 2.8'' TFT Color LCD display
- Built-in Thermal imager with Max,Min and Center crosshair targeting
- 50 Hz 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
- Capacity
- Frequency
- Duty Cycle
- Temperature with K-type probe
- flexible coils current

Technical characteristics

• Thermal Imager

Field of view (FOV) / Minimum focus distance	21° x 21°/ 0.5 m
Spatial resolution (IFOV)	4.53 mrad
IR resolution	80 × 80 pixels
Thermal sensitivity/NETD	< 0.1°C @ +30°C (+86°F) / 100 mK
Image frequency	50 Hz
Focus mode	Focus free
Focal length	7.5 mm
Focal Plane Array (FPA)/Spectral range	Uncooled microbolometer / 8–14 μm
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%HR

• DC Voltage

Range	Resolution	Accuracy	Input impedance	Protection against overcharge
600 mV	0.1 mV	±(0.09%reading + 5 dgt)	> 10 MΩ	1000 V dc/ac rms
6 V	0.001 V			
60 V	0.01 V			
600 V	0.1 V	±(0.2%reading + 5 dgt)		
1000 V	1 V			

• AC TRMS Voltage

Range	Resolution	Accuracy(*)		Protection against overcharge
		(50 Hz÷60 Hz)	(61 Hz÷1 kHz)	
6 V	0.001 V	±(0.8%reading+ 5 dgt)	±(2.4%reading+ 5 dgt)	1000 V dc/ac rms
60 V	0.01 V			
600 V	0.1 V			
1000 V	1 V			

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

• AC+ DC TRMS Voltage

Range	Resolution	Accuracy (50Hz ~ 1kHz)	Input impedance	Protection against overcharge
6 V	0.001 V	±(2.4%reading +20dgt)	> 10 MΩ	1000 V dc/ac rms
60 V	0.01 V			
600 V	0.1 V			
1000 V	1 V			

• DC Current

Range	Resolution	Accuracy	Protection against overcharge
600 uA	0.1 uA	±(0.9%reading + 5 dgt)	Quick fuse 800 mA/1000 V
6000 uA	1 uA		
60 mA	0.01 mA		
600 mA	0.1 mA	±(0.9%reading + 8 dgt)	
10 A	0.01 A	±(1.5%reading + 8 dgt)	Quick fuse 10 A/1000 V

• AC TRMS Current

Range	Resolution	Accuracy (*) (50Hz ~ 1kHz)	Protection against overcharge
600 uA	0.1 uA	±(1.2%reading + 5 dgt)	Quick fuse 800 mA/1000 V
6000 uA	1 uA		
60 mA	0.01 mA		
600 mA	0.1 mA		
10 A	0.01 A	±(1.5%reading + 5 dgt)	Quick fuse 10 A/1000 V

(*) Accuracy specified from 5% to 100% of the measuring range, sine wave. Accuracy PEAK function: ±10%rdg , AC+DC TRMS Current: accuracy (50 Hz÷1 kHz): ±(3.0%reading + 20 dgt)

• Flexible coil Current

Range	Resolution	(50Hz ~ 60Hz)	(61Hz ~ 1kHz)	Protection against overcharge
30 A	0.01 A	±(0.8%reading+ 5 dgt)	±(2.4%reading+ 5 dgt)	1000 V dc/ac rms
300 A	0.1 A			
3000 A	1 A			

• Diode test

Function	Test current	Max voltage with open circuit
→|←	< 1.5 mA	3.3 Vdc

• Resistance and Continuity test

Range	Resolution	Accuracy	Buzzer	Protection against overcharge
600 Ω	0.1 Ω	±(0.5%reading + 10 dgt)	> 50 Ω	1000 V dc/ac rms
6 kΩ	0.001 kΩ	±(0.5%reading + 5 dgt)		
60 kΩ	0.01 kΩ			
600 kΩ	0.1 kΩ			
6 MΩ	0.001 MΩ			
60 MΩ	0.01 MΩ	±(2.5%reading + 10 dgt)		

• Frequency (electronic circuits)

Range	Resolution	Accuracy	Protection against overcharge
40 Hz ~ 10 kHz	0.01 Hz ~ 0.001 kHz	±(0.5%reading)	1000 V dc/ac rms

• Frequency (electronic circuits)

Range	Resolution	Accuracy	Protection against overcharge
60 Hz	0.01 Hz	±(0.09%rdg+5 dgt)	1000 V dc/ac rms
600 Hz	0.1 Hz		
6 kHz	0.001 kHz		
60 kHz	0.01 kHz		
600 kHz	0.1 kHz		
6 MHz	0.001 MHz		
10 MHz	0.01 MHz		

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

• Duty Cycle

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

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

• Capacity

Range	Resolution	Accuracy	Protection against overcharge
60 nF	0.01 nF	±(1.5%reading+20 dgt)	1000 Vdc/ac rms
600 nF	0.1 nF	±(1.2%reading+8 dgt)	
6 uF	0.001 uF	±(1.5%reading+8 dgt)	
60 uF	0.01 uF	±(1.2%reading+8 dgt)	
600 uF	0.1 uF	±(1.5%reading+8 dgt)	
6000 uF	1 uF	±(2.5%reading+20 dgt)	

• Temperature with K-type probe

Range	Resolution	Accuracy (*)	Protection against overcharge
-40.0°C ~ 600.0°C	0.1°C	±(1.5%reading + 3°C)	1000 V dc/ac rms
600°C ~ 1000°C	1°C		
-40.0°F ~ 600.0°F	0.1°F	±(1.5%rdg+ 5.4°F)	
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.