

PRO 7 DIGITAL AUTO-RANGING T-RMS MULTIMETER

PRODUCT INTRODUCTION

- First of its kind multimeter with backlit ranges and range selection switch. Makes operations in dark environments easy with the backlit display, backlit switch as well as the backlit ranges clearly visible.
- Measures AC/DC Voltage, AC/DC Current, Resistance, Capacitance, Frequency, Temperature, Duty Cycle, Diode and Continuity Test and features Non-contact Voltage Detection, Live Line test and Square Wave Output.
- Heavy-duty, rugged design with double-injection moulding.
- Built-in Flashlight to access dark areas.
- Confirms to CATIII 600V.
- Data Hold, MAX/MIN record functions.
- Auto Power Off
- Can measure AC Voltage of VFD (Variable Frequency Drive)

Input Protection Limits	
Function	Maximum Input
VDC or VAC	600V DC / AC RMS
mA AC/DC	500mA 600V fast-acting fuse
A AC/DC	10A 600V fast-acting fuse
Frequency, Resistance, Temperature, Capacitance, Diode Test, Continuity	600V DC / AC RMS



Enclosure	Double-moulded
Shock (Drop Test)	1
Input Impedance	>10M Ω VDC & >10M Ω VAC
Response	TRMS
ACV Bandwidth	50/60Hz (All wave); 45Hz to 1000Hz (Sine wave)
Crest Factor	3 at full scale up to 300V, decreasing linearly to ≤ 1.5 at 600V
Display	4000 Counts Positive Display
Over Range Indication	"OL" is displayed
Auto Power Off	15 minutes (approximately) with disabling feature
Polarity	Automatic (No indication for positive): Minus (-) sign for negative
Measurement Rate	3 times per second, nominal
Low Battery Indication	"  " is displayed if battery voltage drops below operating voltage
Battery	1.5V AAA x 2 battery



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Fuses	mA/ μ A ranges: 0.5A 600V ceramic fast blow A range; 10A/600V ceramic fast blow
Operating Temperature	5 to 40°C (41 to 104°F)
Storage Temperature	-20 to 60°C (-4 to 140°F)
Operating Humidity	Max 80% up to 31°C (87°F) decreasing linearly to 50% at 40°C (104°F)
Storage Humidity	<80%
Operating Altitude	7000 ft. (2000 meters) maximum
Safety	This meter is intended for origin of installation use and protected by double insulation per EN61010-1:2010 and EN61010-031:2015, EN61010-2-033:2012 to CATIII 600V; Pollution Degree 2

SPECIFICATIONS

DC Voltage

Range	Resolution	Accuracy
400mV	0.1mV	$\pm(1.0\% + 3 \text{ digits})$
4V	0.001V	
40V	0.01V	
400V	0.1V	
600V	1V	

AC Voltage (50Hz to 400Hz)

Range	Resolution	Accuracy
4V	0.001V	$\pm(1.0\% + 3 \text{ digits})$
40V	0.01V	
400V	0.1V	
600V	1V	

All AC Voltage ranges are specified from 5% of range to 100% of range.

Variable Frequency Drive Test AC Voltage Range:
100V-600V.

DC Current

Range	Resolution	Accuracy
400 μ A	0.1 μ A	$\pm(1.0\% + 3 \text{ digits})$
4000 μ A	1 μ A	
40mA	0.01mA	
400mA	0.1mA	
4A	0.001A	$\pm(1.2\% + 3 \text{ digits})$
10A	0.01A	

10A: 30 sec max with reduced accuracy.

AC Current (50Hz to 60Hz)

Range	Resolution	Accuracy
400 μ A	0.1 μ A	$\pm(1.2\% + 3 \text{ digits})$
4000 μ A	1 μ A	
40mA	0.01mA	
400mA	0.1mA	
4A	0.001A	$\pm(1.8\% + 5 \text{ digits})$
10A	0.01A	

10A: 30 sec max with reduced accuracy.

All AC Voltage ranges are specified from 5% of range to 100% of range.

Resistance

Range	Resolution	Accuracy
400 Ω	0.1 Ω	$\pm(1.5\% + 5 \text{ digits})$
4k Ω	0.001k Ω	
40k Ω	0.01k Ω	
400k Ω	0.1k Ω	
4M Ω	0.001M Ω	$\pm(2.5\% + 20 \text{ digits})$
40M Ω	0.01M Ω	

Capacitance

Range	Resolution	Accuracy
99.99nF	0.01nF	$\pm(4.5\% + 20 \text{ digits})$
999.9nF	0.1nF	$\pm(4.5\% + 10 \text{ digits})$
9.999 μ F	0.001 μ F	$\pm(3.0\% + 5 \text{ digits})$
99.99 μ F	0.01 μ F	
999.9 μ F	0.1 μ F	
9.999mF	1 μ F	$\pm(5\% + 5 \text{ digits})$
99.99mF	10 μ F	

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Frequency (Electrical)

Range	Resolution	Accuracy
10.00-10KHz	0.01Hz	$\pm(1.2\% \text{ reading})$

Sensitivity : 10V RMS

Duty Cycle

Range	Resolution	Accuracy
0.1 to 99.9%	0.1%	$\pm(1.2\% + 2\text{digits})$

Pulse Width: 100 μ s -100ms; **Frequency:** 5Hz to 10kHz.

Frequency (AC Current) (Auto-Ranging)

Range	Accuracy
45Hz to 1kHz	$\pm(1.0\% + 5 \text{ digits})$

Sensitivity : 10V RMS

Temperature (Type-K)

Range	Resolution	Accuracy
-20 to 1000°C	1°C	$\pm(3\% + 3^\circ\text{C})$
-4 to 1832°F	1°F	$\pm(3\% + 5^\circ\text{F})$

Sensor: Type K Thermocouple.

Input Protection: 300V DC or 300V AC RMS

Diode

Testing Condition	Reading
Forward DCA is approx. 1mA, open circuit Voltage MAX. 3V	Forward voltage drop of Diode

Continuity

Testing Condition	Reading
Test Current MAX. 1.5mA	Buzzer makes a long sound, While resistance is less than (50)

Input Protection: 300V DC or 300V AC RMS.

NOTE: Accuracy is stated at 18 to 28°C (65 to 83°F) and less than 75% RH.

NOTE : Accuracy specifications consist of two elements:

- (% reading) - This is the accuracy of the measurement circuit.
- (+ digits) - This is the accuracy of the analog to digital converter.

Duty Frequency Out Square Wave Output Frequency (Manual-Ranging)

Range	Accuracy
50, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 2000, 3000, 4000, 5000Hz	$\pm(1.0\% + 5 \text{ digits})$

