



1. ELECTRICAL SPECIFICATIONS

Accuracy calculated as $\pm[\% \text{reading} + (\text{num dgt} * \text{resolution})]$ ta $18^{\circ}\text{C} \div 28^{\circ}\text{C}$, $<75\% \text{RH}$

DC VOLTAGE

Range	Resolution	Accuracy	Input impedance	Overload protection
400.0mV	0.1mV	$\pm(1.2\% \text{rdg} + 4 \text{dgt})$	10M Ω	1500VDC
4.000V	0.001V			
40.00V	0.01V			
400.0V	0.1V			
1500V	1V	$\pm(1.5\% \text{rdg} + 2 \text{dgt})$		

AC TRMS VOLTAGE

Range	Resolution	Accuracy (*) (50Hz \div 1kHz)	Input impedance	Overload protection
4.000V	0.001V	$\pm(1.2\% \text{rdg} + 10 \text{dgt})$	10M Ω	1000VDC/ACrms
40.00V	0.01V	$\pm(1.5\% \text{rdg} + 3 \text{dgt})$		
400.0V	0.1V			
1000V	1V	$\pm(2.0\% \text{rdg} + 4 \text{dgt})$		

(*) Accuracy specified from 5% to 100% of the measuring range; Frequency range: 50Hz \div 1kHz (sinusoidal waveform)
For not sinusoidal waveforms the accuracy is: $\pm(10.0\% \text{rdg} + 10 \text{dgt})$ (50Hz \div 60Hz)

DC/AC TRMS VOLTAGE WITH LOW IMPEDANCE (LoZ)

Range	Resolution	Accuracy (*) (50Hz \div 1kHz)	Input impedance	Overload protection
4.000V	0.001V	$\pm(3.0\% \text{rdg} + 40 \text{dgt})$	approx 3k Ω	600VDC/ACrms
40.00V	0.01V			
400.0V	0.1V			
600V	1V			

(*) Accuracy specified from 5% to 100% of the measuring range; Frequency range: 50Hz \div 1kHz (sinusoidal waveform)
For not sinusoidal waveforms the accuracy is: $\pm(10.0\% \text{rdg} + 10 \text{dgt})$ (50Hz \div 60Hz)

DIODE TEST

Range	Resolution	Accuracy	Max open voltage	Overload protection
	1mV	$\pm(10\% \text{rdg} + 5 \text{dgt})$	<3VDC	250VDC/ACrms

DC CURRENT WITH TRANSDUCER CLAMPS

Range	Output ratio	Resolution	Accuracy (*)	Overload protection
10A	100mV/1A	0.01A	$\pm(1.5\% \text{rdg} + 6 \text{dgt})$	1000VDC/ACrms
40A (**)	10mV/1A		$\pm(1.5\% \text{rdg} + 26 \text{dgt})$ (***)	
100A		0.1A	$\pm(1.5\% \text{rdg} + 6 \text{dgt})$	
400A (**)	1mV/1A		$\pm(1.5\% \text{rdg} + 26 \text{dgt})$ (***)	
1000A		1A	$\pm(1.5\% \text{rdg} + 6 \text{dgt})$	

(*) Accuracy referred to only instrument without transducer clamp; (**) With HT4006 transducer; (***) Accuracy instrument + clamp

**AC TRMS CURRENT WITH TRANSDUCER CLAMPS**

Range	Output ratio	Resolution	Accuracy (*)	Overload protection
1000mA	1V/1A	1mA	±(2.5%rdg + 10dgt)	1000VDC/ACrms
10A	100mV/1A	0.01A		
30A			10mV/1A	
40A (**)	1mV/1A	1A		
100A			±(3.5%rdg + 30dgt) (***)	
300A	±(2.5%rdg + 10dgt)			
400A (**)	1mV/1A	1A	±(3.5%rdg + 30dgt) (***)	
1000A			±(2.5%rdg + 10dgt)	
3000A				

(*) Accuracy referred to only instrument without transducer clamp; Accuracy specified from 5% to 100% of the measuring range

(**) With HT4006 transducer; (***) Accuracy instrument + clamp ; For not sinusoidal waveforms the accuracy is: ±(10.0%rdg + 10dgt)

RESISTANCE AND CONTINUITY TEST

Range	Resolution	Accuracy	Buzzer	Overload protection
400.0Ω	0.1Ω	±(1.2%rdg+4dgt)	<50Ω	250VDC/ACrms
4.000kΩ	0.001kΩ	±(1.0%rdg+2dgt)		
40.00kΩ	0.01kΩ	±(1.2%rdg+2dgt)		
400.0kΩ	0.1kΩ			
4.000MΩ	0.001MΩ	±(2.0%rdg+3dgt)		
40.00MΩ	0.01MΩ			

FREQUENCY (Electrical circuit)

Range	Resolution	Accuracy	Overload protection
10Hz ÷ 10kHz	0.001Hz ÷ 0.01kHz	±(1.5%rdg + 5dgt)	600VDC/ACrms

FREQUENCY (Electronic circuit)

Range	Resolution	Accuracy	Overload protection
9.999Hz	0.001Hz	±(1.5%rdg + 5dgt)	250VDC/ACrms
99.99Hz	0.01Hz		
999.9Hz	0.1Hz		
9.999kHz	0.001kHz	±(1.2%rdg + 3dgt)	
99.99kHz	0.01kHz		
999.9kHz	0.1kHz		
9.999MHz	0.001MHz	±(1.5%rdg + 4dgt)	
10.00MHz	0.01MHz		

Sensitivity: >8Vrms

In AC voltage frequency range: 10Hz ÷10kHz, sensitivity >15Vrms

DUTY CYCLE

Range	Resolution	Accuracy
0.5% ÷ 99%	0.1%	±(1.2%rdg+2dgt)

Pulse frequency range: 5Hz ÷ 10kHz, Pulse duration: 100µs ÷ 100ms

In AC voltage frequency range: 10Hz ÷10kHz, sensitivity >15Vrms

**CAPACITANCE (Autorange)**

Range	Resolution	Accuracy	Overload protection
40.00nF	0.01nF	$\pm(5.0\%rdg + 7dgt)$	250VDC/ACrms
400.0nF	0.1nF	$\pm(3.0\%rdg + 5dgt)$	
4.000 μ F	0.001 μ F		
40.00 μ F	0.01 μ F		
400.0 μ F	0.1 μ F	$\pm(5.0\%rdg + 5dgt)$	
4.000mF	0.001mF	$\pm(10\%rdg)$	
40.00mF	0.01mF		

TEMPERATURE WITH TYPE K PROBE (Autorange)

Range	Resolution	Accuracy (*)	Overload protection
-20°C ÷ 760°C	1°C	$\pm(3.0\%rdg + 5^{\circ}C)$	250VDC/ACrms
-4°F ÷ 1400°F	1°F	$\pm(3.0\%rdg + 9^{\circ}F)$	

(*) Accuracy referred to instrument without probe



2. GENERAL SPECIFICATIONS

Display:

- LCD, 4 dgt 4000counts, decimal point and bargraph
- Automatic polarity indication
- Backlight
- "OL" over range indication
- Response time: 3/s
- Conversion: TRMS

Features:

- Data HOLD
- RANGE
- REL

Power supply:

- 1 x 9V alkaline batteries type IEC 6F22
- Battery life: ca 45h (backlight ON), ca 60h (backlight OFF)
- Auto Power OFF after 15 minutes of idleness

Mechanical specifications

- Dimensions (L x W x H): 175 x 85 x 55mm
- Weight (included batteries): 360g
- Mechanical protection: IP40

Environmental conditions:

- Working temperature: 0°C ÷ 40°C
- Working humidity: <70%RH
- Storage temperature: -20°C ÷ 60°C
- Storage humidity: <80%RH
- Altitude max of use: 2000m

Reference guidelines:

- Safety : IEC/EN61010-1
- EMC : IEC/EN61326-1
- Pollution degree: 2
- Insulation: double insulation
- Measurement category: CAT IV 600V – CAT III 1000V to ground

This product conforms to the prescriptions of the European directive on low voltage 2014/35/EU and to EMC directive 2014/30/EU

This product conforms to the prescriptions of the European directive 2011/65/EU (RoHS) and the European directive 2012/19/EU (WEEE)