



## 1. ELECTRICAL SPECIFICATIONS

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

### DC VOLTAGE

Range	Resolution	Accuracy	Input impedance	Overload protection
600.0mV	0.1mV	$\pm(0.1\% \text{rdg} + 5 \text{dgt})$	>10M $\Omega$	1000VDC/ACrms
6.000V	0.001V			
60.00V	0.01V			
600.0V	0.1V	$\pm(0.2\% \text{rdg} + 5 \text{dgt})$		
1000V	1V			

### AC TRMS VOLTAGE

Range	Resolution	Accuracy (*)		Overload protection
		(50Hz ÷ 60Hz)	(61Hz ÷ 1kHz)	
600.0mV	0.1mV	$\pm(0.9\% \text{rdg} + 5 \text{dgt})$	$\pm(3.0\% \text{rdg} + 5 \text{dgt})$	1000VDC/ACrms
6.000V	0.001V			
60.00V	0.01V			
600.0V	0.1V			
1000V	1V			

(\*) Accuracy specified from 5% to 100% of measurement range, Input impedance: >10M $\Omega$ , Response time PEAK function: >1ms, Accuracy PEAK function:  $\pm 10\% \text{rdg}$

### AC+DC TRMS VOLTAGE

Range	Resolution	Accuracy (*) (50Hz ÷ 1kHz)	Input impedance	Overload protection
6.000V	0.001V	$\pm(3.0\% \text{rdg} + 20 \text{dgt})$	>10M $\Omega$	1000VDC/ACrms
60.00V	0.01V			
600.0V	0.1V			
1000V	1V			

### DC/AC TRMS WITH LOW IMPEDANCE (LoZ)

Range	Resolution	Accuracy (*) (50Hz ÷ 1kHz)	Input impedance	Overload protection
6.000V	0.001V	$\pm(3.0\% \text{rdg} + 20 \text{dgt})$	ca 3k $\Omega$	1000VDC/ACrms
60.00V	0.01V			
600.0V	0.1V			
1000V	1V			

(\*) Accuracy specified from 5% to 100% of measurement range  
Fir not sinusoidal waveforms the accuracy is  $\pm(10.0\% \text{rdg} + 10 \text{dgt})$

### DC CURRENT

Range	Resolution	Accuracy	Overload protection
600.0 $\mu$ A	0.1 $\mu$ A	$\pm(0.9\% \text{rdg} + 5 \text{dgt})$	Fast Fuse 0.8A/1kVAC/DC (inputs mA, $\mu$ A)
6000 $\mu$ A	1 $\mu$ A		
60.00mA	0.01mA		
600.0mA	0.1mA	$\pm(0.9\% \text{rdg} + 8 \text{dgt})$	Fast Fuse 10A/1kVAC/DC (input 10A)
10.00A	0.01A	$\pm(1.5\% \text{rdg} + 8 \text{dgt})$	



## AC TRMS CURRENT

Range	Resolution	Accuracy (*) (50Hz ÷ 1kHz)	Overload protection
600.0µA	0.1µA	±(1.2%rdg+5dgt)	Fast Fuse 0.8A/1kVAC/DC (inputs mA, µA)
6000µA	1µA		
60.00mA	0.01mA		
600.0mA	0.1mA		
10.00A	0.01A	±(1.5%rdg+5dgt)	Fast Fuse 10A/1kVAC/DC (input 10A)

(\*)Accuracy specified from 5% to 100% of measurement range ; Response time PEAK function: >1ms, Accuracy PEAK function: ±10%rdg ; AC+DC TRMS Current: accuracy (50Hz÷1kHz): ±(3.0%rdg + 20dgt)

## DC CURRENT WITH TRANSDUCER CLAMPS

Range	Output ratio	Resolution	Accuracy (*)	Overload protection
1000mA	1000mV/1000mA	1mA	±(1.5%rdg + 6dgt)	1000VDC/ACrms
10A	100mV/1A	0.01A		
30A			10mV/1A	
40A (**)	1mV/1A	1A		
100A			±(1.5%rdg + 26dgt) (***)	
300A	±(1.5%rdg + 6dght)			
400A (**)		±(1.5%rdg + 26dgt) (***)		
1000A	±(1.5%rdg + 6dght)			

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

## AC TRMS CURRENT WITH TRANSDUCER CLAMPS

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

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

(\*\*) With HT4006 transducer clamp ; (\*\*\*) Accuracy instrument + clamp

For not sinusoidal waveforms accuracy is: ±(10.0%reading + 10dgt)

Accuracy PEAK function: ±(10%rdg+30dgt) , AC+DC TRMS Current: accuracy (50Hz÷1kHz): ±(3.0%reading + 20dgt)

## 4-20mA% READINGS

Range	Resolution	Accuracy	Reading
-25% ÷ 125%	0.1%	±50dgt	0mA=-25%, 4mA=0%, 20mA=100%, 24mA=125%

## DIODE TEST

Range	Max test current	Open voltage
	<1.5mA	3.2V



## RESISTANCE AND CONTINUITY TEST

Range	Resolution	Accuracy	Buzzer	Overload protection
600.0Ω	0.1Ω	±(0.8%rdg+10dgt)	<50Ω	1000VDC/ACrms
6.000kΩ	0.001kΩ	±(0.8%rdg+5dgt)		
60.00kΩ	0.01kΩ			
600.0kΩ	0.1kΩ			
6.000MΩ	0.001MΩ			
60.00MΩ	0.01MΩ	±(2.5%rdg+10dgt)		

## FREQUENCY (Electrical circuits)

Range	Resolution	Accuracy	Sensitivity	Overload protection
40Hz ÷ 10kHz	0.01Hz ÷ 0.001kHz	±(0.5%rdg)	2Vrms	1000VDC/ACrms

## FREQUENCY (Electronic circuits)

Range	Resolution	Accuracy	Sensitivity	Overload protection
60.00Hz	0.01Hz	±(0.09%rdg+5dgt)	2Vrms min (20% < duty < 80%, <100kHz) 5Vrms min (20% < duty < 80%, >100kHz)	1000VDC/ACrms
600.0Hz	0.1Hz			
6.000kHz	0.001kHz			
60.00kHz	0.01kHz			
600.0kHz	0.1kHz			
1.000MHz	0.001MHz			

## DUTY CYCLE

Range	Resolution	Accuracy	Overload protection
0.1 ÷ 99.9%	0.01%	±(1.2%rdg+2dgt)	1000VDC/ACrms

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

## CAPACITANCE

Range	Resolution	Accuracy	Overload protection
60.00nF	0.01nF	±(1.5%rdg+20dgt)	1000VDC/ACrms
600.0nF	0.1nF	±(1.2%rdg+8dgt)	
6.000μF	0.001μF	±(1.5%rdg+8dgt)	
60.00μF	0.01μF	±(1.2%rdg+8dgt)	
600.0μF	0.1μF	±(1.5%rdg+8dgt)	
6.000mF	0.001mF	±(2.5%rdg+20dgt)	

## TEMPERATURE WITH TYPE K PROBEK

Range	Resolution	Accuracy (*)	Overload protection
-40.0°C ÷ 600.0°C	0.1°C	±(1.5%rdg+3°C)	1000VDC/ACrms
600°C ÷ 1350°C	1°C		
-40.0°F ÷ 600.0°F	0.1°F	±(1.5%rdg+5.4°F)	
600°F ÷ 2462°F	1°F		

(\*) Accuracy referred to instrument without probe



## 2. GENERAL SPECIFICATIONS

### Display:

- TFT LCD, colours, 4½ dgt, 6000 counts, decimal point and bargraph
- Automatic polarity indication
- Backlight
- "OL" over range indication
- Response time: 3/s
- Conversion: TRMS

### Features:

- Data HOLD
- MAX/MIN/AVG
- PEAK (Voltage and Current) ; AC+DC feature
- Data Logger and Graph of measured parameters
- Internal memory for measurements, graphs and recordings
- Icons internal menu
- REL
- DC 4-20mA% current readings

### Memory:

- Measures: max 2000 snapshots; Graphs: max 50 ; Recordings: max 128 of 20000 points

### Power supply:

- 1 x 7.2V Li-ION rechargeable battery
- Battery life: ca 15 hours
- Adapter battery charger: 100/240VAC, 50/60Hz, 10VDC, 1A
- Auto Power OFF programmable up to 60min of idleness

### Environmental conditions:

- Operating Temperature/Humidity: 5°C ÷ 40°C, <80%RH
- Storage Temperature/Humidity: -20°C ÷ 60°C, <50%RH
- Altitude max of use: 2000m

### Mechanica specifications

- Dimensions (L x W x H): 175 x 85 x 55mm
- Weight (included battery): 400g
- Mechanical protection: IP40

### Reference guidelines:

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

**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)**