



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 | $\pm(0.09\% \text{rdg} + 5 \text{dgt})$ | >10M Ω | 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 | |
| 6.000V | 0.001V | $\pm(0.8\% \text{rdg} + 5 \text{dgt})$ | $\pm(2.4\% \text{rdg} + 5 \text{dgt})$ | 1000VDC/ACrms |
| 60.00V | 0.01V | | | |
| 600.0V | 0.1V | | | |
| 1000V | 1V | | | |

(*) Accuracy specified from 5% to 100% of measurement range and sinusoidal waveform ; Input impedance: >9M Ω Accuracy PEAK function: $\pm 10\% \text{rdg}$, PEAK response time: 1msFor not sinusoidal waveforms the accuracy is: $\pm(10\% \text{rdg} + 10 \text{dgt})$

NCV sensor for AC voltage detection: LEN on for phase-PE voltage within 100V and 1000V, 50/60Hz

AC+DC TRMS VOLTAGE

| Range | Resolution | Accuracy (*) 50Hz ÷ 1kHz | Input impedance | Overload protection |
|--------|------------|---|-----------------|---------------------|
| 6.000V | 0.001V | $\pm(2.4\% \text{rdg} + 20 \text{dgt})$ | >10M Ω | 1000VDC/ACrms |
| 60.00V | 0.01V | | | |
| 600.0V | 0.1V | | | |
| 1000V | 1V | | | |

DC CURRENT

| Range | Resolution | Accuracy | Overload protection |
|---------------|-------------|--|--|
| 600.0 μ A | 0.1 μ A | $\pm(0.9\% \text{rdg} + 5 \text{dgt})$ | Fast Fuse 800mA/1kV (inputs mA, μ A) |
| 6000 μ A | 1 μ A | | |
| 60.00mA | 0.01mA | | |
| 600.0mA | 0.1mA | $\pm(0.9\% \text{rdg} + 8 \text{dgt})$ | Fast Fuse 10A/1kV (input 10A) |
| 10.00A | 0.01A | $\pm(1.5\% \text{rdg} + 8 \text{dgt})$ | |

AC TRMS CURRENT

| Range | Resolution | Accuracy (*) (50Hz ÷ 1kHz) | Overload protection |
|---------------|-------------|--|--|
| 600.0 μ A | 0.1 μ A | $\pm(1.2\% \text{rdg} + 5 \text{dgt})$ | Fast Fuse 800mA/1kV (inputs mA, μ A) |
| 6000 μ A | 1 μ A | | |
| 60.00mA | 0.01mA | | |
| 600.0mA | 0.1mA | | |
| 10.00A | 0.01A | $\pm(1.5\% \text{rdg} + 5 \text{dgt})$ | Fast Fuse 10A/1kV (input 10A) |

(*) Accuracy specified from 5% to 100% of measurement range and sinusoidal waveform

Accuracy PEAK function: $\pm 10\% \text{rdg}$, PEAK response time: 1ms;For not sinusoidal waveforms the accuracy is: $\pm(10\% \text{rdg} + 10 \text{dgt})$ AC+DC TRMS Current: accuracy (50Hz÷1kHz): $\pm(3.0\% \text{reading} + 20 \text{dgt})$



DC CURRENT WITH STANDARD TRANSDUCERS CLAMPS

| Range | Output ratio | Resolution | Accuracy (*) | Overload protection |
|-----------|---------------|------------|-------------------|---------------------|
| 1000mA | 1000mV/1000mA | 1mA | ±(0.8%rdg + 5dgt) | 1000VDC/ACrms |
| 10A | 100mV/1A | 0.01A | | |
| 40A (**) | 10mV/1A | 0.01A | | |
| 100A | 10mV/1A | 0.1A | | |
| 400A (**) | 1mV/1A | 0.1A | | |
| 1000A | 1mV/1A | 1A | | |

(*) Accuracy of the only instrument without clamp; (**) With transducer clamp HT4006

AC, AC+DC TRMS CURRENT WITH STANDARD TRANSDUCERS CLAMPS

| Range | Output ratio | Resolution | Accuracy (*) | | Overload protection |
|-----------|--------------|------------|-------------------|-----------------|---------------------|
| | | | (50Hz ÷ 60Hz) | (61Hz ÷ 1kHz) | |
| 1000mA | 1V/1mA | 1mA | ±(0.8%rdg + 5dgt) | ±(2.4%rdg+5dgt) | 1000VDC/ACrms |
| 10A | 100mV/1A | 0.01A | | | |
| 40A (**) | 10mV/1A | 0.01A | | | |
| 100A | 10mV/1A | 0.1A | | | |
| 400A (**) | 1mV/1A | 0.1A | | | |
| 1000A | 1mV/1A | 1A | | | |

(*) Accuracy of the only instrument without clamp; (**) With transducer clamp HT4006

AC TRMS CURRENT WITH FLEXIBLE CLAMP (F3000U)

| Range | Output ratio | Resolution | Accuracy (*) | | Overload protection |
|-------|--------------|------------|-----------------|-----------------|---------------------|
| | | | (50Hz ÷ 60Hz) | (61Hz ÷ 1kHz) | |
| 30A | 100mV/1A | 0.01A | ±(0.8%rdg+5dgt) | ±(2.4%rdg+5dgt) | 1000VDC/ACrms |
| 300A | 10mV/1A | 0.1A | | | |
| 3000A | 1mV/1A | 1A | | | |

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

DIODE TEST

| Range | Test current | Open voltage |
|-------|--------------|--------------|
| | <1.5mA | 3.3VDC |

FREQUENCY (Electrical circuits)

| Range | Resolution | Accuracy | Overload protection |
|-----------------|-------------------|----------|---------------------|
| 40.00Hz ÷ 10kHz | 0.01Hz ÷ 0.001kHz | ±0.5%rdg | 1000VDC/ACrms |

Sensitivity: 2Vrms

FREQUENCY (Electronic circuits)

| Range | Resolution | Accuracy | Overload protection |
|----------|------------|------------------|---------------------|
| 60.00Hz | 0.01Hz | ±(0.09%rdg+5dgt) | 1000VDC/ACrms |
| 600.0Hz | 0.1Hz | | |
| 6.000kHz | 0.001kHz | | |
| 60.00kHz | 0.01kHz | | |
| 600.0kHz | 0.1kHz | | |
| 1.000MHz | 0.001MHz | | |
| 10.00MHz | 0.01MHz | | |

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

**DUTY CYCLE**

| Range | Resolution | Accuracy | Overload protection |
|--------------|------------|----------------------|---------------------|
| 5.0% ÷ 95.0% | 0.1% | $\pm(1.2\%rdg+2dgt)$ | 1000VDC/ACrms |

Pulse frequency range: 40Hz ÷ 10kHz, Impulse amplitude: $\pm 5V$ (100 μ s ÷ 100ms)**RESISTANCE AND CONTINUITY TEST**

| Range | Resolution | Accuracy | Buzzer | Overload protection |
|-----------------|-----------------|-----------------------|--------------|---------------------|
| 600.0 Ω | 0.1 Ω | $\pm(0.5\%rdg+10dgt)$ | <50 Ω | 1000VDC/ACrms |
| 6.000k Ω | 0.001k Ω | $\pm(0.5\%rdg+5dgt)$ | | |
| 60.00k Ω | 0.01k Ω | | | |
| 600.0k Ω | 0.1k Ω | | | |
| 6.000M Ω | 0.001M Ω | | | |
| 60.00M Ω | 0.01M Ω | $\pm(2.5\%rdg+10dgt)$ | | |

CAPACITANCE

| Range | Resolution | Accuracy | Overload protection |
|---------------|---------------|-------------------------|---------------------|
| 60.00nF | 0.01nF | $\pm(1.5\%rdg + 20dgt)$ | 1000VDC/ACrms |
| 600.0nF | 0.1nF | $\pm(1.2\%rdg + 8dgt)$ | |
| 6.000 μ F | 0.001 μ F | $\pm(1.5\%rdg + 8dgt)$ | |
| 60.00 μ F | 0.01 μ F | $\pm(1.2\%rdg + 8dgt)$ | |
| 600.0 μ F | 0.1 μ F | $\pm(1.5\%rdg + 8dgt)$ | |
| 6000uF | 1uF | $\pm(2.5\%rdg + 20dgt)$ | |

TEMPERATURE WITH TYPE K PROBE

| Range | Resolution | Accuracy (*) | Overload protection |
|----------------|------------|------------------------------|---------------------|
| -40°C ÷ 600°C | 0.1°C | $\pm(1.5\%rdg+3^{\circ}C)$ | 1000VDC/ACrms |
| 600°C ÷ 1000°C | 1°C | | |
| -40°F ÷ 600°F | 0.1°F | $\pm(1.5\%rdg+5.4^{\circ}F)$ | |
| 600°F ÷ 1800°F | 1°F | | |

(*) Accuracy referred to instrument without probe

Specified accuracy with stable environmental temperature at $\pm 1^{\circ}C$, For long-lasting measurements, reading increases by 2°C**INFRARED TEMPERATURE**

| | |
|----------------------------|--|
| Detector type | UFPA (80x80pxl, 34 μ m) |
| Spectral range | 8 ÷ 14 μ m |
| Field of View (FOV) / Lens | 21° x 21° / 7.5mm |
| I FOV (@1m) | 4.53mrad |
| Thermal sensitivity | <0.1 °C @ 30°C (86°F) / 100mK |
| Focusing | Automatic |
| Minimum focal distance | 0.5m |
| Image frequency | 50Hz |
| Temperature unit | °C, °F, K |
| Colour palettes | 4 (Iron, Rainbow, Grey, Grey Inverted) |
| Laser beam | Class 2 according with IEC 60825-1 |
| Integrated illuminator | White LED light |
| Emissivity correction | 0.01 ÷ 1.00 |
| Measurement cursors | 3 (Fixed, Max, Min) |
| Temperature range | -20°C ÷ 260°C (-4°F ÷ 500°F) |
| Accuracy | $\pm 3^{\circ}C(5.4^{\circ}F)$ or $\pm 3\%rdg$ (@ env temp: 10°C ÷ 35°C, object temp >0°C) |



3. GENERAL SPECIFICATIONS

Display:

- Colour TFT, 6000 counts, sign, decimal point and bargraph
- Automatic polarity indication
- "OL" over range indication
- Response time: 3/s
- Conversion: TRMS

Features:

- Data HOLD
- MAX/MIN/PEAK (1ms)
- RANGE
- REL
- DATA LOGGER (internal memory): max 16 recordings, sample interval: 1s ÷ 15min, recording duration max 10 hours
- Fuse protection: F10A/1000V, 10 x 38mm (input **10A**), F800mA/1000V, 6 x 32mm (input **mA μ A**)
- Laser beam
- White LED illuminator
- MEMORY: saved screenshots/pics in a micro SD card, BMP format, ca 23kscreenshots (@ 8GB card)
- Bluetooth connection (BLE 4.0) for connection to mobile devices (by means **HTMercury APP**)
- Auto Power OFF after 15, 30, 60min of idleness (disable)

Environmental conditions:

- Operating Temperature/Humidity: 5°C ÷ 40°C (41°F ÷ 104°F), <80%RH
- Storage Temperature/Humidity: -20°C ÷ 60°C (-4°F ÷ 140°F), <80%RH

General informations:

- Altitude max of use: 2000m
- Pollution degree: 2
- Insulation: double insulation

Mains supply:

- 1x7.4V rechargeable Li-ION battery, 1500mAh
- Battery rechargeable adapter: 100/240VAC, 50/60Hz, 12VDC, 3A
- Recharging time: ca 2 hours
- Battery life: ca 8hours (Bluetooth inactive), ca 7hours (Bluetooth active)

Mechanical specifications

- Dimensions ((L x W x H): 190 x 75 x 55mm
- Weight (included battery) : 555g
- Mechanical protection : IP65

Reference guidelines:

- Safety : IEC/EN61010-1
- EMC : IEC/EN61326-1
- 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)