



## 1. ELECTRICAL SPECIFICATIONS

Accuracy is indicated as  $\pm[\% \text{ reading} + (\text{number of dgt} * \text{resolution})]$  at  $23^{\circ}\text{C} \pm 5^{\circ}\text{C}, < 80\% \text{RH}$

### DC VOLTAGE

| Range   | Resolution | Accuracy                               | Input impedance | Overload protection |
|---------|------------|--|-----------------|---------------------|
| 400.0mV | 0.1mV      | $\pm(2.0\% \text{rdg} + 8 \text{dgt})$ | 10M $\Omega$    | 600VDC/ACrms        |
| 4.000V  | 0.001V     | $\pm(2.0\% \text{rdg} + 3 \text{dgt})$ |                 |                     |
| 40.00V  | 0.01V      |  |                 |                     |
| 400.0V  | 0.1V       |  |                 |                     |
| 600V    | 1V         | $\pm(1.2\% \text{rdg} + 3 \text{dgt})$ |                 |                     |

### AC TRMS VOLTAGE

| Range  | Resolution | Accuracy<br>(50Hz ÷ 400Hz)             | Input impedance | Overload protection |
|--------|------------|--|-----------------|---------------------|
| 4.000V | 0.001V     | $\pm(2.0\% \text{rdg} + 5 \text{dgt})$ | 10M $\Omega$    | 600VDC/ACrms        |
| 40.00V | 0.01V      | $\pm(1.5\% \text{rdg} + 3 \text{dgt})$ |                 |                     |
| 400.0V | 0.1V       |  |                 |                     |
| 600V   | 1V         | $\pm(2.0\% \text{rdg} + 4 \text{dgt})$ |                 |                     |

### DC CURRENT

| Range         | Resolution  | Accuracy                               | Overload protection  |
|---------------|-------------|--|----------------------|
| 400.0 $\mu$ A | 0.1 $\mu$ A | $\pm(1.5\% \text{rdg} + 3 \text{dgt})$ | Fast fuse 500mA/600V |
| 4000 $\mu$ A  | 1 $\mu$ A   |  |                      |
| 40.00mA       | 0.01mA      |  |                      |
| 400.0mA       | 0.1mA       |  |                      |
| 4.000A        | 0.001A      | $\pm(2.5\% \text{rdg} + 5 \text{dgt})$ | Fast fuse 10A/600V   |
| 10.00A        | 0.01A       |  |                      |

### AC TRMS CURRENT

| Range         | Resolution  | Accuracy<br>(50Hz ÷ 400Hz)             | Overload protection  |
|---------------|-------------|--|----------------------|
| 400.0 $\mu$ A | 0.1 $\mu$ A | $\pm(2.0\% \text{rdg} + 5 \text{dgt})$ | Fast fuse 500mA/600V |
| 4000 $\mu$ A  | 1 $\mu$ A   | $\pm(2.5\% \text{rdg} + 5 \text{dgt})$ |                      |
| 40.00mA       | 0.01mA      |  |                      |
| 400.0mA       | 0.1mA       |  |                      |
| 4.000A        | 0.001A      | $\pm(3.0\% \text{rdg} + 7 \text{dgt})$ | Fast fuse 10A/600V   |
| 10.00A        | 0.01A       |  |                      |

(\*) Accuracy referred to sinusoidal waveform. For not sinusoidal waveforms the accuracy is  $\pm(10.0\% \text{rdg} + 5 \text{dgt})$

### RESISTANCE AND CONTINUITY TEST

| Range           | Resolution      | Accuracy                               | Buzzer       | Overload protection |
|-----------------|-----------------|--|--------------|---------------------|
| 400.0 $\Omega$  | 0.1 $\Omega$    | $\pm(1.0\% \text{rdg} + 4 \text{dgt})$ | <50 $\Omega$ | 250VDC/ACrms        |
| 4.000k $\Omega$ | 0.001k $\Omega$ | $\pm(1.5\% \text{rdg} + 5 \text{dgt})$ |              |                     |
| 40.00k $\Omega$ | 0.01k $\Omega$  |  |              |                     |
| 400.0k $\Omega$ | 0.1k $\Omega$   |  |              |                     |
| 4.000M $\Omega$ | 0.001M $\Omega$ |  |              |                     |
| 40.00M $\Omega$ | 0.01M $\Omega$  |  |              |                     |



### DIODE TEST

| Function | Max open voltage | Overload protection |
|----------|------------------|---------------------|
|          | 3VDC             | 250VDC/ACrms        |

### FREQUENCY

| Range    | Resolution | Accuracy             | Sensitivity | Overload protection |
|----------|------------|----------------------|-------------|---------------------|
| 9.999Hz  | 0.001Hz    | $\pm(1.5\%rdg+5dgt)$ | >8Vrms      | 250VDC/ACrms        |
| 99.99Hz  | 0.01Hz     |                      |             |                     |
| 999.9Hz  | 0.1Hz      | $\pm(1.2\%rdg+3dgt)$ |             |                     |
| 9.999kHz | 0.001kHz   |                      |             |                     |

### DUTY CYCLE

| Range       | Resolution | Accuracy               | Sensitivity | Overload protection |
|-------------|------------|------------------------|-------------|---------------------|
| 0.1 – 99.9% | 0.1%       | $\pm(1.2\%rdg + 2dgt)$ | >8Vrms      | 250VDC/ACrms        |

100 $\mu$ s < impulse duration < 100ms ; Frequency range: 5Hz ÷ 150Hz

### CAPACITANCE

| Range         | Resolution    | Accuracy              | Overload protection |
|---------------|---------------|-----------------------|---------------------|
| 40.00nF       | 0.01nF        | $\pm(5.0\%rdg+35dgt)$ | 250VDC/ACrms        |
| 400.0nF       | 0.1nF         | $\pm(3.0\%rdg+5dgt)$  |                     |
| 4.000 $\mu$ F | 0.001 $\mu$ F |                       |                     |
| 40.00 $\mu$ F | 0.01 $\mu$ F  | $\pm(4.0\%rdg+5dgt)$  |                     |
| 400.0 $\mu$ F | 0.1 $\mu$ F   |                       |                     |
| 4000 $\mu$ F  | 1 $\mu$ F     | $\pm(5.0\%rdg+5dgt)$  |                     |

### TEMPERATURE WITH TYPE K PROBE

| Range             | Resolution | Accuracy (*)               | Overload protection |
|-------------------|------------|----------------------------|---------------------|
| -20.0°C ÷ 760.0°C | 0.1°C      | $\pm(3.0\%rdg+5^{\circ}C)$ | 250VDC/ACrms        |
| -4.0°F ÷ 1400.0°F | 0.1°F      | $\pm(3.0\%rdg+9^{\circ}F)$ |                     |

(\*) Accuracy of only instrument without probe



## 2. GENERAL SPECIFICATIONS

### Display:

- LCD, 3  $\frac{3}{4}$  dgt, 4000 points plus sign and decimal point
- Sampling rate: 2 times/s
- Automatic polarity indication
- Backlight
- “OL” overrange indication
- Conversion: TRMS

### Features:

- Data HOLD, MAX/MIN

### Low battery indication:

- “” appears when the battery voltage is low

### Operating temperature:

- 5 °C to 50 °C, <80%RH

### Storage temperature:

- -20 °C to 60 °C, <80%RH

### General information:

- Max height of use: 2000m
- Pollution degree: 2
- Insulation: double insulation
- Mechanical protection: IP40

### Power supply:

- 1x9V battery NEDA 1604 IEC 6F22
- Auto Power OFF: after 15 min of idleness
- Protection fuses: fast 10A/600V, 5x20mm (**10A** input)  
fast 500mA/600V, 5x20mm (**mA $\mu$ A** input)

### Dimensions (L x W x H):

- 145 x 70 x 60mm

### Weight (included battery):

- 240g

### Reference guidelines:

- Safety : IEC/EN61010-1
- EMC: IEC/EN61326-1
- Measurement category: CAT III 600V 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)**