

## 1. ELECTRICAL SPECIFICATIONS

Uncertainty indicated as  $\pm$  [% readings + (no. of digits \* resolution)] at  $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , <60%HR

### Continuity test of earth conductors with 200mA

| Range ( $\Omega$ ) | Resolution ( $\Omega$ ) | Uncertainty (*)                          |
|--------------------|-------------------------|------------------------------------------|
| 0.01 $\div$ 9.99   | 0.01                    | $\pm(2.0\% \text{ rdg} + 2 \text{ dgt})$ |
| 10.0 $\div$ 99.9   | 0.1                     |                                          |

(\*) Considering calibration of test cables

Test current: > 200mA DC for  $R \leq 5\Omega$  (included calibration) ; Resolution of test current: 1mA

Open-circuit voltage:  $4\text{V} \leq V_0 \leq 12\text{V}$

### Continuity test of earth conductors with 10A

| Range ( $\Omega$ ) | Resolution ( $\Omega$ ) | Uncertainty                              |
|--------------------|-------------------------|------------------------------------------|
| 0.001 $\div$ 0.999 | 0.001                   | $\pm(1.0\% \text{ rdg} + 2 \text{ dgt})$ |

Test current: >10A AC for  $R \leq 0.45\Omega$

Resolution test current: 0.1A ; Open-circuit voltage: <12VAC

Measurement method: 4 wires

Power supply voltage: 230V AC / 50/60Hz

### Continuity test of earth conductors with 10A in compliance with IEC/EN60204-1:2006

| Range ( $\Omega$ ) | Resolution ( $\Omega$ ) | Uncertainty                              |
|--------------------|-------------------------|------------------------------------------|
| 0.001 $\div$ 0.999 | 0.001                   | $\pm(1.0\% \text{ rdg} + 2 \text{ dgt})$ |

Test current: >10A AC for  $R \leq 0.45\Omega$  ; Resolution test current: 0.1A ; Open-circuit voltage: <12VAC

Length measurement range: 0.1m  $\div$  999.9m

Selectable section: 0.5, 1, 1.5, 2.5, 4, 6, 10, 16mm<sup>2</sup> ; Copper resistivity: 0.017  $\Omega\text{mm}^2/\text{m}$

Measurement method: 4 wires

Power supply voltage: 230V AC / 50/60Hz

### Contact voltage Ut

| Range (V)                  | Resolution (V) | Uncertainty              |
|----------------------------|----------------|--------------------------|
| 0 $\div$ 2U <sub>lim</sub> | 0.1            | -0%, +(10.0% rdg + 3dgt) |

U<sub>lim</sub> (UI): 25V , 50V

### Frequency

| Range (Hz)       | Resolution (Hz) | Uncertainty                              |
|------------------|-----------------|------------------------------------------|
| 47.0 $\div$ 63.6 | 0.1             | $\pm(0.1\% \text{ rdg} + 1 \text{ dgt})$ |

The Loop measurement is active only for 50Hz  $\pm 0.5\text{Hz}$

### Voltage (LOOP, Phase Sequence)

| Range (V)     | Resolution (V) | Uncertainty                              |
|---------------|----------------|------------------------------------------|
| 15 $\div$ 460 | 1              | $\pm(3.0\% \text{ rdg} + 2 \text{ dgt})$ |

### Line Impedance (Phase-Phase, Phase-Neutral)

| Range ( $\Omega$ ) | Resolution ( $\Omega$ ) (*) | Uncertainty                              |
|--------------------|-----------------------------|------------------------------------------|
| 0.01 $\div$ 9.99   | 0.01                        | $\pm(5.0\% \text{ rdg} + 3 \text{ dgt})$ |
| 10.0 $\div$ 199.9  | 0.1                         |                                          |

(\*) 0.1 m $\Omega$  on range 0.0  $\div$  199.9 m $\Omega$  (with IMP57 optional accessory)

Maximum peak current: 3.65A (at 127V); 6.64A (at 230V); 11.5A (at 400V)

Test voltage: 100 $\div$ 265V (Phase-Neutral) / 100 $\div$ 460V (Phase-Phase); 50Hz  $\pm 0.5\text{Hz}$

### Fault Loop Impedance (Phase-Ground)

| Range ( $\Omega$ ) | Resolution ( $\Omega$ ) (*) | Uncertainty                              |
|--------------------|-----------------------------|------------------------------------------|
| 0.01 $\div$ 9.99   | 0.01                        | $\pm(5.0\% \text{ rdg} + 3 \text{ dgt})$ |
| 10.0 $\div$ 199.9  | 0.1                         |                                          |
| 200 $\div$ 1999    | 1                           |                                          |

(\*) 0.1 m $\Omega$  on range 0.0  $\div$  199.9 m $\Omega$  (with IMP57 optional accessory)

Maximum peak current: 3.65A (at 127V); 6.64A (at 230V)

Test voltage: 100 $\div$ 265V (Phase-Ground); 50Hz  $\pm 0.5\text{Hz}$

### Fault Loop Resistance R<sub>A</sub> without RCDs tripping

| Range ( $\Omega$ ) | Resolution ( $\Omega$ ) | Uncertainty                              |
|--------------------|-------------------------|------------------------------------------|
| 1 $\div$ 1999      | 1                       | $\pm(5.0\% \text{ rdg} + 3 \text{ dgt})$ |

Test current: 15mA ; Phase-Ground voltage: 100  $\div$  265V 50Hz  $\pm 0.5\text{Hz}$



## 2. GENERAL SPECIFICATIONS

### REFERENCE GUIDELINES

|                                             |                                                                                              |
|---------------------------------------------|----------------------------------------------------------------------------------------------|
| Safety:                                     | IEC/ENEN61010-1                                                                              |
| Product type standard:                      | IEC/EN61557-1, 3, 4, 7                                                                       |
| Insulation:                                 | double insulation                                                                            |
| Pollution degree:                           | 2                                                                                            |
| Measurement category:                       | CAT II 600VAC (inputs) / 350VAC (to ground)<br>CAT III 600V AC (inputs) / 300VAC (to ground) |
| Continuity with 200mA:                      | IEC/EN61557-4                                                                                |
| Continuity with 10A:                        | IEC/EN60439-1                                                                                |
| Continuity with 10A (LOW $\Omega$ 10E60204) | IEC/EN60204-1:2006                                                                           |
| Loop Impedance / Ra:                        | IEC/EN61557-3                                                                                |
| Phase sequence:                             | IEC/EN61557-7                                                                                |
| Max altitude of use:                        | 2000m                                                                                        |

### DISPLAY AND MEMORY:

|             |                           |
|-------------|---------------------------|
| Features:   | Dot matrix with backlight |
| Resolution: | 128x128 dots              |
| Memory:     | 999 measures              |

### POWER SUPPLY:

|                     |                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------|
| Batteries:          | 6x1.5V alkaline batteries type LR6 AA AM3 MN1500                                                             |
| Battery life:       | LOW $\Omega$ : > 80 test<br>LOOP:>1000test; Ra $\frac{1}{\equiv}$ :>1000 test<br>Phase sequence: > 1000 test |
| Mains power supply: | 230V- 50Hz (Continuity 10A features only)                                                                    |

### MECHANICAL FEATURES:

|                              |               |
|------------------------------|---------------|
| Dimensions (L x W x H):      | 225x165x105mm |
| Weight (included batteries): | 1.7kg         |

### WORKING ENVIRONMENTAL CONDITIONS:

|                            |                 |
|----------------------------|-----------------|
| Reference temperature:     | 23°C $\pm$ 5°C  |
| Working temperature:       | 0° $\div$ 40°C  |
| Allowed relative humidity: | < 80% HR        |
| Storage temperature:       | -10 $\div$ 60°C |
| Storage humidity:          | < 80% HR        |

**This instrument complies with the requirements of the European Low Voltage Directives 2006/95/EEC (LVD) and EMC 2004/108/EEC**