

**1. ELECTRICAL SPECIFICATIONS****RCDs tripping time**

| Range (ms)                               | Resolution (ms) | Accuracy                 | Category of measure                                   |
|------------------------------------------|-----------------|--------------------------|-------------------------------------------------------|
| $\frac{1}{2} I_{\Delta N}, I_{\Delta N}$ | 1 ÷ 999         | $\pm(2.0\%rdg + 2\ dgt)$ | CAT III 240V to Ground<br>CAT III 415V between inputs |
| 2 $I_{\Delta N}$                         | 1÷200 general   |                          |                                                       |
|                                          | 1÷250 selective |                          |                                                       |
| 5 $I_{\Delta N}$                         | 1÷ 50 general   |                          |                                                       |
|                                          | 1÷160 selective |                          |                                                       |

Nominal trip-out current:

10mA, 30mA, 100mA, 300mA, 500mA, 650mA, 1000mA

RCD type:

AC, A, general and selective

Phase-ground voltage:

(110V ÷ 240V)  $\pm 10\%$ 

Frequency:

50Hz  $\pm 0.5$ Hz, 60Hz  $\pm 0.5$ Hz

Voltage contact limits:

25V or 50V

**RCDs tripping current (general, AC and A types)**

| RCD's type | $I_{\Delta N}$           | Range $I_{\Delta N}$ (mA)     | Resolution (mA)    | Accuracy   | Category of measure                                   |
|------------|--------------------------|-------------------------------|--------------------|------------|-------------------------------------------------------|
| AC         | $I_{\Delta N} \leq 10mA$ | $(0.5 \div 1.1) I_{\Delta N}$ | 0.1 $I_{\Delta N}$ | 0%,+10%rdg | CAT III 240V to Ground<br>CAT III 415V between inputs |
| A          |                          | $(0.3 \div 1.1) I_{\Delta N}$ |                    |            |                                                       |
| AC         | $I_{\Delta N} > 10mA$    | $(0.5 \div 1.1) I_{\Delta N}$ |                    |            |                                                       |
| A          |                          | $(0.3 \div 1.1) I_{\Delta N}$ |                    |            |                                                       |

**Global Earth Resistance  $R_A$  without RCD's tripping**

| Range ( $\Omega$ ) | Resolution (V) | Accuracy                | Category of measure                                   |
|--------------------|----------------|-------------------------|-------------------------------------------------------|
| 1 ÷ 1999           | 1              | $\pm (5.0\%rdg + 3dgt)$ | CAT III 240V to Ground<br>CAT III 415V between inputs |

RCD type:

AC, A, general and selective

Range contact voltage  $U_t$ :0 ÷ 2 $U_{lim}$ , resolution: 0.1V, accuracy: -0%, +(5%rdg + 3dgt)

Test current:

<  $\frac{1}{2} I_{dn}$ , accuracy: -10%, +0%  $I_{dn}$ **Loop impedance P-P, P-N, P-PE TT/TN systems**

| Range ( $\Omega$ )     | Resolution ( $\Omega$ ) (*) | Accuracy               | Category of measure                                   |
|------------------------|-----------------------------|------------------------|-------------------------------------------------------|
| 0.01 ÷ 9.99            | 0.01                        | $\pm(5.0\%rdg + 3dgt)$ | CAT III 240V to Ground<br>CAT III 415V between inputs |
| 10.0 ÷ 199.9           | 0.1                         |                        |                                                       |
| 200 ÷ 1999 (only P-PE) | 1                           |                        |                                                       |

(\*) 0.1m $\Omega$  in 0.0 ÷ 199.9 m $\Omega$  range (with option accessory IMP57)

Maximum peak current:

3A @ 127V, 6A @ 230V, 10A @ 400V

Test voltage:

(110÷240V)  $\pm 10\%$  (P-N, P-PE); 50Hz  $\pm 0.5$ Hz, 60Hz  $\pm 0.5$ Hz(110÷415V)  $\pm 10\%$  (P-P); 50Hz  $\pm 0.5$ Hz, 60Hz  $\pm 0.5$ Hz**Loop impedance P-P, P-N, P-PE - First fault current IT systems**

| Range (mA) | Resolution (mA) | Accuracy               | Category of measure                                   |
|------------|-----------------|------------------------|-------------------------------------------------------|
| 5 ÷ 999    | 1               | $\pm(5.0\%rdg + 3dgt)$ | CAT III 240V to Ground<br>CAT III 415V between inputs |

 $U_{lim}$  (UI): 25V, 50V**Global Earth Resistance  $R_A$** 

| Range ( $\Omega$ )     | Resolution ( $\Omega$ ) | Accuracy                    | Category of measure                                   |
|------------------------|-------------------------|-----------------------------|-------------------------------------------------------|
| 0.01 ÷ 9.99            | 0.01                    | $\pm(5.0\%rdg + 1.0\Omega)$ | CAT III 240V to Ground<br>CAT III 415V between inputs |
| 10.0 ÷ 199.9           | 0.1                     |                             |                                                       |
| 200 ÷ 1999 (solo F-PE) | 1                       |                             |                                                       |

Test current @ 265V:

&lt;15 mA

Test voltage:

(110÷240V)  $\pm 10\%$  (phase-neutral/PE); 50Hz  $\pm 0.5$ Hz, 60Hz  $\pm 0.5$ Hz $U_{lim}$  (UI): 25V, 50V**Phase sequence with 1 or 2 wires**

| Range (V)                 | Results displayed                                                                           | Category of measure                                   |
|---------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------|
| $(100 \div 240) \pm 10\%$ | "123" → correct phase sequence<br>"132" → wrong phase sequence<br>"11-" → phase coincidence | CAT III 240V to Ground<br>CAT III 415V between inputs |

The instrument detects the phase sequence by touching the hot wire. The detection is not performed on insulated cables.

Frequency:

50Hz  $\pm 0.5$ Hz, 60Hz  $\pm 0.5$ Hz



## 2. GENERAL SPECIFICATIONS

### MECHANICAL FEATURES

|                              |                  |
|------------------------------|------------------|
| Dimensions (L x W x H):      | 235 x 165 x 75mm |
| Weight (batteries included): | 1.2kg            |

### MEMORY AND SERIAL INTERFACE

|                                |               |
|--------------------------------|---------------|
| Each measurement can be stored |               |
| Memory:                        | 500 locations |
| PC communication port:         | optical / USB |

### DISPLAY:

|           |                            |
|-----------|----------------------------|
| Features: | graphic LCD with backlight |
|-----------|----------------------------|

### POWER SUPPLY:

|               |                                              |
|---------------|----------------------------------------------|
| Batteries:    | 6x 1.5V type LR6, AA, AM3, MN 1500           |
| Battery life: | > 600 measurements (without using the timer) |

### ENVIRONMENTAL CONDITIONS:

|                                               |            |
|-----------------------------------------------|------------|
| Reference temperature of calibration:         | 23°C ± 5°C |
| Working temperature:                          | 0° ÷ 40°C  |
| Working humidity:                             | < 80%HR    |
| Storage temperature (batteries not included): | -10 ÷ 60°C |
| Storage humidity:                             | < 80%HR    |

### GENERAL REFERENCE STANDARDS:

|                        |                                                  |
|------------------------|--------------------------------------------------|
| Safety:                | IEC/EN61010-1, IEC/EN61557-1, -2, -3, -4, -6, -7 |
| Technical literature:  | IEC/EN61187                                      |
| Safety of accessories: | IEC/EN61010-031, IEC/EN61010-2-032               |
| RCD:                   | IEC/EN61557-6                                    |
| LOOP P-P, P-N, P-PE:   | IEC/EN61557-3                                    |
| Ra 15 <sub>mA</sub>    | IEC/EN61557-3                                    |
| 123:                   | IEC/EN61557-7                                    |
| Insulation:            | double insulation                                |
| Pollution degree:      | 2                                                |
| Max altitude:          | 2000m                                            |
| Overvoltage category:  | CAT III 240V to ground, max 415V among inputs    |

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