



## Protective Earth Resistance Meter RMO60E

- Lightweight - only 7,5 kg
- Powerful 10 A – 60 A DC
- Measuring range 100  $\mu\Omega$  – 999,9 m $\Omega$
- Resolution to 1  $\mu\Omega$
- SINGLE / CONTIN Mode
- Mechanical protection IP54



### Protective earth resistance meter

#### Description

RMO60E is ideal for testing the protective bonding (grounding) of equipment following the standard 61010-1 IEC 2001. This standard specifies for plug connected equipment and for permanently connected equipment the following requirements:

The protective earth resistance should be below 0,1  $\Omega$  or voltage between the protective conductor terminal and each accessible conductive part for which protective bonding is required not to exceed 10 V.

Conformity is checked by applying a test current for 1 minute and then calculating impedance, or measuring the voltage between the protective conductor terminal and each accessible conductive part for which protective bonding is required.

The test current should be greater of 25 A or twice the rated current for plug connected equipment, or twice the value of the overcurrent protection for the permanently connected equipment.

For both of these applications RMO60E can provide the right tool for verification of the conformity. Applying current up to the value of 60 A and the ability of RMO60E to provide in the Cont menu (continuous operation) test current for the preset test duration (equal or exceeding 1 minute) - gives an user possibility to easily check the protective bonding/grounding of the equipment. The full load voltage of 12 V assures that the measurement is executed properly and that the result obtained (pass fail classification) is accurate.

RMO60E generates true DC current with automatically regulated test ramps. During the test RMO60E ramps with increasing current before measuring and decreasing current after the measurement. This eliminates magnetic transients. After the test current has been set, the automatic test procedure is started by pressing the  $\Omega$ -button.

The RMO60E instrument can store up to 100 measurements. All measurements are time and date stamped. Using RMOWin software a test can be performed from a PC, and the results can be obtained directly at a PC. Communication between RMO60E and PC is through USB or RS232 cable. Using RMOWin the result can be arranged as an Excel spreadsheet which can be later shown as a diagram and printed for a report.

The set is equipped with thermal and overcurrent protection. The RMO60E has very high ability to cancel electrostatic and electromagnetic interference in HV electric fields. It is achieved by very efficient filtration. The filtration is made utilizing proprietary hardware and software.

### Output Ratings

The full output is available from the RMO60E at 230 V or 115 V Mains Supply.

Supply Voltage	Output Current	Full Load Voltage
230 V AC	60 A DC smoothed	12,0 V DC
115 V AC	60 A DC smoothed	12,0 V DC

Output current is filtered and has a ripple of less than 1 %.

### CONTIN Mode

RMO60E can generate DC current continuously using the CONTIN menu. In this menu the current can be chosen the same way like in the SINGLE menu, but the duration of the test can be preset. The test is started pressing the  $\Omega$ -button. During the test, a new result is shown on the display and stored into the PC (RMOWin) each second. Using RMOWin the result can be arranged as an Excel spreadsheet which can be later shown as a diagram and printed for a report.

### Application

Typical application is measuring of protective earth resistance of equipment in compliance with IEC 61010-1 safety standard. Other applications are:

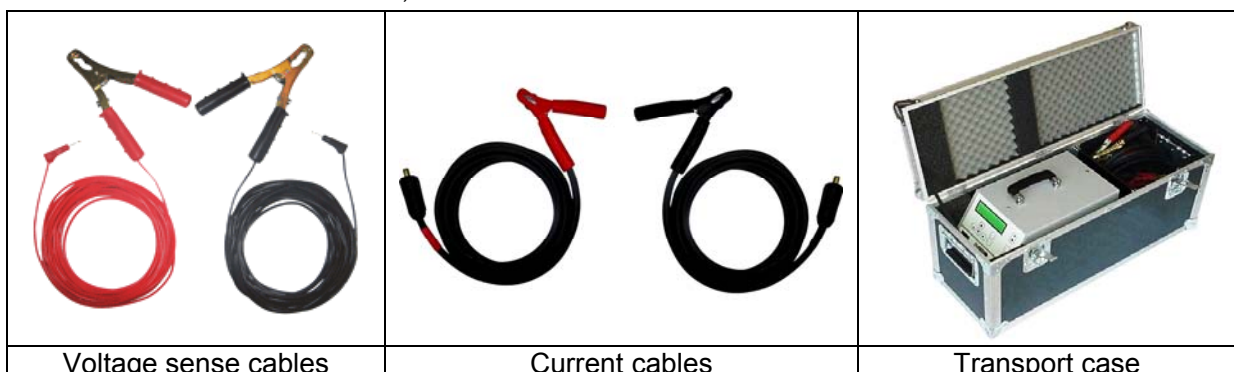
- ✓ High, middle and low voltage circuit breakers
- ✓ High, middle and low voltage disconnecting switches
- ✓ High-current bus bar joints
- ✓ Cable splices

### Standard accessories

- ✓ Current cables 2 x 5 m 10 mm<sup>2</sup>
- ✓ Sense cables 2 x 5 m 2,5 mm<sup>2</sup>
- ✓ RMOWin PC software
- ✓ Mains power cable
- ✓ Ground (PE) cable
- ✓ Transport bags

### Optional accessories

- ✓ Built-in thermal printer
- ✓ Transport case
- ✓ Test shunt 75 A/150 mV
- ✓ Current cables 2 x 10 m 10 mm<sup>2</sup>
- ✓ Sense cables 2 x 10 m 2,5 mm<sup>2</sup>



## Technical data

### 1 - Mains Power Supply

- Connection according to IEC/EN60320-1; UL498, CSA 22.2
- Mains supply from 90 V to 264 V AC; 50 - 60 Hz

### 2 - Output data

- Test current 10 A – 60 A DC
- Measuring range / Resolution
  - 100  $\mu\Omega$  - 999  $\mu\Omega$  1  $\mu\Omega$
  - 1,000 m $\Omega$  - 9,999 m $\Omega$  10  $\mu\Omega$
  - 10,00 m $\Omega$  - 99,99 m $\Omega$  100  $\mu\Omega$
  - 100,0 m $\Omega$  - 999,9 m $\Omega$  1 m $\Omega$
- Typical accuracy  $\pm$  (0,2 % rdg + 0,2 % FS)

### 3 - Environment conditions

- Operating temperature - 10 °C - + 50 °C / 14 °F - + 122 °F
- Storage and transportation - 25 °C - + 70 °C / - 13 °F - + 158 °F
- Humidity 5 % - 95 % relative humidity, non condensing

### 4 - Dimensions and Weight

- Dimensions 198 mm x 255 mm x 380 mm  
7,8 in x 10 in x 15 in  
(W x H x D) without handle
- Weight 7,5 kg/16,5 lb
- Mechanical protection IP54

### 5 - Safety Standards

- European standards EN 61010-1  
LVD 73/23/EEC
- International standards IEC 61010-1  
UL 3111-1  
CAN/CSA-C22.2 No 1010.1-92

### 6 – Electromagnetic Compatibility (EMC)

- CE conformity EMC standard 89/336/EEC
- Emission EN 50081-2, EN 61000-3-2/3
- Interference Immunity EN 50082-2

Specifications are subject to change without notice.

