



# Winding Ohmmeter & Tap Changer Test Set RMO100T



- Weight – 15,5 kg
- Test current 5 mA – 100 A DC
- Measuring range 0,1  $\mu\Omega$  - 2 k $\Omega$
- Two voltage sense channels
- Extremely quick measurement
- Automatic discharge circuit

## High DC current resistance meter for transformers & tap changer test set

### Description

The Winding Ohmmeter & Tap Changer Test Set RMO100T is designed for resistance measurement of inductive test objects. RMO100T generates true DC ripple free current. Both injection of current and discharge of energy from the inductance are automatically regulated.

RMO100T injects current with a voltage as high as 60 V. This ensures that the duration of test is as short as possible, and that the desired test current is reached faster. Two independent channels enable testing of two series windings, or primary and secondary windings. There is enough memory within RMO100T instrument to store 500 measurements. All measurements are time and date stamped.

The set is equipped with thermal and overcurrent protection. The RMO100T 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 appropriate hardware and software.

### On Load Tap Changers

The RMO100T can be used to measure winding resistance of individual taps of a power transformer's tap changer. It can also check whether the on-load tap changer (OLTC) switches without an interruption. The moment a tap position is changed from one tap to another, the device detects a sudden, very short drop of the current. A properly working tap changer differs from a malfunctioning one. This is obvious from an interruption during the change, by the magnitude of the current ripple and also by the transition time. Malfunctioning behaviour of Tap Changer will result in much higher current ripple value and by changed transition time than a properly functioning Tap Changer.

### DV-Win

Using DV-Win software, tests could be performed from a PC, and results can be obtained directly at a PC. The DV-Win software allows results to be arranged in an Excel spreadsheet, which can be shown later as a diagram and printed for a report, or ASCII format. This software can control the RMO-T instrument, allowing a condition assessment of OLTC (tap changer) analyzing the graph which represents dynamic resistance during the tap change. Using DV-Win and RMO100T it is possible to perform heat run test on distribution and power transformers.


## Typical application

Typical application of RMO100T is measuring the resistance of:

- ✓ Power transformers
- ✓ On-Load Tap Changers
- ✓ Generators and electrical motors
- ✓ High-current busbar joints
- ✓ Cable splices




## Standard accessories

- ✓ DV-Win PC software
- ✓ Current cables 2 x 10 m 16 mm<sup>2</sup> and Sense cables 2 x 10 m 2,5 mm<sup>2</sup>
- ✓ Sense cables 2 x 10 m 2,5 mm<sup>2</sup>
- ✓ Current connection cable 1 x 5 m 16 mm<sup>2</sup>
- ✓ Mains power cable
- ✓ Ground (PE) cable
- ✓ Cable bag

		
Standard test cables	Transformer terminals adjusted clamps	Voltage sense cables - pair

## Optional accessories

- ✓ Built-in thermal printer
- ✓ Test shunt 100 A / 100 mV
- ✓ Current cables 2 x 15 m 16 mm<sup>2</sup> and Sense cables 2 x 15 m 2,5 mm<sup>2</sup>
- ✓ Sense cables 2 x 15 m 2,5 mm<sup>2</sup>
- ✓ Cable plastic case

		
RMO100T	Shunt	Cable bag

## Technical data

### 1 - Mains Power Supply

- Connection according to IEC/EN60320-1; UL498, CSA 22.2
- Voltage single phase 110 – 240 V AC, + 10 % - -15 %
- Frequency 50 / 60 Hz

### 2 - Output data

- Test current 5 mA DC – 100 A DC
- Measuring range / Resolution
  - 0,1  $\mu\Omega$  - 999,9  $\mu\Omega$  0,1  $\mu\Omega$
  - 1,000 m $\Omega$  - 9,999 m $\Omega$  1  $\mu\Omega$
  - 10,00 m $\Omega$  - 99,99 m $\Omega$  10  $\mu\Omega$
  - 100,0 m $\Omega$  - 999,9 m $\Omega$  0,1 m $\Omega$
  - 1,000  $\Omega$  - 99,99  $\Omega$  10 m $\Omega$
  - 100,0  $\Omega$  - 999,9  $\Omega$  0,1  $\Omega$
  - 1000  $\Omega$  - 2000  $\Omega$  1  $\Omega$
- Typical accuracy  $\pm(0,2\% \text{ rdg} + 0,2\% \text{ FS})$

### 3 – Environmental conditions

- Operating temperature -10 °C - +50 °C / 14 °F - +122 °F
- Storage and transportation -40 °C - +70 °C / -40 °F - +158 °F
- Humidity 5 % - 95 % relative humidity, non condensing

### 4 - Dimensions and Weight

- Dimensions 482,6 mm x 177 mm x 440 mm  
19 in x 6,9 in x 17,3 in  
(W x H x D)
- Weight 15,5 kg / 34,2 lb

### 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

All specifications herein are valid at ambient temperature of + 25 °C and standard accessories.  
Specifications are subject to change without notice.



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