

# MPK253



## DIGITAL MICRO-OHMMETER

- ✓ **VERY LOW RESISTANCE MEASUREMENT**
- ✓ **1 $\mu$  RESOLUTION**
- ✓ **4 ½ DIGITS READING**
- ✓ **ALPHANUMERICAL DISPLAY**
- ✓ **HEAVY DUTY EQUIPMENT**
- ✓ **RECHARGEABLE BATTERY**
- ✓ **UP TO 10A TEST CURRENT**
- ✓ **0,25% BASIC ACCURACY**
- ✓ **OFFSET FREE READING**
- ✓ **RS-232 DATA OUTPUT**
- ✓ **IP-54 PROTECTION**
- ✓ **CE MARK**

The MPK-253 digital very low resistance ohmmeter is a portable, microprocessor-controlled instrument used to accurately measure resistances of switches and circuit breaker contacts, transformer and motor windings, wire and cable samples, joints in busbars, etc., using test currents from 1mA up to 10A. It uses the Kelvin-type, four-terminals measurement principle, thus eliminating errors caused by lead and contact resistances.

Resistance readings are shown in the alphanumeric display with up to a 4½ digit-resolution. It allows to measure resistances of up to 200  $\Omega$ , with basic accuracy of 0,25% and resolution of 1 $\mu\Omega$ . Measurements accuracy is guaranteed by the state-of-the-art system for signal-amplification, offset-free and with long-term stability. The equipment has a serial output (RS-232) that allows to collect measured values in a printer, lap-top, palm-top computer, or any data logger in order to register the tests performed.

The HOLD function keeps in the display the value measured at a certain time-point. The open circuit output voltage is of up to 10V, depending on the selected test current, reducing the stabilization time for the test current when highly inductive elements (specially transformers windings) are measured. The measurement circuit has an effective protection against voltage peaks originated by those inductances.

Operation is very simple: Just connect the leads, switch-on the equipment, select the test current and press the start button. After a few seconds (depending on inductance of the element), direct reading appears on the display with the measure unit indication ( $\Omega$ , m $\Omega$  or  $\mu\Omega$ ). If it is necessary, the display will show messages to help the operator (Low battery, Over range, etc).

Different kinds of C-clamps and spring spikes test leads, that combine potential and current contacts, are offered in order to facilitate the connection of the equipment to the element under test, avoiding incorrect procedures that may significantly affect the measurement result.

The equipment is housed in a rugged plastic case with a hinged lid and carrying handle. It is a portable, strong, impact resistant and lightweight equipment, suitable to be used in outdoors and under severe weather conditions. It supplies very reliable and accurate measurements both in laboratory and out in the field.

# MPK 253 - TECHNICAL SPECIFICATIONS

## TEST CURRENTS (T.C.)

1 mA, 10mA, 100 mA, 1A, 10A

## RESISTANCE RANGES

0-2000  $\mu$  @ 10 A.T.C.  
0-20 m @ 10 A.T.C.  
0-200 m @ 1 A.T.C.  
0-2000 m @ 100 mA T.C.  
0-20 @ 10 mA T.C.  
0-200 @ 1 mA T.C.

## RESOLUTION

1  $\mu$  @ 10 A.T.C.

## OUTPUT VOLTAGE

Up to 10V DC (open circuit) @ 1 A.T.C.

## MEASUREMENT PRINCIPLE

Four-terminal, Kelvin-type.

## BASIC ACCURACY

$\pm 0,25$  % of reading  $\pm 2$  digits

## ADVANCED FEATURES

Digital direct reading of very low resistances in the alphanumerical display, with up to 4½ digits  
Very fast and accurate measurements.

## SERIAL DATA OUTPUT

RS-232 @ 4800 bps. Suitable for data collection in an external serial printer, computer or data-logger.

## ENVIRONMENTAL PROTECTION

IP54 with closed lid.

## SAFETY CLASS

Meets the requirements of IEC 61010-1/1990, IEC 61010 1/1992 amendment 2

## E.M.C

In accordance with IEC 61326-1

## ELECTROSTATIC IMMUNITY

In accordance with IEC 1000-4-2

## ELECTRO MAGNETIC IRRADIATION IMMUNITY

In accordance with IEC 61000-4-3

## POWER SUPPLY

Internal battery powered  
Battery is rechargeable, sealed lead-acid, 12V 7Ah

## BUILT-IN BATTERY CHARGER

For 110-127 or 220-230 V.a.c. mains

## OPERATING TEMPERATURE RANGE

-5°C to 50°C

## STORAGE TEMPERATURE RANGE

-25°C to 65°C

## HUMIDITY RANGE

95% RH (non condensing)

## ALTITUDE MAXIMUM

2000m

## WEIGHT

Approx. 8,8kg (including battery and accessories)

## DIMENSIONS

378 x 308 x 175 mm

## INCLUDED ACCESSORIES

- Combined current and potential leads with alligator clips 3m. (2)
- Charger Power cord.
- Operating instructions
- Synthetic bag, for cables and instrument.

## CE MARK

Technical modifications reserved.

DUNCAN INSTRUMENTS CANADA LTD  
121 Milvan Drive, Toronto, Ontario, M9L 1Z8 CANADA  
Tel. 416-742-4448 - Fax 416-749-5053  
e-mail: info@duncaninstr.com - Internet: www.duncaninstr.com