

# MPK 105R



## Description

The MPK105R high-current micro-ohmmeter is a portable, digital instrument. It has optimized filters and protections for measurements in electrical substations. Can be used to accurately measure very low contact resistances of high voltage circuit-breakers and switches, busbars, etc., with test currents up to 100A. It employs the 4 terminals-method (U/I measuring principle) to avoid errors caused by test leads and their contact resistances.

Measurement accuracy is guaranteed by a state-of-the-arts signal amplification system, offset-free and of high long-term stability. Resistances readings are shown in the alphanumeric display with up to 4½ digits-resolution. It allows to measure resistances up to 300 mΩ, and the best resolution is 0.1 μΩ.

It has an internal memory for up to 4000 measurements divided into multiple records. The data output (USB) may be connected to a computer to download the stored values.

This equipment incorporates an open ModBus protocol and can be controlled remotely through an Android application or via USB by customized software, labview and PLC.

The high-current generation system is based on modern technology that allows to significantly decrease both its weight (approx. 11kg) and size. The cabinet is made of plastic material highly resistant to impacts and to environmental challenges. Internal thermal sensors in all sensitive components avoid any damage caused to the instrument due to overheating.

This is strong but lightweight equipment, and may be easily carried by one person. It is water-resistant and can be used under severe weather conditions (IP54 with closed lid) offering an excellent performance working both in the laboratory and out in the field.



### Remote Control App

This instrument has Bluetooth® interface and can be controlled remotely via an Android™ smartphone / tablet running the Remote Control App.

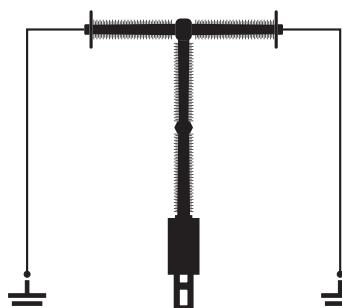


• Android™ and Google Play™ Store are trademarks of Google, Inc.  
• Bluetooth® is a registered trademark of the Bluetooth SIG, Inc. worldwide.

- Microprocessor controlled
- Alphanumeric display
- Direct reading (up to 4½ digits)
- Resolution: 0,1 μΩ
- Resistance reading: up to 300 mΩ
- Kelvin-type (4-Wires) measurement
- USB and Bluetooth communication interface
- Built-in memory
- Built-in printer
- Software for data management
- Open ModBus protocol: can be controlled remotely through an Android application or via USB by customized software, labview and PLC

### BSG mode

The BSG (Both Side Grounded) test mode provides to the user and to the equipment a safer way to test objects in a substation since the both sides of a switch, contact or circuit breaker is maintained connected to the ground during the whole test.



# MPH 105R

## Technical specifications

**TEST CURRENT**

5 A up to 100 A (True DC).

The test current can be set in steps of 0.2 A between 5 A to 20 A and steps from 1 A between 20 A to 100 A.

**RESISTANCE RANGES**

0.1  $\mu\Omega$  up to 2 m $\Omega$  with 0.1  $\mu\Omega$  resolution.

2 m $\Omega$  up to 300 m $\Omega$  with 10  $\mu\Omega$  resolution.

**MEASUREMENT PRINCIPLE**

Four-terminal, U/I.

**PROTECTIONS**

Overcurrent, short-circuit and overheating.

**PROGRAMMABLE TEST TIME**

Allows you to program automatic tests between 15 seconds and 120 seconds with test currents from 5 A to 100 A.

**BASIC ACCURACY OF RESISTANCE****MEASUREMENT**

$\pm 1\%$  of the measured value from 50  $\mu\Omega$  to 300 m $\Omega$ .

**AUXILIARY CLAMP ACCURACY**

1% + 3 digits.

**AUXILIARY CLAMP MEASURING RANGE**

0.1 ADC to 60 ADC.

**ADVANCED FEATURES**

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

**BUILT-IN PRINTER**

Allows print the measured values.

**BUILT-IN MEMORY**

Stores up to 4000 measurements divided into multiple records.

**COMMUNICATION PROTOCOL**

ModBus.

**INTERFACE**

USB, for configuration, control and download of stored values.

**BLUETOOTH**

For configuration and control.

**T-LOGGER SOFTWARE**

Friendly, easy to use software. With automatic report generator, including the operator's commentaries.

**ENVIRONMENTAL PROTECTION**

IP54 with closed lid.

**SAFETY CLASS**

Meets the requirements of IEC 61010-1

**POWER SUPPLY**

100-240 V~ mains supply.

**OPERATING TEMPERATURE RANGE**

32°F to 122°F (0°C to 50°C)

**STORAGE TEMPERATURE RANGE**

14°F to 158°F (-10°C to 70°C)

**HUMIDITY RANGE**

95% RH (non condensing)

**WEIGHT**

Approx. 24.25 lb (11 kg)

**DIMENSIONS**

19.76" x 15.51" x 7.48" (502 x 394 x 190 mm)

**INCLUDED ACCESSORIES**

- 2 Combined current and potential leads
- 1 Auxiliary current clamp
- 1 Ground cable
- 1 Power cord
- 1 USB cable
- 1 Case for the accessories
- 1 User guide
- 1 T-Logger software
- 1 Tentech Remote Control app