

# MPH 204e



- Microprocessor controlled
- Alphanumerical display
- Resolution: 0.1  $\mu\Omega$
- Resistance reading: up to 200  $\Omega$
- Up to 200 A test current
- Kelvin-type (4-Wires) measurement
- Powered by rechargeable battery (up to 10 A) or mains supply
- Direct reading (up to 4½ digits)
- Overheating protection
- Serial data output (RS232)

## Description

Resistances readings are shown in the alphanumeric display with up to 4½ digits-resolution.

It allows to measure resistances up to 200  $\Omega$ , with a resolution of up to 0.1  $\mu\Omega$ .

Using its internal rechargeable battery, measurements with up to 10 A test current may be carried out without connecting the equipment to mains power. Powered by to mains power, it allows to measure with any test current up to 200 A.

Measurement accuracy is guaranteed by an state-of-the-arts signals amplification system, offset-free and of high long-term stability. Test current may be adjusted by the operator in every one of the scales and their values are measured using an analog indicator (bargraph), making it easy to measure resistances with a significant inductive component, as in the case of big transformers windings.

It has a USB interface that may be connected to a printer, computer, or any data collector to register measured values. The Hold function keeps in the display the measured value at a certain time-point, when the corresponding key is pressed.

The high-current generation system is based on modern technology that allows to significantly decrease both its weight (35.27 lb) 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 damaged 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 offering an excellent performance working both in the laboratory and out in the field.

# MPH 204e

## Technical specifications

### TEST CURRENTS

1 mA, 10 mA, 100 mA, 1 A, 10 A, 200 A

Each current may be continuously adjustable from 0 to 100%.

### RESISTANCE RANGES

0-2000  $\mu\Omega$  @ 200 A.

0-20 m $\Omega$  @ 10 A.

0-200 m $\Omega$  @ 1 A.

0-2000 m $\Omega$  @ 100 mA.

0-20  $\Omega$  @ 10 mA.

0-200  $\Omega$  @ 1 mA.

### RESOLUTION

0,1  $\mu\Omega$  @ 200 A.

1  $\mu\Omega$  @ 10 A.

10  $\mu\Omega$  @ 1 A.

100  $\mu\Omega$  @ 100 mA.

1 m $\Omega$  @ 10 mA.

10 m $\Omega$  @ 1 mA.

### MEASUREMENT PRINCIPLE

Four-terminal, Kelvin-type.

### CONTINUOUS OPERATION TIME

At 200 A this equipment may be used continuously for approx. 3 minutes before the thermal protection activates.

At 10 A or less, there is not a limited time for continuous operation.

### THERMAL PROTECTION

Protects all sensitive components, avoiding any damage due to overheating.

### BASIC ACCURACY

$R < 0.5 \text{ m}\Omega$ :  $\pm (0.50\% \text{ of reading} + 2 \text{ ULSD}^*)$ .

$R \geq 0.5 \text{ m}\Omega$ :  $\pm (0.20\% \text{ of reading} + 2 \text{ ULSD}^*)$ .

\* Units of the Least Significant Digit.

### ADVANCED FEATURES

Digital direct reading of very low resistances in the alphanumeric display, with up to 4½ digits.

Very fast and accurate measurements.

### TEST CURRENT MEASUREMENT

The current is digitally measured and a bargraph shows the result.

The bargraph indication is specially useful when measuring inductive loads, so that the operator can verify easily when the test current has been stabilized.

### INTERFACE

USB.

### ENVIRONMENTAL PROTECTION

IP54 with closed lid.

### SAFETY CLASS

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

### POWER SUPPLY

Mains or internal battery powered.

Internal battery: rechargeable, sealed lead-acid (for up to 10 A test current).

### MAINS SUPPLY:

220-240 V~ (for up to 200 A test current).

### BUILT-IN BATTERY CHARGER

For 220-240 V~ mains supply.

### OPERATING TEMPERATURE RANGE

23°F to 122°F (-5°C to 50°C).

### STORAGE TEMPERATURE RANGE

-13°F to 149°F (-25°C to 65°C).

### HUMIDITY RANGE

95% RH (non condensing).

### EQUIPMENT WEIGHT

Approx. 35.27 lb (16 kg).

### DIMENSIONS

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

### INCLUDED ACCESSORIES

2 Combined current and potential leads for 10 A 5.90 ft (1.8 meters).

2 Combined current and potential leads for 200 A 19.69 ft (6 meters).

1 USB cable.

1 Power cord.

1 User guide.

1 Case for the accessories.