

Portable Battery-Operated Microohmmeter RESISTOMAT®

Model 2323



2323 EN

- Mains rechargeable battery operation
- 6 ranges from 600 $\mu\Omega$ to 60 Ω
- High resolution up to 0.1 $\mu\Omega$
- Measuring current up to 10 A
- Input protected up to 415 V_{rms}
- Rugged industrial design
- RS232 data output

Application

This portable, battery-operated microohmmeter is a practical instrument for low resistance measurement in the field.

It is of rugged construction, contained in a sealed ABS plastic case with lid and carrying handle, ideal for use in the production and any other working field or test and service facilities. The documentation of the measuring values is effected via RS232 interface directly to an external printer or PC. Further it is possible to perform single measurements via an external start switch.

Typical applications are measurements on

- ▶ Engine and transformer windings
- ▶ Electrical connectors
- ▶ Heating elements
- ▶ Connections on power rails
- ▶ Wires and cable drums
- ▶ Quality of soldered and welded joints
- ▶ Switching contacts

Description

Four-wire technology in accordance with KELVIN eliminates transition and lead resistance.

Any of the 8 measuring ranges can be selected by a key on the membrane keyboard. The measuring results are displayed on a 6000 counts LED display. The measuring terminals are protected up to 415 volts rms.

By forward and reverse current measurement with automatic average a thermocouple compensation can be realized which is inevitable for certain measurements.

The digital calibration of this instrument is activated by a key on the front panel.

The integrated rechargeable battery allows measurements up to 10 hours.

Technical Data

Measuring Range	Resolution	Measuring Current	Accuracy at 20 °C ± 5 °C 1 year
600.0 μΩ	0.1 μΩ	10 A	0.2 % Rdg. + 12 Counts
6.000 mΩ	1 μΩ	10 A	0.2 % Rdg. + 6 Counts
60.00 mΩ	10 μΩ	1 A	0.15 % Rdg. + 3 Counts
600.0 mΩ	100 μΩ	100 mA	0.15 % Rdg. + 3 Counts
6.000 Ω	1 mΩ	10 mA	0.15 % Rdg. + 3 Counts
60.00 Ω	10 mΩ	1 mA	0.15 % Rdg. + 3 Counts

Load voltage: approx. 2 V
 Temperature coefficient/°C: typ. 40 ppm rdg. + 30 ppm F.S.
 Display: 7 segment LED, red, 19.6 mm high, 6000 counts

Ranges: manually via 6 selection push buttons, LED indicated

Terminals: 4 wire technology, with 6 mm⁹ binding posts, accepts spade tags and 4 mm⁹ banana plugs.

Input protection: up to 415 V_{rms}

Thermocouples compensation: forward and reverse current measurement with automatic average

Battery check: with bargraph

RS232 output: 9 pin submin D-bush
 baud rate: 75 ... 9600
 data bits: 8
 start bit: 1
 stop bit: 1
 parity: no

Operation temperature: 0 °C ... 20 °C ... 40 °C

Relative humidity: max. 80 % non-condensing

Storage temperature: - 20 °C ... + 50 °C

Power supply:

a) Batteries: Sealed lead acid rechargeable cells allowing a minimum of 1 hour continuous measurement on the lowest 10 amp range and 10 hours on all other ranges.
 Internal charger with battery display.

b) Mains supply: 100/ 120/ 220/ 240 V + 10 % - 13 %
 47 ... 63 Hz, max. 80 VA

Safety: IEC 1010, protection class 1

Housing: Rugged construction, contained in a sealed ABS plastic case with lid and carrying handle

Dimensions (W x H x D): approx. 343 x 327 x 152 [mm]

Weight: approx. 8 kg

Calibration set:

The calibration set model 2323-Z001 consists of 4 calibration resistors series 1240 with the values 500 μΩ, 5 mΩ, 50 mΩ and 500 mΩ. Every resistor is provided with a DKD/DAkkS Calibration Certificate. Measurement values and uncertainties indicated in the certificate were found with standards and measurement devices regularly compared with governmental standards of the Federal Republic of Germany. This is proved in the certificate itself and is also marked on the resistor. For detailed information please refer to data sheet 1240 EN.

Order Information

RESISTOMAT®
 with RS232 output
 including 4 measuring leads and 2 KELVIN test tongs **Model 2323**

Accessories

Calibration Set **Model 2323-Z001**

DKD/DAkkS Calibration Certificate **Model 23DKD-2323**

WKS Calibration Certificate **Model 23WKS-2323**

Kelvin measuring pliers and probes **see data sheet 2385 EN**

Wire holding devices for wires up to 2500 mm² **see data sheet 2381 EN**

Calibration resistor **see data sheet 1240 EN**

Resistance Measurement on a Motor Winding

Fast and precise measurement of a stator winding with model 2323 and KELVIN measuring pliers model 2385-V001 in 4-conductors technology.

e. g. 5 kW stator winding
 resistance value 1.498 Ω

