Portable Battery operated Milliohmmeter RESISTOMAT®

Model 2320

Code:	2320 EN
Delivery:	ex stock
Warranty:	24 months

- ■ **Measuring ranges from 40 mΩ to 4 kΩ**
- ■ **Resolution up to 10 µΩ**
- ■ **Measuring accuracy 0.05 % Rdg.**
- ■ **Autorange**
- ■ **Temperature compensation**
- ■ **Bipolar measurement**
- ■ **Input voltage protection up to 415 V$_{rms}$**

Application

The RESISTOMAT® model 2320 is a universally applicable and easy to operate measurement device for low-ohmic resistances. The light and handy device in a stable IP54 plastic housing with membrane keypad is likewise suitable for use in service, laboratory or on the production floor. The power supply is done via built-in rechargeable battery packs or by standard batteries.

If need be, the temperature of samples can be measured and the sample resistance is subsequently compensated to fit the value at 20°C. This applies for samples with resistances depending on the sample's temperature. The temperature coefficients for copper and aluminium are included as standard. A third and fourth coefficient may be set individually for any given material to be measured.

The application range is manifold, such as measurement of:
- ► Resistance elements
- ► Plug connections
- ► Power rails
- ► Fuses
- ► Cable connections
- ► Transformers
- ► Electrical motors
- ► Cable and wire, and many more

Description

The 4-wire measurement configuration eliminates possible errors caused by test lead and contact resistance. This is the basis for resistance measurements in the mΩ range. The resistance value calculated in the current voltage method is then indicated on the large LCD display in mΩ, Ω or kΩ.

Single as well as permanent measurements are possible whereby the 6 measurement ranges can be selected in manual or automatic mode. The standard resistance value at 20 °C is calculated and displayed if the temperature compensation is active. The measured temperature may also be displayed directly.

Thermo voltages are eliminated by the bipolar current source and the calculation of the mean value (key AVE).

Low battery charge is informed through the LED "LOBAT". The battery pack can be replaced in a very simple manner. Recharging is done in an external station.

Technical changes reserved -
Latest updates of data sheet always under www.burster.com

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Technical Data

Construction

The device has a portable, sturdy plastic housing according IP54. The operation is done via the membrane keypad. The connections for the sample and the Pt100 sensor are located at the backside of the device. The rechargeable battery pack is easily and quickly changeable without opening of the device.

Measuring Range		Resolution		Measuring Current	
40.00	mΩ	10	µΩ	100	mA
400.0	mΩ	100	µΩ	10	mA
4.000	Ω	1	mΩ	10	mA
40.00	Ω	10	mΩ	10	mA
400.0	Ω	100	mΩ	1	mA
4.000	kΩ	1	Ω	100	µA

Accuracy (with temp. comp. off):
Range 4 Ω to 4 kΩ   < ± 0.05 % Rdg. ± 1 count
Range 400 mΩ   < ± 0.05 % Rdg. ± 2 counts
Range 40 mΩ   < ± 0.05 % Rdg. ± 4 counts

Load voltage: approx. 2 V

Measuring time (for ohmic probes):   approx. 20 ms

Measuring connection: 4-wire technology, 4 mm ø safety terminals

Input protected: against inductive and external voltage up to 415 V_{rms}

Measurement mode:
forward current and average of forward and reverse current

Zero compensation: via zero button

Range selection: manually or automatically

Temperature compensation: TC for copper and aluminium plus two user specific coefficients

Temperature measurement: with external Pt100 sensor
measuring range   - 50 °C ... + 150 °C
resolution   0.1 °C
accuracy   0.2 °C

Display: LCD display 15 mm high with error indicator

Indicator extent: 4000 counts

Power supply: with 5 AA batteries or 5 AA NiMHd rechargeable batteries in a changeable battery box

Period of operation: approx. 13 hours or 100 000 measurements with NiMHd-1850 mAh
approx. 16 hours or 130 000 measurements with Duracell-2800 mAh

Battery check: LOBAT indicator

Temperature drift: < 30 ppm/°C

Operating temperature: 0 ... 23 ... 40 °C
rel. humidity 80 % max non-condensing

Storage temperature: - 20 ... + 50 °C

Device safety: EN 61010-1, EMC-EN 61326

Protection class: IP54

Weight: 0.8 kg

Dimensions (H x W x D):   55 x 130 x 215 [mm]

Order Information

RESISTOMAT®
incl. batteries and
small KELVIN test tongs model 2320-Z007,
cable length 1.20 m   **Model 2320-V001**

Accessories

Pt100 sensor for plug-in   **Model 2320-Z001**

Rechargeable battery pack with external docking station and charger   **Model 2320-Z002**

Rechargeable battery pack spare unit   **Model 2320-Z003**

Carrying bag   **Model 2320-Z004**

Pt 100 sensor with cable length 2 m   **Model 2320-Z005**

5-pin connector for Pt 100 input   **Model 2320-Z006**

KELVIN test tongs   **Model 2320-Z007**

Calibration set   **Model 2320-Z008**

DKD/DAkkS Calibration Certificate   **Model 23DKD-2320-V001**

WKS Calibration Certificate   **Model 23WKS-2320-V001**

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 resistors   **see data sheet 1240 EN**

Calibration set:
The calibration set model 2320-Z008 consists of 3 calibration resistors series 1240 with the values 20 mΩ, 200 mΩ and 2 Ω. Every resistor is provided with a DKD/DAkkS Certificate.
Measurement values and uncertainties 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 resistance. For detailed information please refer to data sheet 1240 EN.

Applications

Coil winding measurement on a motor

Rechargeable battery pack with docking station and charger 2320-Z002

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