

MR 270 C-A

designed for the cable industry

High precision
resistance meters

Micro-ohmmeters

The MR270C-A is specially designed for electric resistance measurements in cable industry applications and inductive loads (transformers, motors). It is perfectly fit both for measuring the meter resistance in connection with a corresponding resistance measurement holding device or for final acceptance control of power cable reels. In the case of cable reels, which often have a cable length of several kilometers, both the compensation of the inductive component and the ability to perform measurements in the presence of high noise levels are important. This also applies to the winding resistance of transformers and motors.



The highest accuracy is reached when meter sections are measured under water in order to obtain the highest possible temperature stability. The MR270C-A is designed for use with our resistance measurement holding devices, in particular since all connections of the 4-pole measurement are checked by the instrument. Wrong measurements are excluded. Owing to its high resolution the measuring error is very low, even with larger cable sizes.

Cable reels are inductive, in particular if the reel itself is made of iron, and the cable length is very high. This "inductance" is very sensitive to interferences of any kind. Even a fork lift truck passing by generates a considerable interference voltage during the measurement by entering the magnetic field of the reel. To avoid error measurements, the MR270C can be set to a measuring method which guarantees absolutely stable measuring results even in such a case. To avoid error measurements, the MR270C can be set to a measuring method which guarantees absolutely stable measuring results even in such a case.

For the measurement of winding resistances of motors and transformers it is important to use as high a measuring current as possible, so that the magnetic circuit, the iron, comes close to saturation, which is necessary to obtain stable results, in particular in the case of power transformers.

At the same time the measuring instrument must "wait" until the measuring current flows uniformly and stable measuring results are obtained. The measuring time is therefore extended automatically until a stable measuring situation is obtained.

For heat-up measurements, a regression calculation to $t = 0 \text{ }^\circ\text{C}$ can be provided, which uses several measuring results at a constant time interval.

Features

- Measuring range from 1 m Ω – 10 k Ω , decadic
- Overrange up to 80 %
- max. resolution of 100 n Ω
- Display LED, 4 ½ digits
- Measuring error $\pm 0,02 \%$ of MV ± 2 digit
- Selectable temperature compensation by probe or manual temperature input
- Contact error detection prior to every single measurement
- RS232C port to control the instrument externally

Questions?

phone: +49 (0)3328 / 3179 - 0

fax: +49 (0)3328 / 3179 - 10

email: sales@schuetz-messtechnik.com

Here you will get technical assistance as well as complete information regarding features, prices, shipment and reselling.

www.ohmmeter.de

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Made in Germany

SCHUETZ
MESSTECHNIK

MR 270 C-A

Technical Data

Resistance measurement

Range	1 m Ω – 10 k Ω , decadic
Overrange	+80%, to 18000
Max. measurement error	\pm 0,02% from MV \pm 2 digits
Current	10 A (at 1 m Ω)
Range selection using keypad, via RS232	
Display	LED, 4 ½ digits
Speed	approx. 1 s to 6 s per measurement

Error detection prior to EVERY single measurement

Current connection errors	display: ‚CUR‘, RS232: ‚ECUR‘
Sense connection errors	display: ‚SEN‘, RS232: ‚ESEN‘
Overrange >80%	display: ‚OVL‘, RS232: ‚EOVL‘

Start of measurement

using keypad
via RS232 or IEEE - 488
via potential free contact
via foot switch (optional)

Ports

RS232C
printer (optional)
start contact (potential free)
IEEE – 488 (optional)

Dimensions

260 x 150 x 320 mm (WxHxD)

Weight

approx. 7,5 kg

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Available enhancements

- **semiconductor temperature probe**
- **IEEE – 488 enhancement:**
control the instrument via IEEE – 488
- **Centronics printer interface:**
parallel printers can be connected directly to the instrument using this enhancement
- **Foot switch:**
to start measurement externally
cable length 3 m
- **Software ‚Virtual MR270 C-A‘**
sends measurement values to any Windows® application. Including special Excel® functions.

Available accessories

- **Cable** several lengths, with Kelvin test prod and start button
- **Cable** several lengths, with Kelvin clamps
- **DKD – calibration certificate** from the ‚Deutscher Kalibrierdienst‘

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