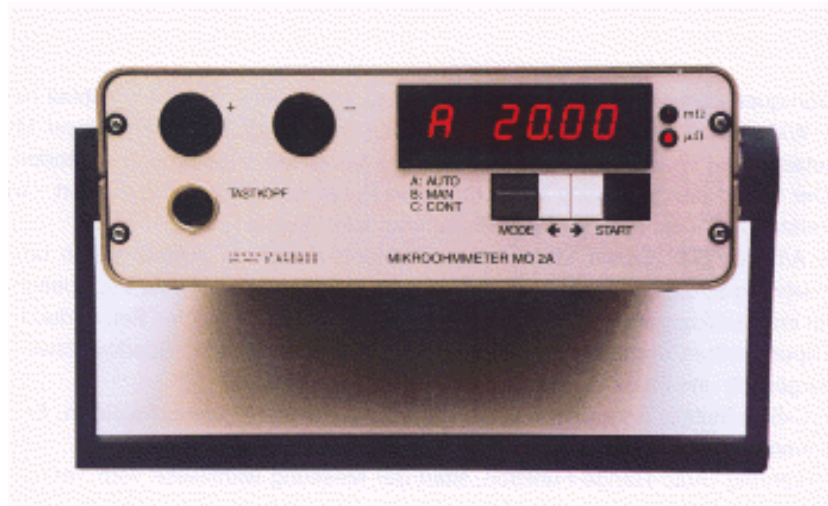


MICRO OHMMETER

MO 2A



The MO 2A is used for measurement of connection resistance. The measurement procedure is based on a four-wire configuration with voltage/current measurement followed by calculation and display of the resistance value. During the measurement a DC pulsed current of approx. 20 Amperes is injected into the measurement object. Appropriate control of the measurement process by means of an embedded micro-controller eliminates error due to external offset voltages (e.g. thermal emf).

- measurement of connection resistance in the $\mu\Omega$ -range using 20 A DC current
- high resolution of 0.01 $\mu\Omega$
- simple handling: just press one key and read the resistance value on the LED display
- wide field of employment:
 - testing the integrity of connections in production process (e.g. assembly/installation of high power switchgear and circuit breakers, collective bars, cable connections)
 - field maintenance (switch gear manufacturers)
 - check-up of electrical power installations

Principle of operation

The current supplied by the current source produces a voltage drop proportional to the resistance to be measured. This voltage difference is - by putting on two measuring tips - fed to the voltage probe, which performs filtering and amplification of the micro volt range measuring signal. The measuring current additionally passes through an internal reference resistor and generates - again after filtering and amplification - a second measuring signal proportional to the measuring current.

Voltage and current signals are converted to digital form by two integrating A/D-converters. By parallel operation of the two converters voltage and current are measured simultaneously. The digital measuring values are the processed by the built-in micro-controller, which also controls the complete measuring procedure in order to eliminate errors due to external error voltages, e.g. thermal emf. The resistance value calculated by the micro-controller is displayed on a LED display until a new measuring is started or the device is switched off.

Via the RS232C interface, the MO 2A may be controlled by a PC. Optionally, a connection cable and demo-program for controlling the MO 2A and storing the measuring values can be provided with the device. By auto range function, possible start of measurement directly from the probe and automatic detection of connecting errors, the MO 2A makes in-the-field micro ohm resistance measurements very easy.

Specification

Range selection	automatic or manual
Ranges	20/200 $\mu\Omega$, 2/20 m Ω
Measuring mode	single shot or repetitive
Measuring accuracy	± 0.1 % of reading ± 1 dig. <small>(temperature range 22 \pm 2°C)</small> ± 0.2 % of reading ± 2 dig. <small>(temperature range + 5 ... + 35°C)</small>
Display	3½ digits, 13 mm LED display
Measurement current	approx. 20 A
Measurement time	max. 6 sec.
Power supply/consumption	230 V (+ 6 ... 10 %) AC / max. 100 W
Mode of operation	continuous
Environment (nominal)	+ 5 °C ... + 35 °C
Degree of protection	IP20
Dimensions (mm)	250 x 90 x 260 (W x H x D)
Weight	5 kg (without accessories)
Interface	RS 232 C (V.24)

Delivery

Basic equipment	1	Basic device with line power cable and user manual
	1	Voltage probe with cable 5 m
	2	Current leads 5 m
	1	Carrying case
optional	1	RS232 connector cable
	1	RS232 demo program