OM 10

Portable micro-ohmmeter up to 50 KΩ
and 100 mA

OM 10 portable micro-ohmmeter performs 4-wire measurements of inductive and non-inductive resistances up to 50 KΩ with continuous or pulse measuring current up to 100 mA.

- 4-wire resistance measurement up to 50 kΩ at 10 µΩ resolution and 0.05% accuracy
- Voltage measurement up to 400 V at 1 V resolution and 1% accuracy
- Continuous measurement current for inductive loads or pulse measurement current for non-selfic resistances
- Automatic compensation of thermal E.M.F.
- Temperature compensation
- Metal temperature compensation

Description

OM 10 portable micro-ohmmeter performs 4-wire measurements of inductive and non-inductive resistances up to 50 KΩ with continuous or pulse measuring current up to 100 mA. It works at a resolution of 10 µΩ and an accuracy of 0.05%. The accuracy of measurements is also ensured by the automatic compensation of thermal electromagnetic forces, the compensation of ambient temperature (internal sensor) at 20°C and by the selection of the metal type.
OM 10 can also measure DC and AC voltages up to 400 V.

Key-features :

- 4-wire resistance measurement up to 50 KΩ at 10 µΩ resolution and 0.05% accuracy
- Voltage measurement up to 400 V at 1 V resolution and 1% accuracy
- Continuous measurement current for inductive loads: Coils, transformers, motor windings, twisted cables...
- Pulse measurement current for non-selfic resistances: Earth bonding, ground continuity, contact resistances, non-twisted cables...
- Automatic compensation of thermal E.M.F.
- Temperature compensation
- Metal temperature compensation

Applications :

- Cable resistance and resistivity measurement
- Inductive resistance measurement (transformers, motors...)
- Contact resistance measurement (connectors, switches, relays...)
- Metallisation, earth bounding and ground continuity tests
- Tests of low power electrical components (fuses...)
- Tests of heat-sensitive devices
- Tests of surface states, mechanical bonds and materials

Specifications

Resistance measurement

Measuring range	Resolution	Accuracy (1 year) (23°C ±5°C)	Measuring current	Voltage drop
500 mΩ	10 µΩ	0.05% + 50 µΩ	100 mA	50 mV
5 Ω	0.1 mΩ	0.05% + 0.5 mΩ	10 mA	50 mV
50 Ω	1 mΩ	0.05% + 5 mΩ	10 mA	500 mV
500 Ω	10 mΩ	0.05% + 50 mΩ	1 mA	500 mV
5 KΩ	100 mΩ	0.05% + 0.5 Ω	0.1 mA	500 mV
50 KΩ	1 Ω	0.05% + 5 Ω	0.01 mA	500 mV

Accuracy given in % of reading + fixed value at 23°C ±5°C
Temperature coefficient beyond operating range: < 10% accuracy/°C (from 0 to18°C and from 28 to 50°C)
Open circuit voltage: < 8 V
Resistance of the connection cables: < 20 Ω

Voltage measurement

Range	Resolution	Accuracy (1 year) (23°C ±5°C)
400 V	1 V	1% + 1 V

Accuracy given in % of reading + fixed value at 23°C ±5°C

Temperature measurement

Range	Resolution	Accuracy (1 year) (23°C ±5°C)
-10 to 60°C	0.1°C	1.5°C

Accuracy given in % of reading + fixed value at 23°C ±5°C

Further features

Resistance types	• Inductive resistances: Coils, transformers, motor windings... • Non-inductive resistances: Earth bonding, coating, contact resistances...
Measuring current	DC current from 0.01 mA to 100 mA Continuous ou pulsed
Measuring time	0.5 s in continuous current mode or 1 s in pulsed mode

EMFs	Automatic compensation of EMF parasites before each measurement for a greater accuracy
Temperature compensation	Choice of metal temperature coefficient Choice of ambient temperature (programmed or measured with internal sensor) Temperature compensation at 20°C: Resolution: 0.1°C, accuracy: ±0.5°C (R20 = Resistance compensated at ambient temperature equal to 20°C)

General specifications

Size	120 x 65 x 245 mm
Weight	1.1 Kg
Display	LCD, 50,000 counts,13 mm high
Power supply	10 to 20 V 0.5 A
Internal batteries	Type: Ni/Cd 1.7 Ah Charging time: 14 h Battery life: 10 h over 500 mΩ range

Environmental specifications

Reference range	23°C ±5°C (45 to 75% w/o condensing)
Operating reference range	0 to 50°C (RH: 20 to 75% w/o condensing)
Limit operating range	-10°C to +55°C (RH: 10 to 80% w/o condensing)
Storage temperature limits	-30°C to +60°C (-15°C to +50°C with battery charged)
Indice de protection	IP52 according to EN60529

Safety specifications

Protections	• 400 V peak when measuring resistances • 600 V peak when measuring voltages • Protection against ‘current’ circuit breaking during inductive resistance measurements
Class	In accordance with EN 61010-1 Category III, pollution 2
Rated voltage	400 V
Chocks and vibrations	EN61010-1
EMC conformity	

Models and accessories

Instrument:

OM10 On-site micro-ohmmeter

Clips and probes:

Please note that 2 clips are needed per OM 10.
AN5806-2 Gold plated Kelvin clips, set of 2
Opening diameter: 12 mm, cable length: 2 m
AN5806C Kelvin clips, set of 2
Opening diameter: 12 mm, cable length: 3 m
AMT003 Test probe, per unit
Cable length: 5 m
AMT004 Kelvin clip, per unit
Opening diameter: 25 mm, cable length: 3 m

Certification:

QMA11EN COFRAC certificate of calibration