OM 16

Onsite micro-ohmmeter up to 10 A

Designed for field use as well indoor as outdoor, OM 16 micro-ohmmeter performs 4-wire measurements of **inductive and non-inductive resistances with continuous, pulse or AC measuring current up to 10 A**. Offering a high accuracy of 0.05 % and resolution of 0.1 µΩ, it works over a large selectable range of resistances from 5 mΩ up to 2.5 KΩ.

Description

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All parameters are user-programmable, either directly through the instrument interface or via Log OM software delivered in option: measuring current, range, unit, alarmes, automatic average function, absolute autozero. Before every measurement, EMFs are measured and automatically removed for a greater accuracy of measurements. For non-inductive resistances, a single operator is enough to perform the measurement since it will be automatically triggered once continuity is established between the two points.

The user can also set the metal nature or its temperature coefficient, the reference temperature and the ambient temperature. The ambient temperature might be also measured by an external temperature probe.

2 alarm thresholds are programmable and either notified by a signal displayed on the screen, a light or a loud beeper.

The large interactive display of OM 16 informs in real time the operator about the type of measurement, range, calculation conditions and threshold values.

Battery-powered, OM16 has a high storage capacity of 1,000 measurements to be read directly on the display or via Log OM software or printer available in option.

Protection up to 250 V is ensured at every measurement terminal, while any overrange, open circuit or empty battery signal detected is notified by LEDs and messages displayed.

Easy-to-use, rugged and protected agains rough environment (IP 53 when opened, IP 64 when closed), OM 16 is widely used indoors and outdoors in many industries:

- Aerospace
- Energy field
- Domestic electrical appliances
- Cable manufacturing
- Telecommunication
- Electronics
- Automotive industry
- Railway

Key features:

- Test current: 1 mA to 10 A
- 4-wire measurement
- Auto power-off of current
- 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

Specifications

Resistance measurement

Measurement range	Resolution	Accuracy (1 year) (23°C ±5°C)	Measuring current	Voltage drop
5 mΩ	0.1 µΩ	0.05 % + 0.5 µΩ	10 A	50 mV
25 mΩ	1 µΩ	0.05 % + 3 µΩ	10 A	250 mV
250 mΩ	10 µΩ	0.05 % + 30 µΩ	10 A	2.5 V
2500 mΩ	0.1 mΩ	0.05 % + 0.3 mΩ	1 A	2.5 V
25 Ω	1 mΩ	0.05 % + 3 mΩ	100 mA	2.5 V
250 Ω	10 mΩ	0.05 % + 30 mΩ	10 mA	2.5 V
2500 Ω	100 mΩ	0.05 % + 300 mΩ	1 mA	2.5 V

Automatic or manual selection of measurement range
Accuracy given in % of reading + fixed value at 23°C ± 5°C
Possible excess over the normal rating:

- 5 mΩ range: + 20 %
- 25 mΩ range: + 20 %

Maximum voltage between the terminals in an open circuit: 7V.

Further features

Resistance types	• Inductive resistances: Coils, transformers, motor windings... • Non-inductive resistances: Earth bonding, coating, contact resistances...
Measurement current	DC current from 1 mA to 10 A Continuous ou pulsed
Measurement trigger conditions	Manual or automatic trigger allowing a single operator to be able to perform measurements
EMFs	Automatic compensation of EMF parasites before each measurement for a greater accuracy
Temperature compensation	Choice of metal temperature coefficient Choice of reference temperature and ambient temperature (programmed or measured with integrated sensor)
Temperature compensation for measurements at Tref	Saisie ou mesurée par Pt100 interne ou externe reliée à l'instrument Résolution : 0,1°C

	Précision : ± 0,5°C (Tref = Température de reference programmée, à laquelle la mesure est ramenée)
Temperature coefficient beyond operating range	<10% accuracy/°C (from 0 to18°C and from 28 to 50°C)
Alarms	2 programmable thresholds with visuel and sound signal
Calibration	Digital calibration without internal adjustment

General specifications

Size	270 x 250 x 180 mm
Weight	4 kg
Supply	92 to 256 V (45 to 400 Hz)
Batteries (option)	Type: Ni/Mh 8.5 Ah Charging time: 5 h Battery life: 5,000 measurements at 10 A
Communication ports	RS 232
Storage capacity	1,000 measurements identified by numbers Memory reading directly on the display, via software or printer

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	-40°C to +60°C
Indice de protection	IP53 according to EN60529

Safety specifications

Protections	• Electronic protection up to 250 V for ‘voltage’ wires • Fuse protection for ‘current’ wires • Protection against ‘current’ circuit breaking during inductive resistance measurements
Class	In accordance with EN 61010-1 Category II, pollution 2

Rated voltage	60 V
Chocks and vibrations	EN61010-1
EMC conformity	Immunity • EN 61000-4-2 • EN 61000-4-3 • EN 61000-4-5 • EN 61000-4-6 • EN 61000-4-11 EN 61000-4-4 Conducted and radiated emissions: • EN 55022, class B • EN 61000-3-2 • EN 61000-3-3

Models and accessories

Instrument:

OM16	On-site micro-ohmmeter

Clips and probes:

Please note that 2 clips are needed per OM 16.

AMT005	Long handspike, per unit
	Needle diameter: 3 mm, length without handle: 83 mm, total length: 215 mm
	Cable length: 5 m
AMT006	Large kelvin clip, per unit
	Opening diameter: 25 mm, cable length: 5 m
AMT013	Triggered handspike, per unit
	Needle diameter: 3 mm, length without handle 83 mm, total length: 215 mm
	Cable length: 5 m
	Triggering cable to be connected by RS 232 to OM 16
AMT011	Small handspike, per unit
	Needle diameter: 3 mm, total length: 125 mm
	Cable length: 5 m
AMT012	Small kelvin clip, per unit
	Opening diameter: 12 mm, cable length: 5 m
AMT008	Extension lead, length: 20 m
AMT014	External temperature sensor
AMT015	Extension cable for AMT014, length: 2 m

Other accessories:

LOG OM	Configuration & exploitation software for OM 16
	Including RS 232 cable
PX 58	Printer with batteries, paper width: 58 mm
CX 85	Printer with mains supply, paper width: 85 mm

Certification:

QMA11EN COFRAC certificate of calibration

Packing information:

Shipping size 320 x 300 x 220 mm

Weight 5 Kg