

OM27 BENCHTOP MICRO-OHMMETER

OM27 NEW BENCHTOP MICROOHMETER 10 AMP

In addition to on-site activities provided by the OM 17 micro-ohmmeter, the OM27 offers similar performance for test benches, laboratory tests and production tests.

OM27 assures you

Performance :

- Measurement 4 wires of inductives and non-inductives resistances
- Ranges from 5 mQ to 2.5 kΩ
- Accuracy of 0.05%
- Resolution of 0.1 µΩ

Comfort:

- Color touch screen
- Ease of use
- Information on measurement conditions in real time

Versatillity :

- Use on mains or battery
- Accessible by software or on the instrument
- Wide scope data storage

Description

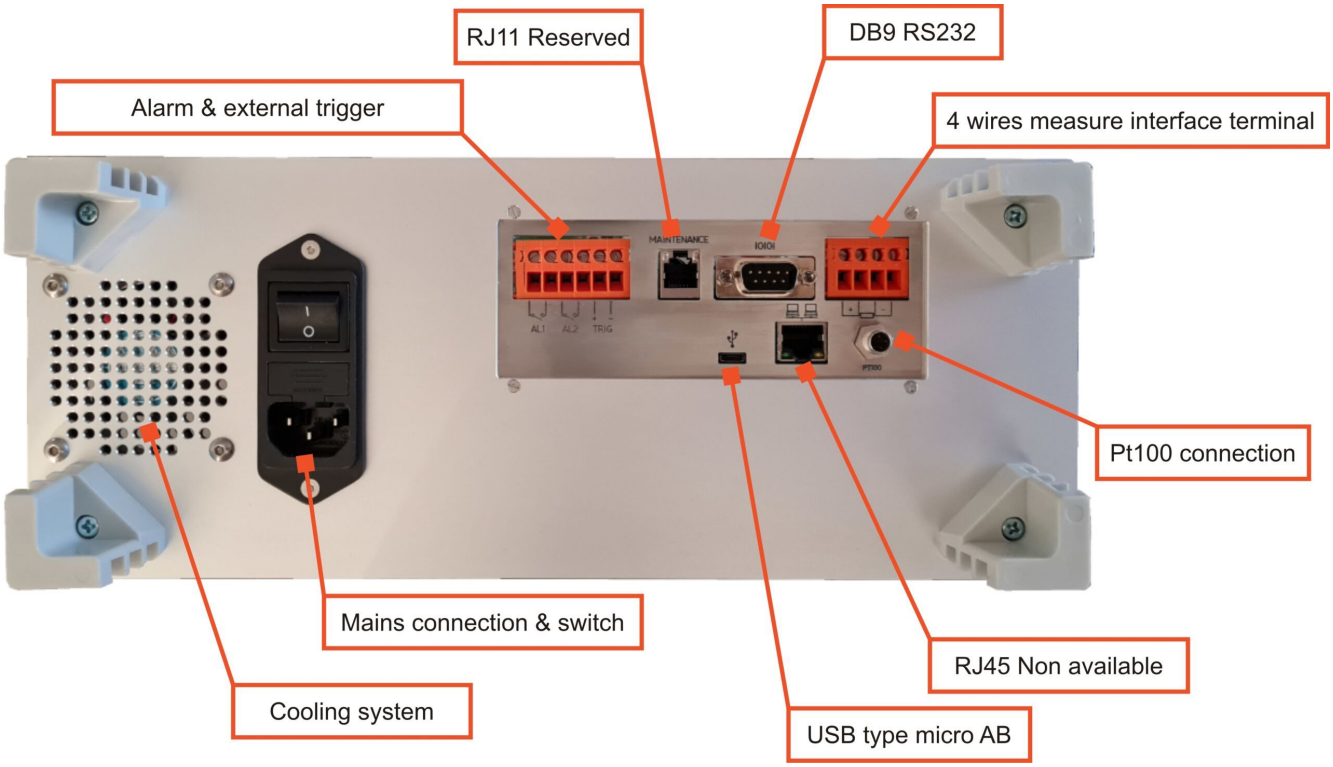
Easy to use thanks to its color interface, it measures in 4 wires any inductive or non-inductive resistance with continuous or pulsed DC current up to 10 A.

With an accuracy of 0.05% of reading and a resolution of 0.1 µΩ (on the 5 mΩ caliber), it covers a wide range of selectable Designed for use on site and in the workshop, on a platform or outdoors, the OM 27 micro-ohmmeter has a metal case giving it robustness and thus improving its reliability and availability.

It is equipped as standard with a battery allowing it to also go on site to carry out measurement campaigns. It allows long measurement campaigns (up to 60 min) at 10 A in direct current and



offers ranges from 5 mΩ to 2.5 kΩ



Key features :

- Color touch screen
- Battery AND mains operation
- 4-wire measurement of inductive and non-inductive resistance
- Continuous or pulsed DC current, from 1 mA to 10 A
- Accuracy: 0.05% Reading
- Automatic EMF compensation
- Ambient temperature compensation (measured or programmed)
- Compensation of metal temperature coefficient
- Choice of reference temperature
- 2 programmable thresholds with visual and sound alarm



- Memory: 1,000 measurements identified

Various fields of applications

- Metallization and earth bonding control
- Welding quality control
- Contact resistance measurement (low voltage connectors, relays...)
- Test of electronic components
- Coil, transformer and motor resistance measurement, loss and heat rise calculation
- Non-twisted and twisted cable resistivity measurement and length calculation
- Railway and electric network maintenance

Easy to use, rugged and protected (metal case), the OM 27 is more particularly intended for laboratory and production applications or integrated into test benches:

- Aerospace
- Energy field



- Domestic electrical appliances

- Cable manufacturing
- Telecommunication
- Electronics
- Automotive industry
- Railway
- Manufacture of electrical machines

Two current waveforms



Continuous DC current

- Inductive resistance and coils
- Automatic trigger of measurements when using a trigger test probe
- EMF compensation before measurements

Pulsed current

- Non-inductive resistance
- Automatic trigger of measurements as continuity is established – 1 operator needed
- Automatic current shutdown at the end of a measurementEMF compensation before every measurement

Configuration and display

All parameters are user-programmable, either directly through the instrument interface or via software (LOG OM, available in option) : Measuring current, range, resistance type, unit, reference temperature, alarm threshold value & status and calculation... OM 27 large display informs the operator in real time about the measurement itself and the measuring conditions. Any detection of range overshoot, open circuit or low battery is indicated by LEDs and message displayed on the screen. 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. Battery-powered, OM 27 has a high storage capacity of 1,000 measurements to be read directly on the display.

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.

Specifications

Performance and technical specifications in temperature @ 23 ° C ± 5 ° C

Accuracy is expressed as% of reading + a fixed value.

Resistance measurement

Measurement range	Resolution	Accuracy / 1 year (23°C ±5°C)	Measuring current	Voltage drop
5 mΩ	0,1 µΩ	0,05 % + 1 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 Possible excess over the nominal range:

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

Maximum voltage between the terminals in an open circuit: 7 V Current waveform: Continuous or pulse DC current

Ambient temperature measurement for Tref compensation

Type	Resolution	Precision / 1 year (23°C ±5°C)	Comment
Pt100	0.1 ° C	0.5 ° C	Measured with external Pt100 or value entered bt keyboard

Types of resistance measured	- Inductive: coils, transformers, motors, braided cables ... - Non-inductive: metallization checks, ground continuity, contact resistances, flat cables, etc.

Measurement trigger	Manual or automatic, allowing a single operator to perform measurements
FEM	Measurement and compensation of parasitic FEMs carried out before each measurement for greater precision
Temperature compensation	- Ambient temperature Tamb, measured with external Pt100 or programmed by the user - Programmed reference temperature, to which the measurement is returned: R (Tref) = [R (Tamb) * (1 + α * Tref)] / [1 + α * Tamb] - Nature of the metal, with the insertion of its temperature coefficient (α)
Temperature coefficient outside the reference range	<10% accuracy / ° C (i.e. 0 to 18 ° C and 28 to 50 ° C)
Alarms	Two programmable thresholds with visual and audible signaling

Additional features

General specs

Dimensions	L x W x H 340 x 320 x 160 mm
Mass	4.6 kg
Power supply	100 to 240 V (50/60 Hz)
Drums	- Type: Ni / Mh 8.5 Ah (Size D) - Charging time: 5 h - Autonomy:> 5000 ech. (pulsed),> 60 min (direct current on 250 mΩ at 10 A caliber)
communication interfaces	RS 232
Memory	measurements identified by number replay on the screen, by software or via a printer

Environmental specifications

Reference domain	23 ° C ± 5 ° C (45 to 75% RH non-condensing)

Nominal operating range	0 to 50 ° C (20 to 75% RH non-condensing)
Limit operating range	-10 ° C to + 55 ° C (10 to 80% RH non-condensing)
Storage conditions	-40 ° C to + 60 ° C (-15 ° C to + 50 ° C with charged battery

security

Protections	Electronics: Up to 250 V on "voltage" wires By fuse on the "current" wires Against the opening of the "current" circuit in measurement of inductive resistances
Assignment voltage with respect to earth	60 V
Electrical safety	EN 61010-1
EMC compliance	EN 61326 Immunity: - Electrostatic discharges: EN 61000-4-2 - Radiated fields: EN 61000-4-3 - Shock waves: EN 61000-4-5 - Conducted disturbances: EN 61000-4-6 - Voltage dip: EN 61000-4-11 - Bursts: EN 61000-4-4 Radiated and conducted emission: - EN 55022, class B - EN 61000-3-2 - EN 61000-3-3

Models and accessories

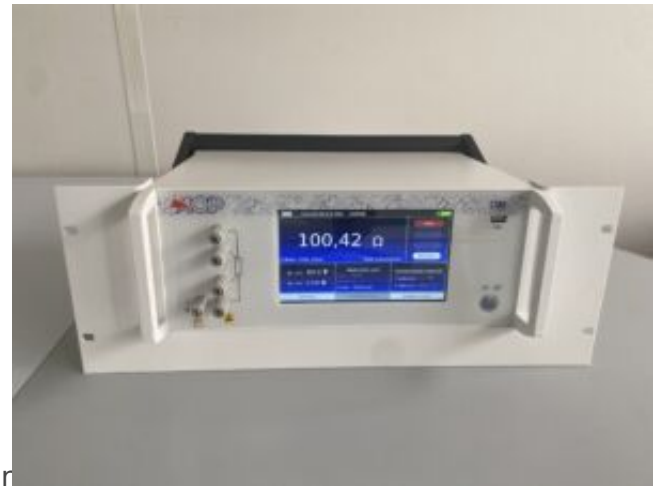
Instrument:

OM27 Micro-ohmmeter Supplied as standard with: - Standard power cord for recharging the battery - Simplified user manual

Kelvin clips and probes:

Note that two measuring accessoriesare required to perform the measurements, some are offered individually

AMT003 Test probe, per unit; Probe diameter: 3 mm, length without handle: 83 mm, total length: 215 mm Cable length: 5 m
AMT004 Large Kelvin clamp, per unit; Opening diameter: 25 mm, cable length: 5 m
AMT 011 Compact test probe, per unit; Probe diameter: 3 mm, total length: 125 mm, cable length: 5 m
AN5806-2 Small Kelvin clamp, per unit; Opening diameter: 12 mm, cable length: 5 m
AN5806C Small gold plated kelvin clips (set of 2); Opening diameter: 12 mm, cable length: 3 m



AMT014 Pt100 external temperature sensor

AMT015 Extension for temperature sensor AMT014, length: 2 m

Other accessories:

AMT008-SP1 / 5 m cable with M4 fixing U plug

AMT008-SP2: CABLE 5 M with M4 Crimp Ring Terminal

Rack mounting kit

Certification:

QMA11EN COFRAC calibration certificate

Transport information:

Size 340x 320 x 160 mm Weight 6 kg