

OM 37 MICRO OHMMETER

OM 37 REPLACES WELL KNOWN OM21 AND OM22

OM 37, 0.01µohm resolution; low resistance meter ; 4-wire method

Micro-ohmmeter, current up to 10 A pulsed, alternate and continuous, resolution 0.01µOhm

Description

AOIP has developed the OM 37 to meet the specific needs of electrical industries that require high performance when measuring low resistance.
For many years, the OM21 has been able to satisfy the demands, and now the OM 37 succeeds it with even more ease of use and robustness.
Its main applications are:

- Metallization measurement, especially in aeronautics.
- Mass continuity measurement.
- Measurement of motor and transformer resistances.
- Measurement of contact resistances.
- Measurement of electrical and electronic components
- Measurement of electrical cable resistances.
- Mechanical link tests.

The device is programmed and operated via a 7" colour touch screen: choice of gauge, measurement current, measurement mode (pulsed, direct or alternating current), temperature compensation and measurement triggering as well as storage capacities.
The OM 37 is equipped as standard with a rechargeable battery allowing measurements under 10 A continuously or pulsed without any other access
Programmable alarms with triggering when thresholds are exceeded.
Tabletop mains-powered or battery-operated device equipped with 5 Ni-MH batteries, 8.5 Ah (size D).
Battery charging: A charger incorporated in the OM 37 allows the batteries to be recharged by connecting the device to the mains (100 - 240 V, 50 - 60 Hz, 120VA). Charging time: 4 to 6 hours.
Autonomy: 5000 measurements under a current of 10 A in pulsed mode.
4-wire measurement with automatic interference voltage compensation.
Automatic compensation of the ambient temperature with measurement of the ambient temperature by external sensor or manual input and programming of the nature of the metal or its temperature coefficient.
Direct display of the measurement and its unit, gauge, measurement current value, measurement mode and temperature compensation commissioning.
Measurement triggering with a keyboard, remote or automatic.
Presentation: Aluminium and galvanised steel housing
Dimensions : 380 mm x 310 mm x 130 mm (3U hors pieds).
Mass: approx. 7.5 kg.

Specifications

Resistance measurement

4-wire measurement with noise voltage compensation.

Caliber	Resolution	1-year accuracy 23°C ±5°C	Measurement current	Voltage drop
2.50000 mΩ	0.01 µΩ	0.01% + 0.3 µΩ	10 A	25 mV
5.00000 mΩ	0.01 µΩ	0.01% + 0.75 µΩ	10 A	50 mV
25.0000 mΩ	0.1 µΩ	0.01 % + 3 µΩ	10 A / 1 A	250 mV/25 mV
50.0000 mΩ	0.1 µΩ	0.01 % + 7.5 µΩ	10 A / 1 A	500 mV : 50 mV
250.000 mΩ	1 µΩ	0.01 % + 30 µΩ	10 A / 1 A / 0,1A	2.5V / 250 mV / 25 mV
500.000 mΩ	1 µΩ	0.01 % + 75 µΩ	10 A / 1 A / 0,1A	5V/500mV/ 50mV
2.50000 Ω	10 mΩ	0.01 % + 0.3 mΩ	1 A / 0,1A / 10mA	2.5V / 250 mV / 25 mV
5.00000 Ω	10 mΩ	0.01 % + 0.75 mΩ	1 A / 0,1A / 10mA	5V / 500 mV / 50 mV
25.0000 Ω	0,1 mΩ	0.01 % + 3 mΩ	0.1A / 10mA / 1mA	2.5V / 250 mV / 25 mV
50.0000 Ω	0,1 mΩ	0.01 % + 7.5 mΩ	0.1A / 10mA / 1mA	5V / 500 mV / 50 mV
250,000 Ω	1 mΩ	0.01 % + 30 mΩ	10mA / 1mA / 0.1 mA	2.5V / 250 mV / 25 mV
500,000 Ω	1 mΩ	0.01 % + 75 mΩ	10mA / 1mA / 0.1 mA	5V / 500 mV / 50 mV
2.50000 kΩ	10 mΩ	0.01 % + 0.3 Ω	1mA / 0.1 mA	2.5V / 250 mV / 25 mV
5.00000 kΩ	10 mΩ	0.01 % + 0.75 Ω	1mA / 0.1 mA	5V / 500 mV / 50 mV
50.0000 kΩ	100 mΩ	0.02 % + 7.5 Ω	0.1mA / 10 µA	5V/ 500 mV

Maximum voltage between open-circuit terminals: 7 V.
Temperature coefficient from 0°C to 18°C and from 28°C to 50°C: ≤ 1/10 of the accuracy/°C.

Ambient temperature measurement for compensation:

- Range: 0°C to +50°C
- Resolution: 0.1°C.
- Accuracy: +/-0.5°C.

Measurement cycle times

Pulsed Mode: » 1 sec
Alternating Mode: » 1.5 sec
Continuous Mode: » 1 sec

Additional features

Types of Measured Resistance	• Inductive: coils, transformers, motors, braided cables, etc. • Non-inductive: metallization checks, ground continuity, contact resistors, flat cables, etc.
Measurement current	• Internal or external • DC current from 100 µA to 10 A • Direct or pulsed current or alternating current
Measurement interval	Pulsed Mode: » 1 sec Alternating Mode: » 1.5 sec Continuous Mode: » 1 sec
Measurement trigger	Manual or automatic
FEM	Measurement of parasitic FEMs performed with each measurement for greater accuracy
Temperature compensation	Automatic compensation of the ambient temperature with measurement of the ambient temperature by external sensor or manual input and programming of the nature of the metal or its temperature coefficient.
Temperature coefficient outside the reference range	< 10% accuracy/°C
Alarms	4 programmable alarm levels/thresholds with visual and audible signaling and relay outputs
Outputs	• Two relays (1 A / 220 VAC)

General Specifications

Dimensions L x W x H	380 mm x 310 mm x 130 mm (3U excluding feet).
Mass	about 7.5 kg. Battery included
Screen	7-inch color touchscreen
Feeding	115 / 230 V (50 / 60 Hz)
Battery with integrated charger	battery life time: 5000 measurements at 10 ABattery consisting of 5 Ni-MH batteries, 8.5 Ah (size D).
Communication interfaces	• USB

	• Ethernet
Memory	5000 measurements with average, minimum or maximum value Memory playback on the screen or operation via digital and analogue interfaces

Environmental Specifications

Domain of reference	23°C ±1°C (45 to 75% RH non-condensing)
Nominal operating range	0 to 50°C (20 to 80% RH without condensation)
Operating Limit Domain	-10°C to +50°C (10 to 80% RH non-condensing)
Storage conditions	- 30°C à +55°C (-15°C to +50°C with battery charged)
Ingress protection	IP40 according to EN60529
Altitude maximum	2500 m

Models and accessories

Instrument:

OM37: Benchtop Industrial Micro-Ohmmeter

Kelvin clips and 2 wire probes:

Note that two clamps are required to carry out the measurements, some are offered individually
AMT016 Kelvin Gold Clamps, Pair, 10 Amp Compatible, Opening diameter: 12 mm, cable length: 2 m; banana plugs
AN5806C: Kelvin Clamps, sold by set of 2, Opening diameter: 12 mm, cable length: 3 m; banana plugs
AMT003: contact probe, per unit, Cable length: 5 m; banana plugs
AMT004 Kelvin Clamp, per unit, Opening diameter: 25 mm, cable length: 3 m; banana plugs