



- 4-wire measurement of inductive and non-inductive resistance
- Continuous or pulse current, from 1 mA to 10 A
- Precision: 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
- Ideal for long tests at 10 A continuous over transformers

*Designed for field use -in workshops or outdoors-, OM 17 micro-ohmmeter is a portable instrument in an IP53 open / IP64 closed housing with lockable measurement plugs, whose performances are as high as a laboratory instruments'.*

Succeeding OM 16, OM 17 offers upgraded performances, in particular for inductive resistance measurements: Granted with a greater autonomy, OM 17 allows longer test campaigns to be performed at 10 A with continuous current (up to 60 min) and offers faster current loading of coil resistances (stabilization time < 2 s).

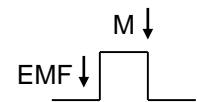
Easy to use, it carries out 4-wire measurements of inductive and non-inductive resistance with a continuous or pulse current up to 10 A. Offering a high precision of 0.05% and a 0.1  $\mu\Omega$  resolution, it has a different ranges selectable from 5 m $\Omega$  to 2.5 k $\Omega$ .

### Two current waveforms

**Continuous current** 

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

### Pulse current



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

### Large 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

### Performances and technical specifications @23°C ±5°C

#### Inductive and non-inductive resistance measurement

Range	Resolution	Precision / 1 year	Measuring current	Voltage drop
5 mΩ	0.1 μΩ	0.05% RDG + 1 μΩ	10 A	50 mV
25 mΩ	1 μΩ	0.05% RDG + 3 μΩ	10 A	250 mV
250 mΩ	10 μΩ	0.05% RDG + 30 μΩ	10 A	2.5 V
2500 mΩ	0.1 mΩ	0.05% RDG + 0.3 mΩ	1 A	2.5 V
25 Ω	1 mΩ	0.05% RDG + 3 mΩ	100 mA	2.5 V
250 Ω	10 mΩ	0.05% RDG + 30 mΩ	10 mA	2.5 V
2500 Ω	100 mΩ	0.05% RDG + 300 mΩ	1 mA	2.5 V

Measuring current: Continuous or pulsed

Maximum voltage between terminals in an open circuit: 7 V

Temperature coefficient beyond reference domain: <10% precision/°C

Load time for 1 H inductance at 10 A: < 2 s

#### Ambient temperature measurement for Tref compensation

Type	Resolution	Precision / 1 year	Comments
Pt100	0.1°C	0.5°C	Measured with external Pt100 or value entered by keyboard

#### OM17 optimizes its energy management allowing long time period campaigns for measurement of inductive resistances (on rotors / stators 1-3 m<sup>3</sup>)

Tested coil		Typical meas. Value (mΩ)	1 <sup>st</sup> measure delay (s)	Total campaign duration (min)	Nb measures executed	Configuration	
Type	Resistance	OM 17	OM 17	OM 17	OM 17	Range	Current
1 rotor phase (~ 0,5 H)	1 mΩ	1.2371	< 1	> 20	> 10000	5 mΩ	10 A
1 stator phase (~ 0,5 H)	3 mΩ	3.0008	< 1	> 30	> 15000	5 mΩ	10 A
Transfo ~ 1 H)	150 mΩ	150.13	< 2	> 45	> 22500	250 mΩ	10 A
3 motor Phases	980 mΩ	980.3	< 1	> 10	> 5000	2500 mΩ	1 A

(1) Measurement at cold condition, at instrument start

(2) Measurement at hot condition, after a 1st test campaign

### Configuration and display

All parameters are user-programmable, either directly through the instrument interface or via software (LOG OM, available in option). OM 17 large display informs the operator in real time about the measurement itself and the measuring conditions:

Measuring current, range, resistance type, unit, reference temperature, alarm threshold value & status and calculation.

Any detection of range overshoot, open circuit or low battery is indicated by LEDs and message displayed on the screen.

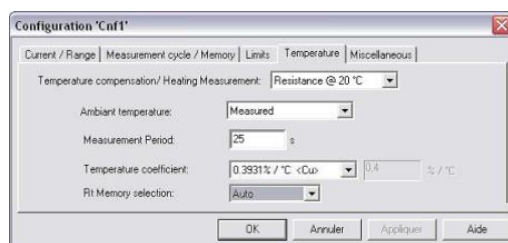


### Additional features

Range	Manual or automatic selection Nominal current overshoot: 5 mΩ and 25 mΩ range: +20%
Trigger conditions	Manual or automatic trigger, allowing a single operator to perform measurements
EMFs	Automatic measurement and compensation of EMF parasites before each measurements for greater precision
Temperature compensation	Ambient temperature Tamb, programmed or measured with an external Pt100 Programmed reference temperature Tref, to which the measured value is converted: $R(T_{ref}) = [R(T_{amb}) * (1 + \alpha * T_{ref})] / [1 + \alpha * T_{amb}]$ Metal type, by entering its temperature coefficient ( $\alpha$ )
Alarms	Two programmable thresholds with visual and sound signal

### LOG OM software

- Configuration
- Data management under list or graphical format
- Data exportation



### General specifications

Power supply	92 to 256 V (45 / 400 Hz)	
Battery	Battery life: > 5,000 samples (pulsed current) > 60 min (continuous current, 250 mΩ range at 10 A)	Type: Ni/Mh 8.5 Ah (D cell size) Charging time: 5 h
Communication	RS232 for PC or printer	
Storage	1,000 measurements identified by a number Data management on the instrument directly, via LOG OM software or printer	

### Environmental specifications

Reference range	23°C ±5°C (RH: 45 - 75% non-condensing)
Reference operating range	0 to 50°C (RH: 20 - 80% non-condensing)
Limit operating range	-10 to 55°C (RH: 10 - 80% non-condensing)
Storage limits	-40°C to +60°C (-15°C to +50°C with battery charged)
IP protection	IP53 open / IP 64 closed, according to EN 60529

### Safety specifications

Rated voltage	60 V	
Protections	Electronic: Up to 250 V on 'voltage' wires at measuring terminals Fuses: On 'current' wires Against current circuit breaking during inductive resistance measurements	
Electric safety	EN 61010-1	
EMC conformity	EN 61326 Immunity:	Conducted and radiated emissions:
	<ul style="list-style-type: none"> <li>▪ Electrostatic discharge: EN 61000-4-2</li> <li>▪ Radiated fields: EN 61000-4-3</li> <li>▪ Surge: EN 61000-4-5</li> <li>▪ Conducted disturbances: EN 61000-4-6</li> <li>▪ Voltage dips: EN 61000-4-11</li> <li>▪ Bursts: EN 61000-4-4</li> </ul>	<ul style="list-style-type: none"> <li>▪ EN 55011</li> <li>▪ EN 61000-3-2</li> <li>▪ EN 61000-3-3</li> </ul>

### Models and accessories

#### Instrument

- OM17            Portable micro-ohmmeter 10 A  
*Supplied in standard with:*
- Standard mains supply cable to recharge the battery
  - Quick start manual

#### Clips and probes

*Caution: Two clips are needed in order to carry out measurements. Some clips are offered individually, some in a set of two pieces.*

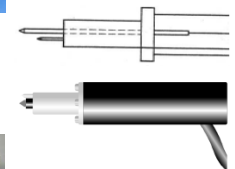
- AMT005            Long handspike, per unit  
 Needle Ø: 3 mm, length without handle: 83 mm, total length:  
 215 mm, cable length: 5 m



- AMT006            Large Kelvin clip, per unit  
 Opening Ø: 25 mm, cable length: 5 m



- AMT011            Small handspike, per unit  
 Needle Ø: 3 mm, total length: 125 mm, cable length: 5 m



- AMT012            Small Kelvin clip, per unit  
 Opening Ø: 12 mm, cable length: 5 m



- AMT013            Triggered handspike (Through RS232 connection), per unit  
 Opening Ø: 3 mm, length without handle: 83 mm, total length: 215 mm, cable  
 length: 5 m



- AMT008            Extension lead – Length: 20 m

- AMT014            External Pt100 temperature sensor  
 AMT015            Extension cable for AMT014 – Length: 2 m

#### Further accessories

- LOG OM            Configuration and data management software – Includes a RS232 cable  
 AN5909            RS232 F / F cable (PC connection)  
 AN5875            RS232 F / M cable (Printer connection)

#### Certification

- QMA11EN            COFRAC calibration certificate

#### Delivery

- Size                270 x 250 x 180 mm  
 Weight            4 kg  
 Standard delivery    4 weeks

