ResTest 50

Universal & performing equipment designed for small conductors

DESCRIPTION

ResTest 50 perfectly masters the problems experienced in the measurement of small sections, especially with flexible, and/or insulated conductors.

The compacting jaws allow a drastic reduction of contact resistances between wires, thus ensuring a good distribution of the current. It is one of the key factors for precise and reproducible measurements. Self-cutting knives, with a LED based contact monitoring system, are allowing its use with insulated cables. The system includes a ruler with calibrated length and a temperature sensor to provide an accurate linear resistance value, directly in Ω/km @ 20ºC.

This fully integrated equipment not only offers operating comfort, but also the mastering of all the uncertainties connected with the measurement. Therefore, AESA specifies the overall accuracy of the measurement and not the accuracy of the micro-ohmmeter only.

KEY FEATURES

- Focussed on small conductors
  - from very fine wires up to 50 mm^2 (1/0 AWG) conductors
- Ideal for any type of conductor
  - class 1 (rods & wires)
  - 2 (stranded conductors)
  - 5/6 (flexible conductors)
  - Sector-shaped conductors
  - insulated conductors
- Enhanced comfort
  - self-cutting knives, LED monitoring system, interchangeable jaws
- Easy to use
  - direct readings in Ω/km @20ºC, button or touch, embedded PC
- Overall accuracy
  - specifications related to the whole measurement, not the instrument only

AESA Cortaillod

TECHNICAL SPECIFICATIONS

Measuring range		10 µΩ - 200 Ω					
Measuring length		1'000 mm					
Minimum sample length		1'700 mm / 67"					
Sample Ø	min	Ø 0.15 mm / 0.006"	(0.02 mm^2 / 34 AWG)				
	max	Ø 8 mm / 0.31"	(50 mm^2 / 1/0 AWG)				
		Ø 12 mm / 0.47"	(95 mm^2 / 3/0 AWG) with compacting jaws				
Accuracy (± 3 digits)		**Copper**			**Aluminium**		
	Class 1	< 50 mm^2	< 1/0 AWG	± 0.1%	< 50 mm^2	< 1/0 AWG	± 0.1%
	Class 2 & Sectors	< 50 mm^2	< 1/0 AWG	± 0.1%	< 25 mm^2 < 50 mm^2	< 3 AWG < 1/0 AWG	± 0.1% ± 0.2%
	Class 5&6	< 50 mm^2	< 1/0 AWG	± 0.1%	< 25 mm^2 < 50 mm^2	< 3 AWG < 1/0 AWG	± 0.1% ± 0.2%
Resolution		4 ½ digits					
Display		State-of-the-art interface thanks to a 7" touchscreen					
Operating mode		Simple (buttons) / Advanced (touch screen)					
Consisting of		• Measuring ruler (with all integrated functionalities: temperature, voltage, current,…) • Embedded Metrology • Embedded windows based PC • ISO 17025 certificate					
Supply voltage		100 - 240 VAC / 50-60Hz					
Interfaces		2 x USB (e.g. for printer) 1 x Display Port connector for external monitor 2 x RJ45 for LAN connection					
Dimensions		1722 x 220 x 310 mm (67.8" x 8.7" x 12.2")					
Weight		≈ 25 kg (55 lb)					
Article No		32.0050.0001.00					

OPTIONS

- Compacting jaws
- Mechanical adapter for cables
- Crank sleeve
- Tensioning system
- Label printer
- Conductivity/Resistivity
- Remote control software
- ISO17025 certified calibration box
- ISO17025 certified rod
- Warranty extension
- Maintenance contract

AESA proposes other specific equipment for the measurement in the laboratory and directly on the production line.

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KEY BENEFITS

USER-FRIENDLY

- ResTest is multi-lingual
- Direct results without post calculation
- Only two buttons for ease of use in production
- Extended functions for the use in the laboratory

ISO 17025 ACCREDITED

ACCURATE

- The equipment is certified ISO 17025
- All uncertainties are mastered
- The risk of human error is reduced to its strict minimum
- Specifications apply to the overall measurement
- Improved repeatability thanks to adequate jaws


AESA SA
AESA ResTest Resistance Bridge

ID	AESA310	Sn :	1#05659
Date	4/15/2011	Time	8:49:00 AM
α_CU	0.393 %/°C	θN1	20 °C
Rmes	+3.8109 Ω/km	Duration	00:00:14 / 2
Tmes	+20.70 °C		

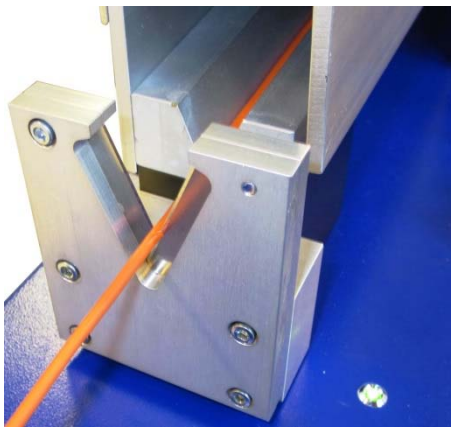
SMART

- All data (results and conditions) are saved in its internal PC
- Labels can be printed directly on site
- Data can be exported through the LAN
- Traceability is easily managed

ROI < 1 year

COST EFFECTIVE

- High accuracy allows raw material savings
- Simplicity of use reduces operational costs
- Reliable information allows process improvement
- Options can make the system even more efficient



UNIVERSAL

- All type of cables can be measured
  - class 1 (solid)
  - class 2 (stranded)
  - class 5/6 (flexible)
  - sector shaped
  - insulated conductors

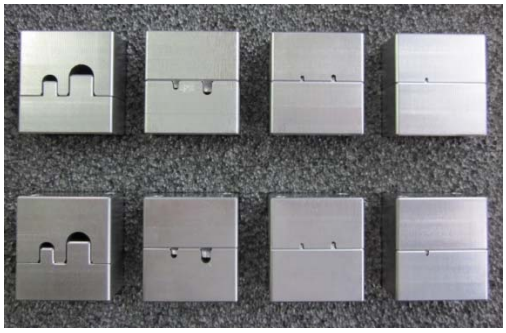
Options

1. *Kit of compacting jaws*

Article No: 51.0180.0020.0

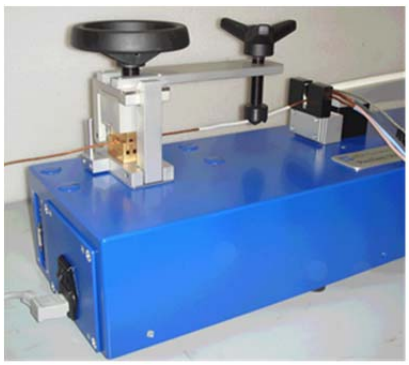
The compacting jaws increase the accuracy and reliability of the measurement.
The set includes 4 different jaws, covering diameters from Ø 0.15 to 12 mm (AWG 35 – AWG 3/0).

They are specifically recommended for insulated and flexible cables.



2. *Mechanical adapter to measure multi conductor samples*

Article No: 51.0030.0050.0



Adapter allowing an improved contact and mechanical separation by holding and applying a force onto a single conductor

3. *Crank sleeve*

Article No: 51.0030.0073.0

Adapter allowing the setting of the compacting forces with a torque wrench (not included in the supply) in an easier and repetitive way

4. *Cable tensioning system*

Article No: 55.0030.0075.0

Tensioning lever to tension the conductor with a torque wrench (not included in the supply)

5. *Label printer* (e.g. Brother QL-700)

Article No: 51.0500.0012.0

AESA SA
AESA ResTest Resistance Bridge

ID	AESA310	Sn :	1#05659
Date	4/15/2011	Time	8:49:00 AM
α_CU	0.393 %/°C	θN1	20 °C
Rmes	+3.8109 Ω/km	Duration	00:00:14 / 2
Tmes	+20.70 °C		

This printer is directly connected to the USB port, printing labels like the example above.

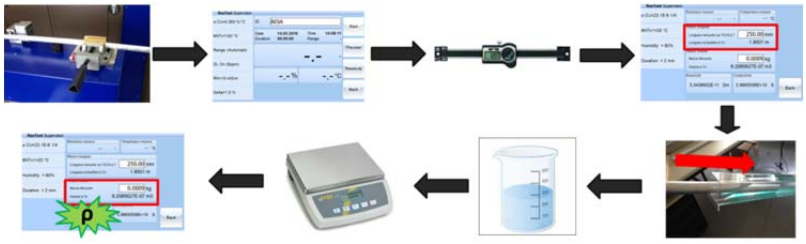
6. *Conductivity / Resistivity*

Article No: 51.0030.0079.0

AESA Cortaillod developed a novel, fast and accurate solution to measure the conductivity / resistivity. The principle consists in 3 different steps:

1. Resistance & temperature (with ResTest)
2. Length with special ruler
3. Cross-section by volume measurement

➔ Results are automatically computed & displayed



This new solution fills a gap in the linear resistance field with the precise conductivity / resistivity measurement for class 1 conductors (according to the IEC 60228 standard) in raw material incoming inspection test.

7. *Remote control software (ResSoft)*

Article No: 52.0030.0007.0

This software allows driving the resistance bridge in a remote mode with a compatible PC-Type computer. This is done using a USB interface.

This software enables:

- Library of conductor specifications
- Measurement monitoring
- Reporting
- Maintenance

8. *ISO 17025 certified calibrationl box ResCal 1*

Article No: 45.0001.0001.0

This standard is needed to verify the accuracy of each range of the ohmmeter.
This standard is delivered with an ISO 17025 certificate.

Specification: ± 0.1% and ± 50 ppm/°C

Including 4 reference values:

- 1.0 mΩ
- 10.0 mΩ
- 100.0 mΩ
- 1.0 Ω
- 10.0 Ω
- 100.0 Ω

Delivered with ISO 17025 certificate

ISO 17025 ACCREDITED

9. *ISO 17025 certified manganin rod Ø 5.5 mm*

Article No: 45.0030.0002.0

This standard is needed to verify the overall accuracy of the equipment, included ruler and clamping jaws.
This standard is delivered with an ISO 17025 certificate.

ISO 17025 ACCREDITED

10. *Warranty Extension*

Article No: 60.0900.0004.0

AESA is confident with its technology and the quality of its goods.This is why the system is supplied with a 2-years warranty period. In order to protect its customer's investment, AESA offers the possibility to extend the warranty period to 3 years.

11. *Maintenance Contract*

Article No: 60.0100.0002.0

Even the most reliable systems require regular, planned and preventive maintenance as well as periodical calibrations. AESA proposes service packages to extend the operating life of your equipment, control of your maintenance costs and ensure optimal performances.