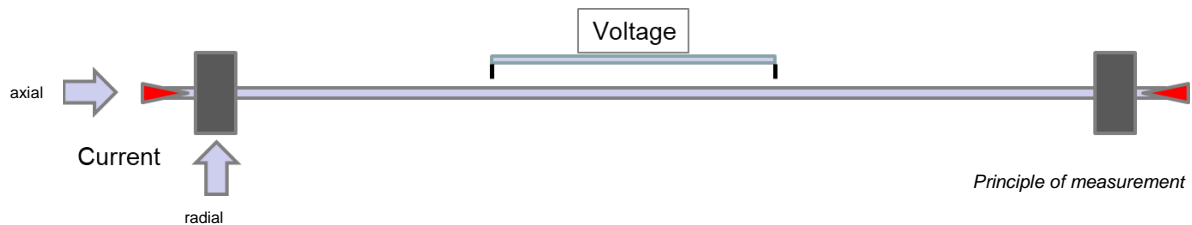


Axial injection

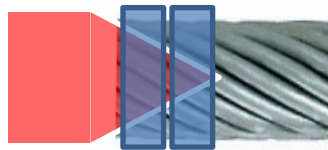
an option that significantly improves the measurement of large aluminium conductors



DESCRIPTION

AESA has developed a new patent filed method of measuring the linear resistance of electrical conductors by axial current injection. It provides manufacturers with an important advance in the measurement of metal conductors. It pushes back the limits of traditional methods while providing a significant improvement in measurement reliability.

Rather than injecting it transversely, current is injected axially. In this way, each wire in the conductor is in direct contact with the current source, thus minimizing the contact resistance effect between wires. As a result, the accuracy and reliability of the measurement is significantly enhanced.



axial injection patented filed method

KEY FEATURES

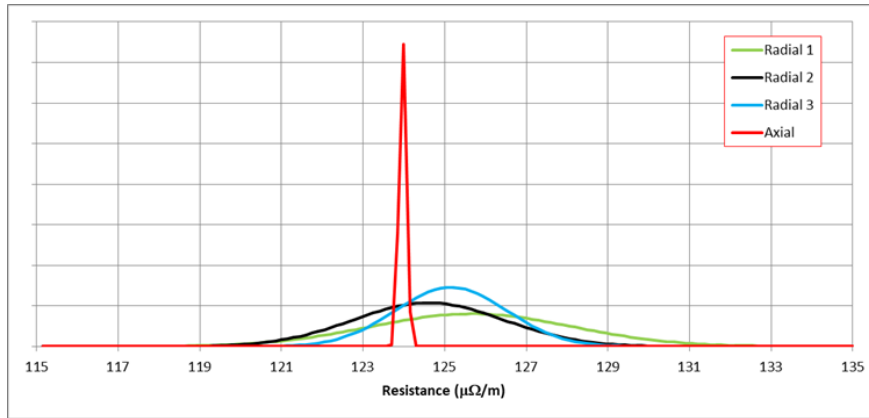
- **Accuracy significantly enhanced**
 - each wire is in contact with the power source
 - the measurement is significantly less affected by aluminium oxidation
 - Kelvin method (4 points) according to the standard IEC 60468
- **Opens up new possibilities**
 - for aluminium conductors
 - for very large cables cross sections
 - considerable improvement of results for waterproofing cables (e.g. Aquablok, Milliken, grease,...)
- **Compatible with latest versions of AESA equipment**
 - Non compatible devices may be upgraded.
- **User friendly**
 - Both modes available on the same unit (axial & radial)
 - The software manage the injection and measuring mode



AESA Cortaillod

KEY BENEFITS

In cases that the scattering of the measurements is too high, axial injection improves their reproducibility and accuracy considerably (red curve in the image below).



Improved accuracy demonstrated by the distribution of reproducibility measurements

TECHNICAL SPECIFICATIONS

The installation of the axial connectors requires the machining of the cable ends. The appropriated connectors and drilling tooling for copper and aluminium are included in the kit. Different kits are available to cover the different conductor sizes.

Kit		Conductor size	Part number
1	small	50 - 630 mm ²	51.0030.0104.0
2	medium	400 - 2'000 mm ²	51.0030.0105.0
3	large	630 - 3'500 mm ²	51.0030.0106.0
1 + 3	combined	50 - 3'500 mm ²	51.0030.0107.0



Example of kit 2 (medium)



Example of connection

This option only works if used with one of the AESA ResTest or AESA 813x families' instruments and only for sample measurement. The innovative measuring principle is patent filed by AESA.