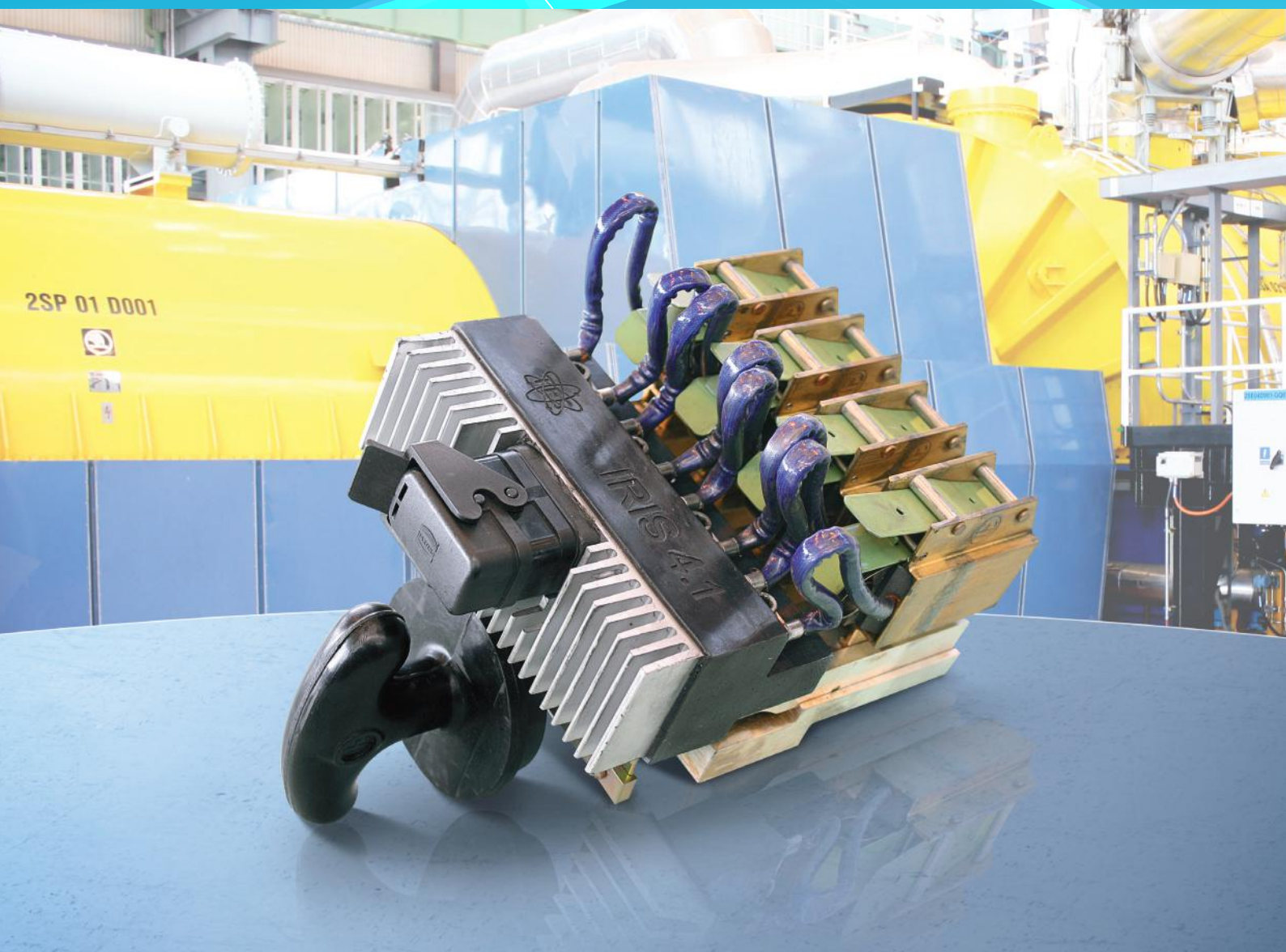




[www.tes.eu](http://www.tes.eu)

TES s.r.o. | Pražská 597 | 674 01 Třebíč | Czech Republic



# MOSAD<sup>®</sup>-IRIS

On-line diagnostics of the brush gear in synchronous generators

TES has developed the MOSAD<sup>®</sup>-IRIS monitoring system, used to diagnose the brush gear in synchronous generators. Our device measures the current flowing through each of the brushes. Continuous brush gear monitoring thus prevents current overload of the brushes which could even result in the destruction of the brush gear.

# MOSAD<sup>®</sup>-IRIS

## Application/benefits

- Prevention of brush gear destruction by informing the operators in time
- Simpler, higher-quality and more streamlined maintenance
- Credible information for conceptual decisions
- Possibility of on-line connection with the existing information system
- High resistance in environments with conductive dust, vibration and strong electromagnetic interference
- High insulation strength of the sensor's galvanic isolation
- High measurement accuracy

## Processing and display unit

Digitized information enters the processing and display unit, which can be located close to the machine and/or at a remote site. The unit makes it possible to display currently measured values, short- and long-term average values. Useful features include statistical processing and overview of the progress of long-term loads on individual brushes. These support the evaluation and selection of a suitable brush type for the specific machine, monitoring of the effectiveness of maintenance work and evaluation of other measures, if applicable, to improve the function of the brush gear, e.g. air filtration and humidification, Teflon coating on the brushes, etc.

The MOSAD<sup>®</sup>-IRIS system is fully autonomous, yet it is advisable to integrate it in an existing information system.

## Basic technical data

Permanent mean current of the IRIS sensor	200 A
Measurement range (peak values)	± 450 A
Measurement uncertainty for the entire chain	2%
Insulation strength	3 kV
Measurement periodicity	1 s

## Brief technical description

The device measures current flowing through each brush. The current sensor is based on an indirect compensation measurement method using a magnetic circuit with compensation winding, a Hall sensor and the associated electronics. The sensor output is a current loop.

The robust design of the sensors gives them high resistance in environments with conductive dust, vibration and strong electromagnetic interference. The IRIS 4.1 sensor type, designed for four brushes, is a compact block of four sensors cast in an insulation material. The IRIS 1.1 type is designed for individual brushes. IRIS sensors can be adjusted to match its application for different types of brush gear system in the power plant.



The unit is equipped with local and remote failure alarm generator. A sophisticated algorithm for generating a fault message can be configured to transmit alarm only when a maintenance action is necessary, without „bothering“ with small deviations of the measured currents from the specified limits.