

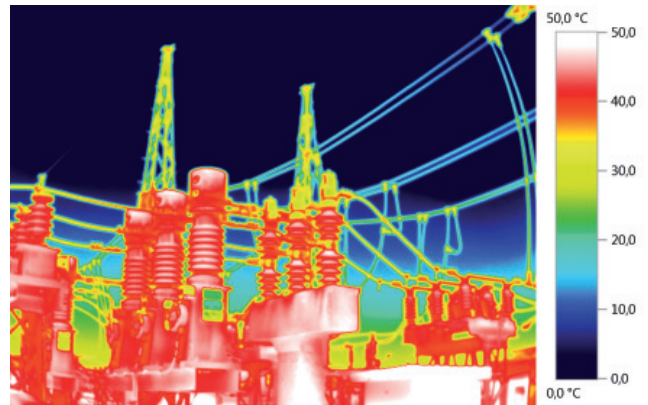
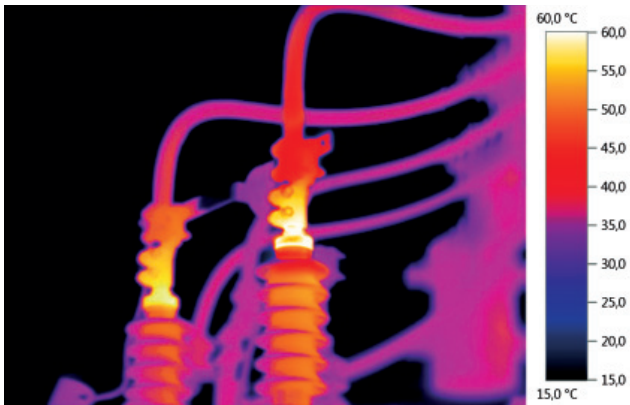
Testing high-voltage plants with thermal imagers from Testo.



Thermography increases reliability of supply

As an integral part of electrical supply networks, high-voltage plants such as substations must ensure as uninterrupted a supply of electricity as possible due to the high availability of their electrical systems. A malfunction or interruption of the electrical grid is often preceded by thermal warming caused by electrical resistance.

This must be localized, evaluated and if required, the time frame for a repair determined. Using the thermal imagers from Testo, thermal warming can be tested without contact and from a safe distance, without endangering the user or needing to shut down the system.



The challenge.

Most symptoms of wear, material fatigue or cable rupture in the transmission of electrical current are preceded by thermal warming due to increased resistance. If this resistance becomes too high, the heat development destroys the component, with the possible result of a power cut. The objective of maintenance work is to obtain an overview of the switchgear which is comprehensive as well as detailed – including all circuit breakers and power switches, converters, insulators, screw fittings, cables or other connections.

A further challenge lies in the cooling oil of the transformers. Due to eroded insulation, slurry can occur here, which is deposited in the cooling ribs. The blockage of the through-flow in the affected cooling ribs initially compromises the cooling, and in the worst case can result in the failure of the complete cooling function of the transformer.

The solution.

With the high-resolution thermal imager testo 890, these sources of malfunction can be quickly and precisely identified before they become serious problems endangering the reliability of supply. The wide-angle lens of the imager quickly provides a meaningful overview of the overall status of the plant being tested. In order to assess distant measurement objects precisely, the telephoto lens is recommended. It reliably and precisely measures objects with a size of 19 mm from a distance of 15 m. Anomalies, so-called hotspots, are identifiable from a size of approx. 6 mm. This allows the smallest cable ruptures or warming in circuit breakers, for example, to be evaluated from a safe distance. The large fold-out, rotatable display of the testo 890 allows overhead imaging work, and in combination with the rotating, ergonomic grip, the imager can be confidently handled even in difficult-to-access places. Finally, the status of the system being tested can be professionally documented using the intuitive evaluation functions and the easy report creation of the analysis software IRSofT.



Thermal imager testo 890

More information.

More information and answers to all your questions concerning thermography at www.testolimited.com