



# THERMOGRAPHIC INSPECTIONS

HIDDEN DEFECTS IN ELECTRICAL SYSTEMS CAN CAUSE SIGNIFICANT YIELD LOSSES AND THEY ARE A POTENTIAL RISK FOR THE SAFE OPERATION OF THE POWER PLANT.



Thermal image or thermography cameras visualise the heat that is radiated by an object (infrared radiation), which is otherwise invisible to the human eye. By identifying minute temperature differences, irregularities in the energy flow are detected.

## SUITABLE FOR A WIDE RANGE OF APPLICATIONS

Thermographic inspections are particularly suitable for:

- Identifying sources of loss and safety-related defects
- Ensuring that a PV system is in perfect condition before its acquisition
- Documenting the condition of a system, e.g., for a change in insurance

## INSPECTION OF PV MODULES

Thermographic inspections are particularly useful for PV systems, as they are carried out without shutting down the system and, consequently, without any loss of yield. The examinations are carried out during drone flight inspections that generate large-area scans or directly in the affected section of the system once performance characteristic analyses have been carried out.

This process can be used to identify a number of errors:

- Incorrectly or not connected modules/module strings/defective plug connectors
- Hot cells, hotspots and defective solder points
- Defective/hot bypass diodes/blocked/inactive cell strings
- Potential-induced degradation (PID)

## INSPECTION OF ELECTRICAL SYSTEMS

Thermographic inspections are a prerequisite for preventive maintenance measures. They are carried out on connection points, control cabinets, converters and inverters, transformers, and switch systems. Errors, safety risks and sources of loss can be identified before a damage or failure occurs:

- Wiring errors and short circuits
- Ageing electrical connections
- Loose contact points
- Incorrect fuse dimensioning
- Increased contact resistance

We use state-of-the-art camera technology, and all our experts possess the relevant certification. Our report explains any anomalies we identify and contains detailed recommendations for action.