

APPLICATION NOTE

Maintain nonstop power plant operations with 24/7 hot spot detection

Introduction

In recent years, distributed renewable energy sources like wind and solar have made headlines for their significant progress in cost reduction, effectively supplementing the electrical grid with clean power. Even so, most electricity consumed across the globe is produced at centralized plants, ranging from traditional coal power plants to clean hydroelectric facilities. There is a variety of critical equipment involved in the power generation process—which, if it fails, can ultimately disrupt power supplied to the grid, as well as significantly increase costs associated with repairs and re-establishing operations. However, preventing unexpected failures is becoming easier due to the implementation of continuous monitoring with fixed thermal imagers.



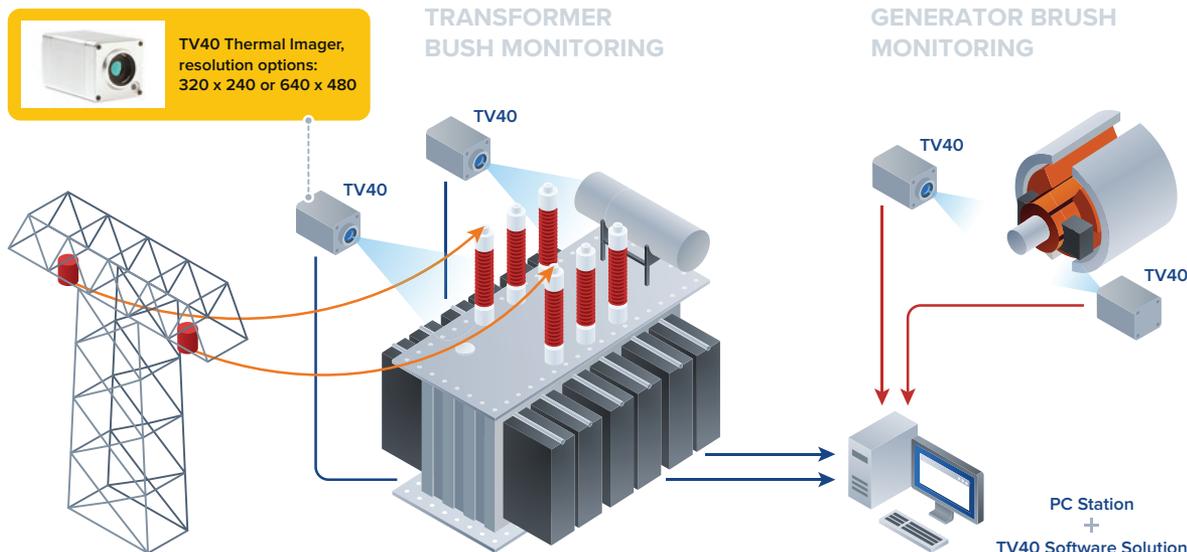
Keeping the lights on

Centralized power plants rely on two critical areas—the generator, which turns kinetic or thermal energy into electricity, and generator step-up transformers (GSU), which connect power to the transmission grid before it is eventually distributed to your home or office. Continuous thermal monitoring in these two areas, along with other pieces of equipment, can help ensure that power is supplied to the grid without interruption.

Monitoring critical equipment

Traditionally, handheld thermal cameras are used to identify potential failure areas in equipment, as hot spots are typically indicative of an issue. Accurate, non-contact measurements allow you to identify risky areas and take corrective action before an unexpected failure, as well as avoid costly repairs and downtime. The primary limitation with handheld thermal imaging, however, is that it can only be performed intermittently. Furthermore, while surveyors are trained to operate infrared cameras, human error can create its own breadth of problems.





TV40 Thermal Imager,
resolution options:
320 x 240 or 640 x 480

TRANSFORMER BUSH MONITORING

GENERATOR BRUSH MONITORING

Avoid human error with ThermoView

Fortunately, preventing human error, and unexpected equipment failures, is becoming easier. Fixed thermal imaging is a cost effective and comprehensive method to monitor critical equipment for hot spots 24/7. The ThermoView TV40 Thermal Imager from Fluke Process Instruments, for example, offers several accessories to ensure continuous monitoring. Outdoor enclosures, telephoto lenses, and pan-and-tilt mechanisms allow the thermal imaging solution to monitor equipment—no matter the physical mounting limitations.

The ThermoView software enables you to integrate multiple cameras for complete facility coverage. Nearly limitless Areas of Interest (AOIs) detect multiple hot spots at once and are quickly configured to alarm the control room when specified temperature thresholds are exceeded. Additionally, automatic image recordings and data transmissions offer you the flexibility to integrate temperature measurements with your existing control systems.

Conclusion

Don't let unexpected equipment failure disrupt your plant operations. Through the implementation of fixed thermal imagers, you can take a proactive approach and rest easy knowing the ThermoView solution will be watching over your equipment 24/7/365.

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Worldwide service

Fluke Process Instruments offers services, including repair and calibration. For more information, contact your local office.

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