datacentrix

Operational Technology

Thermal Vision

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Operational Technology (OT) thermal vision gives operations and maintenance teams a continuous view of equipment health by detecting abnormal heat patterns before failures occur. Electrical faults, loose connections, overloaded circuits, bearing wear and insulation breakdown all generate heat long before they cause trips or breakdowns. Thermal monitoring allows these issues to be identified early, without shutting down equipment or interfering with production.

1. Thermal Vision

Unlike manual inspections or handheld surveys, OT thermal vision runs continuously and automatically. Fixed thermal cameras monitor switchgear, MCCs, transformers, motors, conveyors and process equipment in real time. Temperature trends are tracked against normal operating baselines, making it easy to spot changes that indicate developing faults. This helps maintenance teams focus on the right assets at the right time instead of relying on time-based checks or reacting after failures.

2. Benefits of Unified Operational Visibility

By integrating thermal data into daily OT operations, teams can reduce unplanned downtime, improve safety and extend asset life. Thermal alerts highlight high-risk conditions early, allowing repairs to be planned during maintenance windows rather than emergency shutdowns. The result is fewer breakdowns, safer working conditions, and better use of maintenance resources all without adding complexity to the production environment.

3. Visual Intelligence

Integrated visibility of critical operations enables teams to view cyber security, energy efficiency, visual intelligence and asset performance in one platform.

- **Security and cyber:** OT network monitoring and threat detection
- **Electron and energy:** Energy efficiency and environmental, social and governance (ESG) monitoring
- **Cameras and automation:** Visual artificial intelligent (AI) and process automation
- **Thermal analytics:** Infrared equipment monitoring
- **Risk and asset intelligence:** Asset health and risk insights

4. Enhance Your Equipment Health

Contact our industrial OT specialists today to discuss how we can implement thermal vision solutions in your production environment to reduce breakdowns and unplanned downtime, improve safety performance and extend asset life.

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