

Minimize energy waste caused by unexpected heater burnout

Monitoring of electric heaters degradation enhance energy efficiency and contribute to cost savings.



Efficient heater management is crucial for sustained productivity and cost-effectiveness

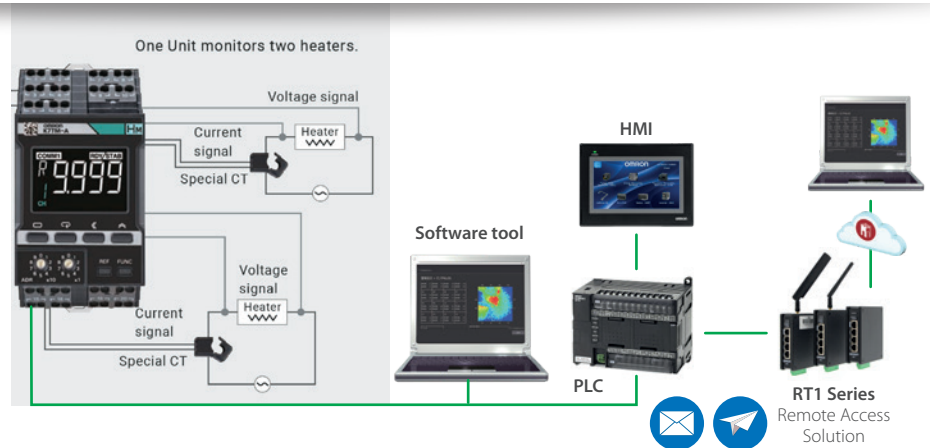
- **Energy Consumption Impact:** Heater failures lead to unexpected downtime. Stopping production, switching off the oven, and inefficiently reheating it consume additional energy. Wasted energy affects overall efficiency and profitability.
- **Downtime Challenges:** Replacing a failed heater and waiting for warm-up is time-consuming if not scheduled. Production halts during this period, affecting productivity.
- **Production Waste:** Interruptions result in wasted materials and resources. Efficiency declines, impacting the bottom line.
- **Manual Maintenance Costs:** Current planned maintenance processes for heaters are labor-intensive.

Three levels solution for Heater monitoring

- Predict Heater failure without any complex analysis and algorithms. Schedule heater replacement during maintenance period and avoid unforeseen downtimes.
- When an abnormal behaviour is detected, timely alerts ensure that corrective actions can be taken promptly. Notifications are sent via email, SMS, or social media platforms like Telegram.
- When monitoring remotely, you'll have access to a graph that displays the trend of measured values.

Minimize energy waste monitoring heater degradation

Actually, identify the right time for servicing or replacing heater equipment posed challenges. However, thanks to OMRON unique approach, this process has become more efficient.



The K7TM monitors heater resistance values and detects trends in their deterioration rate. When a predefined threshold is reached, NX1P PLC triggers alarms via remote access solution RT1. This enables users to make informed decisions about optimal maintenance or replacement timing for their heaters equipment, saving energy and reducing overall machine consumption.

OMRON products	Items references
NX1P2-Compact controller	NX1P29024DT1: 24 Digital Transistor I/O (PNP), EtherCAT (4 PTP axes, 16 EtherCAT nodes), EtherNet/IP and 1 serial option port
RT100 Remote Access Solution	RT100-EMM3010: SiteManager LAN, 10 Device Agents, 3x Ethernet Ports, 1x Micro SD slot, 1x USB port
K7TM-A2MD Monitor device	Heater resistance monitoring device, 24 VAC/VDC, transistor control output, Push-in Plus, LCD display, RS-485/Modbus/RTU
K6CM-CICB025 Current transformer	CT sensor for Current analysis, 25A rated primary-side current

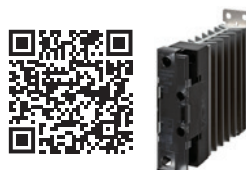
Complete your equipment with:

Temperature Controllers E5_C series



OMRON is the only company able to provide 3 different solution (On-panel, In-panel and PLC based) to offer full scalability and fit in every application or machine design.

Solid State Relay G3PJ series



OMRON portfolio cover all three main products categories (Interface, general purpose, Advanced) capable to switch single and 3-phase load with very low heat dissipation.

Monitoring Relay K8 series



Ideal for prevention of excessive temperature increase in the oven. It is acting as redundant prevention device, in combination with main temperature controller. It is equipped with prohibits changing features for alarm threshold, operating method, and modes setting.

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