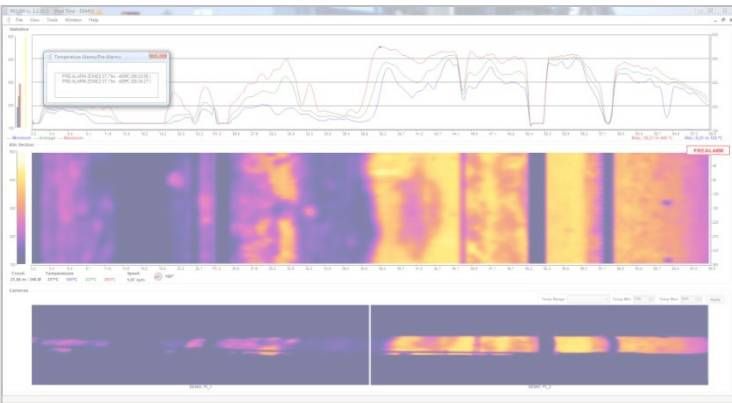


RKS300

Rotary Kiln Monitoring System



Thermal camera-based monitoring system

High resolution and accuracy

Real time monitoring and analysis



RKS300

Real Time Rotary Kiln Monitoring

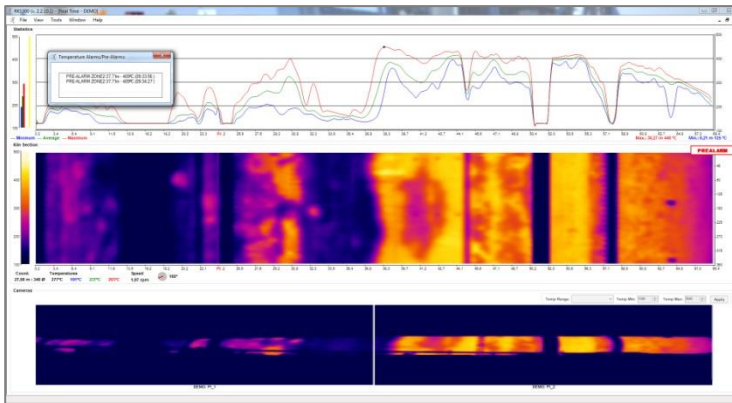
The thermal camera-based kiln shell monitoring system RKS300 monitors kiln shell and provides real-time inspection of the entire kiln length. It integrates hardware and software as a solution, allowing the detection and measurement of all hotspots on the kiln shell, even at an early stage.

With real time inspection at the highest resolution (up to 3200 measuring points per line), the RKS300 purpose is to ensure proper kiln-shell safety and durability, optimize kiln efficiency and reduces the cost of maintenance due to damage and unscheduled downtime.

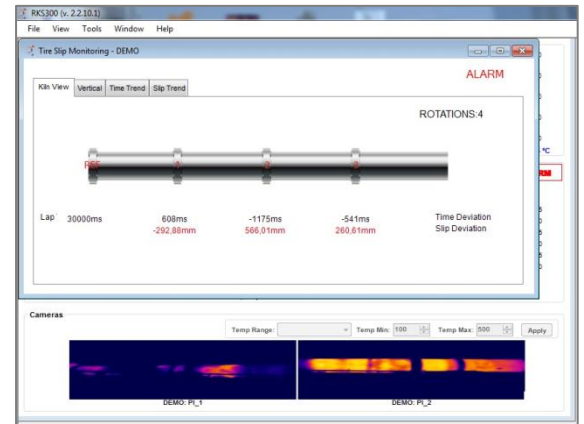


RKS300 system in operation

To withstand the aggressive environment that surrounds the system in a cement plant, the RKS300 is protected by a rugged protective housing that resists adverse conditions thanks to an air purge and an internal temperature control device. This keeps the thermal camera clean within a constant ambient temperature.



Real time inspection inside the kiln



Tire Slip monitoring – Kiln view

RKS300 Software

RKS300 software provides real-time thermal imaging for temperature monitoring, display, analysis and detection of hot-spots. Furthermore, our software enables access to all temperature points giving its kiln's surface coordinates with very accurate measurements. View trends, optimize and facilitate your maintenance schedules and operations.

RKS300 software includes:

Fan Control System

Prevents kiln shell deformation with active cooling, controlling up to 16 fans with independent actuators.

Tire Slip Monitoring

Monitors the displacement of up to 6 slip rings.

Shadow Monitoring

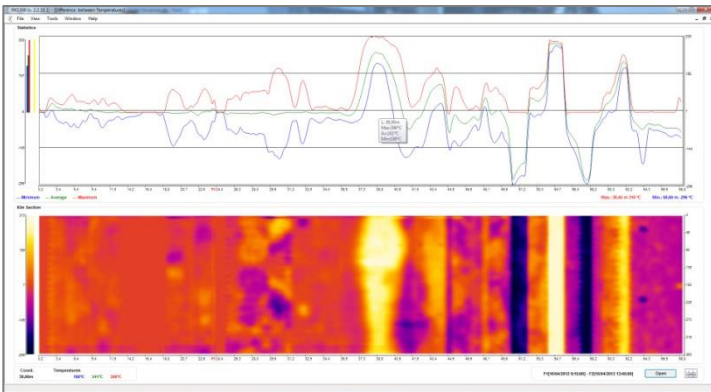
Measures up to 8 FOV shaded areas by integrating IR temperature sensors.

Communications via Profinet / Profibus / OPC Client

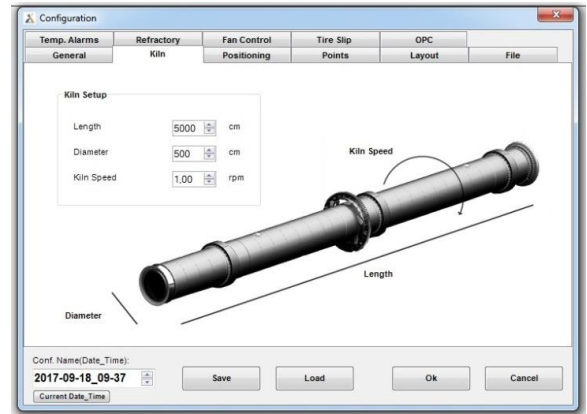
Data Integration and communication to the different levels of the factory (SCADA, data bases, communications with PLC and sensors).

Features

- **Real time inspection.** Images are shown in motion and maintain the kiln's actual aspect ratio.
- **High thermal sensitivity** to identify smaller temperature changes.
- **Up to 35 million control points per second.**
- **8 independent zones** with temperature alarm and pre-alarm.
- **Control up to 16 fans** with independent actuators.
- **Kiln rotating speed.**
- **Fiber optic communication.**
- **Accurate data analysis.**
- **Historic data evolution analysis.**
- **24 refractory zones data log.**



RKS300 Software – Temperature differences view



Kiln parameters definition

Benefits

- **Kiln maintenance optimization**
- **High sensitivity** to identify even the smaller temperature changes and hot spots
- **Reduction of unscheduled stops and maintenance costs**
- **Higher field of view** for new larger kilns (up to 4 thermal cameras with 110° view angle)
- **Higher resolution** (up to 3.200 measuring point per line) for refractory detail
- **High sensitivity** to identify even the smaller temperature changes and hot spots
- **Easy integration and communication** of all data to Plant Control System
- **Pre-wired and pre-tested** for an easy installation
- **Calibration checks are not required**
- **Training and commissioning support** by highly qualified and experienced team

Performance

- Temperature range: 20° C – 900°C
- Resolution: from 478 up to 3200 pixels/line.
- Accuracy: $\pm 2\%$ or $\pm 2^\circ\text{C}$.
- Available Optics: 13 – 90°.
- Frame Rate: up to 80 Hz.
- Temperature Alarms: up to 8 zones.
- Fans: up to 16 zones.
- Refractory: up to 20 zones.
- Slip Rings: up to 6 zones.
- Shaded areas: up to 8 zones.

Industries

- Cement
- Lime
- Zinc



RKS300 thermographic system



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