Specifications

HotSpotIR Scanning Head			
Model	**LSP-60**	**LSP-61**	**LSP-62**
Measurement Range	20 to 250°C / 68 to 482°F	50 to 400°C / 122 to 752°F	100 to 600°C / 212 to 1112°F
Speed of Response	≤10µs	≤5µs	
Scan Speed	10 to 100 Hz		
Scan Angle	80°		
Repeatability	± 0.5°C / 0.9°F		
Emissivity	0.20 to 1.00		
Focus & Field of View	1200mm Fixed Focus Target Distance: >1200 / 47.2", FOV 100:1		
Ambient Temperature	5 to 60°C / 41 to 140°F (specified) 5 to 70°C / 41 to 158°F (operating)		
Dimensions	206 x 209 x 100mm / 8.1 x 8.2 x 3.9"		
Alignment	Class 2, max. output 1.0 mW at 635nm, IEC60825-1:2001		
Environmental Sealing	IP65		
EMC	EN 61320:1999 Class A (immunity and emission); IEC 1010 (safety)		

Other HotSpotIR Applications

- Storage of Materials
  - Coal
  - Chemicals
  - Powders
  - DRI Pellets
- Transport of Materials
  - Conveyors
  - Railcars
- Non-Woven Materials
  - Process Control
- Refractory
  - Boilers
  - Process Heaters
  - Rotary Kilns
  - Torpedo Cars

Intelligent Scanning

Intelligent Scanning solutions aim to solve problems by providing more than just a measurement. Land is able to provide a custom solution according to your requirements; this includes custom temperature ranges, application specific mountings, and custom communications protocols.

User Interface - HotSpot alarms

The processor provides power for the scanner, plus the user interface into the measurement information. It can display numeric, line chart, deviation chart or a combination of these formats.

The scanner measurement data is input directly, where a 'peak picker' function allows the processor to respond quickly to temperature rises, and provide alarms to the operator. Two alarms are provided, selectable as either high or low. These can provide either a warning or an alarm condition to the operator.

HotSpotIR Processor

LAND

Non-Contact Temperature Measurement Solutions

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UKAS CALIBRATION 0034 — Applies in the UK

LABORATORY ACCREDITATION BUREAU ACCREDITED ISO/IEC 17025:2005 — Applies in the USA

REGISTERED ISO 9001 MANAGEMENT SYSTEM

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Continuous product development may make it necessary to change these details without notice.

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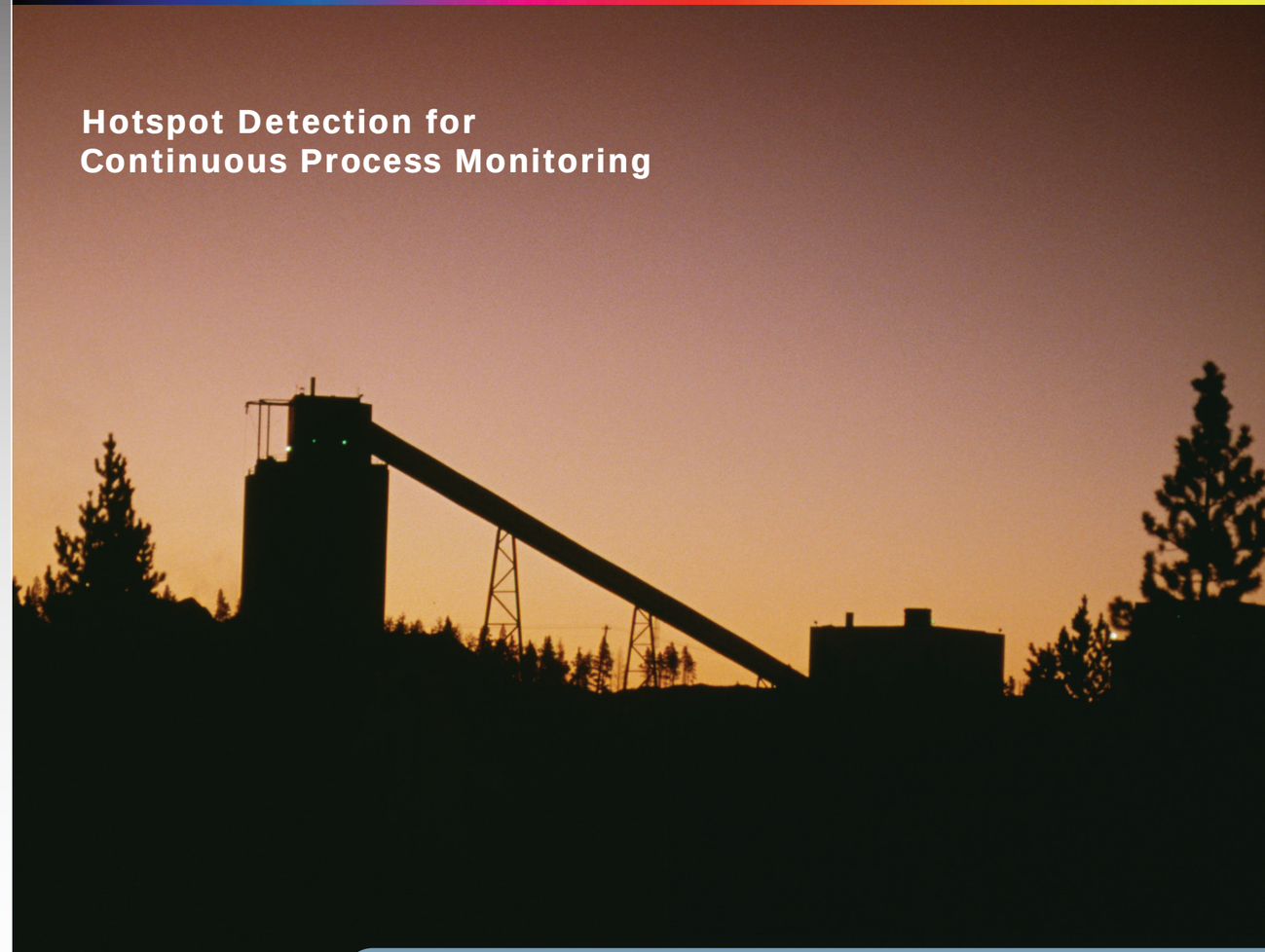

Hotspot Detection for Continuous Process Monitoring

Conveyor Belt Hot Spot Monitoring

Prevent the Spread of Dangerous Hot Inclusions

An AMETEK® Company

Conveyor Belt Hot Spot Monitoring

The Problem

Many materials that are transported on conveyors contain hot inclusions. These hot objects can damage belts or cause belt or material fires. Traditional temperature measurement methods are unable to detect small hot spots on a moving conveyor.

The Challenge

A method of detecting these developing hot spots and sending an alarm to the process operators would prevent costly shutdowns. Traditional methods such as visual inspection and single point pyrometers do not have the speed nor the resolution to meet the application demands.

The Solution

The **HotSpotIR** High-speed Scanning System is used to detect these emerging hot spots. The **HotSpotIR** makes 100 high resolution temperature scan lines every second while the hottest point measured is updated and output to the alarm processor every one hundredth of a second. The system covers a measuring range of 68 to 482°F / 20 to 250°C.

The **HotSpotIR** is easy to install, a quick release mounting bracket allows rapid fitting and maintenance. The mounting bracket is keyed so that the alignment is maintained when returning it to the mounting. A single, quick release cable connects the sensor to the alarm processor.

The **HotSpotIR** processor provides high speed alarm contacts that are sent to the control room for operator attention.

"Maximize your belt life and plant productivity by detecting hotspots before problems occur."

Designed for Industrial Environments

The **HotSpotIR** head is extremely compact and has a minimized depth and base "footprint" for installation in restricted spaces. A durable, flush mounted sapphire window provides reliable protection for the system optics. A built-in laser targeting system aids alignment on to the target.

The **HotSpotIR** is small enough to be positioned under a belt just after the material has been transferred. It will measure the entire belt surface and alarm if any areas are above a safe temperature. Alarms can be used to trigger water sprays or suppression systems. Alternatively, it can be positioned above the conveyor to monitor the material to determine hot spots. This can prevent hot items from being loaded, transported and causing fires later in the plant.

Direct Control System Integration

Temperature measurements generated by the high-speed scanner are sent to a dedicated processor. The processor produces an alarm output set by the user to their desired value. This can be sent directly to the plant control system.

Key Features & Benefits

- Hot spot detection using accurate temperature monitoring
- Fast Scan Speed of up to 100Hz - Fast response, hottest temperature tracking
- Laser Alignment allows easy setup
- Wide scan angle of 80° - Monitor and protect the entire conveyor, even against small hotspots
- Simple, reliable alarm processing without the need of software
- Prevent hot particles entering the conveyor or storage area
- Reduce insurance costs
- Higher confidence in safety of transported and stored material
- Reduce plant operating costs - reduce damage and downtime
- Improve safety of employees - minimize fire risk
- Continuous, automatic monitoring alarm condition indication
- HotSpotIR Ex version available as an option

Coke Conveyor

Hot Coke Conveyor

HotSpotIR scanner and processor

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