

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

Hot Spot Detection for Continuous Process Monitoring and Quality Control

Supercalender Roll Hot Spot Detection

LAND

Land Instruments International Ltd • Dronfield S18 1DJ • England
Email: land.infrared@ametek.co.uk • www.landinst.com • Tel: +44 (0) 1246 417691 • Fax: +44 (0) 1246 410585

AMETEK Land, Inc. • 150 Freeport Rd • Pittsburgh, PA 15238 • U.S.A.
Email: irsales@ametek.com • www.ametek-land.com • Tel: +1 (412) 826 4444 • Fax: +1 (412) 826 4460

For a full list of international offices, please visit our website.



An AMETEK Company

Applies in the UK

Applies in the USA

An AMETEK Company

Supercalender Roll Hot Spot Detection

The Problem

As production rates and temperatures rise, the possibility of overheating a roll, causing a blister or losing the coating increases. Coated rolls can be repaired, but the cost can be tens of thousands of dollars and the associated downtime further adds to this. The coated rolls rotate at high speeds and some of the developing hot spots can be quite tiny so it is impossible to detect these developing problems by using traditional methods.

The Challenge

A method of detecting these developing hot spots and sending an alarm to the process operators would prevent these 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.

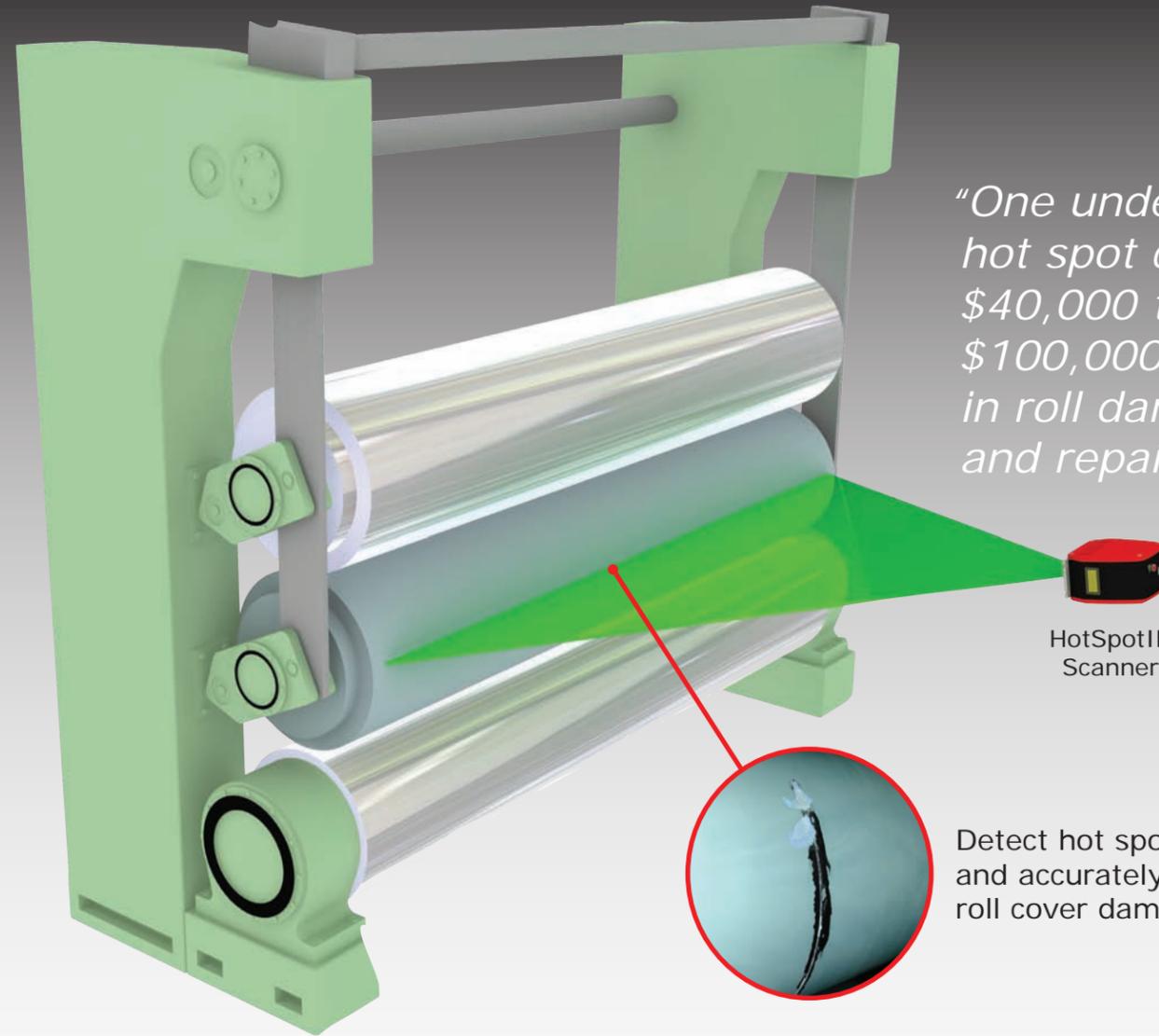
The Solution

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.



“One undetected hot spot can cause \$40,000 to \$100,000 in roll damage and repair”

HotSpotIR Scanner

Detect hot spots quickly and accurately to **prevent** roll cover damage

Key Benefits

- Prevent costly roll repairs
- Increase production rates
- Improve product quality
- Reduce down-time
- Simple to install and setup

Key Features

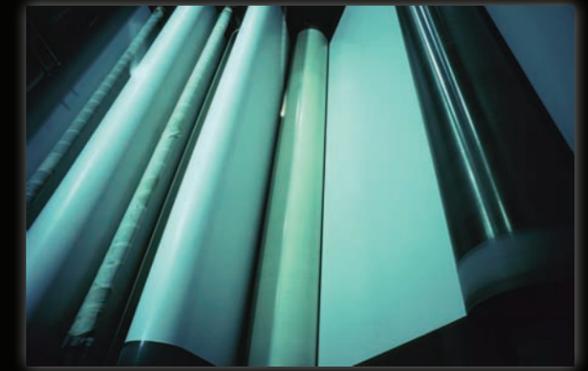
- Fast Scan Speed of up to 100Hz
- Outputs peak temperature for each scan line
- Laser Alignment allows easy setup
- Wide scan angle of 80°
- Simple, reliable alarm processing without the need for a computer or software
- Single cable connection between scanner head and processor
- Compact size, ideally suited to restricted access locations

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.

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 sapphire window provides reliable protection for the system optics. A built-in laser targeting system aids alignment on to the target.



Supercalender roll



Typical damage caused by an undetected hot spot



HotSpotIR Scanner and Processor

LAND