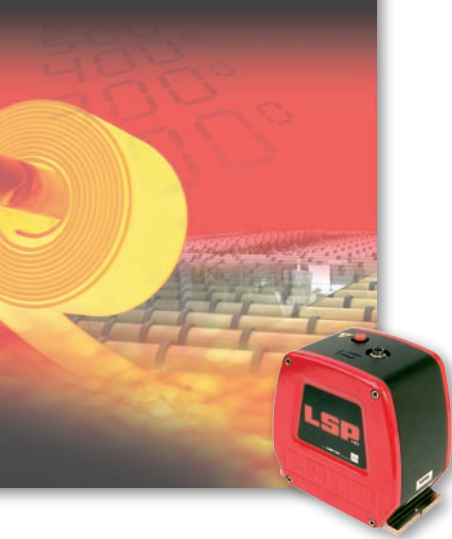


## Thermal Imaging and Temperature Profiles for Continuous Process Monitoring and Quality Control



### LSP<sub>HD</sub> 10

600 to 1400 °C / 1112 to 2552 °F

### LSP<sub>HD</sub> 11

700 to 1500 °C / 1292 to 2732 °F

Compact, high performance linescanners which provide high definition thermal imaging from a combination of fast scan speeds and high resolution optics. The real-time processed data is provided via an industrial ethernet connection which is plug and play, installed by means of a single cable connection, which reduces installation time and costs.

**+industry leading 150 Hz scan speed  
1000 samples at all scan frequencies+**

### Steel Applications - Key Benefits

- + Process Investigation**  
Displays can be used to identify and analyse problems.
- + Process Development**  
Process modelling to improve process control
- + Quality Control**  
Accurate thermal records are a critical aspect of product quality information
- + Process Control**  
Provide real time displays of the product's thermal images in a variety of different display formats.

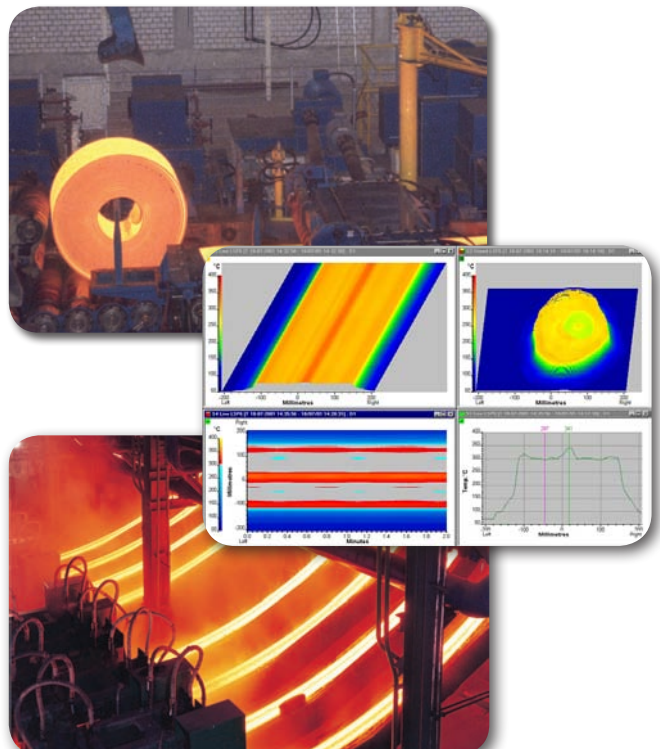
Photos (Top to bottom): Hot Strip Coiler, Thermal map - Hot Strip Mill, Continuous Caster

### Key Applications - Steel

- + Continuous Caster
- + Reheat Furnace - Exit
- + Hot Strip Mill -  
Roughing Mill Entry/Exit, Coil Box,  
Edge Heaters
- + Hot Plate Mill -  
Roughing Mill Entry/Exit

### LSP<sub>HD</sub> - Key Features

- + High resolution, optical system
- + Designed for operation in harsh industrial environments
- + Plug and play installation via a single Ethernet cable connection
- + Range of data output formats

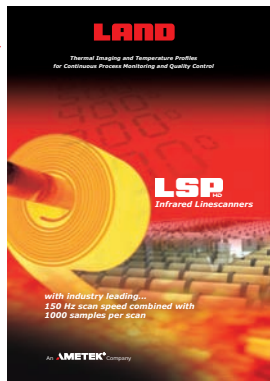


Performance Specifications LSP <sub>HD</sub> 10 (P/No. 804817) / LSP <sub>HD</sub> 11 (P/No. 804818)		
Temperature Range:	<b>LSP<sub>HD</sub> 10</b> 600 to 1400 °C / 1112 to 2552 °F	<b>LSP<sub>HD</sub> 11</b> 700 to 1500 °C / 1292 to 2732 °F
Wavelength:	1 µm	
Measurement Accuracy <sup>(1)</sup> :	±2°C / 3.6°F	
Repeatability:	<0.5°C / <0.9°F	
Temp. Resolution typical:	<1°C / <1.8°F	
Drift with ambient temp:	≤ 1° indicated / 10° ambient	
Emissivity:	0.20 to 1.00	
Speed of Response:	≤ 1 µs	
Scan angle:	80° (software adjustable to 40° in 1° steps)	
Scan Speed:	10 to 150 Hz (User adjustable in 10 Hz steps)	
Samples/scan:	1000	
Field of View:	500:1 with user focusable optics (smallest spot size Ø 2mm/0.08 in) <i>static to 95% radiance</i>	
	1118:1 with user focusable optics (smallest spot size Ø 2mm/0.08 in) <i>static to 50% radiance</i>	
Focus Distance:	1m / 39.7 in to infinity (continuously adjustable by the user)	
Connection (signal/power):	Industrial Ethernet via M12 Connector / Power over Ethernet	
Signal Processing:	Up to 14 user configurable zones with min. / max. / average / quantile / average threshold	
Inputs/Outputs:	PoE (IEEE 802.3at) enabled TCP/IP Industrial Ethernet	
Ambient Temperature	5 to 60°C / 41 to 140°F (specified) 5 to 70°C / 41 to 158°F (operating)	
Dimensions (w x h x d):	206 x 209 x 100 mm / 8.1 x 8.2 x 3.9 inches	
Alignment Laser:	Class 2, maximum output 1.0 mW at 635 nm, IEC60825-1:2001 / Indicating scan plane & extent	
Environmental Sealing:	IP65	
EMC:	EN 61320:1999 Class A (immunity and emission); IEC 1010 (safety)	
Notes: (1) Applies 5 to 95% of range		

## LSP<sub>HD</sub> Overview

A complete overview of the entire product range, including the key features and benefits of all models.

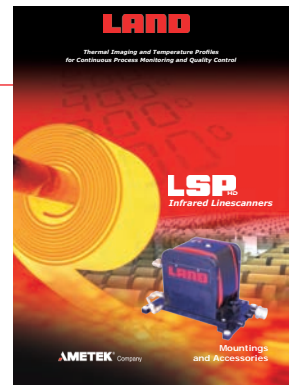
Ref **LSP<sub>HD</sub> Overview 0210**



## LSP<sub>HD</sub> Mountings and Accessories

A complete overview of the entire range of mountings and accessories for the entire LSP<sub>HD</sub> product range

Ref. **LSP<sub>HD</sub> M&A 0210**



**Non-Contact Temperature Measurement Solutions**

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0034 Applies in the UK



Applies in the USA

