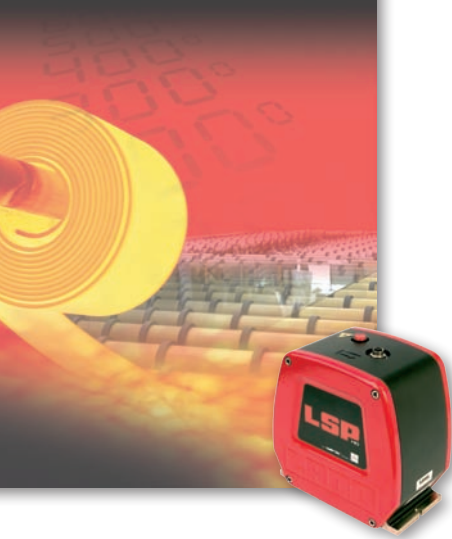


Thermal Imaging and Temperature Profiles for Continuous Process Monitoring and Quality Control



LSP_{HD} 20

200 to 850 °C / 392 to 1562 °F

LSP_{HD} 21

300 to 1000 °C / 572 to 1832 °F

LSP_{HD} 22

400 to 1200 °C / 752 to 2192 °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 Mill - Cooling Section, Galvanising line

Key Applications - Steel

- + Continuous Annealing Lines**
 - Top of snout before zinc pot
- + Galvanising Lines**
- + Hot Strip Mill - Cooling Section**
- + Hot Plate Mill - Run-out Table**

LSP_{HD} - Key Features

- + High resolution, user focusable 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_{HD} 20 (P/No. 804798) / LSP_{HD} 21 (P/No. 804799) / LSP_{HD} 22 (P/No. 804800)

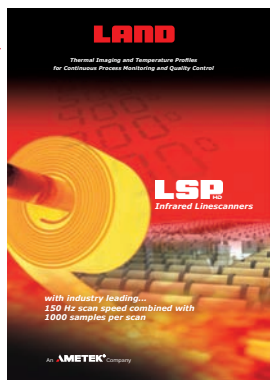
| | | | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Temperature Range: | LSP_{HD} 20 200 to 850 °C / 392 to 1562 °F | LSP_{HD} 21 300 to 1000 °C / 572 to 1832 °F | LSP_{HD} 22 400 to 1200 °C / 752 to 2732 °F |
| Wavelength: | 2.2 µm | 1.9 µm | 1.9 µm |
| Measurement Accuracy(1): | ±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: | ≤ 1.5 µs | ≤ 1 µs | ≤ 1 µs |
| Scan angle: | 80° (software adjustable to 40°) | | |
| Scan Speed: | 10 to 150 Hz (User adjustable in 1 Hz steps) | | |
| Samples/scan: | 1000 | | |
| Field of View: | LSP _{HD} 20 - 300:1 with user focusable optics (smallest spot size Ø 2mm/0.08 in) <i>static to 95% radiance</i> LSP _{HD} 20 - 1034:1 with user focusable optics (smallest spot size Ø 2mm/0.08 in) <i>static to 50% radiance</i> | | |
| | LSP _{HD} 21&22 - 500:1 with user focusable optics (smallest spot size Ø 2mm/0.08 in) <i>static to 95% radiance</i> LSP _{HD} 21&22 - 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_{HD} Overview

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

Ref **LSP_{HD} Overview 0310**



LSP_{HD} Mountings and Accessories

A complete overview of the entire range of mountings and accessories for the entire LSP_{HD} product range

Ref. **LSP_{HD} M&A 0310**



Non-Contact Temperature Measurement Solutions

An **AMETEK** Company

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For full details of all international offices and distributors please visit our websites



0034 Applies in the UK



Applies in the USA

