SPOT GS

STEEL APPLICATION PYROMETER
FOR **GALVANIZED AND GALVANNEALED STRIP**

A PRODUCT OF THE SYSTEM 5 FAMILY

125 to 1000 °C / 257 to 1832 °F

LAND
AMETEK®
PROCESS & ANALYTICAL INSTRUMENTS

QUALITY CUSTOMER SOLUTIONS

SPOT GS

STEEL APPLICATION PYROMETER

BUILDING ON THE VAST EXPERIENCE OF AMETEK LAND IN NON-CONTACT TEMPERATURE MEASUREMENT SYSTEMS FOR THE STEEL INDUSTRY, THE SPOT GS HAS BEEN SPECIFICALLY DEVELOPED TO PROVIDE CONTINUOUS AND ACCURATE MEASUREMENT OF TEMPERATURE OF GALVANIZED AND GALVANNEALED STRIP.

AMETEK LAND HAS BEEN MANUFACTURING PRECISION MEASURING EQUIPMENT SINCE 1947.

WE ARE SPECIALISTS IN NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION MONITORING WITH APPLICATIONS ACROSS DIVERSE INDUSTRIES SUCH AS STEEL AND GLASS MAKING, POWER GENERATION AND CEMENT MANUFACTURE.

As part of AMETEK Process & Analytical Instruments Division since 2006, our customers benefit from the worldwide AMETEK sales and service team.

Combining AMETEK Land's cutting-edge, non-contact SPOT technology with specialised software algorithms, the SPOT GS is a high-precision digital pyrometer that delivers reliable temperature readings for galvanized and galvannealed steel strip. The pyrometer provides accurate temperature measurement needed for close monitoring of the coating process, enabling automated furnace management that in turn delivers tighter control of product quality. Continuous on-line temperature measurement with the SPOT GS allows process line control systems to quickly and efficiently accommodate changes in strip dimensions or coating weight during changeover between different customer orders.

UNIQUE PRE-SET ALGORITHMS - The GS algorithm is dedicated to galvanized or galvannealed surfaces. The GS+ algorithm extends functionality to include the molten zinc surface seen on exit from the zinc pot.

CLOSE CONTROL FOR LOWER COSTS - The automated management provided by the SPOT GS enables furnace optimisation, which reduces heating costs, maximises throughput, and avoids excessive over-reaction. It also helps prevent coating defects and reduce problems during subsequent forming operations.

INTEGRATION FOR AN OPTIMISED PROCESS - Combining a range of digital and analog outputs, the SPOT GS fully integrates with furnace controls, PLCs and control software, providing the measurements needed to optimise furnace performance. This enables reliable and repeatable operation, producing high-quality products with minimal defects.

POWERFUL SOFTWARE SUPPORT - With AMETEK Land's SPOTViewer software, the operator can quickly connect, log and view data from a SPOT GS pyrometer. Viewing and analysis is fully configurable using the flexible user interface.

MOUNTINGS & ACCESSORIES ▼

SPOT MENUS ▼

AMETEK LAND OFFERS A RANGE OF MOUNTINGS AND ACCESSORIES FOR SPOT PYROMETERS
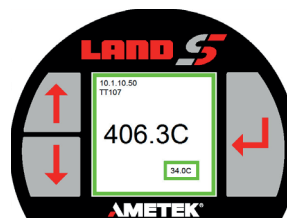
SPOT is designed to be interchangeable with existing fixed spot pyrometers. To view the full range of mountings and accessories available, see our SPOT Mountings and Accessories brochure.

For specific recommendations on the choice of mountings, brackets, cables or any other accessories that may suit your specific industry or installation, please contact an AMETEK Land sales manager or representative for further advice before ordering.

Remote user interface

Actual SPOT image view

Flexibility of design enables the SPOT GS to adapt to multiple steel application scenarios.

Updating from an older AMETEK Land sensor to SPOT form factor is flexible and easy. Utilize existing mountings and accessories for simple integration and installation.

SPOT GS

SPECIFICATION & DESIGN

1: UNIQUE PRE-SET ALGORITHMS

The GS algorithm is dedicated to fully galvannealed or galvanized surfaces. GS+ algorithm extends functionality to include liquid surfaces seen on exit from the zinc pot.

2: THROUGH-THE-LENS INTEGRATED CAMERA

Easy target alignment and verification in low and high brightness environments.

3: PATENTED* PULSED HIGH BRIGHTNESS LED SIGHTING

Indicates both target size and location using an easily visible pattern; no laser safety requirements.

4: POWER OPTIONS

Power over Ethernet or 24 V DC.

5: INTEGRATED PROCESSING

No need for any separate processors, the SPOT GS offers powerful processing capability built in

6: HIGH QUALITY OPTICS

Sapphire protection window ensures precise targeting and repeatable measurements even in the harshest environments.

7: INTEGRATED WEB SERVER

Allows for remote adjustment and readings via any web browser.

8: REAR DISPLAY & CONTROLS

Target viewing, temperature reading and set-up through simple menu driven choices; no need for separate software.
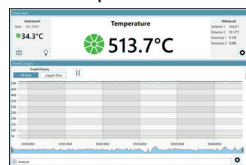
TYPICAL APPLICATIONS

Annealing Furnace

Soaking Zone

Galvannealing Furnace

SPOTViewer SOFTWARE

SPOTViewer is a PC-based utility that enables you to connect, configure, and view data from a SPOT pyrometer and scan graphs with an Actuator. Specifically developed to work seamlessly with the industry leading single point pyrometers. SPOTViewer's simple installation means the operator can quickly connect, configure and view data from any AMETEK Land SPOT pyrometer.

Easy view and analysis of long term data displayed in both graphical and tabular views. Clearly highlights trends and patterns allowing you a greater understanding of the temperatures involved in your process. Simple configuration of pyrometer and actuator settings from a remote location gives you total control over temperature measurement on their process without the need to be at the instrument location.

SPOTViewer enables a user to remotely control a SPOT Actuator and its settings, plus display scan graphs.

FEATURES & BENEFITS

Specialized Galvanneal and Galvanized algorithms - provide accurate digital temperature readings from GS or GS+ algorithms enabling live process control.

Single Sensor Solution - Ideal for use with customer PLCs or DCS systems; no separate processor. Easy to implement in small or large organizations.

Single person installation at instrument location - local display and settings; no need for a second person in the control room.

Industry standard 4-20 mA linear temperature output in addition to other outputs.

Modbus TCP - widely used and popular industrial protocol over Ethernet.

Durable Sapphire Protection Window - resists scratches, solvents and easily cleaned with a soft cloth.

Software - SPOTViewer provides remote display and data logging for a SPOT pyrometer.

* Patent Pending

LAND AMETEK®

SPOT GS
STEEL APPLICATION PYROMETER
FOR GALVANIZED AND GALVANNEALED STRIP

SPECIFICATIONS

Measurement Range:	200 -1000 ℃ / 392-1832 ℉ on highly reflective liquid / galvanised surfaces 125 to 1000 ℃ / 257 to 1832 ℉ on higher emissivity galvannealed surfaces (ε >0.5)
Measurement Accuracy*:	± 5 ℃ < 200 ℃, ± 2 ℃ or 0.25 % K at 300 ℃ and above
Repeatability*:	±3 ℃ < 200 ℃, ±2 ℃ or 0.25 % K at 300 ℃ and above
Resolution:	0.1 ℃
Noise*:	5 ℃ < 200 ℃, 1.5 ℃ at 250 ℃, <0.5 ℃ at 300 ℃ and above
Detector Type:	Application specific selected range of narrow wavelength bands designed to optimise temperature accuracy for the measurement of Gavannealed and Galvanized Strip
Sealing:	IP65
Response Time:	Adjustable 15 ms to 10 s
Interfaces:	0-20 mA DC or 4-20 mA DC, Digital or Analogue (0 or 4-20 mA) CMD In and CMD Out, Ethernet (TCP-IP, Modbus TCP, DHCP, http, udp, ICMP)
Processing Functions:	Peak/Valley Picking, Averager, Modemaster, CMD In sampling or LED control, CMD Out alarms, emissivity output or actuator control
Power Requirement:	Power over Ethernet or 24 V DC
Display:	Local display with image streaming
Software:	Live configuration and temperature display on any web browser. Optional SPOTViewer software with datalogging, live and historical data trending plus remote image capture
Languages:	Integrated multiple language selections: English, German, French, Italian, Spanish, Portuguese (Brazilian), Japanese, Chinese (simplified Mandarin), Korean, Russian, Polish
Field of View:	60 :1 to 90%
Mounting:	Full range of mountings and accessories available
Ambient Temp Range:	5 - 60 ℃ / 41 - 140 ℉ specified, 0-70 ℃ / 32 - 158 ℉ operating before cooling required
Focus Range:	300 mm / 11.8 in to infinity, locally or remotely adjusted
Sighting:	Integrated video with local display and remote image capture. Patented** pulsed Green LED focus pattern confirmation
Inputs:	24 V DC, CMD In, Ethernet, (TCP-IP, Modbus TCP, DHCP, http, udp, ICMP)
Outputs:	0-20 mA, 4-20 mA, CMD Out, Ethernet (TCP-IP, Modbus TCP, DHCP, http, udp, ICMP)
Settings:	Configure locally using the pyrometer interface or remotely (using the Webserver or SPOTViewer). Emissivity, mode, current output range, alarm logic output and thresholds, network settings, focus and LED, language and user name
Warranty:	See our website at www.ametek-land.com for warranty details.

* In Application ** Patent pending.

AMECARE
PERFORMANCE SERVICES

AMETEK Land's AMECare Performance Services ensure peak performance and maximum return on investment over the life of your equipment.

We will deliver this by:
- Proactively maintaining your equipment to maximize availability.
- Optimizing solutions to meet your unique applications.
- Enhancing user skills by providing access to product and application experts.

AMETEK Land's global service network provides unparalleled after-sales services to ensure you get the best performance and value from your AMETEK Land products. Our dedicated service centre teams and on-site engineers are trained to deliver the highest standard of commissioning, maintenance and after-sales support.

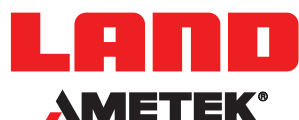## SEE OUR OTHER LITERATURE ON SPOT MOUNTINGS & ACCESSORIES AND SPOTVIEWER SOFTWARE:

SPOT FAMILY PYROMETERS

SPOTVIEWER & SPOTPRO SOFTWARE

DISCOVER HOW OUR BROAD RANGE OF NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION & EMISSIONS PRODUCTS OFFER A SOLUTION FOR YOUR PROCESS

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