Infrared Radiation Pyrometer

KT81S

Accurate, Non-contact, High Temperature Measurements with long term stability

capabilities
Distance Ratio 400:1

Superior temperature resolution

Reliable operation in extremely hostile environments

Accurate monitoring of thermal processes

If you are looking for an expert partner in non-contact temperature measurements with more than 40 years of experience and an installed base of infrared Pyrometers and systems with thousands of customers worldwide, HEITRONICS is the right address to help you with your specific application.

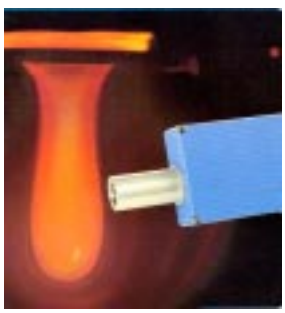
Today's manufacturing processes require highly reliable non-contact measurement of surface temperatures to prevent over- or under-heating and to maintain controlled temperatures. KT81R infrared Pyrometers measure product temperature directly and continuously with dependable repeatability. What's more, these precision instruments feature advanced engineering refinements, quality optics, precise temperature resolution and are built to satisfy rugged industrial requirements.

The instrument offers:

- Silicon, photovoltaic detector responding in the spectral region of 0.7 to 1.2 micron. Heating/ cooling action of a Peltier element incorporated into the detector housing maintains a constant temperature to optimize signal level and stability of the detection.
- Linear outputs proportional to temperature directly from the sensing head. A variety of models covering a temperature range of 930°F-5400°F (500°C -3.000°C) collectively a Through-the-lens sighting for precise aiming and ease of set-up.
- Standard accessories to satisfy most applications; customization also available.

Because HEITRONICS offers a choice of devices, you may select the infrared Pyrometer that's just right for your particular production requirements. For applications involving the smallest of targets, the KT 81S is capable of pinpointing the target area. Other standardly available focusing offers larger spot diameters for use on metal slabs and billets or molten glass.

Metal temperature monitoring



Molten glass application with KT81S

HEITRONICS
Infrarot Messtechnik

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The KT81S

can be configured to send an output signal to an indicator, to a computer for logging of data, or to a controller for maintenance of temperature based on a pre-set control point.

KT 81S

exceptional field of view, fast response time.

HEITRONICS's KT 81S is the right choice for most common incandescent

Applications

including: iron and steel, foundries, forging, hardening, annealing, and semiconductor processing. Offering truly exceptional field of view, HEITRONICS KT81S high-temperature infrared Pyrometer can measure a 0.22 inch diameter object at 61/2 feet (400:1 distance to target ratio).

What's more, because of this unit's superb optics, target diameters as small as 0.005 inch can be pinpointed and measured.

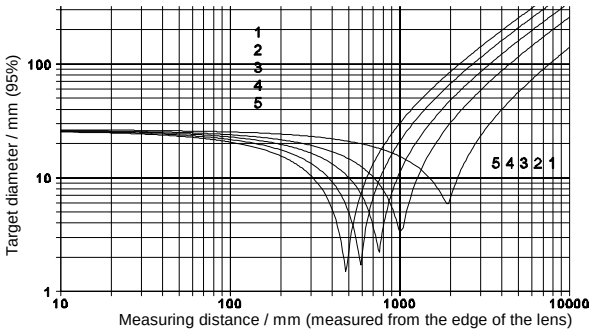
In addition,

the KT 81S offers these features:

- Least sensitive single waveband infrared Pyrometer to varying emissivity.
- Optional 10 millisecond response time for measurements on such applications as mid-point rotary kilns, fast-induction heating processes, etc.
- Ability to resolve the slightest Variation in target temperature

General Specifications

Temperature Ranges
930 to 1450°F - 500 to 800°C
930 to 1830°F- 500 to 1000°C
1000 to 1600°F- 550 to 900°C
1300 to 2200°F- 700 to 1200°C
1600 to 2900°F- 900 to 1600°C
1800 to 3600°F- 1000 to 2000°C
Field of view: See diagram.
Spectral Response: Single waveband 0.7 to 1.2µm
Calibration Accuracy: ± 0.5% of target temperature plus ± 5.5°F (3°C).
Temperature Resolution (in % of target temperature): ± 0.05%
Repeatability (in % of target temperature): ± 0.1%
Response Time: (To reach 90% of full scale value):
Standard: 1 sec., Option: 10 msec., 30 msec., 100 msec., 300 msec., 3 sec.
Emissivity: Adjustable from 0.2 to 1.0.
Analog Output: Standard: Linear 4 to 20 mA (max. load 500 ohm)
Option: Linear 0 to 20 mA or 0 to 1 V (others on request).
Power Requirements: 24VDC or 24VAC ± 10% 50/60 Hz, max. 400 mA.
Operating Ambient Temperature: 32 to 140°F (0 to 60°C).
With water-coolable accessories up to 300°F (150°C).
Storage Temperature: - 4 to + 158°F (-20 to +70°C)
Housing Protection: NEMA 4 equivalent (IP54)
Weight: 2.6 lb. without accessories.

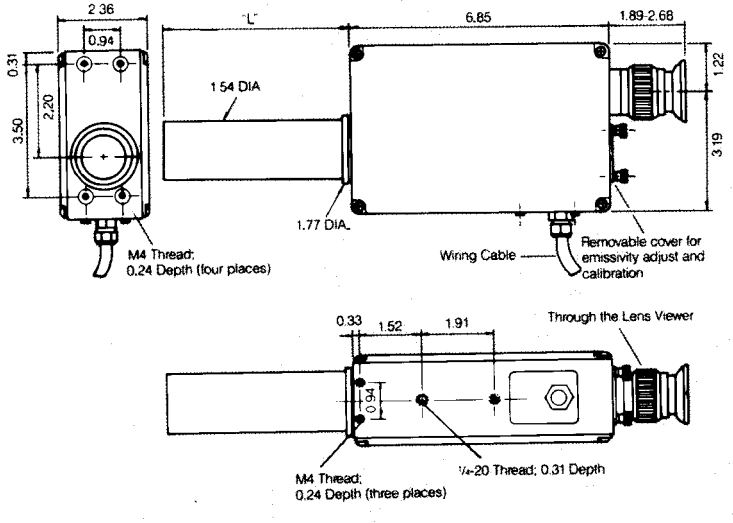


KT81S

Detector type E

1 - without spacer
2 - with spacer 5
3 - with spacer 2
4 - with spacer 4
5 - with spacers 1 & 5

Housing Dimensions in inch



Dimensions in inches except for thread size in millimeters where noted (ie: M4 = 4mm)
Housing material: Zinc-Aluminum alloy
Finish: Blue epoxy coating

ACCESSORY DATA:
Tube fittings: For flexible tubing with 1/4 inch diameter
Air purge fitting: Used to keep lens clean. 4-5 psi instrument air required. Nitrogen may also be used. Air purge fitting clamps onto front of lens.
Water coolable sideplates and water coolable lens collar: Used when ambient temperature exceeds 140°F (60°C). A water flow rate of 8-10 gallons per hour at not more than 86°F (30°C) is adequate for ambients up to 300°F (150°C). Maximum allowable water pressure is 90 psi.
Caution: Do not allow temperatures of KT81R to drop below dew point.

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