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## Specifications of the Infra-View® Infrared Sensor

The Infra-View® Infrared Sensor is a two wire 4-20 mA output intelligent device powered by 24 VDC with a maximum loop impedance of 700 ohms. The Infra-View has remote online addressability and accuracy to +/-1% of the reading up to 3,000°F and is factory calibrated to an NIST certified standard in accordance with MIL-STD-45662. The sensor has a 30:1 field of view (FOV) indicating that 30ft from the sight tube there is a 1ft diameter field. Multiple sensors can be combined in a network configuration and terminated into a Distributed Control System(DCS). The sensor has the following adjustments that can be performed remotely for system maintenance and customization over two wire loop using HART® industrial protocol. The HART® signals combine simultaneous digital communication over standard 4-20 mA output cable. By utilizing the Infra-View programming software and RS-232 port or USB adapter, the following maintenance and customization features can be modified while units are online.

### Maintenance and Customization Features

1. Condition signal to smooth out reading by adjusting the averaging mode out to 55 seconds.
2. Adjust Peak/Valley Hold to 10 minutes for recording high/low temperature trends.
3. Program Alarm Set Point (NO/NC settings with third wire)
4. Vary temperature ranges for any high and low set point between 250°F and 3,000°F (121°C and 1,649°C)

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## SmartSensor Technical Specification

**Infra-View® Infrared Boiler/ Furnace Thermometer** is a patented "non-contact" remote sensing infrared thermometer housed in a rugged, compact protective cooling jacket. The unit flange mounts to any port, door or penetration into the boiler or furnace and measures flue gas temperatures from 250°F to 3,000°F via a 4 - 20 mA output to any DCS, digital or analog recording device.

- Power Requirement: 24 VDC 4 - 20 mA integrated loop (DCS Powered)
- Cooling Requirement: 15SCFM (Standard Plant Air)
- Ambient Operating Temp: 250°F Max.
- Field of View (FOV): 30:1 (i.e., 3 ft spot @ 90 ft)
- Response Time: 100 msec (600 readings/min.)
- Data Output: Digital 4-20 mA Loop Powered
- Accuracy: 1% of Reading (Max. Error + 30°F) NIST Calibration Cert. Avail.
- Measured Temperature Range: 250°F to 3,000°F
- Infrared Spectral Response: Heated CO2 Gas
- Weight: 20 lbs (9Kg) with Infra-View® Valve: 27 lbs (12 Kg)
- Length Overall: 21" (53 cm) with Infra-View® Valve: 24" (61 cm)
- Infra-View® Sensor: Intelligent 2 wire 4- 20 mA loop powered digital device that is field addressable utilizing HART® protocol preset to specifically detect infrared emissions from heated boiler/ furnace flue gas containing CO2 . On line maintenance and customization can be performed with a laptop or PC with Infra-View® Software and serial port adapter, anywhere along two-wire loop without data output interference. (Infra-View® Software is optional)

### On-Line Programming Functions with Infra-View® Software

- 1) Peak Hold Mode: Measures highest temperature in FOV and holds reading from 0 - 10 min.
- 2) Average Mode: Measures average temperature in FOV. Displays updated reading every 0 - 55 sec. (Stabilizes rapid signal output fluctuations)
- 3) Programmable annunciation alarm set point from 250°F to 3,000°F
- 4) Selectable temperature range (low and high end)
- 5) Fahrenheit or Celsius Outputs (250°F/ 120°C to 3,000°F/ 1650°C)
- 6) Internal Ambient temperature monitoring of sensor to prevent thermal overheating and damage.
- 7) Complete graphing function of temperature vs. time analysis.
- 8) On line temperature data logging function into ASCII database for export to Excel or Lotus 1-2-3 format. Descriptions and tag nomenclatures available.

**Infra-View® Protective Cooling Jacket:** Durable protective housing with flange connection supplied with integral cooling jacket, sight tube and air purge assembly. Protective cooling jacket is pre-piped at factory and includes air cooler, air filter and additional air purge connections for extreme environmental conditions. (Included)

**Infra-View® Valve:** Optional line of sight air actuated integral stainless steel valve mounted and pre-assembled on sight tube and designed to fail close on loss of air, in order to protect Infra-View® sensor. (Factory assembly only)

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