

Infrared Camera System for Continuous Pilot Flame and Flare Stack Monitoring

FlareSpection™

- Superior image quality using a telephoto (200 mm) lens enabling detailed view of flares from distances at 300 m and beyond
- High resolution 640 x 480 pixel thermal imager, providing unmatched spatial resolution
- Stainless steel enclosure designed for hazardous area
- Industry's most advanced software enabling automated and seamless integration with plant DCS
- Easy installation and maintenance from remote mounted location



LumaSense Technologies, Inc., has been an innovative leader in the field of infrared non-contact temperature measurement since 1969. LumaSense specializes in turn-key solutions consisting of complete engineering, design, and installation services to meet the most severe and challenging thermal imaging system requirements.

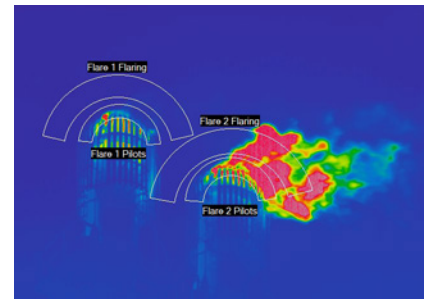
Flare tips in close proximity cause interference from adjacent flare tip interposing flames. The LumaSense FlareSpection system is designed to provide the clearest flare image and pilot flame monitoring for applications with multiple flare tips.

The flare monitoring thermal imaging system enables users to confirm flare operation remotely and automatically, detecting differences in heat signatures of the flare stack. Designed with special spectral ranges, calibrations, and optics, the FlareSpection camera is able to focus clearly

through moisture, heavy rain, and fog at even great distances.

With an adjustable mount and base, the powerful lens and high resolution camera offer a clear view of flare details from a convenient ground mounting location. The camera is protected in a stainless steel enclosure with an integrated site tube to prevent dust and dirt on the window, allowing for uninterrupted use with minimal maintenance.

The software includes the capability to log performance for audits, record video for reviewing of historical events, and set up alerts for measurements that may fall outside of the plant's preset limits. The software also easily connects to the plant DCS via protocols such as Modbus and OPC, as well as connections to pilot ignitors via traditional I/O relay modules.



Thermal Image taken by camera



FlareSpection system view

Technical Data

Performance

Image Update Rate:	9 Hz
A/D Resolution:	16 bit
Pixel Pitch:	17 μ m
Detector:	640 x 480 Uncooled Microbolometer

Optical Specifications

Lens Focal Length:	200 mm
Field of View (FOV):	3° horizontal x 2.3° vertical
Digital Zoom:	1-8 X using LumaSpec RT software

Interface

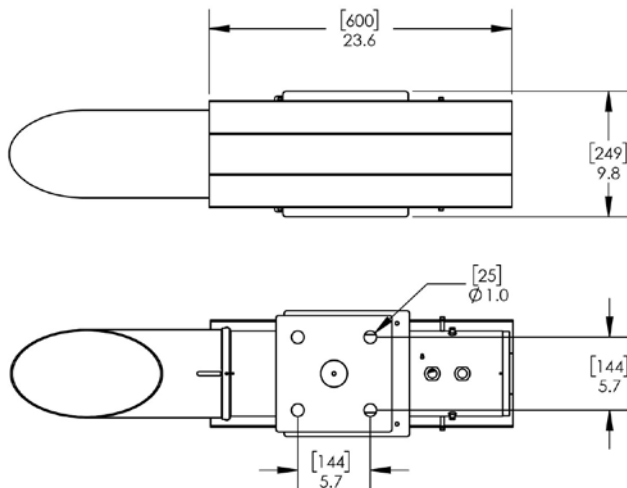
Network Connection:	Gigabit Ethernet
Power:	12 VDC and 24 VDC
Options:	Junction Box with universal power input and fiber optic connection ports

Environmental Specifications

Operating Temperature:	-30 °C to 50 °C (32 to 122 °F)
Storage Temperature:	-20 °C to 70 °C (-4 to 158 °F)
Weight:	~ 38 kg (~84 lb)
Housing:	316L stainless steel suitable for hazardous areas
Compliance:	CE, RoHS

Scope of delivery:

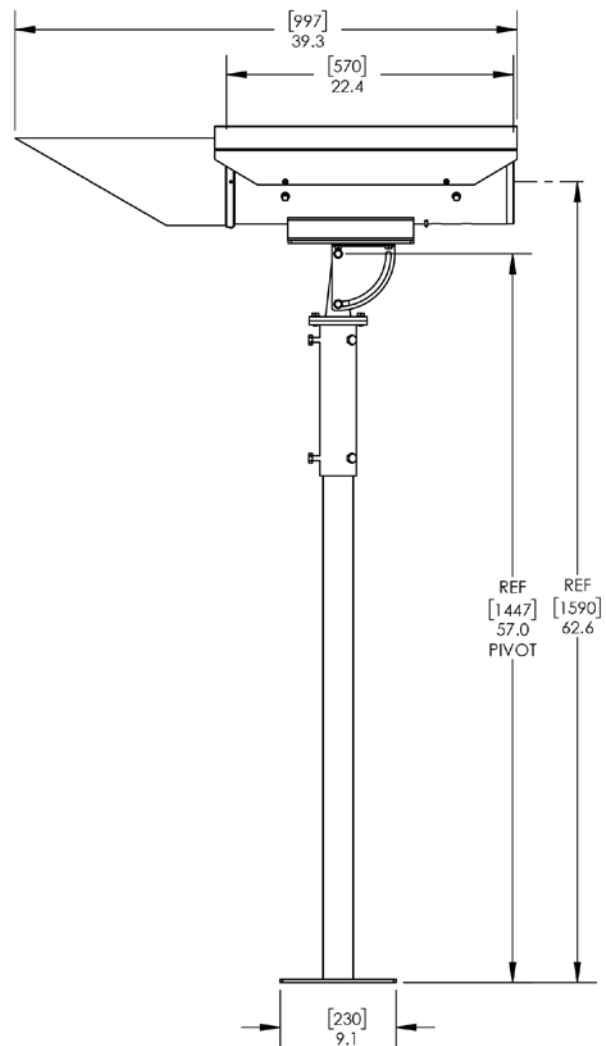
FlareSpection camera with 200 mm lens; FlareSpection stainless steel enclosure; adjustable, stainless steel pan-tilt mount; stainless steel base; and software.



Dimensions in [mm] and inches.

Software Key Features

- Automated image analysis and alarms
- Support for up to 24 cameras
- Historical video recordings easily retrieved for study or analysis
- Integrated protocols for alarm and status reporting to DCS or PLC
- Lock-in scene registration feature to keep image analysis accurate when flare stack moves or sways
- Archive to files or database
- Intuitive user interface
- Support to view images simultaneously at any location on plant network



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