

MANTIS LITE™

REMOTE FLARE MONITORING

Monitoring flare performance is both technically challenging and costly. Mantis Lite™ is a convenient and low-cost solution for remote and continuous flare monitoring. The unique multi-spectral design is based on the Video Imaging Spectral Radometry (VISR) method. It provides continuous flare performance measurement with a one-second data cycle and no latency at distances up to 1500 feet. It is ideal for regulatory compliance or closed loop control to optimize flare performance and reduce emissions.



FEATURES AND FLARE PERFORMANCE METRICS

- Combustion Index (NHVcz or NHVdil)
- Smoke Index (measure of visible emission)
- Fractional Heat Release (process flow rate)
- Combustion Efficiency (brackets)
- Flame Stability
- Flame Footprint (cross-sectional area)
- Presence of flame

SPECIFICATIONS

- Weight: 18 lbs (8.2 kg)
- Dimensions: 11.5" x 10" x 9" (29.2 x 25.4 x 22.9 cm)
- Interface: Modbus TCP and/or 4-20 mA
- Power: 24V DC (5 Amps)
- Encapsulation: IP67
- Operating Temp: 14 to 114 F (-10 to 45 C)
- Range: 100 to 1500 feet (30 to 457 m)
- Data Interval: 1 second
- Latency: None
- Calibration: Factory

UP/MID-STREAM APPLICATIONS

This device represents the "Simplified VISR" method referenced in the promulgation of the EPA NSPS Subpart OOOOb/c. It can be used for compliance monitoring under OOOOb/c or continuous monitoring in other methane mitigation programs such as OGMP 2.0.

- Direct and continuous measurement of flare performance
- Measurement of process flow rate for unmetered flares
- Bracketed efficiency measurement is more accurate than engineering estimated (presumed 98% efficiency)
- Continuous data with no latency is suitable for closed loop flare control to reduce methane emissions
- Detect and control visible emissions
- Ensure continuous presence of flame with no latency

DOWNSTREAM APPLICATIONS

Low cost alternative to indirect measurement methods. Replace 7-10 inline instruments with a single remote instrument to demonstrate compliance (NHVcz or NHVdil). The benefits include:

- Low cost (installation cost is less than the annual maintenance cost of indirect method)
- Continuous one-second data with no latency
- Factory calibration (no calibration gas needed)
- Very little maintenance required
- One device provides both NHVcz and visible emission monitoring (Method 22) and presence of flame indication
- Suitable for closed loop control to achieve incipient smoke point without operator intervention
- No need to shut down the process to install or service this device

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