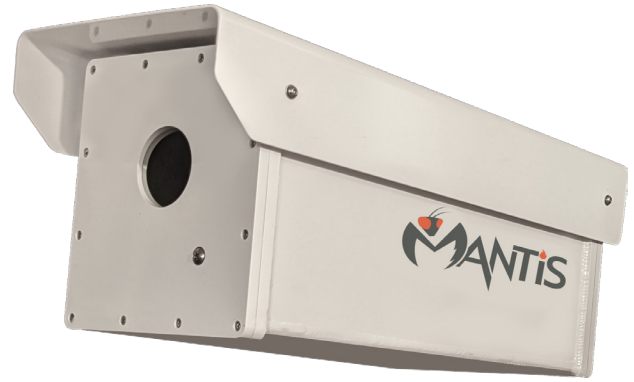


MANTIS™

REMOTE FLARE MONITORING

Continuously monitoring the combustion efficiency of an industrial flare has been a long-standing technological challenge. The Video Imaging Spectral Radiometry (VISR) method inside of Mantis™ meets this challenge by continuously and remotely measuring five important flare metrics in real time. Designed for autonomous operation, Mantis™ is well suited for closed loop control and flare optimization. Easy to install and easy to operate, it can replace expensive indirect monitoring methods typically used for continuous flare monitoring.



FEATURES AND PERFORMANCE METRICS

- Combustion Efficiency (Accuracy within 0.5 %)
- Smoke Index (measure of visible emission)
- Fractional Heat Release (process flow rate)
- Flame Stability
- Flame Footprint (cross-sectional area)
- Flow rate (estimated from FHR)
- Presence of flame (no latency)
- Destruction Efficiency (correlation)

SPECIFICATIONS

- Weight: 45 lbs (20.4 kg)
- Dimensions: 22" x 10" x 9" (55.9 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 35 C)
- Range: 100 to 1500 feet (30 to 467 m)
- Data Interval: 1 second
- Latency: None
- Calibration: Factory

UP/MID-STREAM APPLICATIONS

Accurate and continuous efficiency measurements can remove the uncertainty from emissions inventories. Stop using engineering estimates to determine your methane emission rate, use a direct measurement with a validated results to provide the most accurate and complete flaring emissions data available. The benefits include:

- Direct and continuous measurement of flare Combustion Efficiency
- Detect and control visible emissions
- Continuous data with no latency is suitable for closed loop flare control to minimize methane emissions
- Ensure continuous presence of flame with no latency
- Validated method provides credibility for your emissions inventory with an accuracy within 0.5 %

DOWNSTREAM APPLICATIONS

Proven alternative to indirect measurement methods (NHVcz and NHVdil). Replace 7-10 inline instruments with a single remote instrument to demonstrate compliance (CE > 96.5%) with current regulations. Utilize closed loop control to optimize assist levels and reduce emissions. The benefits include:

- Lower cost than indirect methods
- Factory calibration, no calibration gases required
- Quick, easy installation with little maintenance
- One device provides both Combustion Efficiency and visible emission monitoring (Method 22) and presence of flame indication
- Suitable for closed loop control to achieve incipient smoke point autonomously
- No need to shut down the process to install or service this device
- Reduce requirements for supplemental fuel and assist media with direct feedback