Methane point instrument

Catch every leak with accuracy using methane detection that scales



Sensitivity: Leaks as small as 0.4 kg/h



Emission localization:

Accuracy:

Accuracy of within 19.7 ft [6 m]

Estimates leak rate within a factor of two, 68% confidence



Plug and play, self-installed: Mounts in minutes with no specialized tools

Applications

- → Monitor for methane emissions 24/7 in real time
- ightarrow Detect leaks for repair
- ightarrow Quantify emissions for reporting
- → Compliance with continuous monitoring requirements outlined in EPA OOOOa/b/c regulations

For oil and gas production and processing facilities, onshore, and remote facilities almost anywhere worldwide.

How it is unique

- → Detects, localizes, and quantifies methane emissions
- → Self-installed, plug-and-play instrument mounts in minutes with no specialized tools
- → Streams data automatically upon deployment; access and manage data within our methane digital platform or within your own infrastructure
- \rightarrow Maintenance-free, 10-year lifetime
- → Humidity-controlled, fully calibrated, drift-free methane sensor
- → Anemometer on every device maps the full wind field
- → Quantity and location of devices are determined using our prevailing meteorological conditions planning algorithm
- → Accurate emission localization and rate quantification using our advection-diffusion under turbulent interpretation algorithm
- ightarrow Designed for >95% uptime
- → Continuous performance validation and improvement through third-party blind testing
- → Versatile mounting, power, and connectivity options

How it reduces emissions

Many oilfield methane emissions come from sources that leak and vent intermittently during normal operations. Continuous monitors can measure these emissions more accurately than is possible with mobile sensors mounted on satellites, airplanes, or drones.

The methane point instrument* from SLB End-to-end Emissions Solutions is

designed for continuous monitoring at sites such as well pads and tank batteries. It uses a network of fully calibrated point sensors installed on the site's perimeter to measure methane concentration, as well as an interpretation algorithm optimized in one of the world's largest wind tunnels.

The instrument precisely records the start and stop of emissions, pinpoints their locations, and quantifies their emission rates. Its performance—including the ability to detect small methane leaks sensitively and quantify the emission rate accurately—is proved through multiple third-party tests, including at the Methane Emissions Technology Evaluation Center (METEC) and Texas Tech University.



How it works

The methane point instrument is a self-installed device for methane emission detection. Beginning with a map of your site and a history of weather conditions in your region, SLB uses its proprietary prevailing meteorological conditions planning algorithm to determine how many instruments are needed for your location and optimizes where they should be mounted.

Fully integrated sensors are then shipped to your location. The devices are approximately 1.6 ft [49 cm] tall and weigh about 2.6 lbm [1.2 kg] and can be installed by your personnel in minutes with no specialized tools or training required. Instruments are typically mounted on existing infrastructure, powered by integrated solar panels, and connected automatically to the global LTE-M cellular network. Alternative mounting, power, and communication options are available, if needed.

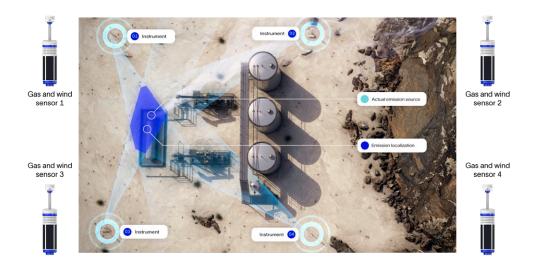
Once installed, sensor data can be automatically streamed and displayed within our methane digital platform to seamlessly access and manage monitoring services, data, and analytics. The data are interpreted using our proprietary advection-diffusion under turbulent conditions interpretation algorithm to quantify emission rates, identify emission start and stop times, and localize emission sources. Users can log onto the platform and intuitively access real-time emission data, emissions history, and emissions trends.

The methane point instrument offers precise and validated continuous measurement of methane emissions. It is designed as a self-install system that can be locally manufactured and deployed across a wide range of facility types. The instrument is available for all your global assets and is specifically designed to facilitate continuous monitoring throughout your organization.

A compact device with integrated solar panels and an anemometer, the methane point instrument can be self-installed in minutes at near-zero installation cost.

4 in [10.16 cm] diameter

Methane point instrument



The methane point instrument uses a network of calibrated point sensors mounted to existing infrastructure around the facility. The instruments are self-installed at near-zero cost, powered by solar panels, and automatically connected to the global LTE-M cellular network, which reduces hardware complexity.

Methane Point Instrument Specifications

| Instrument performance | Limit of detection: 0.4 kg/h, 90% probability of detection |
|------------------------------------|--|
| | Estimates leak rate within a factor of two, 68% confidence |
| | Emission localization accuracy within 19.7 ft [6 m] |
| Methane concentration sensor | 1-ppm threshold |
| | Fully calibrated, automatic recalibration, if necessary |
| | Humidity controlled |
| | Dust protected |
| Sensors | Atmospheric temperature, humidity, and pressure |
| | Wind speed and direction from ultrasonic wind sensor |
| | Solar radiation |
| | Acceleration (tilt detection) |
| | GPS location and time synchronization |
| Algorithms | Prevailing meteorological conditions planning algorithm to optimize the number and location of devices to be deployed |
| | Advection-diffusion under turbulent conditions interpretation algorithm to quantify emission rate, identify emission start and stop times, and localize emission source |
| Installation | Self-install |
| | No specialized tools or training required |
| | Can be mounted to existing infrastructure |
| | Connects directly to the LTE-M cellular network globally |
| | Powered by integrated solar panels |
| | Internal battery supports 30 days operation |
| | Custom mounting, connectivity, and power options are available |

| System | No moving parts, no fan |
|-----------------|--|
| | No maintenance required |
| | 10-year lifetime |
| | Continuous system health monitoring |
| Size and weight | 4 in [10.16 cm] diameter and 1.6 ft [49 cm] height |
| | 2.6 lbm [1.2 kg] |
| Cloud interface | 24/7 with real-time display of emissions |
| | Real-time alerts |
| | If required, can be integrated with other measurements in the methane digital platform |
| Certification | UL certified |
| | CE certified |
| Environmental | Storage temperature, unpowered: –67 to 158 degF [–55 to 70 degC] |
| | Survival temperature rating: -40 to 140 degF [-40 to 60 degC] |
| | Operational temperature rating: -4 to 140 degF [-20 to 60 degC] |
| | IP65 water resistance |
| | 0% to 100% humidity |
| | Up to 3-ft [91-cm] drop per ASTM D3332 Standard |

All specifications are subject to change without notice.



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