



TECH NOTE

LOCI SENTRY UTILIZES FLOW AND GAS COMPOSITION MONITORING (IN CONJUNCTION WITH LOCI CONTROLLER AND WELLWATCHER® ANALYTICS) TO MAXIMIZE LANDFILL GAS COLLECTION

Sentry

The Loci Sentry is used in conjunction with Loci's Controller and Guardian automated landfill gas collection products and service package to provide additional data visibility and drive increased gas collection, decreased costs, and reduced risks. The Sentry monitors gas composition and flow at headers to provide sectional data for well-field oversight.

Loci Sentry is header-mounted hardware with an onboard sensor and communication system that remotely monitors flow (by external connection to a flow meter or pitot tube), landfill gas temperature, CO₂, CH₄, O₂, and balance gas (calculated; N₂ and trace gases). When used with Loci Controller, Guardian, and WellWatcher Analytics Platform, the Sentry provides real-time gas collection visibility for the whole gas collection system to support both landfill and power plant operations.

Gas composition is measured with optical sensors analogous to industry standard handheld gas analyzers, but with performance approaching that of a gas chromatograph. Flow is measured with an external flow measurement device such as a pitot tube or thermal mass flow meter, with the data from the header flow monitoring system integrated into the WellWatcher user interface platform.

Installation of Loci Sentry is recommended at the plant and on major header lines to provide well-field sectional analysis and visibility into aggregate flow and composition for optimal tuning and operational insight.

LOCI SENTRY SPECIFICATIONS

| AREA | RATING | METRIC |
|--------------------------------|---|----------------------------|
| Flow for Sentry* | based on existing flow measurement device | scfm |
| System Vacuum | 0" to -138.5" | Inches of H ₂ O |
| Flow Accuracy* | based on existing flow measurement device | scfm |
| Pressure Accuracy | +/- 0.25% | % of Full Scale |
| Maximum/ Operating Temperature | 140°F (60°C) | Deg F (Deg C) |

| GAS COMPOSITION | RANGE | ACCURACY |
|------------------------|---------|--------------|
| Methane | 0%-100% | ±0.5% (vol) |
| Carbon Dioxide | 0%-100% | ±0.5% (vol) |
| Oxygen | 0%-25% | ±0.25% (vol) |
| Balance Gas (Nitrogen) | 0%-100% | ±1.25% (vol) |

*Only available for with flow measurement device.



Additional Technical Specifications

- Power:** Solar w/ rechargeable battery
- Battery Charge Time:** Three weeks
- Compatible Pipe Sizes:** 1"-24" (varies for control and flow measurement)
- Auto-Calibration:** Weekly
- Connectivity:** CDMA Wireless
- Installation Location:** Bolted onto header
- Default Measurement Frequency:** 1/hr.
- Operating System Compatibility:** Windows, MAC, Linux
- Optimization Target:** Maximized energy collection, minimize odor, specific gas composition thresholds

WHY LOCI CONTROLS?

With financial, operational, and environmental benefits, Loci Controls' product/service suite helps streamline and optimize facility management and gas collection for power plant operators and landfill owners alike.



INCREASE REVENUE

- Maximize methane gas flow
- Optimize gas composition
- Automate real-time wellhead adjustment and data collection
- Boost plant uptime



DECREASE COSTS

- Lower labor costs for well-field tuning and O&M
- Reduce equipment maintenance costs



REDUCE RISKS

- Reduce fugitive LFG emissions
- Prevent significant maintenance issues

