



## TECH NOTE

# LOCI SENTRY UTILIZES FLOW AND GAS COMPOSITION MONITORING (IN CONJUNCTION WITH LOCI CONTROLLER AND GUARDIAN) TO MAXIMIZE LANDFILL GAS COLLECTION

## Sentry

The Loci Sentry is used in conjunction with Loci's Controller and Guardian automated landfill gas collection product and service offering, increasing gas collection system efficiency, increasing productivity, and reducing environment, health and safety risks. The Sentry monitors gas composition and flow at headers or at the inlet to the plant, to provide aggregate or sectional data for wellfield 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, CO<sub>2</sub>, CH<sub>4</sub>, O<sub>2</sub>, and balance gas (calculated; N<sub>2</sub> and trace gases). When used with Loci Controller, Guardian and WellWatcher 2.0, the Sentry provides real-time gas collection visibility for the whole gas collection system to support both landfill and power plant operations.

The Sentry can also take control signals as inputs, reading gas composition and flow measurements from plant equipment, such as a Gas Chromatograph. This provides high level process control that is based on the same data and instrumentation used by gas processing plant operators.

Installation of the Loci Sentry is included on all LFG to high BTU projects to integrate plant level aggregate gas quality into the Loci Control system. In addition, the Sentry can be used as a monitoring only product, at gas collection system header lines to provide wellfield sectional analysis.

### 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 <sub>2</sub> 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:** NIST traceable 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, environmental, health, and safety benefits, Loci Controls' products and services help optimize facility management and gas collection for operators and landfill owners alike.



#### INCREASE REVENUE

- Maximize methane flow
- Control N<sub>2</sub> in the wellfield
- Automated valve adjustments
- Better collection system efficiency
- Reduce plant downtime



#### INCREASE PRODUCTIVITY

- For both plant and employees
- Lower labor costs for wellfield tuning and O&M
- Reduce plant maintenance costs



#### REDUCE ENVIRONMENT HEALTH & SAFETY RISKS

- Reduce man hours spent in wellfield
- Reduce fugitive gas emissions
- Reduce odors

