

Landfill Gas Monitor

Landtec GEM™ 2000

The GEM™ 2000 is designed for analyzing LFG composition and calculating flow. The GEM™ 2000 combines the capabilities of the now discontinued GA-90 for monitoring gas migration probes and the GEM™ 500 for monitoring gas extraction systems. The GEM™ 2000 is certified intrinsically safe and offers improved speed and accuracy.

FEATURES

- **Diverse Field Applications** – Monitors migration control systems, gas extraction systems, flares, migration probes, and more.
- **Gas Extraction Monitor Mode** – Provides automatic sampling and analysis of gas composition % by volume CH₄, CO₂, O₂ and balance gas, % LEL CH₄, temperature (with optional probe), static pressure, differential pressure, and barometric pressure. Calculates gas flow rates (SCFM) as well as BTU content.
- **Landfill Gas Analyzer Mode** – Provides automatic sampling and analysis of gas composition % by volume CH₄, CO₂, O₂ and % balance gas, % LEL CH₄, temperature (with optional probe), barometric pressure and relative pressure. Can be used for data logging, with user programmed intervals.
- **Easy to Read Display** – Extra large backlit LCD shows up to five gases, atmospheric and gas vacuum pressure, temperature, ID code – all at the same time.
- **Quick Analysis** – Completes sampling and displays gas analysis and flow results in less than one minute.
- **Infrared Gas Analyzer** – Provides accurate measurements of methane (CH₄), and carbon dioxide (CO₂).
- **Gas Temperature** – Read when using optional temperature probe or can be entered manually.
- **Durable Oxygen Sensor** – Provided by the galvanic cell principle, not influenced by other gases (i.e. CH₄, CO₂, CO, SO₂ or H₂S).
- **User Friendly On-Screen Menu** – In each mode the user performs most operations in just two screens.
- **PC Data Downloading** – Provided by RS232 interface with DataField CS software (Release 3.0 or later).
- **Data Storage/Retrieval** – Stores prior measurements taken for each monitoring point, 900 monitoring points total.
- **Date/Time Stamp** – Recorded for all stored data.
- **Prior Data Recall** – Allows user to view prior data for each monitoring point.
- **Methane Analysis** – Displayed as either % CH₄ by volume or LEL CH₄ (Landfill Gas Analyzer Mode only).
- **Durable Construction** – Built of strong, durable plastic material suitable for harsh landfill environments.
- **All Weather Use** – Designed to operate in extremes from 32°F to 104°F. Sealed, weather-tight case.
- **Built-in Adjustable Alarms** – Allows user to set alarm limits for CH₄ and O₂.
- **Rechargeable Batteries** – Internal, rechargeable nickel metal hydride batteries are standard.
- **Operating Time** – Approximately 8 hours with normal pump usage (approximately 10 hours without pump running).
- **Fast Recharge Time** – Approximately 3 hours from complete discharge.
- **Battery Check** – Battery life is continuously displayed.
- **Monitoring Point ID Codes** – Provides alphanumeric identification of monitoring points for data storage and recall.
- **ID Comments** – Allows user to answer up to 3 questions with a list of 9 potential answers each.
- **Imperial vs. SI Units** – Can display measurements in Imperial (USA) or SI (metric) units.
- **Interfaces to DataField Management Software** – Which provides statistical analysis and reporting of LFG data.



SPECIFICATIONS

SENSOR

	Range	Resolution
Methane – CH₄	0-70%	0.1%
Carbon Dioxide – CO₂	0-40%	0.1%
Oxygen – O₂	0-25%	0.1%
Pressures		
(diff.)	0-10" W.C.	0.001" W.C.
(static)	0-100" W.C.	0.1" W.C.

Pump Flow Rate – 500 cc/min at nominal flow, 250 cc/min at 80" W.C.

Vacuum – up to 80" W.C.

UL Certified to Class 1, Zone 1, AEx ib d iia T4

TYPICAL ACCURACY

Concentration	% CH ₄ by Volume	% CO ₂ by Volume	% O ₂ by Volume
5% (LeI, CH₄)	±0.3%	±0.3%	±1.0%
Full Scale	±3.0% (70%)	±3.0% (40%)	±1.0% (25%)

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