

GEM™ 5000

PORTABLE GAS
ANALYZER
INSTRUMENTATION

PATENT #8,021,612

WWW.LANDTECNA.COM



- ▼ SIX TIMES MORE ACCURATE
- ▼ ANNUAL RECOMMENDED FACTORY SERVICE
- ▼ AVAILABLE WITH GPS AND ADDITIONAL GAS DETECTION

THE NEXT GENERATION OF GEM™ INSTRUMENT

The GEM™ 5000 is designed specifically for use on landfills to monitor Landfill Gas (LFG) Collection & Control Systems. The GEM™ 5000 samples and analyzes the methane, carbon dioxide and oxygen content of landfill gas with options for additional analysis.





▼ FEATURES

- Measures % CH₄, CO₂ and O₂ Volume, static pressure and differential pressure
- Calculates balance gas, flow (SCFM) and calorific value
- CO and H₂S (on Plus models only)
- High Accuracy and Fast Response Time
- Lighter and More Compact
- Certified intrinsically safe for landfill use
- Annual recommended factory service
- Calibrated to ISO/IEC 17025
- 3 year warranty with optional service plan

▼ APPLICATIONS

- Landfill Gas Collection & Control Systems
- Environmental Compliance
- Landfill Gas to Energy
- Subsurface Migration Probes

▼ KEY BENEFITS

- Designed specifically for use on landfills to monitor landfill gas (LFG) extraction systems, flares, and migration control systems
- No need to take more than one instrument to site
- Can be used for monitoring subsurface migration probes and for measuring gas composition, pressure and flow in gas extraction systems
- The user is able to set up comments and questions to record information at site and at each sample point
- Ensures consistent collection of data for better analysis
- Streamlined user experience reduces operational times

▼ TECHNICAL SPECIFICATION

GAS RANGES

| | | | | |
|----------------|-----------------------|---|--------------------|-------------------|
| Gases Measured | CH ₄ | By dual wavelength infrared cell with reference channel | | |
| | CO ₂ | By dual wavelength infrared cell with reference channel | | |
| | O ₂ | By internal electrochemical cell | | |
| | CO | By internal electrochemical cell | | |
| | H ₂ S | By internal electrochemical cell | | |
| Ranges | CH ₄ | 0-100% (vol) | | |
| | CO ₂ | 0-100% (vol) | | |
| | O ₂ | 0-25% (vol) | | |
| | CO | 0-2000ppm*** | | |
| | H ₂ S | 0-500ppm*** | | |
| Gas Accuracy* | CH ₄ | 0-5% ± 0.3% (vol) | 0-70% ± 0.5% (vol) | 70-100% ± 1.5% FS |
| | CO ₂ | 0-5% ± 0.3% (vol) | 0-60% ± 0.5% (vol) | 60-100% ± 1.5% FS |
| | O ₂ | 0-25% ± 1.0% (vol) | | |
| | CO(H ₂)** | 0-2000ppm ± 2.0% FS | | |
| | H ₂ S | 0-500ppm ± 2.0% FS | | |

* Typical accuracy after calibration as recommended in the operations manual.

**Hydrogen compensated Carbon Monoxide measurement.

***Additional ranges available, contact LANDTEC for more information.

OTHER PARAMETERS

| | Unit | Resolution | Comments |
|-----------------------|----------------------|----------------------------|-------------------------------------|
| Energy | BTU/hr | 1000 BTU/hr | Calculated from specific parameters |
| Static Pressure | in. H ₂ O | 0.01 in. H ₂ O | Direct Measurement |
| Differential Pressure | in. H ₂ O | 0.001 in. H ₂ O | Direct Measurement |
| Temperature Accuracy | °F | 0.1 | ±1 (Range -58°F to 482°F) |

Important Note: The information in this document is correct at the time of generation. We do, however, reserve the right to change the specification without prior notice as a result of continuing development.

PUMP

| | |
|--|------------------------|
| Flow | Typically 550cc/min |
| Flow with 80 in. H ₂ O vacuum | Approximately 80cc/min |

ENVIRONMENTAL CONDITIONS

| | |
|------------------------------|---|
| Operating Temperature Range | 14°F – 122°F (-10°C to +50°C) |
| Operating Pressure | -100 in. H ₂ O, +100 in. H ₂ O (-250mbar, +250mbar) |
| Relative Humidity | 0-95% non condensing |
| Barometric Pressure | ± 14.7 in.Hg (±500mbar) from calibration pressure |
| Barometric Pressure Accuracy | ± 1% typically |

POWER SUPPLY

| | |
|--------------|---|
| Battery Life | Typical use 8 hours from fully charged |
| Charge Time | Approximately 4 hours from complete discharge |

CERTIFICATION RATING

| | |
|----------|--|
| ATEX | II 2G Ex ib IIA T1 Gb (Ta= -10°C to +50°C) |
| ISO17025 | ISO/IEC17025:2005 Accreditation #66916 |
| CSA | Ex ib IIA T1 (Ta= -10°C to +50°C) (Canada), AEx ib IIA T1 (Ta= -10°C to +50°C) USA |



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