



Landfill Methane Emission Monitoring

Methane (CH₄) plays a critical role in the radiation balance and chemistry of the atmosphere.

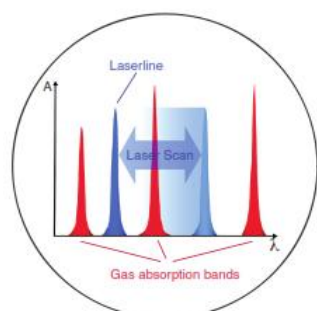
The major anthropogenic sources are anaerobic production from landfills, ruminant animals and their waste, release from the mining and use of fossil fuel, burning of biomass, etc..

On average, over the global scale, landfill methane emissions contribute between 10-19% of the anthropogenic methane burden into the atmosphere

CH₄ is a potent greenhouse gas - about 25 times stronger than CO and outgases from reservoirs, landfills and permafrost soils.

The ETG 6900 can reliably & selectively measure methane in low ppm concentrations without the need for frequent recalibrations.

It is thus ideally suited for study on emission CH₄ monitoring in landfill or remote-site applications, e.g. in environmental research.



Key features

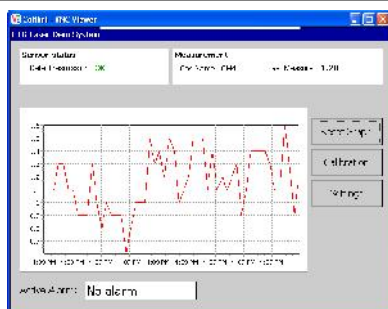
- Very fast CH₄ detection
- Tunable Diode Laser based technology
- Sample pump inside
- 19" rack mounting or Portable in robust case
- Zero & Span Calibration
- Continuous sensor status monitoring
- Low cost-of-ownership
- Expandable in a multipoint system
- Type of installation Plug & Play
- Touch Screen monitor
- Ethernet and USB Remoting
- Modbus, Profibus, Ethernet output
- Arm processor based
- Digital Input/output
- Signal analog output 4-20 mA

The technology

ETG uses a technology-enhanced TDLS for gas detection, where a 0.1 nm narrow bandwidth diode laser beam is scanned across an absorption band of the target gas, performing a high-resolution near-infrared absorption measurement.

ETG 6900 thus present a clear alternative to current sub-optimal detection solutions and combine precise, contact-less optical measurements with high target gas selectivity, calibration-free operation, low-cost-of-ownership

ETG 6900 Software



The program will displays graph, in real-time measurement. The origin of the axis time is made to coincide with the beginning of the measurement session. You will see real time data in the upper side of the window (“Last Measure”).

In the same screen of the software indicates the presence of any alarms with a reference code (that’s need to be communicated to ETG for troubleshooting)

SPECIFICATIONS

Parameter	Unit	Value / Range
Gas	-	CH4
Principle of detection	-	Tunable Diode Laser Spectrometry (TDLS)
Measuring range	ppm	0 – 100 calibration to full scale (FS) range, standard is 100 ppm, (possible up to 40'000 ppm, no warranty of precision)
Accuracy	-	± 2% full scale reading depending on integration stability (temperature & pressure)
Precision 2σ	ppm	1.0 @ 1 s integration 0.4 @ 10 s integration
Zero drift over 2 h period	-	within accuracy
Span drift over 8 h period	-	within accuracy
Max. error on temp. comp.	% of reading/°C	< 0.1
Linearity & Repeatability	-	included in the accuracy
Cross talk/interference	-	Gas matrix and application dependent
Displayed resolution	ppm	0.1 (negative values can also be displayed)
Refresh rate	s	1 (integration time can be selected, max. 120 s) up to 2 s in case no target gas is present
T90 time	s	2 (at gas flow rate of 3 L/min)
Ambient temp. compensat.	°C	-10 ... 65 (as narrow as possible, application defined)
Meas. gas max. humidity	% abs. H2O	application dependent, needs calibration
Input for external parameter compensation	-	pressure, temperature or matrix gas concentration (optional customization)
Maximum measurement gas flow (Minimum)	mL / min	5'000 (1'000); std. calibration carried out at 3'000
Electrical supply	Vac	220-230/115 50/60 Hz
Enclosure 19" Rack	HE	4 (depth 500 mm)
Pneumatic connections	-	Swagelok 6 mm O.D.
Sample pump	-	Internal

Reference conditions, external: 20°C, 1013 hPa, 45% r.H.