



The Leader in Field Gas Analysis

The Envision™HCH Gas Analyzer, from Elkins Earthworks, LLC is an affordable, rugged gas analyzer built for taking accurate gas measurements in the extremes of the landfill environment. The Envision™HCH utilizes Infrared technology to measure CH₄ and CO₂, measures O₂, CO, H₂S by an electrochemical cell while adding H₂ measurements via thermal conductivity. The Envision™HCH also houses multiple pressure sensors dedicated to accuracy across low and high range measurements.

Built by Technicians for Technicians



The Envision™HCH Gas Analyzer is driven by either a Windows or Android tablet computer via a Bluetooth® connection. This allows the user to connect the Envision™HCH to a sampling point and continue to read the gas measurements wirelessly, up to 60+ feet* away. Utilizing the Elkins Gas Analyzer Software, built around the field technician's optimal workflow, data collected by the Envision™HCH can be locked, reviewed and unlocked to ensure accurate data is stored on the first visit. Once stored, all data is immediately available in a convenient .csv file format.

* Actual distance may vary based on local factors.

The Envision HCH complies with ALT-143 sections 7.2.1 and 7.2.2. The user is responsible for ensuring compliance with the ALTERNATIVE METHOD FOR THE FIELD DETERMINATION OF CARBON MONOXIDE CONCENTRATION IN LANDFILL GAS WELLHEADS UNDER 40 CFR 63, SUBPART AAAA.

METHANE
CARBON DIOXIDE
OXYGEN
HYDROGEN
CARBON MONOXIDE
HYDROGEN SULFIDE

LOW RANGE PRESSURES
HIGH RANGE PRESSURES
GAS TEMPERATURE
GPS LOCATION
WIRELESS COMMUNICATION
UNIVERSAL .CSV FILE FORMAT

Envision HCH Technical Specifications

Gas Sensors

Gas Type	Range	Typical Accuracy	Resolution	t90 (seconds)
CH4	0-100%	± 2% abs	0.1%	<30
CO2	0-100%	± 2% abs	0.1%	<30
O2	0-2%	± 0.1% abs	0.1%	<30
	2%-25%	± 5% relative	0.1%	<30
H2	0-1%	± 0.1% abs	0.1%	<30
	1%-100%	± 2% abs ¹	0.1%	<30
CO	0-2000 PPM	± 40 PPM abs ^{4,5}	1 PPM	<45
H2S	0-2000 PPM	± 40 PPM abs ^{2,4,5}	1 PPM	<45

Pressure Sensors

Pressure Type	Low Range	Low Range Accuracy	High Range	High Range Accuracy
Static	-5 to +5 ("H2O)	±0.14"H2O	-130 to +130 ("H2O)	±2% of reading
Differential	-5 to +5 ("H2O)	±0.14"H2O	-130 to +130 ("H2O)	±0.6"H2O
Available	NA	NA	-130 to +130 ("H2O)	±2% of reading
Barometric	NA	NA	22 to 31 ("Hg)	±0.24"Hg (±8 mBar)

Operating Temperature

Wired Thermistor

Range	Range	Accuracy
+14 to +122°F (-10 to +50°C)	-22 to +212°F (-30 to +100°C)	±1.0°F (±0.6°C)

Battery

Discharge Time @ > 50°F	Discharge Time @ 32°F	Discharge Time @ 14°F	Charge Time	Lifetime	Construction
> 10 hours	8 hours	5 hours	4 hours from complete discharge	up to 1000 full charge cycles	NiMH (no memory)

Sample Pump

	Minimum Vacuum Pull	Minimum Flow Rate	
	-138 ("H2O)	260 cc/min	

Notes

- When measurements are taken with H2 concentrations higher than 10,000 PPM, the CO and H2S sensors will be disabled. High level H2 measurements will not damage CO and H2S sensors as long as software warnings and procedures are followed.
- To achieve specified accuracies, the meter should have a valid calibration certificate and proper field calibration procedures should be followed.
- Sensor life is dependent on gas mix concentrations that are measured.
- It is recommended to follow all software instructions, failure to do so may cause permanent damage to sensors.



Patents <https://elkinsearthworks.com/patents>

Elkins Earthworks, LLC

2623 S Arlington Road

Akron, OH 44319

P: 330-725-7766

ElkinsEarthworks.com