GAZOMAT™
an ecotec company

GAS LEAK DETECTION SOLUTIONS

Natural Gas/Biogas

Network and Facilities Monitoring

2023

INSPECTRA® MAX

IECEx ATEX

Enhanced INSPECTRA® Technology for Superior Methane Detection Performances

- Latest addition to the INSPECTRA® product line
- Zone 1, IECEx and ATEX certified
- 0.5ppm methane sensitivity
- Smooth and stable readings
- Measurement range from 0ppm to 100% Vol. Gas CH_4

Latest addition to the GAZOMAT™ INSPECTRA® product line, the INSPECTRA® MAX instrument builds upon newest advances in the proven laser spectroscopy technology used by the well-known INSPECTRA® LASER. The INSPECTRA® MAX offers measurement performances of the highest accuracy and reliability, while fully complying with latest IECEx and ATEX standards for use in explosive atmospheres.
It is also in the field of interconnected mobility that the INSPECTRA® MAX stands out, with functions that make live connected leak monitoring and data integrity a reality.

Enhanced TDLAS Laser Spectroscopy Technology

With the INSPECTRA® MAX, GAZOMAT brings the TDLAS technology to the next level. The new optical unit developed:

- Increases sensitivity to methane
- Improves accuracy and speed of gas concentration analysis
- Extends the product's life with the same enhanced sensitivity and high precision performances over the years.

Continuous Scaling for Optimised Measurements and Display

- The INSPECTRA® MAX innovates with a continuous scale of gas concentration analysis and display. Direct benefits are ultra-low latency in the display and smooth measurements.
- The continuous scale also helps preserve:
  - Response time quality
  - Methane selectivity

Zone 1, IECEx and ATEX Certification

Intrinsically safe, the INSPECTRA® MAX detector can be operated in Zone 1, IECEx and ATEX explosive atmospheres, both indoors and outdoors.

The instrument also complies with the latest optical radiation protection directive (see technical specifications).

Easy-to-Use with Maximum Flexibility

- Ultra-short start-up time, less than 15s
- Automatic self-test at start-up
- Visual and audio indicators (battery charge level, pump status, alarm on/off, risk of explosion, etc.)
- Access to standard and advanced functions with the 5-key keypad
- Operates with GAZOMAT battery pack in explosive atmospheres ***or*** *with LR20 alkaline dry cells in non-explosive atmospheres exclusively*
- Easy-to-replace battery pack – no return to service center required
- Modular telescopic carbon sampling probe. Connects easily to a suction cup, a single-wheel probe or a gas-trap trolley
- Connects to the GAZOSURVEY™ mobile App (optional) via a smartphone or tablet. Gas leak detection traceability is guaranteed.

Scope of Application

Suitable for any application requiring the measurement of methane or biomethane concentrations:

- Detection and precise location of gas leaks, any field configuration: bore holes, confined areas, etc.
- Survey of underground and aboveground pipelines
- Monitoring of compression plants, gas storage plants, high pressure lines, pressure reducing stations, etc.
- Surface emission monitoring of volcano sites, landfills, etc.
- Analysis in laboratories

Accessories and Adds-on

- 100-240VAC 50Hz-60Hz charger
- Rechargeable battery pack (not shown) - fits inside the instrument
- Modular telescopic sampling probe with suction cup
- Storage case for the detector and its accessories
- Set of water-repellent filters and dust filters (not shown)
- Pin wrench to access the water-repellent filter compartment (not shown)
- Optional:
  - 12VDC charger
  - Long semi-rigid sampling probe with its filter fitted handle (not shown)
  - Short flexible probe with its handle (not shown)
  - Gas check kit comprising a gas check cylinder and a pressure regulator
  - Bluetooth communicator (not shown) for wireless data transfer

Sampling Equipment Compatible with the Instrument

Telescopic sampling probe and accessories				Other equipment	
					
Modular telescopic carbon sampling probe	Suction cup probe	Gas trap trolley **(optional)**	Single-wheel probe **(optional)**	Long probe **(optional)**	Short probe **(optional)**

GAZOSURVEY™, the Mobile App Dedicated to Methane Leak Monitoring (*optional*)

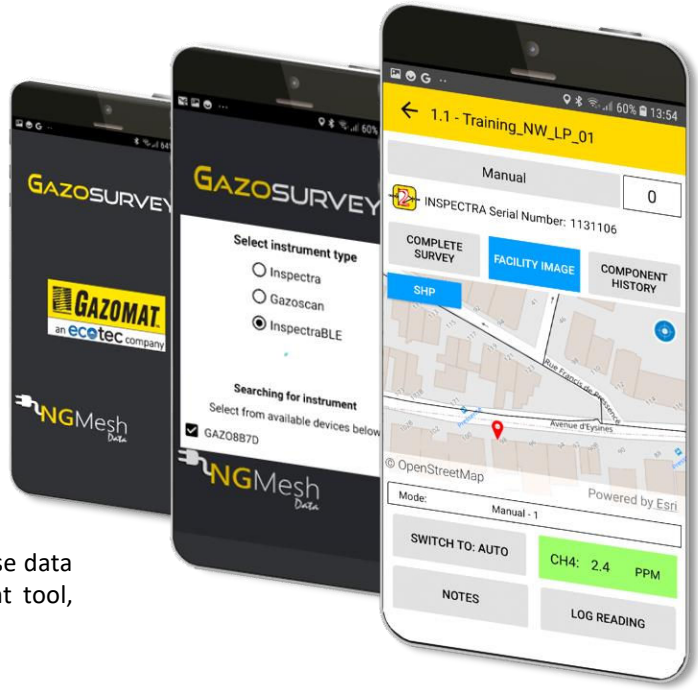
Available as on option, GAZOSURVEY [(1)] is a software application running on iOS and Android smart devices. It has been developed for leak monitoring of natural gas or biogas installations and pipelines.

GAZOSURVEY app facilitates survey data collection and transfer. The smart device connects in Bluetooth to the INSPECTRA® MAX detector. Via the app, the field technician can then use the smart device's functions:

- Geolocation and navigation on maps
- Note entry
- Multiple photo storage using the camera

Through an interface with a web platform, georeferenced survey data is transferred, and alerts are automatically sent to emergency personnel or services.

Once deployed to all field technicians and built into an enterprise data management system, GAZOSURVEY is a powerful management tool, providing global visibility on leak activity.



(1) Application marketed separately. Consult GAZOSURVEY brochure

TECHNICAL SPECIFICATIONS
INSPECTRA® MAX

Measurement principle:	• Laser spectroscopy (TDLAS – Tunable Diode Laser Absorption Spectroscopy)
Gas selectivity:	• Methane gas (CH_4)
Measurement scales available:	PPM: 0ppm–19,999ppm CH_4 — GAS: 0.0% VOL. GAS-100.0% VOL. GAS CH_4 — LEL (on request only): 0.0% LEL-100.0% LEL CH_4
Measurement range:	• 0ppm to 100.0% VOL. GAS CH_4
Detection threshold:	• 0.5ppm CH_4
Response time:	• T10 standard: 2 seconds — T10 with suction probe: <3.5 seconds • T90 standard: 4.5 seconds — T90 with suction probe: 6 seconds
Start-up time:	• In less than 15 seconds
Display:	• LCD screen display with bright green backlighting visible in daylight ○ Three display areas: Measurements/Icons/Graphics window ○ Height of measurement character: 13mm ○ Backlight contrast constant from -15°C to +50°C ○ Viewing angle: 60°
Keypad:	• 5 direct-control keys: ON/OFF, pump, alarm, backlighting, menu • Advanced function control with scrolling menu
Power supply:	• Ni-MH rechargeable battery pack along manufacturer's references: ○ 3.6V, 23.22Wh / 6.45Ah • Battery charger – Input: 100-240VAC 50Hz-60Hz Max 0.35A • Charge time up to 10 hours
Minimum autonomy:	• 12 hours at temperatures within 20°C and 25°C with all functions on (backlighting, pump on normal speed)
Electric pump flowrate:	• 55 l/h (normal flow) and 45 l/h (slow flow)
Alarms:	• They activate the visual (LED and LCD displays) and audio warnings: ○ >5% VOL. GAS CH_4 ○ Pump: pump stopped, pump error
Status indicators:	• Battery charge level, pump status (2 speeds)
Gas connection:	• Quick-connect inlet coupling with locking mechanism: suction probe on right side • Quick-connect gas outlet coupling
Electrical connections:	• 2.1mm connector for battery charger • Communication connector for connection to: - a PC via an optional dedicated cable - an optional external Bluetooth communicator
Data recording and data transfer:	• Recording of gas leak data • Via an external wireless Bluetooth communicator (option) and a GAZOMAT App. (option)
Housing:	• Housing material: polyamide reinforced with fiber glass and carbon • Material of front side: anodized aluminum
Dimensions:	• Length 263 mm x Width 113 mm x Height 141 mm (10.3 x 4.4 x 5.5 inches)
Weight:	• 2.7 kg with batteries (5.95 lbs)
Conditions of use in stabilized mode:	• Humidity: 5% to 80% relative humidity • Operating temperature range: -15°C to +50°C (+5°F to 122°F) • Atmospheric pressure 1013 mbar (± 100 mbar)
Storage conditions: (excluding batteries)	• Humidity: < 90% relative humidity • Temperature: -20°C to +60°C (-4°F to +140°F)
Protection rating:	• IP54 (complies with IEC 60529)
CE Marking Standard conformity:	• EN 50270 :2015 - Electromagnetic compatibility • EN 61010-1 :2010 + A1:2019/AC 2019-04 - Safety requirements for electrical equipment for measurement, control and laboratory use • IEC 60825-1 :2014 - Safety of laser products CAUTION LASER INVISIBLE RADIATION - CLASSE 1 • European standards of use in explosive atmospheres: • EN IEC 60079-0 :2018 - General Requirements — IEC 60079-0 :2017 (Ed. 7.0) • EN 60079-11 :2012 - Intrinsic Safety — IEC 60079-11 :2011 (Ed. 6.0) • EN 60079-28 :2015 – Optical radiation protection — IEC 60079-28 :2015
IECEx Marking: Zone 1	II2G Ex ib op is IIB T3 Gb IECEx INE 19.0017X
ATEX Marking: Zone 1	(Ex) II 2 G Ex ib op is IIB T3 Gb INERIS 19ATEX0018X
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