NT10i

Car Methane Detection System

The NT10i makes it possible to monitor gas networks along the route of a vehicle equipped with this system. The NT10i works on the basis of one of the best available and proven technologies. A selective laser measuring cell detects very small concentrations of CH4 in a fraction of a second. Dedicated software with mapping and geolocalisation functions provides accurate GPS data for each detected gas leak point. The easy-to-use equipment meets all gas operators' requirements for performance, reliability and traceability.

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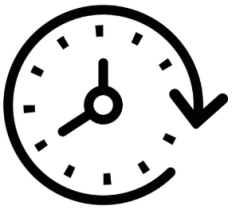
ACCURACY

TDLAS technology allows measurement with sensitivity down to 0.1ppm



RESPONSE TIME

The time it takes the user to see the displayed value of the gas concentration in front of the car is just 1.5 seconds.

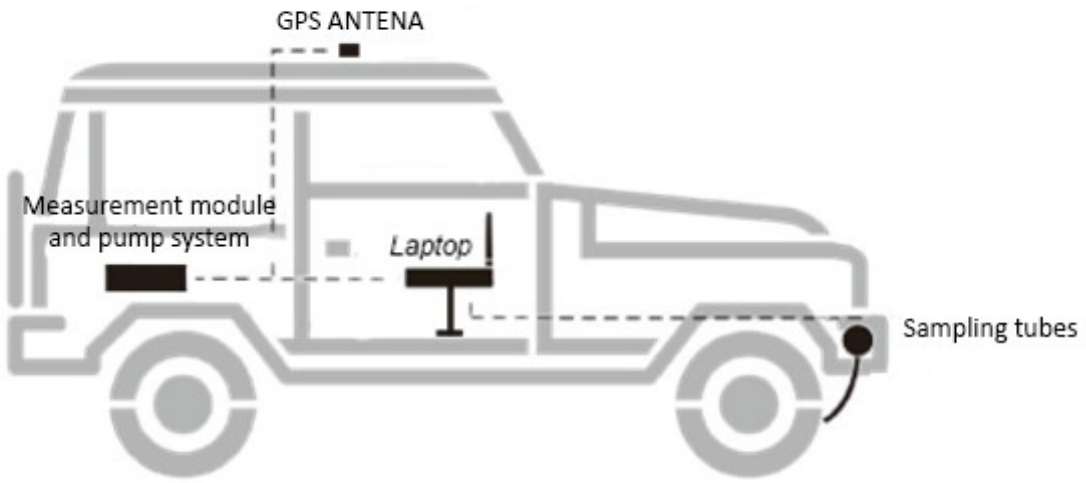
EASY – TO – USE

Actual data monitoring and system management is carried out in one intuitive software.

PRECISION

The use of an external advanced GPS module provided a highly accurate digital record of the taken route.

Car system pattern:



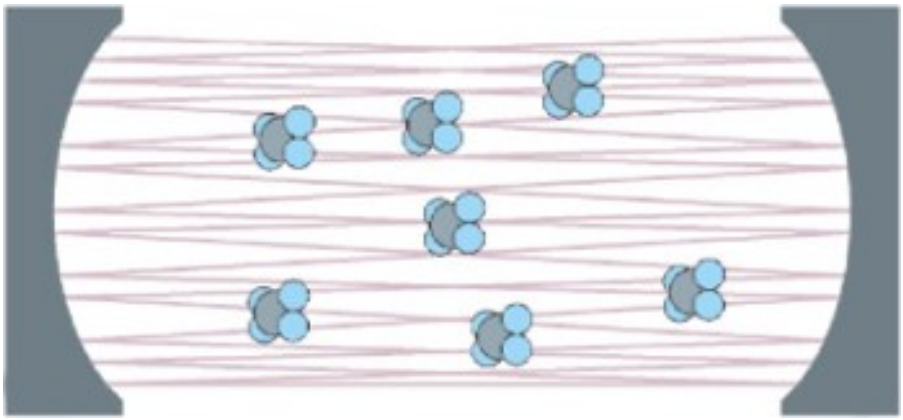
TDLAS Technology:

"Methane molecules absorb light at specific wavelengths".

- Principle of molecular absorption spectroscopy

"There is a linear relationship between the concentration and absorbance of a solution, making it possible to calculate the concentration of a solution by measuring its absorbance."

- Lambert-Beer's law



Visualisation of absorption

The use of a multi-reflector detection chamber, which allows the laser to pass through the gas being measured multiple times, has significantly increased the accuracy of the measurement.

Measurement module:

The measuring module displays the current gas concentration value on the screen. Communication with the software takes place via wireless bluetooth protocol.

Thanks to TDLAS technology, the module has a sensitivity of 0.1 ppm, while maintaining an excellent response time. The laser frequency is selected so that it does not interfere with similar gases such as propane, butane, hydrogen, car exhaust and water vapour present in the air.

Pump system:

The pump system incorporates a special arrangement of pumps and sensors, allowing rapid delivery of gas to the measuring module. The system is managed from the position of dedicated software via wireless bluetooth communication.

GPS module:

GNSS-enabled GPS module having an accuracy of less than 2 meters. It has an external waterproof antenna with a magnetic base. The GPS module connects to the computer via a dedicated USB cable.

Software:

A proprietary programe for monitoring and managing vehicle system parameters. The programe allows private maps of closed facilities to be loaded, e.g. refineries, factories.

The data collected during the runs is recorded, allowing subsequent analysis of methane leaks along the route travelled.

Rated Supply Parameters		
1	Voltage	12VDC +/-10%
2	Power	<60W
Environmental Conditions		
3	Working temperaturę	-10 / +50 °C
4	Relative humidity	do 90% RH
Sampling Parameters		
5	Number of measurement points	8
6	Measuring width	2m
7	Protection against liquid and other particles	Yes
GPS Module Parameters		
8	Accuracy	<2 m
9	GNSS suport	Yes
10	Date and car speed GPS reading	Yes
Measurement Module Parameters		
11	Detected gas	Methane (CH4)
12	Measurement range	100% VOL
13	Response time	<1,5s
14	ATEX certification	Yes
Other parameters		
15	IP protection class	IP66
16	Language	Polish, English

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