



# EC-type examination certificate

Number **T10125** revision 0  
Project number 705904  
Page 1 of 1

Issued by NMI Certin B.V.  
Hugo de Grootplein 1  
3314 EG Dordrecht  
The Netherlands

Notified Body number 0122

In accordance with The Metrologiewet (Stb. 2006, 137) as Dutch implementation of Directive 2004/22/EC on measuring instruments (MID).

Manufacturer Seltec S.r.l.  
Via di Prato 74  
50041 Calenzo  
Italy

In respect of A model of an **Exhaust Gas Analyzer**.  
Type : V-Gas

Characteristics Accuracy class 0  
Electromagnetic environment class E2  
Temperature range +5 °C / +40 °C

In the description number T10125 revision 0 further characteristics are described.

Valid until 21 March 2018

Description and documentation The instrument is described in the description number T10125 revision 0 and documented in the documentation folder T10125-1, appertaining to this EC-type examination certificate.

Dordrecht, 21 March 2008  
NMI Certin B.V.

  
Ing. C. Oosterman  
Manager Product Certification

## 1 General information about the exhaust gas analyzer

All properties of the exhaust gas analyzer, whether mentioned or not, may not be in conflict with the legislation.

### 1.1 Essential parts

Description	Drawing number	Rev.	Remarks
Block diagram	PICTURE 5 - Internal wiring harness	-	Diagram, 1 page
Pneumatic diagram	PICTURE 4 - Pneumatic diagram	-	Diagram, 1 page
Power and serial interface	Power Supply PCB 51143238 Layout	-	Layout, 1 page
		-	Part list, 4 pages
Power interface infrasense	Power Interface PCB 51143110 Layout	-	Layout, 1 page
		-	Part list, 2 pages
InfraSense gasbench	InfraSENSE Schematics CPU Layout Component Side	-	Layout, 2 pages

Indication of measurements will be on a PC, carrying a CE-marking or on the V-Top (drawing T10125-01A V-Top front view). Communication between the measuring unit V-Gas and the indication device may be by means of a RS232-cable or by Bluetooth (wireless).

Oxygen sensor		
Manufacturer	Type	Remarks
Teledyne	RS17A / RS22A	
City Technology	AO2	
Envitec	OOA101	

EMC protection measures:

Compartment with gas handling system:

- Ferrite ring around O2 cell connecting wire near connection to the gas bench (1 turn);
- O2 cell connection is through a separate opening in the shielding of the gas bench;
- Ferrite ring around the other connecting wires to the gas bench (1 turn);
- Ferrite ring around wires from J4TOIL, JCOM1, JCOM2 and J22PS together;
- Filter panel mounted with metal screws;
- The gap between gas handling compartment and main frame is filled with EMC-gasket;

Compartment communication and power supply:

- Ferrite ring around connection of thermometer and J9A and J9B together;
- Ferrite ring around connection of revolution counter (1 turn);
- Ferrite ring around power connection CN2;

External parts:

- Ferrite ring around connection of inductive RPM clamp;
- Ferrite ring around temperature sensor;
- Ferrite ring around output of power adapter.

## 1.2 Essential characteristics

Measuring ranges:

Gas component	Display range	Resolution
CO	0 – 9.999 % vol	0.001 % vol
CO <sub>2</sub>	0 – 19.99 % vol	0.01 % vol
O <sub>2</sub>	0 – 25.00 % vol	0.01 % vol
HC	0 – 14000 ppm vol	1 ppm vol

Software:

Software specification			
Software item	Version number	Checksum	Indication
GasPC.EXE	3.42	9FE61275	on PC
V-Gas firmware	5.4H	A52C	on PC

The software version and identification number will be displayed on the connected PC.

- Calibration period, 12 months;

Number **T10125** revision 0

Project number 705904

Page 3 of 4

- Functions:
  - Lambda calculation;
  - PEF in display;
  - Automatic zero setting;
  - Automatic calibration device;
  - Drift compensation;
  - Low flow signaling.
  
- Protections:
  - Warm-up check;
  - Control of automatic devices;
  - Detection of HC residue;
  - Leak-test;
  - Control of O<sub>2</sub> channel;
  - Detection of adjustments that are necessary;
  - Signaling for ending of the calibration period;
  - Software sealing (calibration date) for the gas calibration.
  
- Parameters:
  - Warm-up time : max. 1 min
  - Temperature range : 5 °C - 40 °C
  - Minimal flow : 3 l/min
  
- Power supply voltage 13-20 Vdc, 18 Vdc nominal.

### 1.3 Essential shapes

The exhaust gas analyzer is built according to the drawings:

- Front view, drawing number "PICTURE 6 – Front panel" Front view of the instrument;
- Rear view, drawing number "PICTURE 7 – Rear panel" Rear view of the instrument.

Markings:

- The markings have to fulfill the requirements stated in the legislation.
- The data plate is fixed to the exhaust gas analyzer and secured against removal by sealing or will be destroyed when removed.

To secure components that may not be dismantled or adjusted by the user, the exhaust gas analyzer has to be secured in a suitable manner on the locations indicated in the drawings:

- Sealing front, drawing number T10125-02A;
- Sealing rear, drawing number T10125-03A.

The securing component has to bear either:

- A mark of the manufacturer laid down in an approved quality system by a Notified Body, or;
- A mark of a Notified Body.

## 1.4 Conditional parts

- User manual exhaust gas analyzer version 3.42MID, 30 pages;
- Pump, manufacturer, Rietschle Thomas Puchheim GmbH, type series 5002;
- Filters, manufacturer Camozzi;
- Gas probe, see drawing number "Sonda prelievo gas EGA 903 + tubi", revision A.

The exhaust gas analyzer may be equipped with one or more of the following protective interfaces that have not to be secured:

- RS232 (2x). The "Bluetooth" and "COM1" connections are electrically identical.

## 1.5 Non-essential parts

- Integrated revolution counter based on induction clamp;
- Integrated oil temperature meter;
- Optional NO<sub>x</sub> sensor.

The exhaust gas analyzer may be connected to non-essential devices, for example but not limited to external printers, second display's, etc. provided that:

- They do not present primary data;
- They do not lead to an instrument having other essential characteristics than those fixed by this type-examination document.

## 2 Approval conditions, seals and verification marks

See chapter 1.2, essential characteristics and 1.3, essential shapes.