EC type-examination Certificate

Number **T10284** revision 0
Project number 9200207

Issued by	NMi Certin B.V.
In accordance with	The Metrologiewet (Stb. 2006, 137) as Dutch implementation of Directive 2004/22/EC on measuring instruments (MID).
Manufacturer	Kane International Ltd. Kane House, Swallowfield, Welwyn Garden City, Herts, AL7 1JG United Kingdom
Authorised representative	Kane International Ltd. Kane House, Swallowfield, Welwyn Garden City, Herts, AL7 1JG United Kingdom
Measuring instrument	A model of an **Exhaust Gas Analyzer**. Type : Auto 4-1 or Auto 5-1 Accuracy class : I Environmental class : E1 Temperature range : +5 °C / +40 °C Further properties are described in the annexes – Description T10284 revision 0 – Documentation folder T10284-1
Valid until	27 June 2021
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INSPECTION RvA I 122

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
Component layout	10284/0-01	- -	Components layout (3 pages) Parts list (2 pages)
Instrument assembly	10284/0-02	-	4 pages

Oxygen sensor		
Manufacturer	Type	Remarks
City Technology	AO2	-

EMC protection measures:
- Ferrite bead around the positive wire of the thermocouple;
- Ferrite bead around the negative wire of the thermocouple;
- Ferrite bead around the positive wire of the pump;
- Ferrite bead around the negative wire of the pump;
- Ferrite bead around the temperature probe cable, 2 turns;
- Ferrite bead around the RPM counter cable, 1 turn.

Gasbench:
- Manufacturer Kane, “Tested MID PCB and Tube assembly for Auto 4-1 and Auto 5-1 analyser”, part number SE13767.

1.2 Essential characteristics

Measuring ranges:

Gas component	Display range	Resolution
CO	0 – 10 % vol	0,01 % vol
CO_2	0 – 16 % vol	0,1 % vol
O_2	0 – 21 % vol	0,01 % vol
HC	0 - 10000 ppm vol	1 ppm vol

Software specification (refer to WELMEC guide 7.2):
- Software type P;
- Risk Class B;
- Extensions L, T (Extensions D, and S are not applicable).

Software:

Software specification			
Software item	Version number	Checksum	Indication
Gas analyser firmware	0.1M	8874	At start-up

- Calibration period, 12 months;

- Functions:
  - Lambda calculation;
  - PEF in display;
  - Automatic zero setting;
  - Drift compensation;
  - Semi-automatic calibration (not accessible without password)
  - Low flow signaling.

- Checking facilities for correct functioning:
  - Warm-up check;
  - HC residue check;
  - Leak-test;
  - O_2 channel check;
  - Signaling for ending of the calibration period;
  - Hardware sealing for the gascalibration;
  - Software sealing (last calibration date) for the gascalibration.

- Parameters:
  - Warm-up time : less than 3 min
  - Temperature range : +5 °C / +40 °C
  - Minimal flow : 3 l/min

- Battery, 6 V DC;

1.3 Essential shapes

Description	Drawing number	Rev.	Remarks
Front view Auto 4-1 / Auto 5-1	10284/0-03	-	
Rear assembly	10284/0-04	-	

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.
- Near the display the inscriptions belonging to the function as exhaust gas analyzer must be present.

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 Auto 4-1/5-1, drawing number 10284/0-05;

1.4 Conditional parts

- User manual exhaust gas analyzer version 19025, 37 pages;
- Pump, manufacturer UNO, type DF9;
- Filters, manufacturer Headline filters, type 12-43.50-60K;
- Power supply, manufacturer Kane, type CU900/220;
- Gas probe (for cars), see drawing number 10284/0-06;
- Gas probe (for motorbikes), see drawing number 10284/0-07.

1.5 Non-essential parts

- NO-sensor (only for Auto 5-1). NO_x-values calculated and based on NO;
- Revolutions counter;
- Oil temperature meter;
- Infra-red printer with thermal paper, manufacturer Kane, part number KMIRP/2-MID, electronically paired with the exhaust gas analyzer.

2 Approval conditions, seals and verification marks

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