



Issued by NMI Certin B.V.  
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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 Brainbee S.p.A.  
Via Quasimodo 4/a  
43100 Parma  
Italy

In respect of A model of an **Exhaust Gas Analyzer**.  
Manufacturer's mark or name : Brainbee or GlobalPro  
Type : AGS-200, AGS-400, AGS-8020 or  
EGA-200, EGA-400, EGA-8020

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

In the description number T10095 revision 0 further characteristics are described.

Valid until 2 august 2017

Description and documentation The instrument is described in the description number T10095 revision 0 and documented in the documentation folder T10095-1, appertaining to this EC-type examination certificate.

Dordrecht, 2 august 2007  
NMI Certin B.V.

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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                                 |
|--|----------------------------------|----------|---|
| Blockdiagram   | QS0200-04-1                      | --       |   |
| Pneumatic circuit                                    | T10095-03A                       | --       |   |
| AGS-200<br>Mainboard<br>Parts list mainboard         | EA1086-01-1<br>EC1086-01-4       | --<br>-- | Component layout<br>Parts list, 4 pages |
| AGS-400 / 8020<br>Mainboard<br>Parts list mainboard  | EA1086-02-0<br>EC1086-02-3       | --<br>-- | Component layout<br>Parts list, 4 pages |
| RTC<br>Circuitboard<br>Parts list circuitboard       | EA1055-01-1<br>EC1055-01-1       | --<br>-- | Component layout<br>Parts list, 1 page  |
| Blockdiagram Sensors<br>AMB II                       | T10095-04A                       | --       |   |
| Mainboard Sensors AMB II<br>Partslist Sensors AMB II | 9211-050<br>9211-050-PCB 360 MCU | --<br>-- | Component layout<br>Parts list, 3 pages |

The indication will be on a PC, provided with a CE marking.  
 The communication between measuring unit and the indicating unit can be through a serial cable or by bluetooth.

| Oxygen sensor                   |                    |         |
|---------------------------------|--------------------|---------|
| Manufacturer                    | Type               | Remarks |
| City Technology Ltd.            | AO2 CiTicel        |         |
| Envitec-Wismar GmbH             | Oxiplus A, 00A 101 |         |
| Teledyne Analytical instruments | R-21A & R-22A      |         |

EMC measures:

- AGS-200, AGS-400 / AGS-8020 or EGA-200 / EGA-400, EGA-8020:
  - Ferrite ring around all incoming and outgoing cables (2 turns);
- Power supplies PSI-50 / PSI-70 / Trolley 8040:
  - Ferrite ring around all incoming and outgoing cables (2 turns).

## 1.2 Essential characteristics

Measuring ranges:

| Gas component   | Display range     | Resolution |
|-----------------|-------------------|------------|
| CO              | 0 – 9.99 % vol    | 0.01 % vol |
| CO <sub>2</sub> | 0 – 19.9 % vol    | 0.1 % vol  |
| O <sub>2</sub>  | 0 – 25.00 % vol   | 0.01 % vol |
| HC              | 0 – 19999 ppm vol | 1 ppm vol  |

| Software specification      |                |          |            |
|-----------------------------|----------------|----------|------------|
| Identificatie Software      | Version number | Checksum | Indication |
| AGSMID.EXE                  | 1.04           | CE5E     | on PC      |
| AGSCOM.DLL                  | 1.01           | 31CD     | on PC      |
| AGS-200, AGS-400 / AGS-8020 | 1.217          | 8068     | on PC      |

The software version and identification number are displayed in the main menu.

- Calibration period, 12 months;
- Functions:
  - Lambda calculation;
  - PEF value in display;
  - (Semi) 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;
  - Software sealing for gas calibration (calibration date, which can be recalled in the set-up menu).
- Parameters:
  - Warm-up time : max 10 min
  - Temperature range : +5 °C / +40 °C
  - Minimal flow : 2.5 l/min
- Power supply:
  - Measuring unit AGS or EGA : 13,5 VDC by power supplies PSI-50 or PSI-70 / Trolley 8040;
  - PSI-50 of PSI-70 / Trolley 8040 : 230 VAC, 50/60 Hz.

### 1.3 Essential shapes

The exhaust gas analyzer is built according to the drawings:

- Front / rear view AGS-200 / EGA-200, drawing number AGS-200-5.1 and 5.2;
- Front / rear view AGS-400 / EGA-400, drawing number T10095-01A;
- Front / rear view AGS-8020 / EGA-8020, drawing number T10095-02A;

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 drawing:

- Sealing AGS-200 / EGA-200, drawing number DG3979;
- Sealing AGS-400 / EGA-400, drawing number DG3980;
- Sealing AGS-8020 / EGA-8020, drawing number DG3981.

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

| Description                                   | Drawing number | Rev. | Remarks                                |
|---|----------------|------|--|
| Power supply board (PSI-50)                   | EP1075-2       | --   | Component layout<br>Parts list, 1 page |
|   | EA1075-01-2    | --   |  |
| Power supply board (PSI-70 /<br>Trolley 8040) | PSI-70-MB1     | --   | Component layout<br>Parts list, 1 page |
|   | PSI-70-MB2     | --   |  |

- User manuals;
- Pump, manufacturer KNF Flodes, type PL 3106-NFT 30;
- Filters, manufacturer Finite Filter Parker, type OG10-20;
- Gas probe, see drawing number Probe-005.

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

- RS232;
- RS485;
- USB.

## 1.5 Conditional shapes

| Description              | Drawing number | Rev. | Remarks |
|--------------------------|----------------|------|---------|
| Trolley 8040             | 8040-007       | --   |         |
| PSI-50 power supply unit | PSI-50-009     | --   |         |
| PSI-70 power supply unit | PSI-70-010     | --   |         |

## 1.6 Non-essential parts

- Keyboard;
- Integrated revolution counter based on induction clamp;
- Integrated oil temperature meter;
- 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.