

# BlueEye™ Mobile



Portable gas quality analyzer  
Reliable, no moving parts  
Fast response time  
Compact and robust

## BROCHURE

### About the BlueEye™ Mobile

The battery powered BlueEye™ Mobile is designed for mobile and handheld use. A single charge allows up to 24 hours continuous operation. Connectivity via **Bluetooth®** to dedicated iOS and Android Apps. Ultra-fast sampling rate and high accuracy provides instant insight in 11 properties (**H<sub>s</sub>**, **H<sub>i</sub>**, **W<sub>l</sub>s**, **W<sub>i</sub>**, **p**, **Z**, **s-AFR**, **MN**, **CO<sub>2</sub>**, **H<sub>2</sub> mol%**) of the measured gas.

The single hand operated shut-off quick couplings ensure easy, fast and safe connections to any gas source. Inlet pressure up to 15 bar/218 psi. Measurement data is collected and saved within the App and uploaded to our cloud service ([www.blueeye-mobile.com](http://www.blueeye-mobile.com)). Access to the cloud data is secure and customizable for single or multiple users.

Although specifically developed for mobile applications such as commissioning, tuning, periodic maintenance, emission reduction, the device can be as easily used for more permanent measuring purposes.

The sensor units is standard available in 4 different versions for specific accuracy and gas composition ranges:

- BlueEye™ **Extended**: Viscosity + TCD sensor
- BlueEye™ **Renewable**: Viscosity + TCD + **CO<sub>2</sub>** sensor
- BlueEye™ **Hydrogen**: Viscosity + TCD + **H<sub>2</sub>** hardware
- BlueEye™ **Ultragreen**: Viscosity + TCD + **CO<sub>2</sub>** + **H<sub>2</sub>** hardware



### Main Features

#### Measurement output:

- Wobbe Index (**W<sub>l</sub>** & **W<sub>i</sub>**)
- Calorific content (**H<sub>s</sub>** & **H<sub>i</sub>**)
- **H<sub>2</sub>** and **CO<sub>2</sub>** mol% (optional)
- Density, relative density & compressibility
- Stoichiometric Air Fuel Ratio
- Methane Number

#### Accuracy:

- Wide composition range, typically <1%
- Other gas compositions on request

#### Maintenance free & reliable

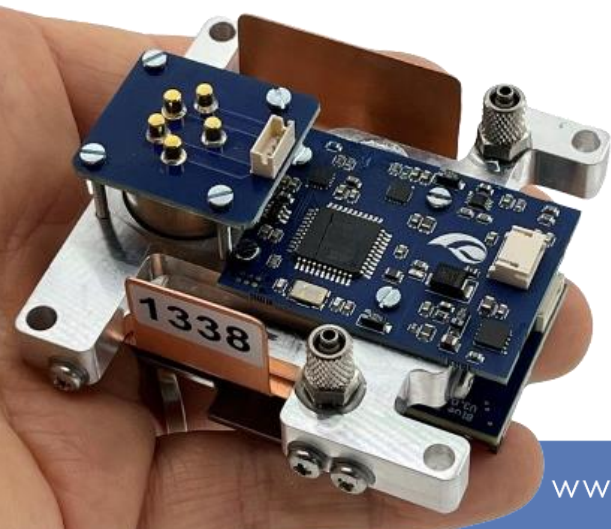
- No moving parts
- No chemical reactions

#### Fast & continuous measurement

- 4.75 second dynamic Viscosity
- 1 second Thermal Conductivity and CO<sub>2</sub>

#### Other features:

- Waterproof robust enclosure
- Built-in pressure & flow reducer
- Interface: Bluetooth® LE, iOS & Android App
- Charging Power: USB 5V
- Plug-and-play installation
- Easy replacement of sensor unit
- CE, UKCA in progress
- **Special compositions on request (LPG-air mix, refinery, synthetic gas compositions etc)**



## BlueEye™ Mobile Specifications

| Reported values   | Units                       | Reference conditions  | Applied correlation standards                |
|---|-----------------------------|---|--|
| Gross Calorific Value ( $H_s$ )                               | MJ/m <sup>3</sup>           | 0/0°C, 15/0°C, 15/15°C,<br>20/20°C, 25/20°C, 25/0°C at<br>101325 Pa and 60°F<br>Therm/scf<br>15.025 psi <b>absolute</b> | NIST AGA-8<br>ISO 6976:2016<br>GPA 2172:2009 |
| Net Calorific Value ( $H_i$ )                                 | kWh/m <sup>3</sup>          |   |  |
| Gross Wobbe Index ( $W_s$ )                                   | BTU/scf                     |   |  |
| Net Wobbe Index ( $W_i$ )                                     | Therm/scf                   |   |  |
| Density $\rho$  | kg/m <sup>3</sup> , lbm/scf |   |  |
| Air Fuel Ratio $\lambda$                                      | -                           | Volume, 20.946% O <sub>2</sub>  | Simplified method                            |
| Methane Number  | -                           | -   | ISO 23306:2020 and EN 16726:2015             |
| CO <sub>2</sub> & H <sub>2</sub> concentration <sup>1 2</sup> | mol%                        | -   | Proprietary methods                          |

| Accuracy      | ≤ 1% of reading                                   |
|---------------|---|
| Repeatability | ≤ 0.2% of reading <sup>3</sup>                    |
| Dynamics      | One measurement every 1s, reaction time T90 < 30s |

| Gas Composition Range            |             |  |   |                            |             |
|----------------------------------|-------------|--|---|----------------------------|-------------|
| CH <sub>4</sub>                  | 70-100 mol% | Higher Alcanes   | 0-1 mol%                                    | O <sub>2</sub>             | ≤ 3 mol%    |
| C <sub>2</sub> H <sub>6</sub>    | 0-20 mol%   | N <sub>2</sub>   | 0-15 mol%                                   | H <sub>2</sub> O (Gaseous) | ≤ 0.1 mol%  |
| C <sub>3</sub> H <sub>8</sub>    | 0-5 mol%    | CO <sub>2</sub>  | 0-3 mol% ( <b>20/100</b> mol%) <sup>1</sup> | Dust, Liquids              | Without     |
| C <sub>4</sub> H <sub>10</sub>   | 0-3 mol%    | H <sub>2</sub>   | ≤ 0.5 mol% ( <b>30</b> mol%) <sup>2</sup>   | H <sub>2</sub> S           | ≤ 0.01 mol% |
| H <sub>s</sub> addressable range |             | 27.52 to 50.40 MJ/m <sup>3</sup> (15°C/15°C)                 |   |                            |             |
| Environment temperature          |             | 0 to 50°C, 32 to 122°F                                       |   |                            |             |
| Operating gas pressures          |             | Inlet pressure up to 15 bar(g), 218 psi(g)                   |   |                            |             |
| Flow rate                        |             | 30 ml/min (+/- 10%), 0.001059 scf/min (+/- 10%) <sup>4</sup> |   |                            |             |

<sup>1</sup> only for BlueEye™ Mobile **Renewable & Ultragreen**

<sup>2</sup> only for BlueEye™ Mobile **Hydrogen & Ultragreen**

<sup>3</sup> unfiltered 1 second cycle measurement

<sup>4</sup> flow rate range customizable on request

## Electrical and Mechanical Specifications

| Interfaces            | Bluetooth® Low Energy to dedicated iOS and Android App<br>Secure cloud data storage website |
|-----------------------|---|
| Supply Voltage        | USB 5V  |
| Dimensions and Weight | 300mm x 200mm x 150mm and 3.3kg, 11.8in x 7.87in x 5.90in and 7.3lbs                        |
| Gas Connections       | 2.7mm Single Shut-Off Quick Coupling  |
| Certifications        | CE  |

## Environment Conditions

|                        |  |
|------------------------|--|
| Operating Temperature  | 0°C to 50°C, 32°F to 122°F               |
| Storage Temperature    | -40°C to 70°C, -40°F to 158°F            |
| Environment Humidity   | 0-95 % Relative Humidity, non-condensing |
| Maximum Inlet Pressure | 15 bar(g), 218 psi (g)                   |

