

BlueEye™ Mobile



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

BROCHURE v24.05.23

About the BlueEye™ Mobile

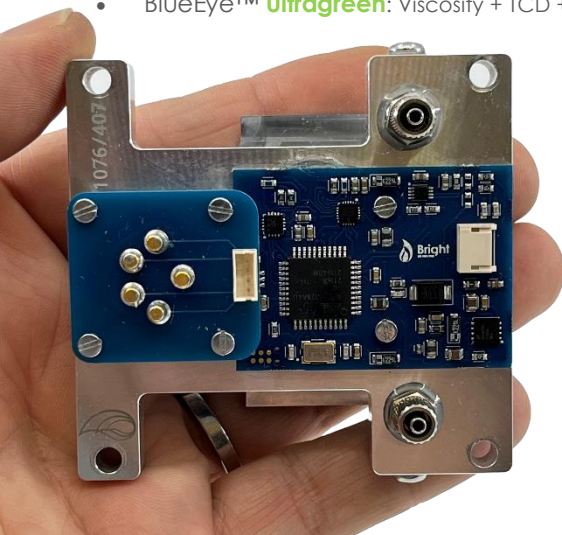
The battery powered BlueEye™ Mobile is designed for mobile and handheld use. A single charge allows up to 24 hours continuous operation. Connectivity via **Bluetooth®** to dedicated iOS and Android Apps. Ultra-fast sampling rate and high accuracy provides instant insight in 11 properties (**H_s**, **H_i**, **W_i**, **W_i**, **ρ**, **Z**, **s-APR**, **MN**, **CO₂**, **H₂ 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 si. Measurement data is collected and saved within the App and uploaded to our cloud service (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 + **CO₂** sensor
- BlueEye™ **Hydrogen**: Viscosity + TCD + **H₂** hardware
- BlueEye™ **Ultragreen**: Viscosity + TCD + **CO₂** + **H₂** hardware



Main Features

Measurement output:

- Wobbe Index (**W_i** & **W_s**)
- Calorific content (**H_s** & **H_i**)
- **H₂** and **CO₂** 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

- 7 second Viscosity
- 1 second Thermal Conductivity and CO₂

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 ³ , kWh/m ³	0/0°C, 15/0°C, 15/15°C, 20/20°C, 25/20°C, 25/0°C at 101325 Pa and 60°F at 14.65, 14.696, 14.73 and 15.025 psi absolute	NIST AGA-8 ISO 6976:2016 GPA 2172:2009
Net Calorific Value (H_i)	BTU/scf,		
Gross Wobbe Index (W_s)	Therm/scf		
Net Wobbe Index (W_i)			
Density ρ	kg/m ³ , lbm/scf		
Air Fuel Ratio λ	-	Volume, 20.946% O ₂	Simplified method
Methane Number	-	-	ISO23306 PKI Methane Number
CO ₂ & H ₂ concentration ^{1 2}	mol%	-	Proprietary methods

Accuracy	≤ 1% of reading
Repeatability	≤ 0.2% of reading ³
Dynamics	One measurement every 1s, reaction time T90 < 60s

Gas Composition Range					
CH ₄	70-100 mol%	Higher Alcanes	0-1 mol%	O ₂	≤ 3 mol%
C ₂ H ₆	0-20 mol%	N ₂	0-15 mol%	H ₂ O (Gaseous)	≤ 0.1 mol%
C ₃ H ₈	0-5 mol%	CO ₂	0-3 mol% (20/100 mol%) ¹	Dust, Liquids	Without
C ₄ H ₁₀	0-3 mol%	H ₂	≤ 0.5 mol% (30 mol%) ²	H ₂ S	≤ 0.01 mol%
H _s addressable range		27.52 to 50.40 MJ/m ³ (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		50 ml/min (+/- 10%), 0.00177 scf/min (+/- 10%) ⁴			

¹ only for BlueEye™ Mobile **Renewable** & **Ultragreen**

² only for BlueEye™ Mobile **Hydrogen** & **Ultragreen**

³ unfiltered 1 second cycle measurement

⁴ flow rate range customizable on request

Electrical and Mechanical Specifications

Interfaces	Bluetooth® Low Energy to dedicated iOS and Android App 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)

