# Combustion gas analyser
## KIGAZ 110

CE

## KEY POINTS

**Long-life $O_2$ sensor**

**Interchangeable CO-$H_2$ sensor**

**Sensor protection by pump stopping**

- **2 Go** memory (100 000 measurements)
- **Step by step procedure menu** (gas flow, inspections)
- **Self-test** menu
- **Built-in printer**

## CONFORMITY AND STANDARDS

**Conformity**
The analyser is in compliance with the following european directives:
- 2004/108/EC
- 2006/95/EC Low voltage
- 2011/65/EU RoHS II
- 2012/19/EU WEEE

**Standards**
The analyser is in compliance with the EN 50379-1 and EN 50379-2 standards.

**KIGAZ MOBILE Application**

## HOUSING

**Dimensions**
Instrument: 331 x 112 x 86 mm
Flue gas probe: 180 mm
Cable length: 2.50 m

**Weight (battery and protective cover included)**
1035 g

**Display**
LCD 120 x 160 pixels, 50 x 67 mm

**Keypad**
10-key dome switch keypad

**Material**
Housing: ABS
Plasturgy of detachable probe: PA 6.6 reinforced 10 % glass fiber
Probe cable: neoprene

**Protection**
IP40

**Communication**
USB
Bluetooth® (option)

**Power supply**
Li-Ion battery 6 V 1.5 A
Voltage of power supply:
100-240 VAC, 50/60 Hz

**Battery life**
10 h in continuous operating

**Battery charging time**
10 h

**Operating and storage temperature**
From +5 to +50 °C
and from -20 to +50 °C
Altitude: from 0 to 2000 m

## INSTRUMENT FEATURES

| **GAS** | Ambient max CO | Flue gas CO | Interchangeable sensors: long-life $O_2$ and CO compensated $H_2$ | Excess air Losses | Efficiency > 100% |
|---|---|---|---|---|---|
| **PRESSURE** | Draft measurement | Differential pressure measurement | | | |
| **TEMPERATURE** | Ambient temperature | Flue gas temperature | Delta Temperature | DHW temperature | Dew point temperature |
| **OTHER FUNCTIONS** | 15 programmed combustibles[1] | Adding 5 combustibles by the user | Opacity index | External water trap | |

[1]**Combustibles:** *Sahara/Fos-sur-Mer Natural Gas, Groningen Natural Gas, Russia/North Sea Natural Gas, Propane, LPG, Butane, Light Oil, Heavy Oil, Bituminous coal, Hard coal, Coke gas, Bio fuel 5%, Wood 20%, Wood-chip 21%, Pellet 8%*

## MEASURING RANGE

| Parameter | Sensor | Measuring range | Resolution | Accuracy* | $T_{90}$ response time |
|---|---|---|---|---|---|
| Long-life $O_2$ | Electro-chemical | From 0 % to 21 % | 0.1 % vol. | ±0.2 % vol. | 30 s |
| CO (with $H_2$ compensation) | Electro-chemical | From 0 to 8000 ppm | 1 ppm | From 0 to 200 ppm: ±10 ppm<br>From 201 to 2000 ppm: ±5% of measured value<br>From 2001 to 8000 ppm: ±10% of measured value | 30 s |
| Flue gas temperature | K thermocouple | From -100 to +1250 °C | 0.1 °C | ±0.4% of measured value or ±1.1 °C | 45 s |
| Ambient temperature | Internal NTC | From -20 to +120 °C | 0.1 °C | ±0.5 °C | - |
| Ambient temperature | Pt100 (external probe 1/3 DIN) | From -50 to +250 °C | 0.1 °C | ±0.3% of measured value or ±0.25 °C | 30 s |
| Dew-point temperature | Calculated** | From 0 to +99 °Ctd | 0.1 °C | - | - |
| DHW temperature | TcK (external probe) | From -200 to +1300 °C | 0.1 °C | ±0.4% of measured value or ±1.1 °C | - |
| Differential pressure | Semiconductor | From -20 000 to +20 000 Pa | 1 Pa | From -20 000 to -751 Pa: ±0.5 % of measured value ±4.5 Pa<br>From -750 to -61 Pa: ±0.9 % of measured value ±1.5 Pa<br>From -60 to 60 Pa: ±2 Pa<br>From 61 to 750 Pa: ±0.9 % of measured value ±1.5 Pa<br>From 751 to 20 000 Pa: ±0.5 % of measured value + 4.5 Pa | - |
| Draft | Semiconductor | From -10 to +10 Pa<br>From -1000 to +1000 Pa | 0.1 Pa<br>1 Pa | | - |
| Losses | Calculated** | From 0 to 100 % | 0.1 % | - | - |
| Excess air (λ) | Calculated** | From 1 to 9.99 | 0.01 | - | - |
| Lower efficiency (ηs) | Calculated** | From 0 to 100 % | 0.1 % | - | - |
| Higher efficiency (ηt) (condensing) | Calculated** | From 0 to 120 % | 0.1 % | - | - |
| Opacity index | External instrument | From 0 to 9 | - | - | - |

*All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with required compensation.
**Calculation is made based on the measured values by the analyser.

## SOFTWARE

🔥 **The analysers are supplied with the LIGAZ-2 software**

It allows database creation (customers, boilers, inspections), inspections downloading and printing, synchronisation instrument/PC and analyser configuration.



## SUPPLIED WITH

The analysers are supplied with the following items:
• Transport bag
• 180 mm flue gas probe and its water trap
• LIGAZ-2 software and its USB cable
• Power supply adapter and Li-ion battery
• Calibration certificate
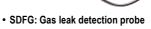• Protective cover with magnets



## ACCESSORIES*

• **SCOT: Ambient CO probe**

• **SCO2T: Ambient $CO_2$ probe**

• **SPA 150SP: Ambient Pt100 probe**

• **SDFG: Gas leak detection probe ($CH_4$)**

• **PMO: Opacity pump**
  Supplied with 50 filters and a reference table

• **SKCT: pipeline contact probe**

• **SCI: Ionisation current measurement probe**

• **KEG: gas network tightness kit**

**Bluetooth** SMART **module**

Allows connection to the KIGAZ MOBILE application:
- Graphic visualisation
- Saving
- Exportation under CSV, XML, PDF format
- Reports sending by e-mail

**KIGAZ MOBILE application** for smartphones and tablets

Download on the App Store

Available on the Google play

*See the technical datasheet of accessories for KIGAZ for more details.

**www.kimo.fr**

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