KIMO INSTRUMENTS

Technical Data Sheet

Pressure / Temperature / Humidity / Air Velocity / Airflow / Sound level

Combustion gas analyser
KIGAZ 310

CE

KEY POINTS

Long-life O_2 sensor

Interchangeable CO-H_2, NO, NO_2, SO_2, CH_4 sensors

CO dilution

Auto-zeroing in the flue

Gas flow auto-setting

- Single connector
- Interchangeable probe
- 2 Go memory (100 000 measurements)
- Intuitive graphic interface
- LED on the probe handle to light dark areas
- Built-in printer
- Built-in water trap with max level alarm
- 3 pressure sensors

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

FEATURES OF THE INSTRUMENT

GAS	- Autozeroing in the flue - CO dilution up to 5% [1]	Flue gases CO and CO_2, ambient max CO	Interchangeable sensors: long-life O_2, CO-H_2, NO, NO_2, SO_2, CH_4 (optional)	Excess air Losses	Efficiency > 100%
PRESSURE	Differential pressure measurement	High accuracy draft measurement with autozero by solenoid valve	Gas flow auto-setting		
TEMPERATURE	Ambient temperature	Flue gas temperature	Delta Temperature	DHW Temperature 2 thermocouples	Dew point temperature
OTHER FUNCTIONS	15 programmed combustibles[2]	Adding 5 combustibles by the user	Opacity index		

[1] *With an accuracy of ±10 % of the measurement*

[2] ***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

Parameters	Sensor	Measuring range	Resolution	Accuracy*	T_{90} response time
Long-life O_2	Electrochemical	From 0 % to 21 %	0.1 % vol.	±0.2 % vol.	30 s
CO (with H_2 compensation)	Electrochemical	From 0 to 8000 ppm	1 ppm	From 0 to 200 ppm: ±10 ppm From 201 to 2000 ppm: ±5 % of the measured value From 2001 to 8000 ppm: ±10 % of the measured value	30 s
NO	Electrochemical	From 0 to 5000 ppm	1 ppm	From 0 to 100 ppm: ±5 ppm. From 101 to 5000 ppm: ±5 % of the measured value	30 s
Low range NO	Electrochemical	From 0 to 500 ppm	0.1 ppm	From 0 to 100 ppm: ±2 ppm From 101 to 500 ppm: ±2 % of the measured value	30 s
NOx	Calculated**	From 0 to 5155 ppm	1 ppm	-	-
NO_2	Electrochemical	From 0 to 1000 ppm	1 ppm	From 0 to 100 ppm: ±5 ppm. From 101 to 1000 ppm: ±5 % of the measured value	80 s
SO_2	Electrochemical	From 0 to 5000 ppm	1 ppm	From 0 to 100 ppm: ±5 ppm. From 101 to 5000 ppm: ±5 % of the measured value	80 s
CO_2	Calculated**	From 0 to 99 % vol	0.1% vol	-	-
CH_4	Semiconductor	From 0 to 10000 ppm From 0 to 1 % Vol From 0 to 20 %LEL	1 ppm 0.0001 % Vol 0.002 %LEL	±20 % of full scale	40 s
Flue gas temperature	K thermocouple	From -100 to +1250 °C	0.1 °C	±0.4 % of the 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 (1/3 DIN external probe)	From -50 to +250 °C	0.1 °C	±0.3 % of the measured value ±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 the measured value or ±1.1 °C	-
Draft	Piezoelectric	From -10 to +10 Pa From -1000 to +1000 Pa	0.1 Pa 1 Pa	From -100 to -10 Pa: ±2 Pa From -10 to +10 Pa: ±0.5 Pa From +10 to +100 Pa: ±2 Pa Above: ±2 % of the measured value	-
Differential pressure	Piezoelectric	From -20 000 to +20 000 Pa	1 Pa	From -20 000 to -751 Pa: ±0.5 % of the measured value ±4.5 Pa From 750 to -61 Pa: ±0.9 % of the measured value ±1.5 Pa From -60 to 60 Pa: ±2 Pa From 61 to 750 Pa: ±0.9 % of the measured value ±1.5 Pa From 751 to 20 000 Pa: ±0.5 % of the measured value ±4.5 Pa	-
Losses	Calculated**	From to 100%	0.1%	-	-
Flue gas velocity	Calculated**	From to 99.9 m/s	0.1 m/s	-	-
Excess air (λ)	Calculated**	From 1 to 9.99	0.01	-	-
Lower efficiency (ηs)	Calculated**	From 0 to 100%	0.1 %	-	-
Higher efficiency (ηt) (condensation)	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.*

TECHNICAL FEATURES

Dimensions	Instrument: 331 x 112 x 86 mm; Flue gas probe: 300 mm; Cable length: 2.50 m
Weight (battery included)	1120 g
Display	TFT 3.5" colour screen
Keypad	Elastomer keypad; 3 function keys; OK key; 4 direction arrows; ON/OFF key; Escape key
Material	Housing and probe: ABS; Probe cable: neoprene; Plasturgy of detachable probe: PA 6.6 reinforced 30 % glass fiber
Communication	USB / Bluetooth® (optional)
Protection	IP40

TECHNICAL FEATURES (follow-up)

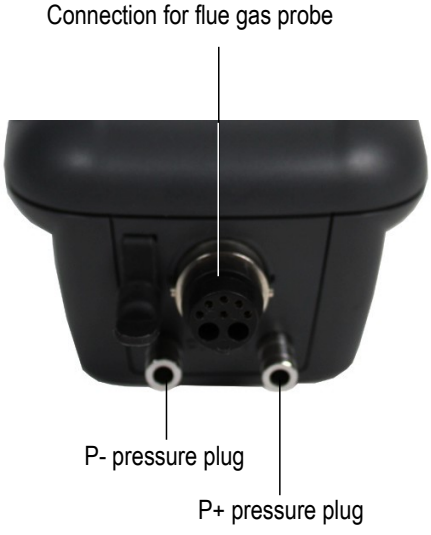
Battery life / Power supply	10 h in continuous operating / Li-Ion battery 6 V 1.5 A Voltage of power supply: 100-240 VAC, 50-60 Hz
Battery charging time	10 h
Operating / storage temperature	From +5 to +50 °C / From -20 to +50 °C. Altitude: from 0 to 2000 m.

INSTRUMENT DESCRIPTION

Overview

Connections

Top view

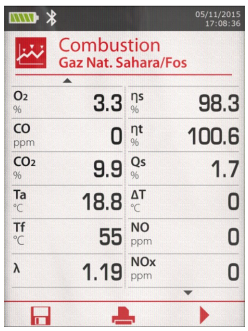


Bottom view

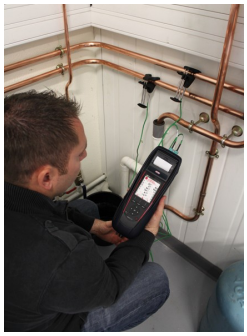
Right side view

MENUS / ACTIVE VIEW / APPLICATION

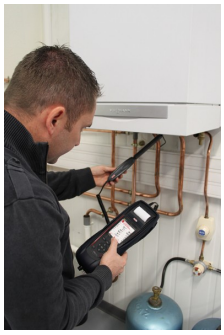
Analyser menu



Example of analysis



DHW network temperature



Ambient CO checking

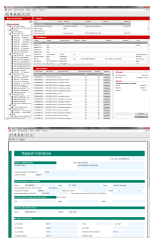
SUPPLIED WITH

Model / Supplied with	KIGAZ 310 CLA	KIGAZ 310 STD	KIGAZ 310 PRO
Number of interchangeable sensors	2 (O_2 long life, and CO-H_2)	3 (O_2 long life, CO-H_2 and NO)	4 (O_2 long life, CO-H_2, NO, NO_2 or SO_2)
Scalable	Yes: CH_4, NO, NO_2, SO_2	Yes: CH_4, NO_2, SO_2	-
Calibration certificate	Yes	Yes	Yes
Transport case	Yes	Yes	Yes
300 mm flue gas probe	Yes	Yes	Yes
Magnetic protective cover	Yes	Yes	Yes
Differential pressure kit	Yes	Yes	Yes
LIGAZ-2 software	Yes	Yes	Yes

The analysers are supplied with the LIGAZ-2 software

The LIGAZ-2 software allows:

- Database creation (customers, boilers, inspections)
- Inspections downloading and printing
- Synchronization instrument/PC (customers, boilers, inspections).
- Analyser configuration

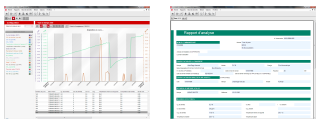


Transport case

LIGAZ-2 software

ACCESSORIES*

LOGAZ-2: Software allowing database creation (customers, boilers and inspections), inspections downloading and printing, customisable procedure reports creation, inspection planification, on-site service contracts management (operator planning, customer care) and real-time measurements visualisation and recording.



- **SCOT:** Ambient CO probe

- **SCO2T:** Ambient CO_2 probe

- **SPA 150SP:** Ambient Pt100 probe

- **SKCL 150:** Thermocouple probe

- **SCI:** Ionisation current measurement probe

- **PS-180:** Flue gas with interchangeable contact duct, **180 mm** length, use up to **500 °C**
- **PS-300:** Flue gas with interchangeable contact duct, **300 mm** length
- **PS-750:** Flue gas with interchangeable contact duct in INCONEL, **750 mm** length
- **PS-1000:** Flue gas with interchangeable contact duct in INCONEL, **1000 mm** length

- **SDFG:** Gas leak detection probe (CH_4)

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

- **KEG:** Gas network tightness kit

Bluetooth® SMART module

Data download and instrument configuration by PC.
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

Distributed by :

afaq ISO 9001 Qualité AFNOR CERTIFICATION

EXPORT DEPARTMENT
Tel : + 33. 1. 60. 06. 69. 25 - Fax : + 33. 1. 60. 06. 69. 29
e-mail : export@kimo.fr