KIMO INSTRUMENTS

Technical Data Sheet

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

CE

COMBUSTION GAS ANALYSER
KIGAZ 210

KEY POINTS

Long-life O_2 sensor

Interchangeable CO-H_2, NO and CH_4 sensors

CO sensor protection by solenoid valve

Auto-zeroing in the flue

- Built-in printer
- Intuitive interface due to icons
- LED on the probe handle to light dark areas
- Single connector
- Interchangeable probe
- 2 Go memory (100 000 measurements)
- Step by step procedure menu (gas flow, inspections)

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	- Autozero in the flue - CO sensor protection by solenoid valve	Flue gas CO and ambient max CO	Interchangeable sensors: long-life O_2 and CO-H_2 and NO and CH_4 (optional)	Excess air Losses	Efficiency > 100%
PRESSURE	Differential pressure measurement		Draft measurement		
TEMPERATURE	Ambient temperature	Flue gas temperature	Delta Temperature	DHW temperature 2 thermocouples	Dew point temperature
OTHER FUNCTIONS	15 programmed combustibles[1]	Adding 5 combustibles by the user	Opacity index		

[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 From 201 to 2000 ppm: ±5% of measured value From 2001 to 8000 ppm: ±10% of measured value	30 s
NO	Electro-chemical	From 0 to 5000 ppm	1 ppm	From 0 to 100 ppm: ±5 ppm. From 101 to 5000 ppm: ±5% of 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	-	-
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 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 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 measured value or ±1.1 °C	-
Differential pressure	Piezoelectric	From -20 000 to +20 000 Pa	1 Pa	From -20 000 to -751 Pa: ±0.5 % of measured value ±4.5 Pa From 750 to -61 Pa: ±0.9% of measured value ±1.5 Pa From -60 to 60 Pa: ±2 Pa From 61 to 750 Pa: ±0.9% of measured value ±1.5 Pa From 751 to 20 000 Pa: ±0.5% of measured value ±4.5 Pa	-
Draft		From -10 to +10 Pa From -1000 to +1000 Pa	0.1 Pa 1 Pa		
Losses	Calculated**	From 0 to 100%	0.1%	-	-
Flue gas velocity	Calculated**	From 0 to 99.9 m/s	0.1 m/s	-	-
Excess air (λ)	Calculated**	From 1 to 9.99	0.01	-	-
Efficiency (ηs)	Calculated**	From 0 to 100 %	0.1 %	-	-
Efficiency (ηt) (condensation)	Calculated**	From 0 to 120 %	0.1 %	-	-
Opacity index	External instrument	From 0 to 9		-	-

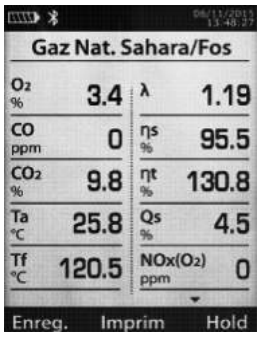
**All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with required compensation.*
***Calculation is made based on the measured values by the analyzer.*

TECHNICAL FEATURES

Dimensions	Instrument: 331 x 112 x 86 mm; Flue gas: 300 mm ; Cable length: 2.50 m
Weight (with battery and protective cover included)	1060 g
Display	LCD 120 x 160 pixels, 50 x 67 mm
Keypad	Elastomer keypad; 3 function keys; OK key; 4 direction arrows; ON/OFF key; Escape key
Material	Housing and probe: ABS; Probe cable: neoprene; Contact duct: PA 6.6 reinforced 10 % glass fiber
Protection	IP40
Communication	Bluetooth® (optional) / USB
Power supply / Battery life	Li-Ion battery 6 V 1.5 A / 10 h in continuous operating 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.

MENUS / ACTIVE VIEWS / APPLICATION

Analyser menus



Example of analysis

DHW network temperature

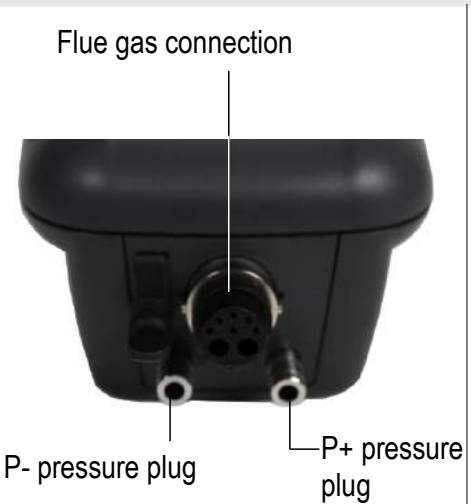
Ambient CO checking

INSTRUMENT DESCRIPTION

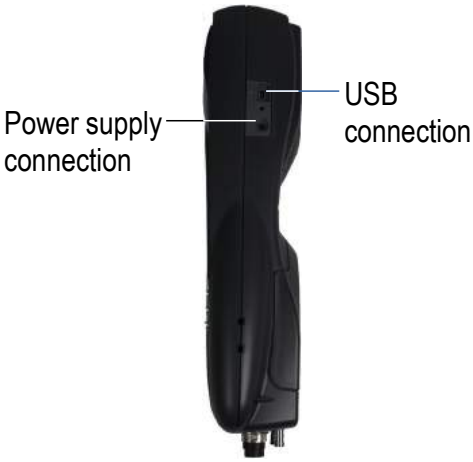
Overview

Connections

Top view



Bottom view



Right side view

SUPPLIED WITH

Model / Supplied with	KIGAZ 210 STD	KIGAZ 210 PRO
Number of interchangeable sensors	2 (long-life O_2 and CO-H_2)	3 (long-life O_2, CO-H_2 and NO)
Scalable	Yes: NO or CH_4	Yes: CH_4
Calibration certificate	Yes	Yes
Transport bag	Yes	Yes
Flue gas probe and its water trap	Yes	Yes
Magnetic protective cover	Yes	Yes
Differential pressure kit	Yes	Yes
LIGAZ-2 software	Yes	Yes

Transport case

LIGAZ-2 software

SOFTWARE

The analysers are supplied with the LIGAZ-2 software

The LIGAZ-2 software allows:

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

ACCESSORIES*

LOGAZ-2: Software allowing database creation (customers, boilers and inspections), inspections downloading and printing, customisable procedure reports creation, inspection planning, 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

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