

COMBUSTION GAS ANALYSER KIGAZ 210

KEY POINTS

-  Long-life O₂ sensor
-  Interchangeable CO-H₂, NO and CH₄ 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		

¹Combustibles: 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 40 ppm: ±2 ppm From 41 to 500 ppm: ±5% of the measured value	30 s
NOx	Calculated**	From 0 to 5155 ppm	0.1 ppm or 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	-
Draft		From -10 to +10 Pa From -1000 to +1000 Pa	0.1 Pa 1 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	-
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 (η _s)	Calculated**	From 0 to 100 %	0.1%	-	-
Efficiency (η _t) (condensation)	Calculated**	From 0 to 120 %	0.1%	-	-
Opacity index	External instrument	From 0 to 9		-	-

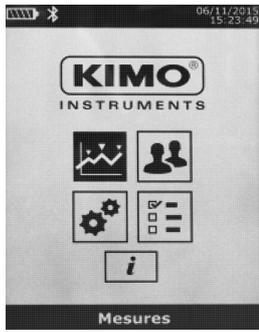
*All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with required compensation.

**Calculation is made based on the measured values by the analyzer.

***The resolution is 0.1 ppm if the NO sensor is a low range NO sensor (0-500 ppm). The resolution is 1 ppm if the sensor is a NO 0-5000 ppm.

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; Plasturgy of detachable probe: 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.



Analyser menus

Gaz Nat. Sahara/Fos			
O ₂ %	3.4	λ	1.19
CO ppm	0	η _s %	95.5
CO ₂ %	9.8	η _t %	130.8
Ta °C	25.8	Q _s	4.5
Tf °C	120.5	NOx(O ₂) ppm	0
Enreg. Imprim Hold			

Example of analysis



DHW network temperature



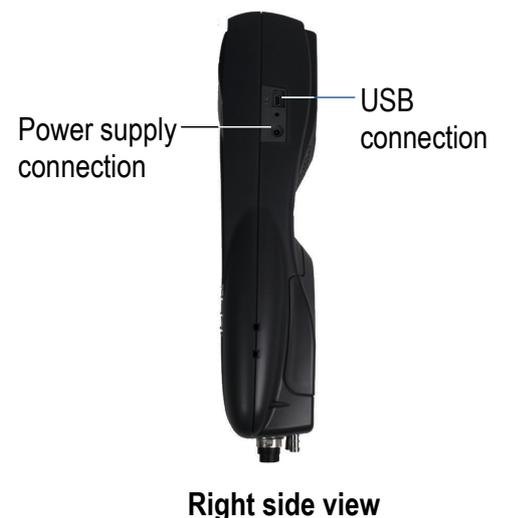
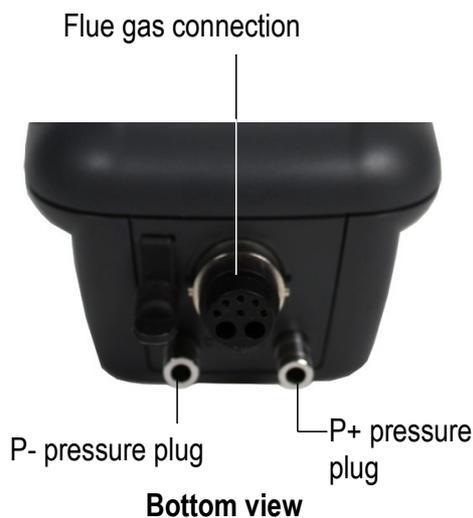
Ambient CO checking

INSTRUMENT DESCRIPTION

> Overview



> Connections



SUPPLIED WITH

Model	KIGAZ 210 STD	KIGAZ 210 PRO
Supplied with		
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*



LIGAZ-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 CO₂ 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 (CH₄)



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



- **KEG:** Gas network tightness kit

 **Bluetooth**® 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



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

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