

GENERAL DESCRIPTION

The SK flue gas oxygen monitor is designed to provide a reliable and accurate measurement of oxygen within the flue gases from industrial boilers; furnaces and incinerators.

The monitoring of oxygen within the flue gas is the most reliable and repeatable means of assessing correct burner operation, combustion efficiency and thereby minimising emissions in the atmosphere.

The Model OC2016 is a solid state electronic monitor consisting of a flue stack mounted zirconium dioxide sensor and wall mounted indicator control unit.

APPLICATIONS

- **Direct measurement of excess air (residual oxygen content) after combustion - ideal for boilers and furnaces.**
- **The determination of the oxygen content within protection gases with respect to gas packaging of foods etc.**
- **Control facility to ensure minimum consumption of gas.**

PRINCIPLE OF OPERATION

The oxygen content of the flue gas is measured via a heated zirconium dioxide (ZrO_2) cell. The surface of the cell when installed, is positioned in direct contact with the flue gases, therefore omitting the need for sample pumps and cooling systems making the OC2016 ideal for measurement of oxygen content.

The probe is mounted in the flue gas channel and any subsequent flue gas is diverted to the heated cell via a guide tube. The oxygen content is the difference between the atmosphere and the flue gases. A resultant display range of 0.5% to 20.9% oxygen is provided by the 3 digit display. The signal (isolated 4 to 20 mA) is retransmitted for use with a recording device that will accept 4-20mA signals.

PRODUCT SPECIFICATION

OXYGEN MONITOR MODEL OC2016



FEATURES

- * Solid State Electronics
- * Accurate, instantaneous readout
- * Simple & precise alarm settings.
- * Probe Fault Alarm.
- * Simple calibration control.
- * Isolated 4 to 20mA

BENEFITS

- * No moving parts or pumps.
- * Easy mounting and maintenance.
- * Attractive design in anodised aluminium.
- * Probes can be exchanged without recalibration.
- * Long calibration intervals.
- * Cost effective

SPECIFICATION

MONITORING UNIT

DISPLAY

3 Digit, seven segment display showing 0.50% to 20.9% oxygen.

OUTPUT SIGNAL

0 (4) - 20mA corresponding to 0 - 20% oxygen 0 - 4mA switch selectable, Maximum series resistor 600 ohm.

ACCURACY

Display \pm 1% on last digit, Current output $< \pm$ 0.2% of maximum signal.

AMBIENT TEMPERATURE

0 - 60°C

SUPPLY VOLTAGE / SUPPLY POWER

230V \pm 10% 50/60Hz

50VA In the heating period of the probe (approx. 2 minutes)

30VA Max. thereafter.

ALARMS / OUTPUTS RELAYS

Two individually set alarms - 6A rated at 250 volts AC.

PROTECTION

IP54 (IP64 on request)

MEASURING PROBE

INSERTION LENGTH

29mm (plus length of possible guide pipe)

WORKING TEMPERATURE

Flue gas temperature 0 - 900°C, Ambient temperature 0 - 60°C

TIME CONSTANT

T₉₀ Typically 4 seconds, maximum 15 seconds.

MEASURING ACCURACY

After 1000 hours: at 5% O₂ $< \pm$ 0.15% O₂
 at 10% O₂ $< \pm$ 0.30% O₂

REPEATABILITY

At 2% O₂ \pm 0.1% O₂
Between 4 - 6% O₂ $< \pm$ 0.2% O₂

CONNECTION

Cable 850mm long. One end has a 4-pin multi-plug that connects to the control unit while the other end has a 6-pin multi-plug that connects to the probe.

CALIBRATION INTERVAL

6 months (on gas boilers) otherwise 12 months.

ORDERING INFORMATION AND MODEL CODE

KEY MODEL CODE - OC2016 - 1 - A

TABLE 1

TABLE 2

KEY MODEL CODE

CODE	DESCRIPTION
OC2016	Single channel oxygen monitor for flue gas temperatures of 0 - 900°C.

TABLE 1 - STACK DIAMETER

CODE	DESCRIPTION
0	Not applicable - flat mounting surface
1	1 metre diameter flue/stack
2	2 metre diameter flue/stack
3	3 metre diameter flue/stack
4	4 metre diameter flue/stack
5	5 metre diameter flue/stack

TABLE 2 - ACCESSORIES

CODE	DESCRIPTION
A	Calibration Adaptor
B	Air Pump
C	Flue Gas Guide Tube ó Standard version
D	Flue Gas Guide Tube ó Filter version
E	Flow Meter
F	Spare Oxygen Sensor - Part No. OS2014
G	Extension Cable

SK Environmental Ltd reserve the right to change the specification without prior notice.



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