

ANALOX 5S MkII

CO2 Transducer

Installation and Operation Manual

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1 INSTALLATION

1.1 PHYSICAL MOUNTING

The instrument is housed in a diecast box fitted with mounting lugs. It should be screwed to a suitable surface using the two mounting holes.

1.2 GAS CONNECTIONS

The instrument may either monitor gas in the atmosphere adjacent to itself, or a flow adaptor may be inserted into the sensor inlet allowing remote samples of gas to be analysed. In the latter case, care should be taken to ensure that the flowrate is within specification and that the flow adaptor is not pressurised in any way.

1.3 ELECTRICAL CONNECTIONS

Electrical connections with the instrument are made via a short screened cable. The cable screen is internally connected to the diecast box and made off into a green/yellow wire. The remaining wires are terminated in bootlace ferrules.

CORE COLOUR	SIGNAL	DETAILS
Red	+SUPPLY	Power Supply 8-36V DC to Instrument
Black	-SUPPLY	
White	+OUTPUT	Signal Output from Instrument (0-1V, 0-2V, 4- 20mA)
Green	-OUTPUT	
Green/Yellow	Earth	Screen

Use of the screen will depend on the particular installation. It is best connected to a clean Earth to form a shield around the sensor. Note that it is not recommended for the screen to be connected to the negative supply line.

It is advised to avoid ground loops. Therefore if the case is adequately earth bonded by the user's fixings, it may not always be desirable to connect the screen to another earth connection. If unsure, it is suggested that the screen wire be connected to earth in the first place, and then if there are problems, an earth loop can be broken by disconnecting one of the connections in the earth arrangement.

The signal output is factory configured to either 0-1V, 0-2V or 4-20mA.

Alternative configurations (eg 0.1-1.0V) are possible. Please consult factory for details.

2 OPERATION

When the unit is switched on, the user should observe that the indicator flashes 4 times.

For a period of less than 1 minute, the signal output will be set overrange, whilst the sensor is allowed to warm up. After the warm up period, the signal output will be proportional to the CO₂ concentration as per the specification.

The indicator will flash briefly every few seconds indicating normal operation.

In the event of a fault occurring, the indicator will stop flashing. The various combinations of Indicator and Signal Output are described in Section 4. These will assist the user in determining the fault condition.

3 CALIBRATION

The unit is factory calibrated and configuration data is stored internally. The instrument automatically compensates for variations due to temperature and drift. No user adjustment is necessary.

4 STATUS INDICATIONS

EVENT	INDICATOR	SIGNAL OUTPUT	ACTION
Switch On	4 flashes	N/A	None
	2 flashes		Service required
Warm Up Period	Flashing	>1.5V (0-1V) >3V (0-2V) >24mA (4-20mA)	None
Normal Operation	Flashing	0-1V, 0-2V or 4-20mA proportional to CO ₂ concentration	None
Source Fault	Off	>1.5V (0-1V) >3V (0-2V) >24mA (4-20mA)	Service required
Sensor Fault	On	>1.5V (0-1V) >3V (0-2V) >24mA (4-20mA)	Service required

5 SPECIFICATION

Ranges	Resolution
0-2000ppm	1ppm
0-5000ppm	2ppm
0-10000ppm	5ppm
0-1%	0.002%
0-2%	0.005%
0-5%	0.01%
0-10%	0.05%
0-20%	0.1%
Accuracy	±2% of FS at CTP from zero to half scale ±3% of FS at CTP from half scale to full scale
Repeatability	0.5% FS
Linearity	2% FS
Drift At zero	1% FS/Month
Warm Up	60 Seconds
Response Time	T90 in <50 Seconds
Detection Technique	Infra Red Absorption
Operating Temperature	0 to +40°C
Storage Temperature	-20 to +70°C
Temperature Effect	Typical Over Range 0-25°C 0.02%FS/°C at zero 25-40°C 0.1%FS/°C at zero
Humidity	0 - 90% Non Condensing
Flow Range	0.3 - 2 litres/minute
Power Supply	8-36VDC
Output	Either 0-1V DC into load of >1000 Ohms Or 0-2V DC into load of >1000 Ohms Or 4-20mA into load of <100 Ohms (Specify at time of order)
Warm-up/Fault conditions:	Either >1.5VDC (0-1VDC option) Or >3V DC (0-2VDC option) Or >24mA (4-20mA option)
Enclosure	Die cast Aluminium
Dimensions	115 x 70 x 40 (w h d), including flow adapter
FS = Full Scale	
CTP = Constant Temperature and Pressure	