















## 9 Sensor Status Icons

Shown to the left of each sensor reading the sensor status icon indicates the current status of the sensor.

| Icon                                                                                  | Meaning                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  GREEN | <b>OK.</b> The sensor is returning a value which is within alarm limits.                                                                                                                                                                                                                                                                                             |
|  RED   | <b>Alarm.</b> The sensor is returning a value which is outside of an alarm set-point. This icon will flash when a new alarm condition is identified and until the alarm is acknowledged by pressing the mute button. See user manual for more on alarms.                                                                                                             |
|  GREY  | <b>Uncertain.</b> This icon is shown when the sensor is returning a reading which is within alarm limits but the reading cannot be guaranteed correct, for example, when there is low gas flow through the system. This icon will be accompanied by a status code. See troubleshooting section for further information on the specific condition.                    |
|        | <b>Fault.</b> This icon indicates that a fault has been identified with the sensor. This icon will be accompanied by a status code. See troubleshooting section in the user manual for further information on the specific condition. This icon will flash when a new fault condition is identified and until the fault is acknowledged by pressing the mute button. |
|        | <b>Processing.</b> This animated icon indicates that the digital sensor module is performing some internal function. This icon will be shown when the sensor is in warm-up or has been re-connected.                                                                                                                                                                 |
|        | <b>Calibration due.</b> This flashing icon is intended as a reminder that the sensor should have a calibration adjustment performed (See user manual).                                                                                                                                                                                                               |
|        | <b>Replacement due.</b> This flashing icon is intended as a reminder that the sensor or element of the sensor should be replaced (See user manual).                                                                                                                                                                                                                  |

## 10 Alarms

The sensor reading is updated and checked against each associated alarm every second. High-going alarms trigger for readings greater than the alarm set-point and low-going alarms trigger for readings lower than the alarm set-point.








| Sensor alarm                                                                        |                                                                                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|    | 18.81 % O2      |
|   | 0 ppm CO2                                                                                        |
|  | 0.0 ppm VOC                                                                                      |
|  | 0.1 ppm CO                                                                                       |
|  | 20 mg/m3 H2O  |
| Menu                                                                                |                                                                                                  |

In alarm conditions the horn sounds and system status indicator turns red, showing the word 'alarm'. Additionally, the sensor status icon flashes red and the sensor bar indicator turns red.

Pressing the Mute button in alarm conditions silences the horn and changes the sensor status indicator changing to solid red.

## 11 Faults

The system status is continuously monitored and fault alarms trigger in the event of faults being identified.

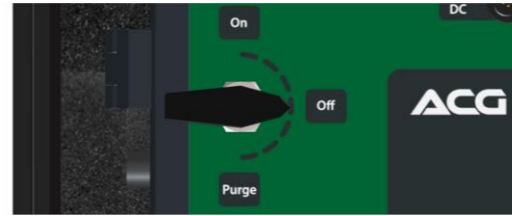
| Sensor fault                                                                        |                                                                                                    |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|  | 21.05 % O2      |
|  | SCF ppm CO2                                                                                        |
|  | 0.0 ppm CO                                                                                         |
|  | SCF ppm VOC                                                                                        |
|  | 21.0 mg/m3 H2O  |
| Menu                                                                                |                                                                                                    |

In fault conditions the horn sounds and system status indicator turns yellow, showing the word 'fault'. Additionally, fault information is displayed alternating with the sensor reading if valid. Where a valid sensor reading is not available, '---' is interleaved with the fault code.

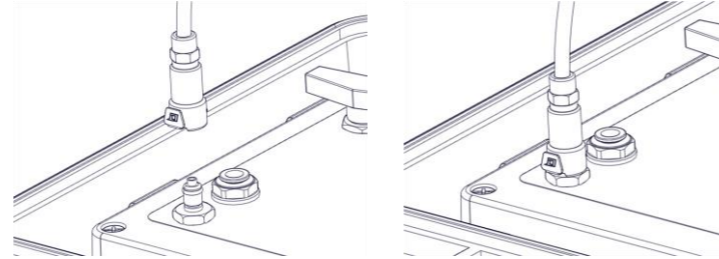
Fault alarms will continue to be displayed and sounded until the mute button is pressed to acknowledge the fault.

## 12 Connecting the Gas Sample

- Set the inlet valve to the "Off" position.

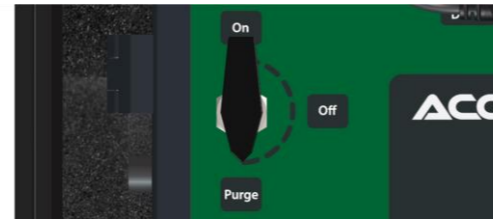


- Connect the Linktech tube adaptor and tubing to the ACG+ "Inlet" port, connect the free end to the equipment providing the gas sample and turn the gas supply on.



## 13 Purging the Gas Sample

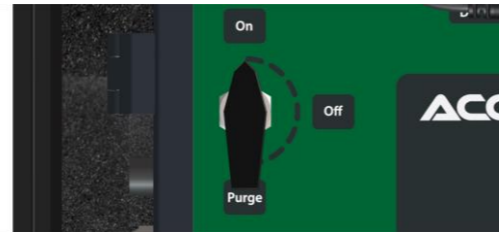
- Turn the inlet valve to the "Purge" position.











- Allow a suitable period for the gas to purge the pipework prior to the ACG+ of any stale, damp gas, and to dry any moisture in the pipe walls.

## 14 Starting the Gas Sample

- Turn the inlet valve to the "On" position.



- The sensors will come out of flow alarm.
- Allow the sensor readings to stabilise for a few minutes before recording the displayed gas values.

|                                                                                       |                                                                                                     |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
|  | 21.16 % O2     |
|  | 0 ppm CO2                                                                                           |
|  | 0.0 ppm VOC                                                                                         |
|  | 0.3 ppm CO     |
|  | 145 mg/m3 H2O  |
| Menu System info                                                                      |                                                                                                     |

## 15 Disposal

### WEEE statement



According to WEEE regulation this electronic product cannot be placed in household waste bins. Please check local regulations for information on the disposal of electronic products in your area.

Analox will provide a disposal service if this is beneficial to the customer. Analox are registered for the disposal of WEEE in the UK through the Environment Agency (2013 Registration number WEE/KE0043SY).

## 16 Service and Support

If you require technical or service support please visit:

<https://www.analoxsensortechnology.com/tech-and-service-support.html>



# ACG+ Quick Start Guide

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Scan the QR code for access to all ACG+ literature



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## 1 Introduction

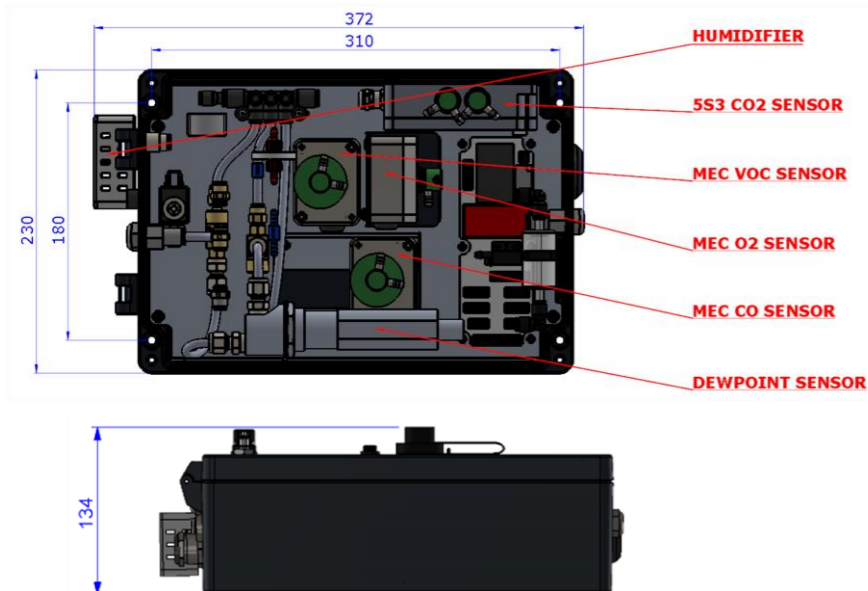
The ACG+ is a multi-sensor gas analyser designed for analysing contaminants in compressed breathing air. The ACG+ can be portable or permanently fixed to suit your application. This unit provides continuous 'on line' monitoring of O<sub>2</sub>, CO<sub>2</sub>, CO, VOC and water vapour which enables you to continually verify the quality of your breathing air delivering a much greater degree of system safety than a 3 or 6-month spot check.

**Note: This guide covers all available ACG+ options, your system may vary.**

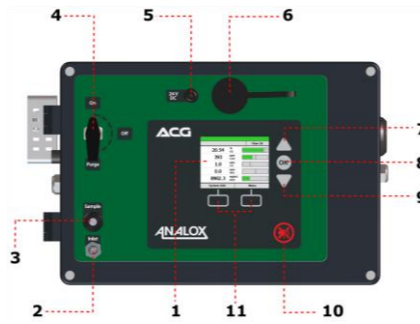


If viewing online, click the image above to see an ACG+ training video

## 2 General Overview



## 3 Controls



- 1) Display
- 2) Sample/Calibration gas inlet
- 3) Gas outlet for timed sample support (Oil Mist)
- 4) Gas inlet/purge valve
- 5) External power connection
- 6) USB port
- 7) Up button
- 8) OK button
- 9) Down button
- 10) Mute button
- 11) Context sensitive buttons

## 4 Making up the sample tube

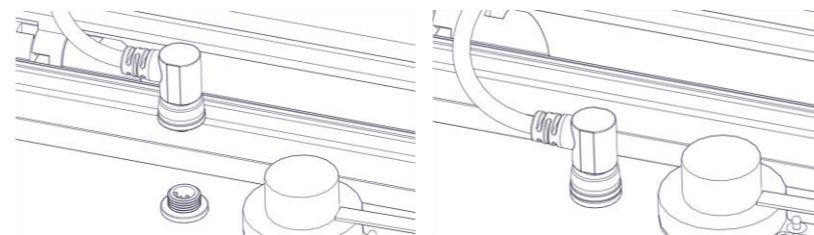
- Fit the PTFE tubing to the rear of the Linktech adaptor.



- Fit a 6mmOD compression fitting (not supplied) to the free end of the tubing suitable for fitment to the equipment providing the gas sample.

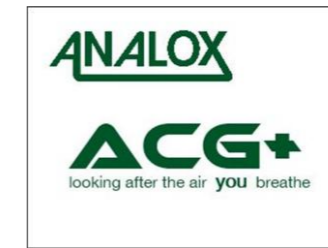
## 5 ACG+ Power (Portable or fixed)

Power should be applied to the 3-way socket on the front panel using either the rechargeable battery pack or the external PSU.



## 6 Startup

A splash screen displays before going blank for up to 15 seconds. The ACG+ then shows the main display. Alarms are ignored during the short warm up period.



| Warmup |                                    |
|--------|------------------------------------|
| 23.27  | % O <sub>2</sub>                   |
| 0      | ppm CO <sub>2</sub>                |
| 0.0    | ppm VOC                            |
| 0.2    | ppm CO                             |
| 341    | mg/m <sup>3</sup> H <sub>2</sub> O |
| Menu   | System info                        |

After warmup a low flow alarm may trigger, press the mute button on the front panel to silence it.



**Note: The CO sensor requires a minimum warmup period of 15 minutes to achieve specified accuracy.**

## 7 Main Display Detail

In normal operation the main display screen shows.

| 2a |                          | 2b    |                                    | 2c |  | 2d          |   |
|----|--------------------------|-------|------------------------------------|----|--|-------------|---|
| 1  | System status indicator  | 20.81 | % O <sub>2</sub>                   |    |  |             |   |
|    |                          | 0     | ppm CO <sub>2</sub>                |    |  |             |   |
| 2  | Live sensor readings     | 0.0   | ppm VOC                            |    |  |             |   |
|    |                          | 0.1   | ppm CO                             |    |  |             |   |
|    |                          | 20    | mg/m <sup>3</sup> H <sub>2</sub> O |    |  |             |   |
| 4  | Left context menu button | Menu  |                                    |    |  | System info | 5 |

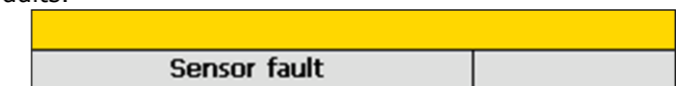
1. System status indicator
2. Live sensor readings
  - a. Sensor status icon
  - b. Sensor reading
  - c. Sensor type and display units
  - d. Sensor bar indicator
3. System information bar
4. Left context menu button
5. Right context menu button

## 8 System Status Indicators

If any alarm condition is identified the system status indicator turns red and displays the word 'Alarm'.



The system status indicator turns yellow and displays the word 'Fault' for any detected faults.



If no alarm or fault conditions are identified the system status indicator turns green.

