Ax60+ Multi-Gas, Hard Wired Option

Quick Start Guide

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Safety information

Warnings are used in this Quick Start Guide to indicate potentially hazardous situations which could result in serious injury or death. Cautions are used to indicate potentially hazardous situations that could result in equipment damage or loss of data. Notes are used to provide information that is important but not hazard related.

⚠ **WARNING:** **READ THE SAFETY INFORMATION IN THIS QUICK START GUIDE BEFORE INSTALLING OR USING THE AX60+.**

⚠ **WARNING:** **DO NOT TEST THE ALARM WHEN IT IS CLOSE TO THE EARS. IT HAS A HIGH VOLUME SOUNDER WITH A SOUND LEVEL OF 88 DECIBELS AT A DISTANCE OF 3 METRES.**

⚠ **WARNING:** **DO NOT TEST THE ALARM WHEN IT IS CLOSE TO THE EYES. IT HAS A HIGH VISIBILITY STROBE LIGHT WITH A LUMINOUS INTENSITY OF 100 CANDELA.**

⚠ **WARNING:** **ENSURE YOU PERFORM A RISK ASSESSMENT BEFORE INSTALLING CO_2 SENSORS AND CO_2 ALARMS. IDENTIFY POTENTIAL SOURCES OF CO_2 LEAKS AND AREAS OF HUMAN OCCUPATION. DO NOT USE A SINGLE CO_2 SENSOR TO COVER MORE THAN 80M^3. USE ADDITIONAL CO_2 SENSORS IF AN AREA HAS A COMPLEX SHAPE, PHYSICAL OBSTACLES, POOR VENTILATION OR ZONES WHERE CO_2 MAY COLLECT.**

⚠ **WARNING:** **INSTALL CO_2 SENSORS AT A HEIGHT OF 12–18" (305–457MM) ABOVE FLOOR LEVEL. THIS IS BECAUSE CO_2 IS HEAVIER THAN AIR AND MAY COLLECT AT A LOW LEVEL.**

⚠ **WARNING:** **INSTALL O_2 SENSORS AT AVERAGE WORKING HEAD HEIGHT**

⚠ **WARNING:** **DO NOT OPEN THE CENTRAL DISPLAY, SENSOR OR ALARM IF THEY ARE CONNECTED TO THE POWER SUPPLY. FIRST DISCONNECT AND ISOLATE THEM FROM LIVE HAZARDOUS VOLTAGE.**

Contents

1 Introduction

This Quick Start Guide explains how to install and use the Ax60+ Hard Wired option. For more information on operation and maintenance, refer to the *Ax60+ User Manual P0159-800*. For more information on servicing and calibration, refer to the *Ax60+ Service Manual P0159-803*. These are available to download from http://www.analox.net/

The standard Ax60+ is available as either a **Hard Wired** or a **Quick Connect** option. This choice must be made when placing the order. Hard Wired systems are intended to be integrated with the building fabric. Quick Connect systems are pre-wired with Cat5e cables fitted with colour-coded RJ45 connectors for easy installation. Both require the installer to connect the power supply unit and optional beacon to the Central Display.

The Ax60+ **Kiosk** option is a more compact solution that offers the convenience of Quick Connect cabling and does not require a Central Display unit.

1.1 Purpose of the Ax60+

The Ax60+ is a life-safety device to be used for atmosphere monitoring. If a Sensor detects a potentially dangerous gas level it triggers an appropriate alarm on the Central Display which is then announced by the Alarms.

The Central Display provides real-time gas readings from each Sensor together with any alarm or fault indications. The Central Display can be easily interrogated to show detailed information on the Sensors and Alarms that are connected to it.

An Ax60+ Central Display can be connected to a maximum of four Sensors and a maximum of eight Alarms. To extend the alarm functions, an optional beacon is available and two alarm-relay outputs are provided for integration with other systems.

The Central Display is usually installed in a principal location (e.g. a Manager's office) and connected to one or more Sensors fitted in remote areas such as store rooms or service corridors.

The Sensors send alarm signals to one or more Alarm units in locations where they can be observed by management or crew. The Central Display monitors the Sensors and displays their current status and measurements.

1.2 Operation at altitude

The toxic effects of CO_2 are dependent on the partial pressure, or the quantity of gas molecules, not the percentage in the atmosphere; therefore at altitudes above 900 metres (3000 feet) alarms will operate below the factory calibration point. Please refer to our website www.analox.net for details of suitable alarm setpoints and calibration procedures at altitude. Note that this must be performed by an authorised engineer.

NOTE: **THE SYSTEM IS SAFE AT ALTITUDE WITH FACTORY CALIBRATION, HOWEVER IF CONFORMITY MUST BE SHOWN TO A REGULATION QUOTING PERCENTAGE IN THE ATMOSPHERE THIS CAN BE ACHIEVED BY PERFORMING A LOCAL CALIBRATION.**

1.3 Ax60+ default alarm settings (CO_2)

The Ax60+ has three carbon dioxide alarm settings which are factory set:

- Time-weighted average (TWA) alarm
  - triggered by 5000 ppm (0.5%) CO_2 over the previous 8 hours. TWA alarm is announced by the Central Display only.
- High alarm (AL1)
  - triggered by 15,000ppm (1.5%) CO_2 or higher. High alarm is announced by both the Central Display and the locally attached Alarm(s) (high-visibility strobe – Slow rate).
- High-high alarm (CO2)
  - triggered by 30,000ppm (3%) CO_2 or higher. High-high alarm is announced by both the Central Display and all attached Alarm(s) (high-visibility strobe & sounder – High rate).

1.4 Ax60+ default alarm settings (O_2)

The Ax60+ has three oxygen alarm settings which are factory set:

- Low alarm (AL2)
  - triggered by 19.5% O_2 or lower. Low alarm is announced by both the Central Display and the locally attached Alarm(s) (high-visibility strobe – Slow rate).
- High-high alarm (AL3)
  - triggered by 23% O_2 or higher. High-high alarm is announced by both the Central Display and the locally attached Alarm(s) (high-visibility strobe & sounder – High rate).
- Low-low alarm (AL4)
  - triggered by 18% O_2 or lower. Low-low alarm is announced by both the Central Display and the locally attached Alarm(s) (high-visibility strobe & sounder – High rate).

1.5 Package contents

Ax60+ Carbon Dioxide Detector (contents may vary depending on the package ordered)	1 x Central Display, including: • 1 x power supply unit (PSU), either hard-wired type or plug-in type depending on the package ordered • 1 x PSU securing strip (for plug-in type PSU only) • Self-adhesive foam gasket for use in rear-entry cable installations 1 to 4 x Sensors (depending on the package ordered) each with: • Cat5e UTP 24 AWG PVC cable, 15 metres in length • Self-adhesive foam gasket for use in rear-entry cable installations 1 to 8 x Alarms (depending on the package ordered) • Cat5e UTP 24 AWG PVC cable, 15 metres in length • Self-adhesive foam gasket for use in rear-entry cable installations 1 x Quick Start Guide & templates • 1 x high-visibility optional beacon (if ordered) 1 x Signage pack (If purchased at time of order)
Consumables (depending on the package)	Cat5e UTP 24 AWG PVC cable, 15 metres in length M13 cable glands 5—7mm (nylon), quantity to suit installation Wall plugs and screws (fixing kits), quantity to suit installation
Tools (to be provided by installer)	PZ1 Pozi screwdriver; 3mm flat blade screwdriver Cat5e cable jacket stripper; 24AWG wire stripper Drill and drill bits for wall plugs; spirit level, tape measure, ruler Small hammer, centre punch and pliers for removing knockouts

2 Installation

- **CAUTION: SOME ENCLOSURES ARE SUPPLIED UNFASTENED WITH FIXING SCREWS LOOSE. DO NOT OVER-TIGHTEN THE SCREWS WHEN FASTENING THE LIDS ON.**

2.1.1 Central Display

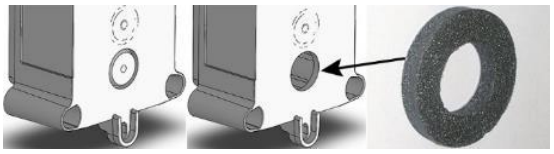
Retain the clear protective film on the fascia until the installation is complete. Using the supplied paper template mark out the wall-fixing position ensuring the Central Display is level. If you are installing cable through the rear of the enclosure, remove the knockout then fit a foam gasket over its aperture to provide a seal against ingress.

- **CAUTION: TO PREVENT DAMAGE TO THE FASCIA AND PRINTED CIRCUIT BOARD (PCB), REMOVE THEM FROM THE ENCLOSURE BEFORE REMOVING KNOCKOUT.**

Drill holes in the wall then fit wall plugs/dowels. Fasten the lid of the enclosure to the base then fix the Central Display in position. Install the cables in position and cut them to length (HW).

Removing the knockout

To remove the knockout, place the enclosure face down on a solid, non-slip surface. Tap the knockout firmly using a hammer and punch. Use pliers to remove sharp edges from the aperture.



2.1.2 Sensor

Retain the clear protective film on the fascia until the installation is complete. Using the supplied paper template mark out the wall-fixing position ensuring the Sensor is level. (If installing a cable through the rear, remove the knockout.)

- **WARNING: CARBON DIOXIDE GAS (CO_2) IS HEAVIER THAN AIR AND SHOULD BE MONITORED FROM A LOW HEIGHT. YOU SHOULD THEREFORE INSTALL THE CO_2 SENSOR AT A HEIGHT OF 12–18" (305–457MM) ABOVE THE FLOOR LEVEL.**
- **WARNING: OXYGEN (O_2) SENSORS SHOULD BE INSTALLED AT AVERAGE WORKING HEAD HEIGHT**

Drill holes in wall, install wall plugs/dowels then fit the Sensor. Install the cables in position and cut them to length (HW).

2.1.3 Alarm

- **WARNING: LOCATE THE ALARM SO AS TO PROVIDE COVERAGE FOR ACCESS AND EGRESS POINTS AND BUSY AREAS.**

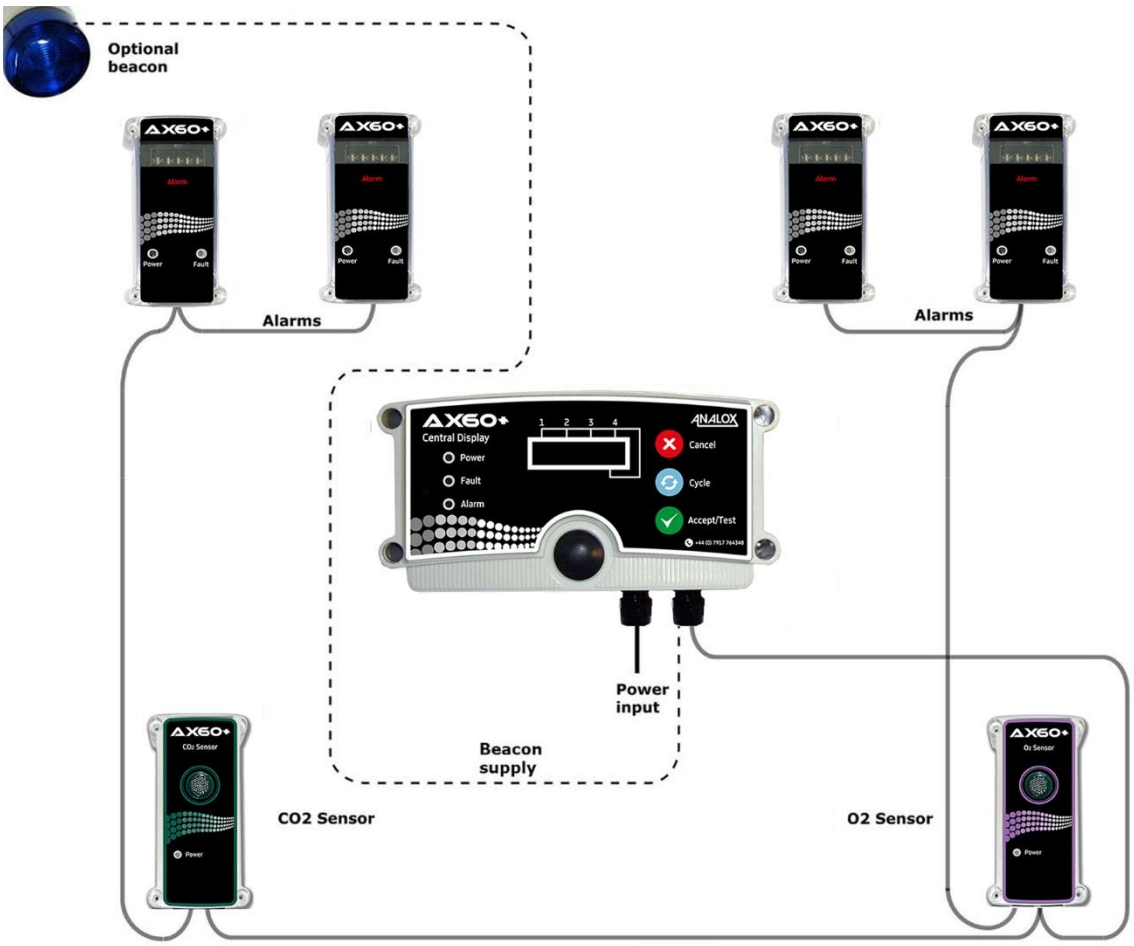
Retain the clear protective film on the fascia until the installation is complete.

Using the supplied paper template mark out the wall-fixing position ensuring the Alarm is level. (If installing a cable through the rear, remove the knockout.)

Drill holes in wall, install wall plugs/dowels then fit the Sensor. Install the cables in position and cut them to length (HW).

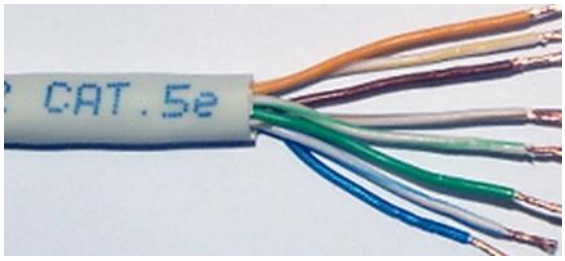
3 Cabling

The diagram below illustrates a typical cabling arrangement for the Hard Wired option.



The recommended cable for the Ax60+ is Cat5e UTP 24AWG PVC (see example below).

Cable type	Wire colour	Abbreviation
Cat5e, UTP, 24AWG, PVC	Orange	ORG
	Orange / white	ORG/WHT
	Brown	BRN
	Brown / white	BRN/WHT
	Green / white	GRN/WHT
	Green	GRN
	Blue / white	BLU/WHT
	Blue	BLU



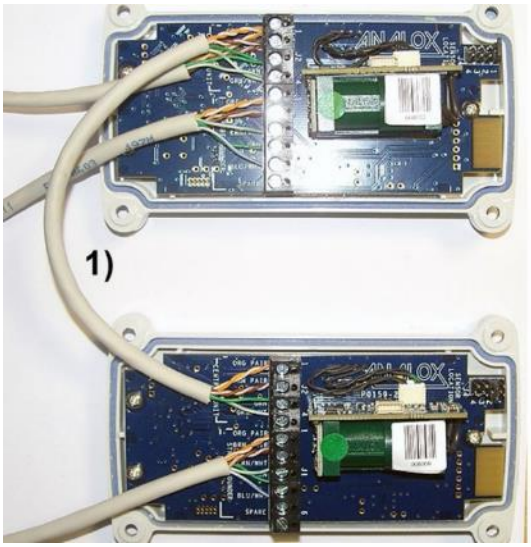
If you install cables through walls, remove the knockout and fit a foam gasket to maintain ingress protection (see below left). If you install cables along wall surfaces, fit cable glands (below right).

CAUTION: ENSURE THAT THE MAXIMUM CABLE LENGTH BETWEEN THE CENTRAL DISPLAY AND THE FINAL SENSOR IS NOT MORE THAN 100 METRES.

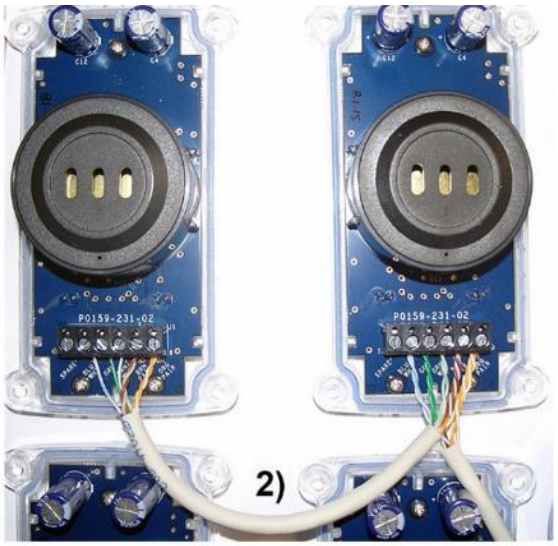
4 Connection

4.1 Sensors and Alarms

The recommended cable arrangement for connecting the Sensors and Alarms is shown below. For the purposes of this example the enclosures have been removed and the cables have been shortened for convenience. The Central Display is not shown. Note that the different Sensor types are interchangeable and are connected in the same way.



1) Two Sensors connected together in a daisy-chain



2) Two Alarms connected together in a daisy-chain

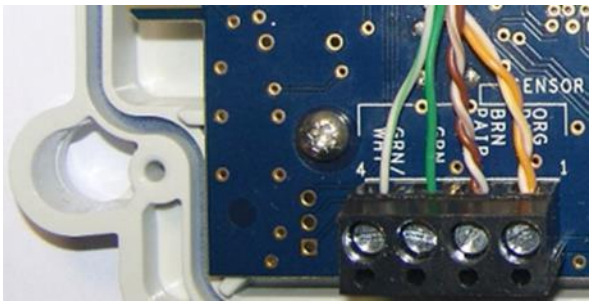
4.2 Central Display

Sensor	Beacon	Power	Relay 2	Relay 1
(See section 4.2.1)	(See section 4.3.1)	(See section 0)		

NOTE: REFER TO THE AX60+ SERVICE MANUAL FOR DETAILS ON CONNECTING RELAYS 1 & 2.

WARNING: **TO COMPLY WITH SAFETY STANDARDS, CIRCUITS CONNECTED TO RELAYS 1 AND 2 MUST BE PROTECTED WITH DOUBLE/REINFORCED INSULATION FROM THE MAINS.**

4.2.1 Central Display to Sensor



Cable connections from left to right:
GRN/WHT (RS485 A, single cable)
GRN (RS485 B, single cable)
BRN & BRN/WHT (supply negative, two cables twisted together)
ORG & ORG/WHT (supply positive, two cables twisted together)

NOTE: THE BLUE AND BLUE/WHITE CABLES SHOULD BE REMOVED (CUT OFF).

4.3 Central Display to power supply unit (PSU)

Two types of PSU are available, to suit different types of installation. One is a plug-in type, the other is a hard-wired type for connection to a fixed power supply (fused spur).

PSU, plug-in type (supplied with UK, Eu, US and Aust Plugs)

PSU, hard-wired type (for PSU, connection to a fixed power supply)

PSU cables are connected to the Central Display via the terminal block labelled 'POWER'. Surplus cable can either be shortened or stored inside the Central Display enclosure.

⚠ **WARNING:** **THE POSITIVE AND NEGATIVE POWER CABLES ARE IDENTIFIED DIFFERENTLY DEPENDING ON THE TYPE OF PSU SUPPLIED. READ THE INSTRUCTIONS BELOW BEFORE INSTALLING THE PSU CABLE:**

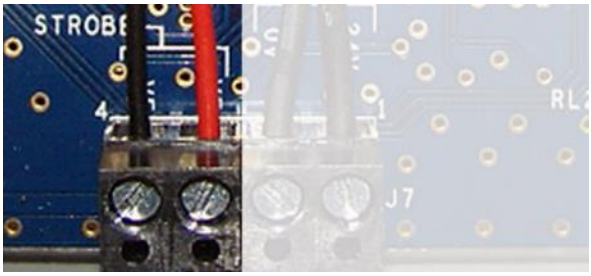
Plug-in type PSU cable identification

Black with stripe: Positive (24V)
Black with print: Negative (0V)

Hard wired type PSU cable identification

Black with stripe: Negative (0V)
Black with print: Positive (24V)

4.3.1 Central Display to optional beacon (labelled 'STROBE' on the PCB)



Cable connections from left to right:

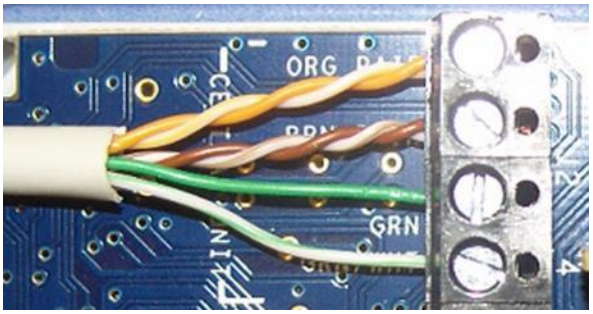
BLK (0V supply to optional beacon)
RED (24V supply to optional beacon)

◆ **CAUTION: CABLE COLOURS BETWEEN THE CENTRAL DISPLAY AND BEACON MAY VARY. THE INSTALLER MAY USE CAT5E CABLE IF PREFERRED, PROVIDING TWISTED PAIRS ARE USED.**

4.4 Sensor (CO_2 example)

- **NOTE: THE FOUR SCREW TERMINALS AT THE TOP ARE FOR CONNECTING THE SENSOR TO THE CENTRAL DISPLAY. ON THE PCB THESE ARE LABELLED 'CENTRAL UNIT' (SEE 4.4.1 BELOW).**
- **NOTE: THE SIX SCREW TERMINALS AT THE BOTTOM ARE FOR CONNECTING THE SENSOR TO THE ALARM. ON THE PCB THESE ARE LABELLED 'STROBE/ SOUNDER' (SEE 4.4.2).**

4.4.1 Sensor to Central Display

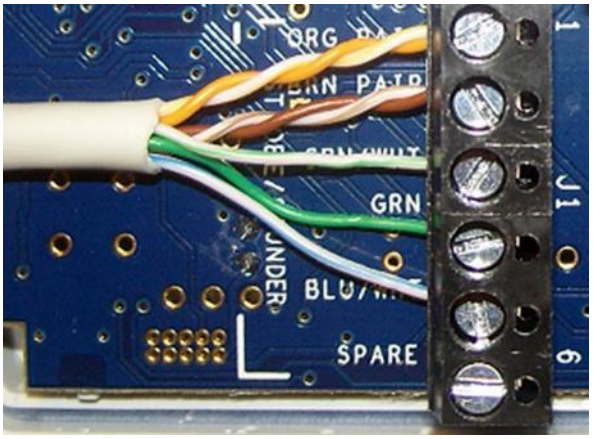


Cable connections from top to bottom:
ORG & ORG/WHT (supply positive, two cables twisted together)
BRN & BRN/WHT (supply negative, two cables twisted together)
GRN (RS485 B, single cable)
GRN/WHT (RS485 A, single cable)

- **NOTE: THE BLUE AND BLUE/WHITE CABLES SHOULD BE REMOVED (CUT OFF).**

- **NOTE: SENSOR 2 CABLE SHOULD BE DAISY-CHAINED FROM SENSOR 1 TERMINALS.**

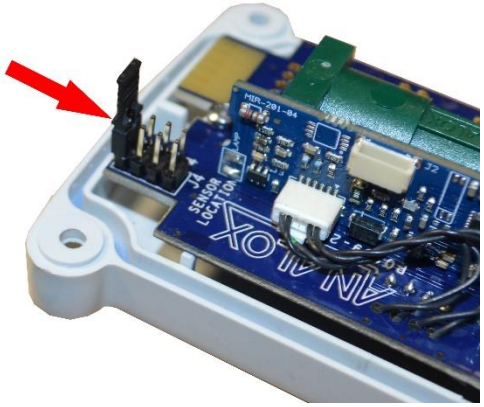
4.4.2 Sensor to Alarm



Cable connections from top to bottom:
ORG & ORG/WHT (supply positive, two cables twisted together)
BRN & BRN/WHT (supply negative, two cables twisted together)
GRN/WHT (alarm strobe driver, single cable)
GRN (alarm sounder driver, single cable)
BLU/WHT (fault LED driver, single cable)

- **NOTE: THE BLUE CABLE SHOULD BE REMOVED (CUT OFF).**

4.4.3 Sensor jumper locations

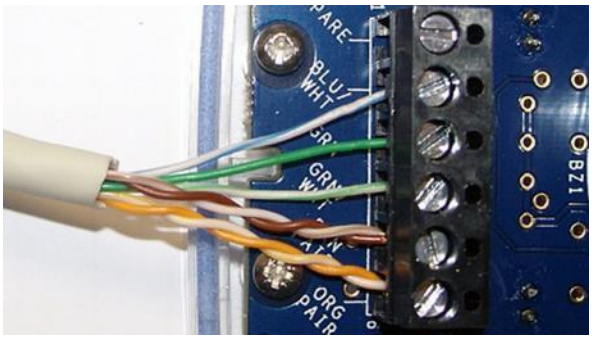


The image to the left shows the jumper link at location 1 (Factory default).
Each Sensor PCB contains a SENSOR LOCATION selector. One jumper link is provided with each sensor—an example is shown here on the right: 
By default this jumper link is fitted in SENSOR LOCATION 1.
Each Sensor must be given a different SENSOR LOCATION by moving its jumper link.
For example, in a two-Sensor system, one Sensor's jumper link must be set to SENSOR LOCATION 1, and the other Sensor's jumper link must be set to SENSOR LOCATION 2.

4.5 Alarm

NOTE: ALL ALARMS ASSOCIATED WITH A COMMON SENSOR SHOULD BE CONNECTED VIA A DAISY-CHAIN CABLE ARRANGEMENT. FOR EXAMPLE, IF SENSOR 1 IS REQUIRED TO DRIVE TWO ALARMS, ONE CABLE SHOULD BE CONNECTED BETWEEN SENSOR 1 AND ALARM 1; AND ONE CABLE SHOULD BE CONNECTED BETWEEN ALARM 1 AND ALARM 2 (SEE THE EXAMPLE IN SECTION 4.1).

4.5.1 Alarm to Sensor



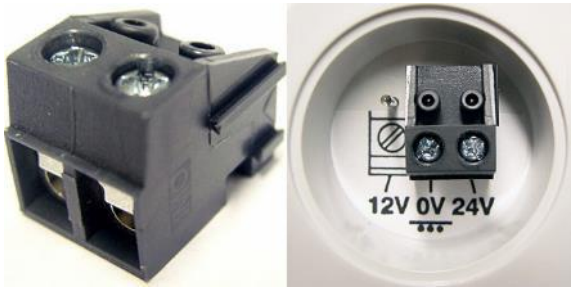
Cable connections from top to bottom:
BLU/WHT (fault LED driver, single cable)
GRN (alarm sounder driver, single cable)
GRN/WHT (alarm strobe driver, single cable)
BRN & BRN/WHT (supply negative, two cables twisted together)
ORG & ORG/WHT (supply positive, two cables twisted together)

NOTE: THE BLUE CABLE SHOULD BE REMOVED (CUT OFF).

4.6 Optional beacon

CAUTION: ENSURE THE TERMINAL BLOCK ON THE UNDERSIDE OF THE BEACON IS FITTED TO THE 0V AND THE 24V PINS. THEN ENSURE THAT THE POWER CABLES ARE CONNECTED TO THE 0V AND THE 24V SCREW TERMINALS.

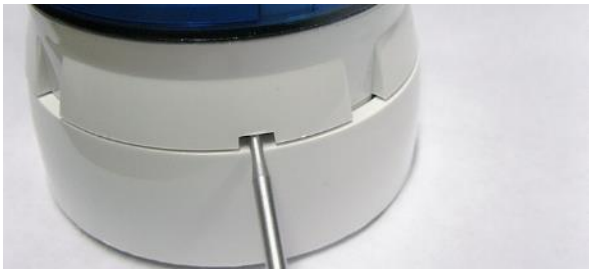
Black cable: 0V supply to Central Display
Red cable: 24V supply to Central Display



(left) The beacon terminal block. Ensure this is fitted on the 0V and 24V terminals (right)

4.6.1 Beacon locking mechanism

Note that the beacon has a locking mechanism to discourage tampering. To lock the beacon onto its base, locate the spigots then twist the beacon clockwise. To unlock the beacon, prise open the locking clip as shown below and twist the beacon anti-clockwise.



5 Operation

5.1 Using the Central Display

The Ax60+ Central Display supplies power to the Sensors, Alarms and beacon, and is used to configure all system functions. The three buttons on the front panel allow access to the operating software. The three indicator lamps display the system status.

5.1.1 Indicators and buzzer

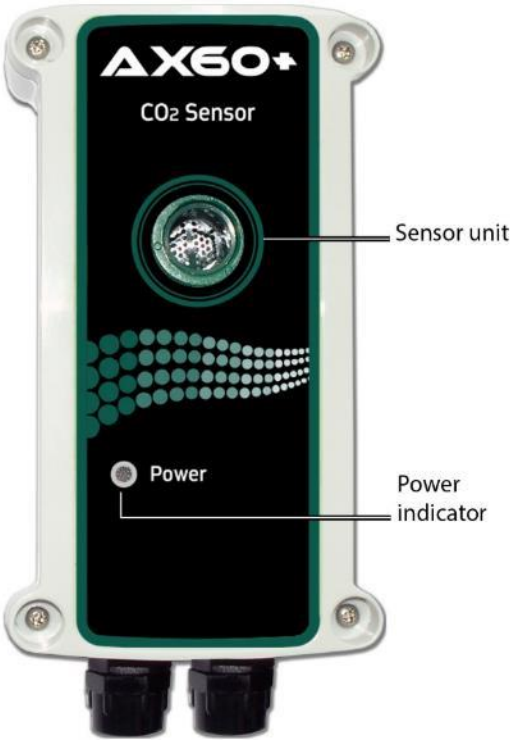
Power	Green indicator lamp. Flashes once per second to indicate that power is on and the unit is operating.
Fault	Yellow indicator lamp. Flashes once per second if there is a fault, accompanied by a fault message (FLT or COMMS FAULT) and buzzer once per second.
Alarm	Red indicator lamp. Flash rate will vary depending on alarm level and will be accompanied by an alarm message (TWA, AL1, CO2 etc.) The buzzer will follow the lamp indicator flash rate.
Buzzer (The small aperture on the left of the indicators)	Buzzer sounds briefly each time a button is pressed. Sounds continuously for five seconds when using the TESTING ALARMS function. It sounds rapidly on and off when an alarm is triggered, or once per second for a fault.

5.1.2 Control buttons

Cancel	To use the **Cancel** button, press it firmly then release it quickly. The buzzer will sound briefly. Press this button to cancel a menu option or return to the previous screen.
Cycle	To use the **Cycle** button, press it firmly then release it quickly. The buzzer will sound briefly. Press this button to go to the next option on the screen.
Accept/Test	To use the **Accept/Test** button, press it firmly then release it quickly; the buzzer will sound. A short press is used to select an option or mute an alarm or fault. A longer press is used to acknowledge the alarm (hold the button until the buzzer sounds). The alarm clears when the CO_2 reduces. **To test the alarms, press and hold down Accept/Test until the buzzer sounds. Alarms, indicators and sounders operate for five seconds.**

5.2 Sensor

Each Ax60+ Sensor has a green **Power** indicator on the bottom left-hand part of the fascia. This is used to indicate the following conditions:



Power indicator

Under normal conditions the **Power** indicator flashes once per second to indicate that the power is on and the unit is operating.

- **NOTE: THE SENSOR RECEIVES ITS POWER FROM THE CENTRAL DISPLAY, VIA THE CONNECTING CAT5E CABLE.**

If the **Power** indicator is off, this means the Sensor is either not receiving power from the Central Display, or the Sensor has a fault.

- **NOTE: CHECK THE CENTRAL DISPLAY; IT MAY BE SHOWING A FAULT CODE.**

If the **Power** indicator lamp is on continuously, this means that there is potentially a more serious Sensor fault.

- **NOTE: CHECK THE CENTRAL DISPLAY; IT MAY BE SHOWING A FAULT CODE.**

If a Sensor is in fault, any Alarms connected to it will also display a fault status (their yellow **Fault** indicator LEDs will flash).

- **NOTE: FAULT CODES ARE DESCRIBED IN DETAIL IN THE SERVICE MANUAL.**

5.2.1 Sensor hardware settings

In a standard Ax60+ system (not including the Kiosk option) each sensor must have its jumper link set to a different location e.g. Sensor 1=location 1; Sensor 2=location 2.

The Sensor has a hardware setting that is factory configured for a system with only one Sensor. If a system includes two, three, or four Sensors then the hardware must be reconfigured by moving a jumper link () in each Sensor installed in the system.

⚠ **WARNING: DISCONNECT AND ISOLATE THE AX60+ SYSTEM FROM THE MAINS POWER SUPPLY BEFORE OPENING THE CO_2 SENSOR ENCLOSURES.**

To access the jumper link, open the Sensor enclosure. The printed circuit board (PCB) has a SENSOR LOCATION selector with one link, factory installed in LOCATION 1.

The image to the right shows the jumper link in position 1 (Factory default).
For a system with only **one Sensor**, the jumper link should be retained in LOCATION 1.
For a system with **two Sensors**, the first Sensor's jumper link should be in LOCATION 1 and the second Sensor's link in LOCATION 2.
For a system with **three Sensors**, the first Sensor's link should be in LOCATION 1, the second Sensor's link in LOCATION 2 and the third Sensor's link should be in LOCATION 3.
For a system with **four Sensors**, the first Sensor's jumper link should be in LOCATION 1, the second Sensor's link in LOCATION 2, the third Sensor's link in LOCATION 3 and the fourth Sensor's link should be in LOCATION 4.

5.3 Alarm

The Ax60+ Alarm has a green Power indicator and a yellow Fault indicator on the bottom part of the fascia. These are used to indicate the following conditions:

NOTE: The sounder is on the rear of the enclosure

Power indicator

Under normal conditions the Power indicator is continuously on (not flashing) to indicate that the power is on and the unit is operating.

- **NOTE: THE ALARM RECEIVES ITS POWER FROM ITS CONNECTED SENSOR, VIA THE CONNECTING CAT5E CABLE.**

If the Power indicator lamp is off this means that the Alarm is not receiving power.

Fault indicator

Under normal conditions the yellow Fault indicator is off.

- **NOTE: THE FAULT INDICATOR IS NOT USED TO SHOW FAULTS ON THE ALARM, IT IS USED TO SHOW FAULTS ON THE SENSOR CONNECTED TO IT.**

If the Fault indicator is flashing it means the Sensor connected to the Alarm is in fault.

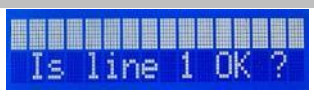
- **NOTE: FAULT CODES ARE SHOWN ON THE CENTRAL DISPLAY. FOR FURTHER DETAILS SEE THE SERVICE MANUAL.**

5.4 Powering up

5.4.1 Power-on-self-test (POST)

When you switch on the power supply the Ax60+ performs a power-on-self-test (POST) which takes about 30 seconds. The results of the POST are displayed on the screen:

Operator input	Software response	Central Display text	Optional display text
Switch on power supply to Ax60+	Displays vendor name (default is Analox Ltd)	Analox Ltd www.analox.net	Vendor name may vary
▼			
No further operator input is required. The power-on-self-test is an automatic process...			
	Performs a checksum configuration check	Config. checksum CORRECT	
	▼		
	Performs a software validation check	Software failure NO FAILURE	
	▼		
	Checks the CO_2 Sensor(s) have been calibrated	Cal. settings All in range	Cal. settings No sensors!
	▼		This displays if no sensors have been configured

Operator input	Software response	Central Display text	Optional display text
	Confirms top line of LCD OK, no pixels are missing		
	Confirms bottom line of LCD OK, no pixels missing		
	Confirms buzzer is off and green LED switches on		
	Confirms green LED is off and yellow switches on		
	Confirms yellow LED is off and red switches on		
	Confirms red LED is off and buzzer switches on		
	Displays current version of the software and the buzzer switches off		
	Displays unique serial number of the unit		
Wait for Sensors to warm up...		 This screen may display for a few seconds to show CO_2 Sensor warm-up status. It is for information only. It requires no operator input	

CAUTION: **EACH SENSOR MUST HAVE ITS JUMPER SET TO A DIFFERENT LOCATION (E.G. SENSOR 1 = LOCATION 1; SENSOR 2 = LOCATION 2), OTHERWISE THE CENTRAL DISPLAY WILL ANNOUNCE A FAULT. REFER TO SECTION 5.2.1 FOR JUMPER SETTINGS INFORMATION.**

Wait for system status screen...	Displays system status screen. Each Sensor is represented by 'OK' in the top line. For example, a system with two Sensors displays >OK OK. The '>' character identifies which Sensor is highlighted		The example here shows that Sensor 1, a CO_2 Sensor, is reading 450 PPM, which is equal to 0.045%. The concentration is displayed in ppm (parts per million) by default

Operator input	Software response	Central Display text	Optional display text
	(Sensor 1 is highlighted by default)		
	NOTE: THE SYSTEM STATUS SCREEN DISPLAYS UP TO 4 SENSORS. A SPARE SENSOR LOCATION DISPLAYS AS '---'		
	The bottom line displays the concentration of gas measured at the Sensor		
		▼	
Press Cycle	Displays Sensor 2 details (if installed) and the current level of gas	OK >OK --- --- CO2 450 PPM	In this example, Sensor 2 is a carbon dioxide (CO_2) Sensor
		▼	
Press Cycle	Displays Sensor 3 details (if installed) and the current level of gas	OK OK >--- --- Not installed	In this example, Sensor 3 is not installed
		▼	
Press Cycle	Displays Sensor 4 details (if installed) and the current level of gas	OK OK ---> Not installed	In this example, Sensor 4 is not installed
		▼	
Press Cycle	Redisplays the system status screen	>OK OK --- --- CO2 450 PPM	

6 Configuration

6.1 Sensor software settings

The Central Display software is factory configured for a system that has two Sensors. If instead the system has one, three, or four Sensors, the software must be reconfigured. This is done by using the Top-level Menu, Central Config, Attached snsrs option. To enter the Top-level menu, press and hold down **Cancel** + **Cycle** for at least six seconds. Then press the **Cycle** button five times to display the Top-level menu, Central Config option.

NOTE: THE DEFAULT SETTING IS FOR 2 SENSORS. THIS NUMBER CAN BE CHANGED.

Menu option	Operator input	Menu sub-option	Functional description
Top-level Menu Central Config >	▼		
	Press **Accept/Test** to go to Central Menu Attached snsrs ▶	Central Menu Attached snsrs >	
		▼	
	Press **Accept/Test** to go to Num of sensors? ▶	Num. of sensors? 1 >2 3 4	The screen displays the number of Sensors (default number is '>2')
		▼	
	Press **Cycle** to choose another number. Or press **Accept/Test** ▶	Num. of sensors? 1 ✓2 3 4	The screen displays a tick to confirm the number of sensors is now configured
	Press **Cancel** to return to Config. Menu, Attached snsrs		