

Laboratory Gas Sensor Solutions



Ax60+



Multi-gas CO₂ & O₂ Safety Monitor

The Ax60+ is a wall-mountable, multi-gas safety device for monitoring carbon dioxide and oxygen. Based on the popular Ax60 CO₂ detector, the new Ax60+ can also be supplied with O₂ sensor modules which provides an early warning of both oxygen depletion and oxygen enrichment. The CO₂ and O₂ sensors are interchangeable and can be fully integrated as part of a multi-point, multi-gas detection and alarm system.

The CO₂ sensor is set by default to trigger a low-level alarm at 1.5% CO₂, an evacuation alarm at 3% CO₂ and a time-weighted average alarm of 0.5% CO₂ measured over eight hours. The O₂ sensor is set by default to trigger low-going alarms at both 19.5% and at 18% and a high-going alarm at 23%. The alarm setpoints can be changed by the user. Warnings are announced by high-visibility strobe lights and high-volume sounders.

System

Warm-up time: 40 seconds

Operating temperature range: -5°C to +50°C, +23°F to +122°F

Approvals: CE, EN50270, IEC 61010 (UL), DIN 6653 (TUV)

* You can have 4 alarms per sensor, to a maximum of 8 alarms per system.

Central Display



175mm x 67mm x 106mm (LxWxH)

Display: LCD dot matrix (backlit)

Relays: 2 x configurable relays, rated for 1 A/30 V AC/DC

IP Rating: IP54

Maximum power consumption: <24W

Power supply accepts inputs from: 100 - 200V ~ 1A

Alarm



72mm x 45mm x 132mm (LxWxH)

Strobe: white LED strobe > 100 cd
(optional blue, red and amber filters)

Sounder: min 80 dBA @ 3 m (9.8 feet)

IP Rating: IP55

CO₂ Sensor



72mm x 52mm x 132mm (LxWxH)

Gas detected: carbon dioxide

Measurement technique: infrared

Range: 0.1% to 5%

Default alarm setpoints: 0.5% (8hour TWA), 1.5%, 3.0%

IP Rating: IP55

Response time: (T₉₀) <30 seconds

O₂ Sensor



72mm x 52mm x 132mm (LxWxH)

Gas detected: oxygen

Measurement technique: electrochemical cell

Range: 0.1% to 25%

Default alarm setpoints: 18.0% (low going), 19.5% (low going), 3.0% (high going)

IP Rating: IP55

Response time: (T₉₀) <30 seconds

O₂NE+



Oxygen Depletion Monitor

The O₂NE+ is a simple to use and maintain ambient oxygen depletion monitor and sensor, ideal for monitoring oxygen levels where inert gases such as N₂, Ar or He pose a risk of depleting O₂ levels in ambient air.

It comprises of a wall mounted main sensor unit and a repeater. It is ranged from 0 to 25% O₂ and has 2 audio/ visual alarms. The sensor is long life and calibration adjustment is only required once the unit is initially installed and following a cell replacement and can be achieved using certified air*. We recommend a proof test is carried out every 12 months. The instrument uses an electrochemical cell together with state of the art technology, built in an IP65 splash proof housing and is designed to provide long, trouble free service, with minimum maintenance. The O₂NE+ has two pre-set alarm levels at 19.5% and 18% O₂. The oxygen sensor used is not cross sensitive to helium so will measure correctly in the presence of a helium atmosphere. This means that the sensor can be safely used to detect oxygen displacement by helium gas leaks.

The O₂NE+ is installed in areas where an inert gas is being used or stored to provide a warning should the oxygen levels deteriorate to an unsafe level. The repeater is located at the entrance to the room, highlighting the danger to personnel before they enter.

* The O₂NE+ is a precision instrument and needs to be handled with care

O₂ range: 0.1 to 25%

Sensor accuracy: better than $\pm 0.75\%$ O₂ over 5.0 to 25.0% O₂

Response time (T90): <60 seconds

Operating temperature: 0 to +40 °C (+32 to +104 °F)

Temperature effect: 0.2% of reading/°C or 0.1115% of reading/°F

Atmospheric pressure range: 811 to 1050 mbar absolute

Warm up time: 10 seconds to normal operation, prior to calibration allow 2 hours to achieve full accuracy

Dimensions: central unit = 175 x 105 x 75 mm, alarm repeater = 155 x 72 x 45 mm

Weight: central unit = 600g, alarm repeater = 150g

IP rating: IP65 for central unit and alarm repeater, unless the alarm repeater is quick connect then it is IP43

Sensor type: electrochemical cell

Sensor life: up to 7 years in air

Display: 4 digit LCD

Alarms: 2 x alarm visual indicators, 1 x system fault indicator, 1 x status indicator, common audible alarm

Alarm Sounder: min 75dBA

Relays: one or two optional alarm relays with changeover contacts assigned to alarm 1, alarm 2 or system fault.

Contact rating 240 V AC or 30 V DC at up to 2 A, contacts are non-latching fail-safe

Output: 2 wire, 4 to 20 mA (max load 150 Ω)

Power supply options: 210 to 250 V AC supply, 110 to 120 V AC supply, 9-24 V DC supply

Oxygen Monitor



Alarm Repeater



Safe-Ox+



Oxygen Depletion & Enrichment Monitor

The Safe-Ox+ is an ambient oxygen enrichment and depletion monitor which is simple to use and maintain.

The Safe-Ox+ consists of a wall mounted main sensor unit and a repeater. It is ranged from 0 to 25% O₂ and has 1 low and 1 high audio/visual alarm. The sensor has a long life and calibration adjustment is only required once the unit is initially installed and following a cell replacement and can be achieved using certified air*. We recommend a proof test is carried out every 12 months.

Industries that store and operate with high levels of O₂ need to detect and monitor the levels of oxygen - should there be a leak of enriched O₂ this could prove to be a fire risk. Enriched oxygen is used in a variety of industries and applications such as: commercial dive systems, hyperbaric oxygen therapy (HBOT), gas production and gas blending stations, medical and laboratory gases such as nitrous oxide/oxygen mixes, sulphuric and nitric acid manufacture, mining, steel manufacture and metal refining, aquaculture and glass manufacture. The Safe-Ox+ provides a high O₂ alarm ideal if you are using pure oxygen, to protect you from O₂ enrichment. If there is a leak or build up of inert gas such as nitrogen, argon or helium the Safe-Ox+ can also warn of oxygen depletion. The Safe-Ox+ can be wall mounted at normal working head height in the gas storage room, or where enriched O₂ is piped. The unit comes with one repeater as standard which is located at the entrance to the room. The Safe-Ox+ has an integral pressure sensor that allows the device to automatically compensate for local pressure changes.

Oxygen Monitor



Alarm Repeater



O₂ range: 0.1 to 25%

Sensor accuracy: better than $\pm 0.75\%$
O₂ over 5.0 to 25.0% O₂

Response time (T90): <60 seconds

Operating temperature: 0 to +40 °C
(+32 to +104 °F)

Temperature effect: 0.2% of reading/°C or 0.1115% of reading/°F

Atmospheric pressure range: 811 to 1050 mbar absolute

Warm up time: 10 seconds to normal operation, prior to calibration allow 2 hours to achieve full accuracy

Dimensions: central unit = 175 x 105 x 75 mm, alarm repeater = 155 x 72 x 45 mm

Weight: central unit = 600g, alarm repeater = 150g

IP rating: IP65 for central unit and alarm repeater, unless the alarm repeater is quick connect then it is IP43

Sensor type: electrochemical cell

Sensor life: up to 7 years in air

Display: 4 digit LCD

Alarms: 2 x alarm visual indicators, 1 x system fault indicator, 1 x status indicator, common audible alarm

Relays: one or two optional alarm relays with changeover contacts assigned to alarm 1, alarm 2 or system fault.

Contact rating 240 V AC or 30 V DC at up to 2 A, contacts are non-latching fail-safe

Output: 2 wire, 4 to 20 mA (max load 150 Ω)

Power supply options: 210 to 250 V AC supply, 110 to 120 V AC supply, 9-24 V DC supply

Aspida



O₂, CO₂ or Dual Portable Safety Monitor

The Aspida is a robust, high specification personal CO₂/O₂ monitor which can be worn on a belt or even wall mounted as a backup to a primary safety system. Offering audio/visual alarms, data logging and a man down alarm for lone workers, it is an ideal solution to protect staff from the dangers of a leak of carbon dioxide or nitrogen. The Aspida is available as a stand-alone CO₂ or O₂ monitor, or as a dual CO₂/O₂ monitor, ideal where a combination of CO₂/O₂ and inert gases are used. It has a high resolution display which gives clear readings in all light conditions and is packed into a durable, water resistant enclosure.

Standards such as EH40 in Europe mandate that employees are not exposed to potentially dangerous levels of CO₂ as it is a highly toxic gas in relatively small quantities. The Aspida is an affordable, easy to operate CO₂ monitor and is ideal for ensuring personal safety in the areas where gas is piped or stored. The same standards also require that consideration is given to asphyxiant dangers where inert gases such as nitrogen, argon or helium are used, a portable, personal monitor, like the Aspida, may be appropriate following a risk assessment.

Users of the Analox Aspida will never need to worry about maintenance schedules again. The Aspida uses intelligent software which lets you know what requires maintenance and when - ensuring optimum performance of your unit. The software also allows 2 employees to share the unit, ideal for 24/7 split shift patterns. It is also the first gas alarm to incorporate a man down/panic alarm. The man down alarm will sound a loud (110 db) audible alarm in the event of an employee collapsing. Alternatively, an employee can trigger the alarm manually in a panic situation.

System

Operating temperature: -5 °C to +50 °C
Display: high-visibility, Organic Light Emitting Diode (OLED)
Alarm horn: 95dB @ 30cm (110db - man-down alarm)
LED indicators: 1 x Green - OK, 1 x Amber - Fault, 1 x Red - Alarm
Internal data log: 1 log every 30 seconds for at least 7 days of continuous use
Batteries: 2 x NiMH 2100 mAh AA batteries
Battery discharge time: 15 hours under normal operation (passive atmospheric monitoring, minimal user interaction, no alarms)
Battery lifespan: 2 years
Battery charge time: 4.5 hours (from flat)
Charge power supply rating: 9 V DC - 0.55A
Electronics warranty: 2 years
IP rating: IP65
Dimensions: 127 x 44 x 80 mm (LxDxW)
Weight: Dual 335g, O₂, 350g, CO₂ 335g

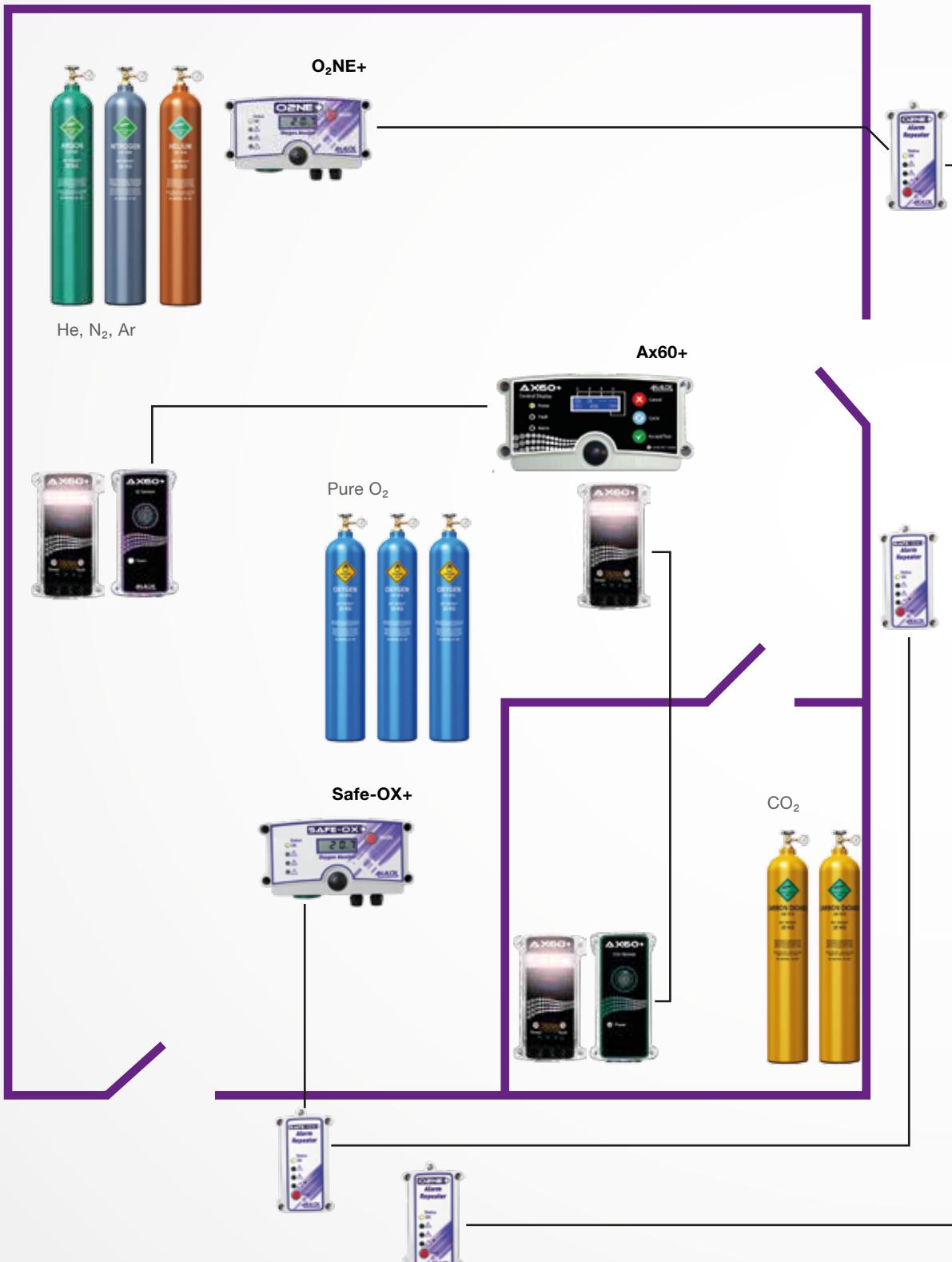
O₂ Sensor

Sensor type: electrochemical
Range: 0.1% to 25%
Accuracy (at standard temperature and pressure): ±3% of full scale between 0.1% and 25%
Response time: T90 <30 seconds
Sensor life span: 2 years (expected)

CO₂ Sensor

Sensor type: Analox infrared MIR
Range: 0.1% to 5%
Accuracy (at standard temperature and pressure): ±2% of full scale between 0.01% and 2.5%, ±3% of full scale between 2.5% and 5.0%
Response time: T90 <60 seconds
Sensor life span: 5 years

Example Laboratory



Singapore

Advancelab (S) Pte Ltd

No.52 Senang Crescent,
Singapore 416619
Tel: +65 6448 8255
Fax: +65 6448 9833
Email: info@advancelab.com.sg
Website: www.advancelab.com.sg

Malaysia

Advancelab Sdn Bhd

KL Office: Unit B-1-10, Block B, No. 2,
Jalan PJU 1A/7A, Oasis Square, Ara
Damansara, 47301 Petaling Jaya,
Selangor Darul Ehsan, Malaysia.
Tel: +603 7831 0188
Fax: +603 78310588
Email: info-my@advancelab-global.com
Website: www.advancelab.com.sg

Johor Factory: No. 3388, Jalan
Pekeliling Tanjung 27/2, Kawasan
Perindustrian Indahpura, 81000
Kulajaya, Johor, Malaysia.
Tel: +607 660 8877
Fax: +607 660 8866
Email: info-my@advancelab-global.com
Website: www.advancelab.com.sg

Myanmar

Advancelab Scientific &
Engineering Co., Ltd

No(81/2), 7th Street, Than Thu Mar Road,
(14/1)Quarter, South Okkalapa Township,
11091 Yangon, Myanmar.
Tel: +95 (1) 572393 / +95 (9) 779753802
Fax: +95 (1) 572393
Email: info-mm@advancelab-global.com
Website: www.advancelab.com.sg

Indonesia

PT. Advancelab Saintifik

Jl. Boulevard Raya Blok QJ 5 No. 23
Kelapa Gading, Jakarta Utara, 14240
Indonesia
Tel: +6221 45854569 / +6221 45854570
Fax: +6221 45854570
Email: info-id@advancelab-global.com
Website: www.advancelab.com.sg

Thailand

Advancelab (Thailand)
Co., Ltd.

147 / 170 - 171 Baromrajdhananee
Road, Arunamarin Bangkoknoi, Bangkok
10700, Thailand.
Tel: +66 2 884 9480
Fax: +66 2 884 6441
Email: primasci@advancelab-global.com
Website: www.advancelab.com.sg

U.A.E (Dubai)

Advancelab FZCO

No.FZJOAB1310
Jafza One, Jebel Ali Dubai
United Arab Emirates
Email: info@advancelab.com.sg
Website: www.advancelab.com.sg

Vietnam

Advancelab Pte Ltd

83/10 Bach Dang Street, Ward 2,
Tan Binh District,
Ho Chi Minh City 700000, Vietnam
Tel: +84 8 2244 6300
Fax: +84 8 3845 1974
Email: info@advancelab.com.sg
Website: www.advancelab.com.sg



Singapore • Malaysia • Myanmar • Indonesia • Thailand • U.A.E • Vietnam

