ARA O_2

Wearable oxygen (O_2) monitor for protection against oxygen enrichment and deficiency in industrial environments



Wearable O_2 Detector

ARA O_2 is a compact, wearable single-gas detector developed to help workers identify oxygen deficiency and enrichment in industrial environments. Securely clipped to workwear, it provides continuous monitoring as workers move through potentially hazardous areas, with immediate alerts when oxygen levels fall outside configured safety limits.

Designed for demanding occupational applications, ARA O_2 combines a robust construction with simple operation and long-term, low-maintenance performance. Its compact format makes it easy to wear throughout a shift, while its clear display provides an at-a-glance indication of oxygen concentration and detector status.

ARA O_2 provides three distinct warning signals: audible, visual and vibrating alarms. When oxygen concentration reaches a configured alarm level, all three alerts are activated to provide an immediate indication that the user may need to take appropriate action.

A daily self-test checks the detector's alarm functions, helping users confirm that the warning system is operating correctly before entering a potentially hazardous environment.

ARA O_2 is designed to minimise routine maintenance while providing dependable monitoring over an extended period. The standard detector offers 24 months of continuous operation, which makes the detector suitable for organisations managing equipment across multiple projects, sites or teams, particularly where instruments may not be required every day. A remaining-life countdown provides visibility of detector status and helps with replacement planning.

Key Features

- **Instantaneous Alarms**
  Instant alarms provide immediate warning of dangerous O_2 concentrations
- **Daily Self Test**
  Self-test feature verifies performance of audio, visual and vibrating alarms
- **Adjustable High and Low Alarms**
  Adjustable alarms allow settings to be configured for site requirements
- **Robust Design**
  IP67 rating protects the instrument against dust and water
- **Event Logging**
  Logging records the most recent 30 events for review



ARA O_2 Single Gas Detector



- Bright visual LED flash alarms for clear warning of dangerous O_2 concentrations
- Clear LCD screen
- Single button operation providing a simple user experience
- ATEX IECEx and North American certfication (CAN/CSA)
- Compatible with ARA PC software via IR Link to adjust multiple parameters
- Loud 95 dB audible alarm sounder
- Self-test function verifying audible, visual and vibrating alarms
- 24-month continuous battery life

ARA DOCK4

The ARA DOCK4 is a bump test and calibration station that can test up to 4 ARA Single Gas Detectors simultaneously reducing gas usage and testing time. The ARA DOCK4 is simple to operate and records calibration and bump test reading along with the serial number, date and time.



ION Science's ARA DOCK4 streamlines gas detector maintenance with automatic bump test and calibration capabilities. ARA DOCK4 is compatible with all ARA models* (ARA 100/100H/200/200H/300/400) to perform essential procedures for device maintenance.

*The dock is configured for one gas type at a time (e.g. CO, O_2 H_2S, SO_2).

With simple, intuitive button controls, ARA DOCK4 seamlessly handles critical tasks such as bump testing, calibration, vibration alarm testing, LED testing, and event log transfers. Additionally, it conveniently logs ARA unit serial numbers, along with corresponding test dates and times.

Featuring user-configurable instrument options on ION PC via USB, ARA instruments can be quickly and efficiently configured. With its internal battery for rapid deployment and standalone operation, ARA DOCK4 can also be powered from an external power source and mounted on a wall or desk for added flexibility.



Additionally, ARA DOCK4 features an internal storage space for gas cylinders, adding to its compact and user-friendly design.

Additional Features

Oxygen levels can change unexpectedly in enclosed or industrial environments, creating potentially hazardous conditions for workers. ARA O_2 provides a personal layer of protection, continuously monitoring the atmosphere around the wearer and alerting them when oxygen concentration moves beyond the configured alarm thresholds.

With an IP67 rating, ARA O_2 is protected against dust and water ingress, helping it withstand demanding working conditions. ATEX and IECEx certified, ARA O_2 is suitable for use in hazardous areas where appropriately certified gas detection equipment is required.

The compact 92 g design keeps the detector lightweight when worn, while its robust clip provides secure attachment to workwear throughout the working shift.

The ARA O_2 can be configured using the ARA PC software via the IR Link, providing access to key settings and allowing users to download stored event information. Up to 30 recent events can be retained, providing a useful record of alarm activity and detector status.

Alarm levels, user identification and testing intervals can be configured to suit site procedures and individual monitoring requirements.

ARA Range Overview

Part Number	Name	Description
ARA100	ARA Single Gas H_2S Standard	ARA H_2S single gas detector with 24-month lifetime
ARA100H	ARA Single Gas H_2S Hibernation	ARA H_2S single gas detector with 36-month lifetime
ARA200	ARA Single Gas CO Standard	ARA CO single gas detector with 24-month lifetime
ARA200H	ARA Single Gas CO Hibernation	ARA CO single gas detector with 36-month lifetime
ARA300	ARA Single Gas O_2 Standard	ARA O_2 single gas detector with 24-month lifetime
ARA400	ARA Single Gas SO_2 Standard	ARA SO_2 single gas detector with 24-month lifetime
ARADOCK4	ARA 4-Station Docking Station	Bump test and calibration station for up to 4 ARA Single Gas detectors



Common Applications

- Confined space entry
- Tank and vessel entry
- Industrial plant maintenance
- Wastewater and sewage facilities
- Inert gas environments
- Emergency and first response



Spares & Accessories



ARA Calibration Cap

Calibration cap for applying test gas during bump tests and calibration of the ARA Single Gas Range.

P/N 908200



ARA IR Link and USB Cable

Infrared communication link and USB cable for connecting ARA detectors to a computer.

P/N 908201



ARA DOCK4 Carry Case

Protective carry case for transporting and storing the ARA DOCK4 docking station.

P/N 908223



ARA DOCK4 Wall Mount Kit

Wall-mounting kit for securely installing the ARA DOCK4 docking station.

P/N 908224



ARA 4-Station Docking Station

Four-station docking system for charging, bump testing and calibrating ARA detectors.

P/N ARADOCK4

Technical Specifications

Sensor	Single plug-in electrochemical cell
Detects	Oxygen (O_2)
Detection Range	0 to 25%
Alarms	Audio alarm: 95 dB at 10cm Visual alarm: LED Vibrating alarm: vibrator operates from -10 °C up to +60 °C
Display	Liquid crystal display (LCD)
User Options	User ID Low Alarm High Alarm Displayed Data (live reading or lifetime remaining) Bump-test interval Calibration interval Self-test interval
Event Log Storage	Last 30 events
Battery	3.6 Vdc, 1.6 Ah, lithium battery
Battery Life	Standard model: 24 months of operations (2 mins alarms per day)
Shelf Life	6 months
Operating Temperature	-30 °C to +60 °C
Humidity	5 to 95% RH
Ingress Protection Rating	IP67
Weight	92 g (3.2 oz)
Dimensions	87 x 50 x 29 mm (3.4 x 2 x 1.1 in)
Certification and Approvals	ATEX: CML 18ATEX2340 IECEx: Ex ia IIC T4 Ga CML 18.0158 IEC 60079-0:2017 IEC 60079-11:2011 KCS: KTL 19-KB2BO-0387 North American Hazardous Location: Class I, Division 1, Groups A, B, C and D, T4 Class 1, Zone 0, AEx ia IIC T4 Ga Ex ia IIC T4 Ga
Applicable Standards	CAN/CSA C22.2 No. 60079-0:19 CAN/CSA C22.2 No. 60079-11:14 ANSI/UL 60079-0 7th Edition ANSI/UL 60079-11 6th

This publication is not intended to form the basis of a contract and specification can change without notice.

ION Science Ltd
The Hive, Butts Lane, Fowlmere, Cambridgeshire, SG8 7SL, UK

T: +44 (0) 1763 208503
E: info@ionscience.com
W: www.ionscience.com

V1.2 UK