Cub 10.0 eV

Personal VOC gas detector for fast, accurate detection of total aromatic compounds



Total Aromatic Compound Monitoring

The Cub 10.0 eV is a wearable personal VOC detector designed specifically for monitoring total aromatic compounds (TACs), including benzene, at ppb levels. Compact, lightweight and designed to be worn by the worker, it provides continuous personal monitoring without restricting movement, helping workers identify exposure to hazardous VOCs as they move through their working environment.

Designed for personal total aromatic compounds (TAC) monitoring, Cub 10.0 eV provides fast, accurate measurements across a wide range, with exceptional sensitivity for detecting low-level concentrations of TAC, including benzene. Its wearable design keeps gas detection close to the worker's breathing zone, providing a clear indication of potential exposure throughout the working shift.

When exposure levels exceed pre-set limits, audible, vibrating and flashing LED alarms immediately alert the wearer to elevated gas concentrations. Real-time readings are shown on the bright, backlit LCD display, while selectable data logging intervals allow measurements to be recorded throughout the shift for later review and analysis.

Combining wearable personal monitoring, high sensitivity and robust PID technology, Cub 10.0 eV provides workers with a practical way to monitor TACs and benzene wherever exposure may occur. Its compact design means it can be comfortably worn throughout the working shift, providing continuous access to gas concentration readings and immediate alerts when exposure limits are exceeded

Key Features

- **TAC & Benzene Detection**
  Detects total aromatic compounds, including benzene*, with market-leading ppb sensitivity
- **0- 5,000 ppm Range**
  A wide dynamic detection range provides flexibility across low-level exposure montioring and higher concentrations
- **Rapid Response**
  Detects hazardous gases and vapours in less than 13 seconds
- **12-Hour Battery Life**
  Provides up to 12 hours of operation to support personal monitoring across a full working shift
- **Compact and Lightweight**
  At just 111 g, Cub is designed to be comfortably worn within the breathing zone

* Not selective to benzene; measures total aromatic compounds (TAC).



Cub 10.0 eV Personal Monitor



- Single tactile button for ease of use
- High capacity lithium-ion battery offering a continuous run time up to 12 hours
- High contrast LCD screen
- Multi-coloured status LEDs
- Loud sounder (95 dB at 300 mm) and vibrate functionality during alarm
- Patented Fence Electrode Technology

Cub Docking Station

The Cub Docking Station provides a simple and efficient way to manage Cub 10.0 eV monitors between shifts, with three configurations available to suit different operational requirements. From basic charging through to automated data management and calibration, organisations can choose the functionality they need without investing in features they do not require.



Charge only provides a straightforward solution for keeping Cub monitors powered and ready for the next shift. Ideal for organisations that manage data and calibration separately, this configuration offers a simple way to incorporate regular charging into the instrument management process.

Charge and data download combines charging with convenient transfer of logged monitoring data. When the Cub is placed into the docking station, recorded data can be downloaded for review and analysis, reducing the need for manual connection and helping streamline routine data management across multiple instruments.

Charge, data download and calibration provides the most comprehensive solution, combining all three functions in a single docking station. Alongside charging and automated data transfer, this configuration enables routine calibration of the Cub, helping organisations simplify instrument management and maintain monitoring performance. It is particularly suited to teams managing multiple monitors where efficient, consistent charging, data handling and calibration are important.

With three configurations available, the Cub Docking Station can adapt to your monitoring requirements, from simple instrument charging to a complete system for charging, data management and calibration.

Additional Features

Cub 10.0 eV is designed to provide flexibility as monitoring requirements evolve. The monitor can be remotely upgraded from ppm to ppb sensitivity, giving organisations the flexibility to enhance monitoring capabilities as their requirements evolve. This provides a future-ready solution that can scale with organisational growth and changing requirements, helping to extend the life of the instrument and maximise the value of the initial investment.

Its compact, lightweight design allows Cub 10.0 eV to be comfortably worn throughout the working day, while its simple, icon-driven interface makes operation straightforward with minimal training. Pre-programmed TWA and STEL alarm levels support monitoring against workplace exposure limits, and USB connectivity via the data or calibration docking stations enables logged data to be easily transferred for review and analysis. With a response time of less than 13 seconds, Cub 10.0 eV provides rapid indication when hazardous concentrations are detected.

Cub 10.0 eV is ATEX and IECEx certified for use in hazardous areas and has an IP65 rating, providing protection against dust and water jets. The instrument can be calibrated using a two-point calibration process via the docking station, with firmware also upgradeable through the Cub PC software.

Range Overview

Part Number	Name	Detection Range	Features
CKTSXCKX-WD	Cub TAC	10 ppb - 5000 ppm	Charge and Data Dock (UK plug)
CKTSXCKX-WC	Cub TAC	10 ppb - 5000 ppm	Calibration Dock (UK plug)
CKTSXCAX-WD	Cub TAC	10 ppb - 5000 ppm	Charge and Data Dock (US plug)
CKTSXCAX-WC	Cub TAC	10 ppb - 5000 ppm	Calibration Dock (US plug)
CKTSXCEX-WD	Cub TAC	10 ppb - 5000 ppm	Charge and Data Dock (European plug)
CKTSXCEX-WC	Cub TAC	10 ppb - 5000 ppm	Calibration Dock (European plug)
CKTSXCSX-WD	Cub TAC	10 ppb - 5000 ppm	Charge and Data Dock (Australian plug)
CKTSXCSX-WC	Cub TAC	10 ppb - 5000 ppm	Calibration Dock (Australian plug)
TCTSXCXX-X	Cub TAC	10 ppb - 5000 ppm	Cub instrument only
CUBUPG-M2B	Upgrade	N/A	Software upgrade from ppm to ppb measurements



Common Applications

- Refinery and petrochemical facilities
- Chemical processing and manufacturing
- Tank farm and terminals
- Plant maintenance and turnarounds
- Confined space entry
- Occupational exposure monitoring



Spares & Accessories



MiniPID 2 Sensor (10.0 eV, 6-pin)

Replacement PID sensor for the Cub 10.0 eV.

P/N MP6SX60XU2



PID Lamp 10.0 eV (for Cub)

Replacement PID lamp for the Cub 10.0 eV.

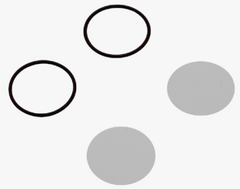
P/N LA4TS600



MiniPID Electrode Stack (White & Gold)

Replacement white & gold electrode stack for the Cub 10.0 eV PID sensor.

P/N A-846417



PTFE and Seal Kit

Replacement PTFE components and seals for maintaining the Cub sample inlet.

P/N A-871205



Cub Calibration Docking Station

Calibration Dock to help with quick and easy bump test and calibration of the unit before being used (UK).

P/N CDASXCKX-X



PID Response Check Pen

Portable check pen for confirming the response of compatible PID instruments.

P/N 4/QM-01

Pioneering Gas Sensing Technology. ionscience.com

Technical Specifications

Sensor	Photoionisation detector with a 10.6 eV PID lamp and a 10.0 eV electrode stack
Detectable ranges	ppm: 0 to 5,000 ppm (0.1 ppm sensitivity) ppb: 0 to 5,000 ppm (0.001 ppm sensitivity) TAC: 0 to 5,000 ppm (0.01 ppm sensitivity) [2 3 4]
Accuracy	+/- 5% displayed reading +/- one digit [2 3]
Response time (T90)	< 13 seconds [2]
Alarms	Visual: Flashing Red and Amber LED Audible: 95 dB @ 300 mm
Data logging	30,000 data logs
Battery	Li-ion battery
Operating time	Up to 12 hours
Charging time	Up to 4 hours
Operating temperature	-20 °C to +55 °C
Ingress protection	Main unit: IP65 [1]
Weight	111 g (3.9 oz)
Dimensions	61 x 66 x 59 mm (2.4 x 2.6 x 2.3 in)
Certification	Ⓔx II 1 G Ex ia IIC T4 Ga (-20°C ≤ Ta ≤ 55°C) Baseefa11ATEX0027 IECEx BAS 11.0014 US and Canadian approvals: Class I, II and III, Division I, Hazardous (Classified) Locations
Warranty	12 months (standard) 24 months (extended)

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

Specifications are based on isobutylene calibration at 20 °C and 1000 mBar.

[1] IP65 with PTFE filter fitted, IP64 without PTFE filter fitted.

[2] Specifications are based on isobutylene calibrations at 20 °C and 1000 mBar. All specifications quoted are at calibration point and under the same ambient conditions.

[3] For indicative measurement only. Quoted accuracy achievable up to 2,000 ppm. For more accurate detection, calibration around concentration of interest is recommended.

[4] Maximum reading is achieved with certain analytes.

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