Cub 11.7 eV

Wearable PID detector for high ionisation energy volatile organic compounds, extending the monitoring reach of wearable PID detectors



Total Aromatic Compound Monitoring

Cub 11.7 eV is a wearable personal VOC gas monitor designed for the detection of volatile organic compounds and other gases that require a higher energy output, including acetylene, methanol and formaldehyde. Worn within the worker's breathing zone, it provides continuous personal monitoring to help identify exposure to hazardous gases and vapours in the working environment.

The world's smallest and lightest personal PID monitor, Cub 11.7 eV combines a compact, wearable design with fast and accurate gas detection. When exposure exceeds pre-set limits, audible, vibrating and flashing LED alarms alert the wearer to elevated concentrations, while the large backlit LCD provides clear readings at a glance.

Cub 11.7 eV uses ION Science's patented PID sensor technology, independently verified for its speed, accuracy and humidity-resistant operation. Its Anti-contamination Design helps support extended field operation, while the higher-energy 11.7 eV PID lamp enables detection of compounds that cannot be effectively detected using a conventional 10.6 eV PID.

This enables Cub 11.7 eV to detect gases including acetylene, methanol and formaldehyde, making it particularly useful where these compounds are present.

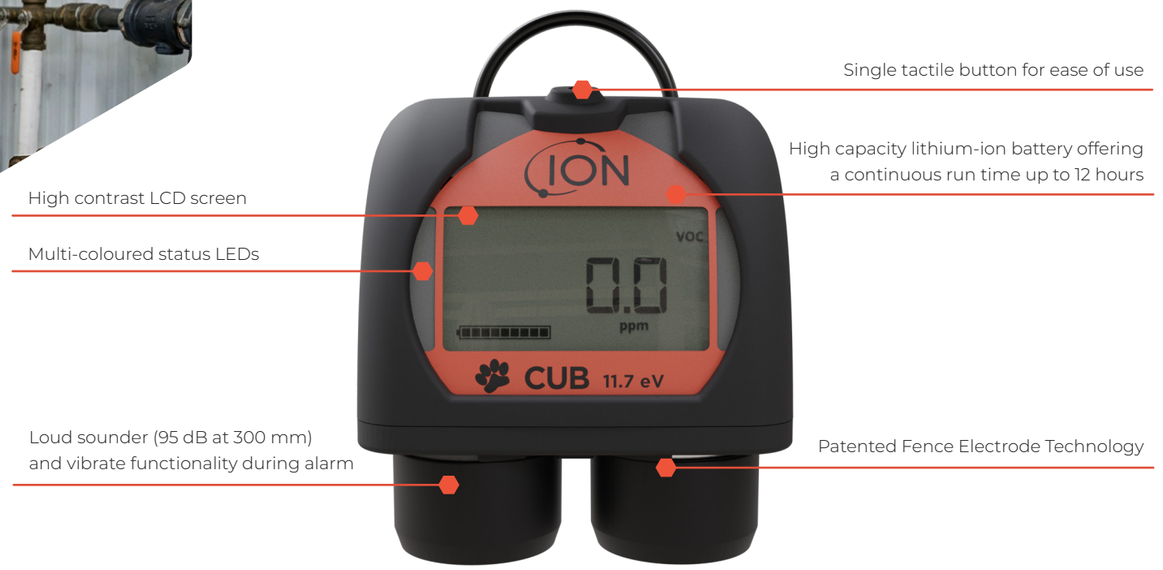
Its compact design means this additional detection capability does not come at the expense of portability. At just 111 g, Cub 11.7 eV can be comfortably worn within the worker's breathing zone throughout the working shift.

Key Features

- **11.7 eV PID Technology**
  Detection of higher-ionisation-energy VOCs, including acetylene, methanol and formaldehyde
- **0.5 - 5,000 ppm Range**
  Broad measurement range for monitoring gas concentrations
- **Rapid Response**
  Detects hazardous gases and vapours in less than 11 seconds for rapid exposure alerts
- **12-Hour Battery Life**
  Provides up to 12 hours of operation to support personal monitoring across a full working shift
- **Wearable Personal Monitoring**
  Designed to be worn within the worker's breathing zone for continuous exposure monitoring



Cub 11.7 eV Personal Monitor



Cub Docking Station

The Cub Docking Station provides a simple and efficient way to manage Cub 11.7 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 scale with your monitoring requirements, whether you need a simple charging solution for individual instruments or a complete charging, data management and calibration system for a larger fleet.

Additional Features

The key advantage of Cub 11.7 eV is its 11.7 eV PID lamp, which provides a higher energy output than the 10.6 eV lamp used in standard VOC monitoring. This enables Cub 11.7 eV to detect gases including acetylene, methanol and formaldehyde, making it particularly useful where these compounds are present or where a higher-energy PID is required.

Its compact design means this additional detection capability does not come at the expense of portability. At just 111 g, Cub 11.7 eV can be comfortably worn within the worker's breathing zone throughout the working shift.

Cub 11.7 eV is designed to monitor the atmosphere immediately around the worker, providing a more relevant indication of personal exposure than area monitoring alone. Its wearable format allows workers to move freely through different areas while continuously monitoring for target VOCs and gases.

When a pre-set exposure limit is exceeded, audio, visual and vibrating alarms provide an immediate warning. Pre-programmed TWA and STEL work exposure alarm levels support personal exposure monitoring, while the large backlit multi-colour LCD provides clear concentration readings.

Range Overview

Part Number	Name	Detection Range	Features
CK7SXCKX-WD	Cub 11.7 eV	0.5 - 5000 ppm	Charge and Data Dock (UK plug)
CK7SXCKX-WC	Cub 11.7 eV	0.5 - 5000 ppm	Calibration Dock (UK plug)
CK7SXCAX-WD	Cub 11.7 eV	0.5 - 5000 ppm	Charge and Data Dock (US plug)
CK7SXCAX-WC	Cub 11.7 eV	0.5 - 5000 ppm	Calibration Dock (US plug)
CK7SXCEX-WD	Cub 11.7 eV	0.5 - 5000 ppm	Charge and Data Dock (European plug)
CK7SXCEX-WC	Cub 11.7 eV	0.5 - 5000 ppm	Calibration Dock (European plug)
CK7SXCSX-WD	Cub 11.7 eV	0.5 - 5000 ppm	Charge and Data Dock (Australian plug)
CK7SXCSX-WC	Cub 11.7 eV	0.5 - 5000 ppm	Calibration Dock (Australian plug)
TC7SXCXX-X	Cub 11.7 eV	0.5 - 5000 ppm	Cub instrument only
CUBUPG-M2B	Upgrade	N/A	Software upgrade from ppm to ppb measurements



Common Applications

- Formaldehyde exposure monitoring
- Methanol handling and transfer
- Acetylene use and handling
- Chemical process monitoring
- Confined space entry
- Personal workplace exposure monitoring



Spares & Accessories



MiniPID 2 Sensor (11.7 eV)

Replacement PID sensor for the Cub 11.7 eV.

P/N MP6SX7BXU2



PID Lamp (11.7 eV)

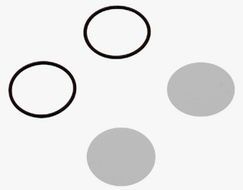
Replacement 11.7 eV PID lamp for the Cub 11.7 eV.

P/N LA4TM700

MiniPID Electrode Stack (White)

Replacement white electrode stack for the Cub 11.7 eV PID sensor.

P/N A-846267



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 11.7 eV lamp
Detectable range	0 to 5,000 ppm [2 3 4]
Accuracy	+/- 12% 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	Ex 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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