

VOC DETECTOR FOR HAZARDOUS & TOXIC GASES.

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Pioneering Gas Sensing Technology.



CUB

PERSONAL VOC DETECTOR



PERSONAL VOC DETECTOR FOR
HAZARDOUS & TOXIC GASES.

ionscience.com/usa

Pioneering Gas Sensing Technology.





THE WORLD'S SMALLEST, LIGHTEST,
MOST SENSITIVE PERSONAL PID
MONITOR FOR HAZARDOUS
AND TOXIC COMPOUNDS.
FOR PLANT & WORKFORCE.

Best available photoionization (PID) detection

- PID independently verified as best performing on the market
- Unrivaled sensitivity detects down to ppb levels
- Widest range detects gases ppb – 5,000 ppm
- In-built humidity resistance with no need to compensate
- Anti-contamination design for extended field operation
- Measures over 480 selectable compounds (10.6 eV lamp)

Ease of use

- Smallest, lightest personal PID monitor available
- Simple one button operation
- Intuitive software and simple calibration routine
- Easy to service
- Easily upgrade your instrument

Safety

- Fast (<13 seconds) response to hazardous gases & vapors
- Clear audio, visual and vibrating alarms
- Large LCD display for clear readings
- Battery life up to 12 hours
- Meets ATEX, IECEx approval standards.

Low cost operation

- Inexpensive consumables and parts
- 2 year warranty when instrument registered online





Cub is the world's smallest, lightest personal PID monitor for the accurate detection of volatile organic and total aromatic compounds. With market leading parts-per-billion (ppb) sensitivity, Cub gives an early warning of hazardous gases, including benzene, before they reach levels which are harmful.

Cub is available in three distinct variants; ppm, ppb and TAC mode. Choose a ppb or ppm instrument with 10.6 eV lamp for accurately detecting a wide range of VOCs dependent on your sensitivity requirements. CubTAC with 10.0 eV lamp gives accurate detection of total aromatic compounds (TACs) down to ppb levels.

Small, compact and lightweight Cub is robust yet comfortable and unobtrusive to wear. Cub has a dynamic range of 1 ppb to 5000 ppm, the widest on the market measuring over 480 selectable compounds.

When worker exposure exceeds pre-set limits the instrument's audible, vibrating and flashing LED alarms alert you to the gases present. Readings are displayed in ppb and ppm on its bright, back-lit LCD display with selectable data logging time.

Upgradeable ppb sensitivity can be purchased quickly and easily. CubDoc docking stations are available for USB communication, charging and calibrating your instrument, dependent on your requirements.

The instrument's PID sensor technology has been independently verified as best performing for speed, accuracy and humidity resistant operation. Its unique anti-contamination and patented Fence Electrode Technology provide extended run time in the most challenging environments, giving you accurate results you can truly rely on.



Applications include

- Industrial hygiene
- Chemical and petrochemical plants
- Oil & gas
- Pharmaceuticals
- Health & safety
- Hazardous materials
- First response
- Environmental

Accessories

Cub is supplied with an exclusive range of accessories and replacement parts. Visit the ION Science website for more info.



Technical specifications

SENSITIVITY

- 0.001 ppm (isobutylene equivalent) *
- 0.002 mg/m³ (isobutylene equivalent) *


ACCURACY

- ± 5% display reading ± one digit

RESPONSE

- <13 seconds (T90)

APPROVALS

-  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

BATTERY

- Battery life up to 12 hours
- Battery charge time 4 hours

PID LAMP OPTIONS

- 10.6 eV, 10.0 eV

DATA LOGGING

- 30,000 readings

COMMUNICATION

- USB 2.0

ALARM

- LEDs, audio and vibrate
- Sounder 95 dB @ 300mm
- Pre-programmed TWA & STEL.
- Work exposure alarm levels on all models.

TEMPERATURE

- Operating: -20 to 60 °C (-4 to 140 °F)
- Certified: -20 to 55 °C (-4 to 131 °F)

WEIGHT AND DIMENSIONS

- 111g (2.91 oz)
- 61 x 66 x 59 mm (2.4 x 2.6 x 2.3")

RESOLUTION

- ppm 0.1 ppm
- ppb 0.001 ppm
- TAC 0.01 ppm

RANGE

- 0-5000 ppm

CALIBRATION

- 2 point calibration via docking station

UPGRADEABLE

- Upgrade ppm to ppb

IP RATING

- Designed to IP65 (heavy rain)

LCD DISPLAY

- Backlit multi colour

FLOW RATE

- N/A (no pump)

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* Model dependant

** IP65 with PTFE filter fitted, IP64 without PTFE filter fitted.

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

Distributed by:

ION Science Inc
4153 Bluebonnet drive,
Stafford, Texas 77477

T Toll Free (877) 864-7710
E info@ionscienceusa.com

Distributed By:
JAECO Fire & Safety
Santa Clara, CA
Phone: 408-216-9688
email: info@jaecosafe.com

CUB 11.7 eV

PERSONAL VOC DETECTOR



CAPABLE OF DETECTING ACETYLENE,
METHANOL, FORMALDEHYDE AND MANY
MORE GASES.

ionscience.com/usa

Pioneering Gas Sensing Technology.





THE WORLD'S SMALLEST, LIGHTEST, SENSITIVE PERSONAL PID MONITOR WITH A HIGH ENERGY OUTPUT TO DETECT EVEN MORE GASES

Cub 11.7 eV is the world's smallest, lightest personal PID monitor for the accurate detection of volatile organic compounds and other gases that require a higher energy output such as **acetylene, methanol** and **formaldehyde**. With market leading sub-ppm sensitivity, Cub 11.7 eV gives an early warning of hazardous gases, including benzene, before they reach levels which are harmful.

Small, compact and lightweight Cub 11.7 eV is robust yet comfortable and unobtrusive to wear. Cub 11.7 eV has a dynamic range of 0.5 ppm to 5,000 ppm.

When worker exposure exceeds pre-set limits the instrument's audible, vibrating and flashing LED alarms alert you to the gases present. Readings are displayed in ppm on its bright, back-lit LCD display with selectable data logging time.

Its unique anti-contamination and patented Fence Electrode Technology provide extended run time in the most challenging environments, giving you accurate results you can truly rely on.

Industries

- Oil & Gas (Petrochemical processing)
- Manufacturing
- Pharmaceutical & Laboratory
- Government & Defence
- Consultancy

Applications

- Personnel Safety (Including Confined Space Entry)
- Industrial Hygiene
- Emergency Response
- Plant Shut Down & Turnaround





Unrivalled photoionisation (PID) detection

- PID independently verified as best performing on the market
- Unrivalled sensitivity detects down to sub-ppm levels
- Widest range detects gases: 0.5 – 5,000 ppm
- In-built humidity resistance with no need to compensate
- Anti-contamination design for extended field operation



Ultimate Safety

- Fast (<13 seconds) response to hazardous gases
- Clear audio, visual and vibrating alarms
- Large LCD display for clear readings
- Meets ATEX, IECEx and North American approval standards

Minimal Downtime

- Fast start up with no complicated set up
- Simple icon driven menu requires minimal user training
- Direct USB connectivity for fast data download
- Battery life up to 12 hours

Extend Your Warranty


Cub 11.7 eV warranty can be extended to up to 2 years if the instrument is registered online within one month of purchase. Visit the ION Science website to register your instrument.*

*Please refer to the warranty statement on the ION Science website.



Technical specifications

Approvals

-  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

Battery

- Battery life up to 12 hours
- Battery charge time 4 hours

Communication

- USB 2.0

Data Logging

- 30,000 readings

Alarm

- LEDs, audio and vibrate
Sounder 95 dB @ 300mm
Pre-programmed TWA & STEL
Work exposure alarm levels on all
models.

Weight and dimensions

- 111g (2.91 oz)
- 61 x 66 x 59 mm (2.4 x 2.6 x 2.3")

Calibration

- 2 point calibration via docking
station

IP rating

- IP65¹ (heavy rain)

LCD display

- Backlit multi colour

Flow rate

- N/A (no pump)

PERFORMANCE	
	11.7 eV
Minimum Sensitivity	0.5 ppm (500 ppb) ^{2,4}
Maximum Reading (Range)	5,000 ppm ^{2,4,5}
Accuracy	± 12% of display reading ^{2,4}
Response Time T90 (s)	< 13 seconds ²
Lamp Lifetime	≥500 hours ³
Temperature Range	0°C to 55°C

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

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

³ Based on continuous running.

⁴ For indicative measurement only. Quoted accuracy achievable up to 2,000 ppm. For more accurate detection, calibration around concentration of interest is recommended.

⁵ Maximum reading is achieved with certain analytes

Distributed by:

ION Science Inc
4153 Bluebonnet drive,
Stafford, Texas 77477

T Toll Free (877) 864-7710
E info@ionscienceusa.com

Distributed By:
JAECO Fire & Safety
Santa Clara, CA
Phone: 408-216-9688
email: info@jaecosafe.com



TIGER XTL

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JAECO Fire & Safety
Santa Clara, CA
Phone: 408-216-9688
email: info@jaecosafe.com



Tiger XTL

Low cost Volatile Organic Compound (VOC) detector with reliable market leading accuracy!

Ultimate Performance

The Tiger XTL is a ground breaking low cost entry level VOC detector with all the essential functions you need to detect VOCs. The instrument has the lowest running costs on the market with inexpensive disposable parts, lamps and filters. This variant of the hugely popular Tiger XT VOC detector is low on cost but high on performance. Its revolutionary, patented PID sensor technology with resistance and anti-contamination design provides market leading accuracy and run time. Combined with 24 hour battery life, these features maximise field time by minimizing erroneous readings in high humidity and drift in hard environments.

The Tiger XTL portable VOC gas detector is ETL (Electrical Testing Laboratories), KGS (Korean Gas Safety), IECEx (International Electrotechnical Commission System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres) certified. It is also ATEX approved meaning the instrument is intrinsically-safe.

Key Features

- >> **Improved Robust Design**
The instruments rugged body can withstand harsh environments
- >> **Long Rechargeable Battery Life**
When fully charged, the lithium-ion battery can last up the 24 hours
- >> **IP65 Ingress Protection**
Protection against a range of conditions and weather temperatures
- >> **Fast Reponse Time & Clear Down**
<2 second response time, one of the fastest and most accurate on the market
- >> **Instantaneous Alarms**
Bright visible alarms: **RED** & **AMBER** with loud sounder (95 dBA at 300 mm (12"))
- >> **Humidity Resistant and Anti-Contamination Design**
Patented Fence Electrode Technology ensures optimal performance and extends run time



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Santa Clara, CA
Phone: 408-216-9688
email: info@jaecosafe.com

Tiger XTL Features



Minimal Instrument Downtime

The Tiger XTL has been designed with the user in mind for ease of use and servicing. Batteries can be replaced in potentially explosive environments due to the innovative Intrinsically Safe design. Low cost filters and lamps can be easily changed in minutes, minimising instrument downtime.

Typical Applications

Typical applications for the Tiger XTL include: Environmental Monitoring, Soil Contamination Detection, VOCs in Landfill, Confined Space Entry, Emergency Response, Wing Tank Entry, Fumigation Gases & Medical Gases.

2 Year Extended Warranty

The Tiger XTL can be registered online which extends warranty to up to 2 years. Register your instrument online within one month of purchase to [extend the warranty](#).



Technical specifications

Minimum resolution*

- 0.1 ppm

Maximum reading

- 5,000 ppm

Response time

- T90 < 2 seconds


Accuracy

- $\pm 5\%$ display reading \pm one digit

Linearity*

- $\pm 5\%$ display reading \pm one digit

Intrinsically safe approvals

-  II 1G Ex ia IIC T4 Ga
- Tamb = -13°F \leq Ta \leq 113°F (with lithium ion battery pack)
- Tamb = -13°F \leq Ta \leq 104°F (with alkaline battery pack)
- ITS-I22ATEX35111X
- IECEx ITS 22.0025X
- ITS22UKEX0635X
- 3193491 conforms to UL Std. 913, 61010-1 Certified to CAN/CSA Std. C22.2 No. 61010-1

Battery life

- Li-ion: life up to 24 hours continual use
- Charge time: Typically 8 hours
- Alkaline: 3 x AA, typically 8.5 hours life

Lamps

- 10.6 eV Krypton PID lamp (standard)

Data logging*

- Push-to-log, 128 zones, 80,000 data points

Calibration

- Standard calibration 100 ppm isobutylene
- Custom calibration capability

Alarm

- Flashing LED and 95 dBA at 300mm (12") audible sounder
- Selectable vibrating alarm

Flow rate

- ≥ 220 ml/min (with blocked flow alarm)

Temperature

- Operating: -4 to 140 °F
- Humidity: 0-99% RH (non condensing)

Protection

- Designed to IP65
- EMC tested to EN61326-1:2013 & EN50270:2015 & CFR 47:2008 Class A

Weight & dimensions

- 370 mm (H) x 91 mm (W) x 60 mm (D)
- Instrument weight 870 g

TIGER XTL V1.0 This publication is not intended to form the basis of a contract and specifications can change without notice. All specifications quoted are at calibration point and under the same ambient conditions. Specifications are based on isobutylene calibration at 68°F, 90% RH and 1000 mBar
*Model dependant.

Manufactured by:

ION Science Ltd
4153 Bluebonnet Dr.
Stafford, Texas 77477

Tel: +1 (877) 864-7710
E: info@ionscience.com

Distributed By:
JAECO Fire & Safety
Santa Clara, CA
Phone: 408-216-9688
email: info@jaecosafe.com



TIGER XT

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Santa Clara, CA
Phone: 408-216-9688
email: info@jaecosafe.com



Tiger XT

Rapid, accurate detection of Volatile Organic Compounds (VOCs), within the most challenging environments.

Ultimate Performance

The Tiger XT's photoionization detection (PID) technology has been independently verified as best performing on the market for speed, accuracy, resistance to humidity, and contamination, thanks to its patented Fence Electrode Technology. Its patented Fence Electrode Technology and anti-contamination design ensures optimal performance within humid and heavily contaminated atmospheres, extending run time in the field.

The Tiger XT is the most advanced handheld VOC detector on the market with the widest measurement range, accurately detecting gases down to 1 part per billion (ppb) up to 20,000 part per million (ppm). Tiger has the fastest response time on the market of just two seconds, and is as quick to clear down. The Tiger XT handheld VOC gas detector can detect over 750 VOCs and toxic compounds!

Key Features

- >> **Improved Robust Design**
The instrument's rugged body can withstand harsh environments
- >> **Large Internal Gas Table**
Internal gas table has over 750 VOCs & toxic compounds
- >> **IP65 Ingress Protection**
Protection against a range of conditions and weather temperatures
- >> **Fast Response Time & Clear Down**
<2 second response time, one of the fastest and most accurate on the market
- >> **Instantaneous Alarms**
Bright visible alarms: **RED** & **AMBER** with loud sounder (95 dBA at 300 mm (12"))
- >> **Humidity Resistant and Anti-Contamination Design**
Patented Fence Electrode Technology ensures optimal performance and extends run time





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JAECO Fire & Safety
Santa Clara, CA
Phone: 408-216-9688
email: info@jaecosafe.com

Tiger XT Features



Upgradeable Features

The Tiger XT is fully upgradeable, this allows users to add further functionality if required. Upgradeable features include Health and Safety mode, PPB Sensitivity, Data Logging, Single Log Only (Push to Log) and Multi Log Only. Tiger XT is fully upgradeable without having to return the instrument to the factory.

Typical Applications

Typical applications for the Tiger XT include: Environmental Monitoring, Soil Contamination Detection, VOCs in Landfill, Confined Space Entry, Emergency Response, Wing Tank Entry, Medical Gases within Hospitals and Fugitive Emissions.

5 Year Extended Warranty

The Tiger XT can be registered online which extends warranty to up to 5 years. Register your instrument online within one month of purchase to [extend the warranty](#).



Technical specifications

Intrinsically safe approvals

- Ex II 1G Ex ia IIC T4 Ga
- Tamb = -13°F ≤ Ta ≤ +113°F (with lithium ion battery pack)
- Tamb = -13°F ≤ Ta ≤ 104°F (with alkaline battery pack)
- ITS-I22ATEX35111X
- IECEx ITS 22.0025X
- ITS22UKEX0635X
- 3193491 conforms to UL Std. 913, 61010-1
- Certified to CAN/CSA Std. C22.2 No. 61010-1
- Class 1 Division 1. Approval for Groups A, B, C & D, T4

Humidity

- 0-99% RH (non condensing)

Lamps

- 10.6 eV Krypton PID lamp (standard.) 10.0 eV and 11.7 eV lamps available

Data logging*

- 120,000 points including date and time stamp

Communication

- Direct USB 1.1 connection

Calibration

- 2 and 3 point calibration (via calibration kit accessory)

Battery life

- Li-ion: Typical battery life up to 24 hours, charge time typically 8 hours
- Alkaline: 3 x AA, typically 8.5 hours life

Flow rate

- ≥ 220 ml/min (with blocked flow alarm)

Protection

- Designed to IP65
- EMC tested to EN61326-1:2013 & EN50270:2015 & CFR 47:2008 Class A

Alarm

- Flashing LEDs Amber (low alarm) Red (high alarm)
- Sounder 95 dBA at 300 mm (12")
- Vibration on alarm
- Pre-programmed TWA and STEL*

PERFORMANCE *		
	10.6 eV	11.7 eV
Minimum Sensitivity ***	1 ppb or 0.001 mg/m ³	0.6 ppm (600 ppb)
Maximum Reading (Range)**	20,000 ppm or 20,000 mg/m ³ ***	9,000 ppm ***#
Accuracy ***	± 5% or ± one digit	± 12% display reading
Response Time T90 (s)	< 2 seconds	< 6 seconds
Lamp Lifetime	10,000 hours	≥500 hours****
Temperature Range	-4°F to 140°C	32°F to 140°F

WEIGHT & DIMENSIONS	
Instrument with probe	Width: 91 x Height: 370 x Depth: 60 mm
Instrument Weight	870g

*Model and gas dependent.

**Maximum reading is achieved with certain analytes such as ethanol.

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

All specifications quoted are at calibration point and under the same ambient conditions.

**** Based on continuous running.

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

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Manufactured by:

ION Science, Inc.
4153 Bluebonnet Dr.
Stafford, Texas 77477

T +1 (877) 864-7710
info@ionscienceusa.com

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