

ION Science Inc.

2019 Brochure Catalog

V2.3



4153 Bluebonnet Dr.
Stafford, TX 77477
Unrivaled Gas Detection

Issue 2019
ionscience.com
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V2.3



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FALCO

FIXED VOC DETECTOR

Ultimate Performance

- The only VOC detector specifically designed for extreme weather
- Typhoon Technology stops condensation forming within the PID
- Cutting-edge sensor performance minimizes drift & downtime

Ultimate Flexibility

- Pumped or diffused models available
- Pumped unit ideal for difficult to access locations
- Diffused model reduces servicing costs
- Four detection ranges available
- Selectable response factor for varying VOC selection

Ultimate Safety

- Eliminates false readings found with other PIDs
- Multi-colored status display seen from 20 meters in sunlight
- Fitted with long-life lamp for one year of continuous use
- Ex d approved
- Intrinsically safe; meets ATEX, IECEx, North American and Canadian standards

...PID detection you can trust!



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FALCO is the latest generation of fixed photoionization detectors (PIDs) from ION Science that continuously detect a wide range of volatile organic compounds (VOCs).

Unique to FALCO is its revolutionary Typhoon Technology safeguarding the sensor from condensing moisture for added reliability in severe weather conditions. In addition FALCO incorporates patented Fence Electrode Technology, which negates the effects of airborne humidity .

FALCO gives you cutting-edge performance; reliability, accuracy and results you can trust so you can be sure workforce and plant receive on-going maximum protection. With its humidity resistance and anti-contamination design drift is minimized and run-time extended, saving both time and cost to your business.

Offering the ultimate in safety FALCO overcomes false readings found with other PIDs. Its multi-colored LED status display can be seen from a distance of twenty meters in direct sunlight ensuring you are clearly alerted to hazards present.

FALCO has an externally located Intrinsically Safe sensor for quick and easy servicing without the need for a hot work permit. Dual certification allows FALCO to be serviced in a hazardous environment without having to remove power.

Simple to operate FALCO has an intuitive user interface. It has five magnetic switches with LED confirmation, a high contrast OLED screen and graphical interface ensuring installation and servicing are both quick and easy.



RS485 (Modbus®), 4-20 mA and Relay outputs are standard for all models. The Relay outputs are configurable for either high and low alarms, fault conditions or test cycle synchronization.

FALCO offers the ultimate in flexibility and can be purchased as one of four detection ranges in either a pumped or diffused variant. With a diffused model servicing costs are kept to a minimum with no pump to maintain.

Extend your FALCO Instrument Warranty

Registering your product online within one month of purchase will extend its warranty. Visit www.ionscience.com/instrument-registration

Applications include:

- Manufacturing
- Processing
- Refineries & Petrochemical
- Chemical
- Waster water treatment
- Pulp & paper
- Pharmaceutical
- IAQ
- Solvent recovery systems
- Industrial painting & coating
- Fenceline monitoring
- Outdoor air quality
- Tankfarms
- Bunkering



Sensor

- Photoionization with 10.6 eV lamp

DETECTION RANGES AND SENSITIVITY

- 10.0 ppm* 0.001 ppm
- 50.0 ppm* 0.01 ppm
- 1000 ppm* 0.1 ppm
- 3000 ppm* 1 ppm

DETECTION TIME (T90)

- <30 seconds (diffused)**

USER INTERFACE

- Display: OLED high contrast white on black: 128 (w) x 64 (h) pixels
- Screen size: 35 mm (w) x 17.5 mm (h)
- 5 magnetic switches with LED confirmation (up, down, left, right & enter). Magnetic actuator supplied.

STATUS INDICATOR

- Bright visible status indicator: RED, AMBER, GREEN

CERTIFICATION

- II 2G Ex d ib IIC T4 Gb
- Class 1, Div 1 Groups ABCD T4
- ISO9001:2008

ENVIRONMENTAL SPECIFICATION

- Without pump: -40°C to 60°C (-40°F to 140°F)
- With pump: -20°C to 60°C (-4°F to 140°F)
- 0-100% RH and condensing humidity

MECHANICAL INTERFACE

- 2 x cable entry points with 3/4" NPT threads (left and right)
- 2 x 3/4" NPT to M20 Stainless steel (supplied)

DIMENSIONS

- Without pump: 200 (h) x 190 (w) x 125 (d) mm
- With pump: 290 (h) x 190 (w) x 125 (d) mm

MOUNTING POINTS

- 2 x M8

INPUT POWER

- Working voltage: 12 to 40 Vdc
- Max. power: 7 watts



Diffused Model



Pumped Model

Falco VOC System	Description
FAXSXBXX-10D	Falco 0.001-10ppm Diffused
FAXSXBXX-50D	Falco 0.01-50ppm Diffused
FAXSXBXX-1000D	Falco 0.1-1000ppm Diffused
FAXSXBXX-3000D	Falco 1-3000ppm Diffused
FAXSXBXX-10P	Falco 0.001-10ppm Pumped
FAXSXBXX-50P	Falco 0.01-50ppm Pumped
FAXSXBXX-1000P	Falco 0.1-1000ppm Pumped
FAXSXBXX-3000P	Falco 1-3000ppm Pumped

* Based on Isobutylene gas

** When set to continuous measurement Modbus® is a registered trademark of Schneider Electric

FALCO ACCESSORIES

Falco Access.	Description
846216	MiniPID Electrode Stack Removal Tool
873201	Calibration Adaptor
873202	Magnetic Actuator
873206	Sensor Cover
873207	Light Guard
873208	O-Ring Small (PID mating seal)
873209	O-Ring Large
873210	PTFE Filter Disc
873211	O-Ring Holder
873222	Housing PID Falco - Pumped
873223	Bracket Pump Mounting Falco
873224	Housing Pump Falco
873300	Software VOC Log Falco NO DISCOUNT
5/JHS-14	Fitting Barbed M5 Pumped Falco
LA4SFL3.2	Falco Long Life Lamp (3.2V to 3.6V) 10.6eV
MP6SM6FWXU2	MiniPID 2 Falco White
MP6SM6FOXU2	MiniPID 2 Falco Orange
A-31063	PID Lamp Cleaning Kit
A-846627	Falco Electrode Stack White
	NOTE. Use with Falco 10ppm and 1,000ppm
A-846629	Falco Electrode Stack Orange
	NOTE. Use with Falco 50ppm and 3,000ppm
A-873227	Kit O-Ring Replacement Pumped Falco
A-873228	Kit Pump Replacement Pumped Falco
A-873230	Kit Flow Adaptor Falco (Diffusion)
A-875417	Hydrophobic Filter

GASCLAM 2

GROUND GAS MONITOR



Key Features

- Continuous gas (methane, carbon dioxide, oxygen, hydrogen sulphide, carbon monoxide and total VOC) monitoring with configurable logging intervals
- Continuous atmospheric borehole pressure and monitoring with configurable logging intervals
- Battery powered deployment for up to 3 months (dependant on logging frequency)
- External power option for extended deployments
- Intrinsically safe for use in explosive atmospheres

Key Benefits

- Optimized site management with insights from continuous monitoring
- Improve site characterization and event flagging helps reduce risks
- Demonstrates due diligence and regulatory compliance
- Supports an industry recognized best practice approach to ground-gas monitoring
- Aids selection of cost effective solutions

Ease of Use

- Fits in to standard 50 mm/2" borehole
- Reduces number of site visits
- Simple PC software to download and analyze data



Continuous Ground Gas Monitoring

Using spot measurements to understand ground-gas behaviors can lead to uncertain or misleading results. Uncertainty exists as concentration changes over time and spot sampling only provides a snap shot of the ground gas at that instant.

Considerable published material from experts who measure ground-gas and perform risk assessments question whether traditional methods of collecting data are adequate. The need for greater granularity of data was the reason for developing the patented GasClam 2.

GasClam 2 continuously measures and collects ground gas concentration data, as well as parameters that are known to control it - subsurface pressure and atmospheric pressure.

In combination, this data reduces uncertainty by providing the full picture of what is happening below ground. Also, by observing the process controlling the ground gas regime, you can predict how it will change in the future.

Using GasClam 2 therefore provides multiple financial benefits. The first saving comes from reducing the number of site visits by a field engineer. The second saving comes from reducing the overall length of monitoring programs as legislative data requirements can be met quicker. The third, and largest saving, is made by designing appropriate, rather than over engineered solutions, based on complete and robust data.



Applications include

- Brownfield site investigation
- Landfill perimeter monitoring and control
- Shale and Coal Bed Methane/ Seam Gas site monitoring
- Vapor intrusion studies
- Waste Management
- Refineries and petroleum storage monitoring

Accessories

- External power supply cable
- External power supply / communication adaptor
- External level sensor

GASCLAM

Technical Specifications

Gas	Method/Type	Range	Resolution	Accuracy
CH4**	Infrared	0-100% or 0-5%	1% of FSD above 50% 0.5% below 50%	+/- 2% FSD
CO2**	Infrared	0-100% or 0-5%	1% of FSD above 50% 0.5% below 50%	+/- 2% FSD
O2	Electrochemical	0-25%	0.1% vol	+/-5% of reading +/- 1 digit
DUAL CO/H2S				
CO*	Electrochemical	0-500ppm	1ppm	+/- 3ppm at 0 +/- 3% at 250ppm
H2S*	Electrochemical	0-200ppm	1ppm	+/- 1ppm at 0 +/- 2% at 100ppm
SINGLE				
VOC*	PID	0-4000ppm	1ppm	+/- 5% of reading +/- 1 digit
ENVIRONMENTAL				
Barometric Pressure	Piezoelectric	800 to 1200 mBar	1 mBar	
Borehole Pressure	Piezoelectric	800 to 1200 mBar	1 mBar	
Temperature	Internal Chip	-5°C to +50°C or 22°F to 122°F	0.1°C or 1°F	
Water Depth*	Piezoelectric	0 — 25m (various available)	0.01 m	



POWER OPTIONS

Internal: Option of Lithium primary cells or Duracell Alkaline D-Cells or Rechargeable battery pack
External: Accepts intrinsically safe external power supply for extended and/or rapid monitoring

Typical Battery Life (hourly sampling)

Lithium primary cells - 3 months
Alkaline cells - 1 month

Rechargeable battery pack - 3 weeks

Case

High quality stainless steel

Weight

7.5 kg (16.8 lbs)

Dimensions

Overall length: 90cm (35.4 in) —
Borehole tube length: 83cm (32.6 in)
Head diameter: 11cm (4.3 in) —
Borehole tube diameter: 4.7cm (1.85 in)

Protection

IP68 rated (continuous submersion)

Operation Temp
-20°C to +50°C (-4°F to 122°F)

Approvals

EMC, ATEX 0105 X

CE

Ex II 2G Ex d ib [ib] IIB T4
IECEx Ex d ib [ib] IIB T4 Gb

CSA C (US & Canadian approvals)
Class 1, Zone 1

(A)Ex d id IIB T4

Patents

European and World-wide Patented

Gasclam	Description
BMSSRBXG-X12OXX	GasClam (0-5 CH4, 0-100 CH4)
BMSSRBXG-X13OCV	GasClam (0-5 CH4, 0-5 CO2)+CO+VOC
BMSSRBXG-X13ODV	GasClam (0-5 CH4, 0-5 CO2)+H2S/CO+VOC
BMSSRBXG-X13OXX	GasClam (0-5 CH4, 0-5 CO2)
BMSSRBXG-X14OXX	GasClam (0-5 CH4, 0-100 CO2)
BMSSRBXG-X24OCV	GasClam (0-100 CH4 & CO2)+CO+VOC
BMSSRBXG-X24ODV	GasClam (0-100 CH4 & CO2)+H2S/CO+VOC
BMSSRBXG-X24ODX	GasClam (0-100 CH4 & CO2)+H2S/CO
BMSSRBXG-X24OXV	GasClam (0-100 CH4 & CO2)+VOC
BMSSRBXG-X24OXX	GasClam (0-100 CH4 & CO2)
BMSSRBXG-X34OXX	GasClam (0-5 & 0-100 CO2)
BMSSRBXG-XXXXXV	GasClam with VOC Sensor

FOR OTHER COMBINATIONS OF SENSORS IN THE GASCLAM, PLEASE CONTACT ION SCIENCE INC.



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Accessories	Description
25030	RS232 Communication Cable
25031	Push Button Control
25109	Moisture Filter Section Cover - Long
25033	Rubber Collar
25062	Charger NiMH ECH 1.1
25065	Re-chargeable Battery Pack
A-25083	GasClam Accessory Kit
A-25066	O-Ring (Filter sect bott + batt comp) pack of 5
A-25067	O-Ring (Filter section top) pack of 5
A-25064	GasClam Snorkel Assembly
A-25114	Moisture Filter Pack of 3 (From 2012 onwards)



TITAN

FIXED BENZENE DETECTOR



The only truly selective wall-mounted benzene monitor

- Fast and accurate detection of benzene down to 0.1 ppm
- Minute by minute sampling providing continuous real-time data
- Robust separation method ensures benzene specific readings
- Internally regulated heating for stable operation at extreme temperatures

Safety

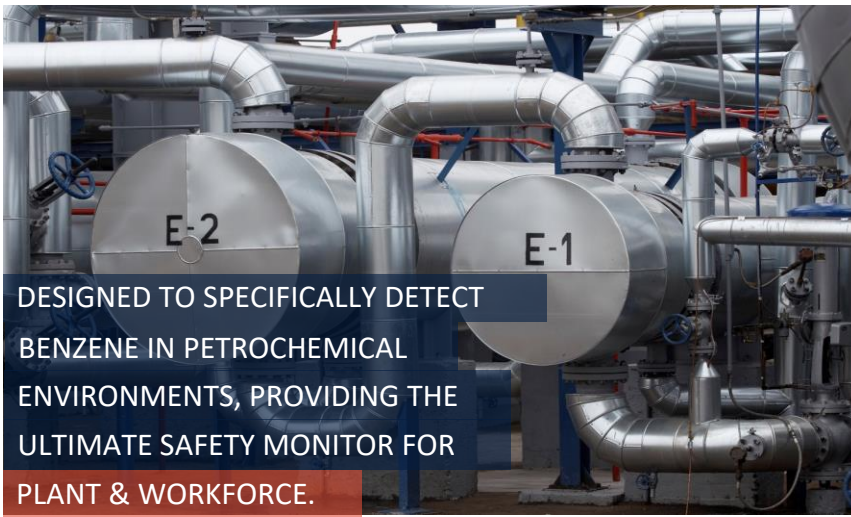
- Clear display & visual alarms for indication of benzene levels
- Two user-definable independent alarm levels including optional real-time STEL calculation
- Two relay outputs provide an immediate warning alarm
- Meets ATEX & IECE, UL and CSA standards

Best available photoionization (PID) detection

- PID independently verified as best performing on the market
- In-built humidity resistance with no need to compensate
- Anti-contamination design for extended field operation
- 2 year warranty when instrument registered online

Ease of Use & Service

- Modular design for ease of installation and servicing
- Service-free six months operation
- Simple two button interface for menu navigation
- No consumables



DESIGNED TO SPECIFICALLY DETECT BENZENE IN PETROCHEMICAL ENVIRONMENTS, PROVIDING THE ULTIMATE SAFETY MONITOR FOR PLANT & WORKFORCE.



Research

Following extensive research and development, Ion Science brings to market the world's first fixed, continuous, real-time benzene specific monitor.

Set to change the game in refinery applications, Titan is the first truly selective wall-mounted monitor ranging dynamically from 0.1 ppm to 20 ppm in petrochemical and chemical environments.

Titan receives a sample of gas from the local environment once per minute. Within 60 seconds, the sample is conditioned to enable precise benzene measurement and signal communications.

Titan's continuous, real-time measurement allows trends over time to be monitored and communicated over 4-20 mA or RS485. Data is stored internally for a minimum of two years and can be downloaded remotely to a PC via USB or RS485 for analysis.

Titan provides an immediate warning alarm system with two operator configurable levels, ensuring workers are kept safe and protected to the standards required on site. The instrument incorporates two relay outputs allowing the user to install their own required alarm system.

Titan is designed to be easily installed and serviced. Its modular design allows the Ex d case to be installed well in advance of commissioning. The service module can be removed and replaced as a remotely serviceable plug-and-play cartridge.

Titan incorporates Ion Science's market-leading MiniPID technology with proven resistance to humidity and contamination, ensuring optimal performance whatever the environment.



Applications Include

- Oil & Gas
- Petrochemical
- Chemical
- Health & Safety
- Offshore



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TITAN

Technical Specifications

SENSOR TYPE

- PID, 10.6 eV lamp coupled with selective filtering

SELECTIVITY

- Benzene specific within typical petrochemical matrix

RANGE

- 0 - 20 ppm

MEASURING FREQUENCY

- One minute

LOWER LIMIT OF DETECTION

- 0.1 ppm

ACCURACY

- 0.05 ppm or 10%, whichever is greater

TEMPERATURE STABILITY

- Internally heated

SAMPLE FLOW

- 200 ml/min

DISPLAY

- Graphical BW LCD 64 x 128 pixels with back light
- Bright LEDs for normal operation, fault and alarm
- Two magnetic switches for menu operation

HAZARDOUS AREA

SAFETY APPROVALS

- ATEX/IECEx: II 2G Ex d II B+H2 T4 Gb (-20 °C to +55 °C)

INGRESS PROTECTION RATING

- Designed to IP65 (cable gland dependant)

HUMIDITY

- 0 - 100 % RH

MINIMUM SERVICE PERIOD

- Selective filter six months
- PID lamp one year

CABLE ENTRY

- Two 3/4 NPT gland threads

POWER

- Vin (nom) 24 V DC @ 3.2 A (recommended)
- Vin (max) 32 V DC @ 2.4 A
- Vin (min) 19 V DC @ 4.0 A

COMMUNICATION

- Isolated 4-20 mA output
- Isolated RS 485 Modbus (simplex/half duplex or fully duplex)
- USB when lid removed with PC software

DATA STORAGE

- On board MMC, minimum of six months

RELAY OUTPUT

- Two isolated outputs, voltage free, 24 V DC @ 1.25 A

WEIGHT AND DIMENSIONS

- 15 kg (33 lbs)
- 219 x 219 x 172 mm (8.6 x 8.6 x 6.8" approx.)

GAS SAMPLE LINE

- 10 m max length, PTFE, 6 mm OD, 4 mm ID

Titan Benzene Monitor	Description
TNXSXBXX-X	Titan Benzene Monitor
TSMXSXXXX-X	Titan Detector Module
TNXSXBXX-X+TSM	Titan Benzene Monitor and Detector Module Kit

Titan Access.	Description
MP6SXLXU2	MiniPID 2 6-Pin Long Life Lamp 10.6eV (Red) Titan
A-846444	Electrode Stack Sealed PPB (Red)
LA4STL3.2	Titan Long Life Lamp (3.2V to 3.6V) 10.6
875404	Lid O-Ring 195.3 id x 2.4 sect Viton
875409	Carbon Filter for Titan
A-875505	Carbon Filter Assembly
875413	Plastic Handle
A-875265	Titan Actuation Magnet Assembly
A-875417	Hydrophobic Filter





TIGER LT

HANDHELD VOC DETECTOR

Best available photoionization detection (PID) sensor

- PID independently verified as best performing on the market
- Accurate results across all environments from 0 - 5000 ppm
- Patented humidity resistance to 99% RH - no compensation needed
- Anti-contamination design minimizes drift and extends run time
- Fastest 2 second response time and rapid clear down

Ease of Use

- User selectable response factors for direct concentration readout
- Intuitive, easy to use software
- Large clear keypad for easy operation when wearing gloves
- Ergonomic design allows simple one handed operation
- Large, clear visual display
- Torch and back-lit keypad for low light conditions
- Push-to-log data logging, 128 zones, 80,000 points

Minimize Downtime

- Anti-contamination design reduces calibration frequency
- Li-ion battery for up to 24 hours continuous operation
- 6.5 hours battery charge time maximizes uptime
- Batteries field replaceable, even in explosive environments
- Filters and lamps replaceable in minutes
- Simple icon driven menu requires minimal user training

Safety

- 95 dBA, bright LED and vibration alarms alert you to gases present
- Intrinsically safe; meets ATEX, IECEx and North American and Canadian standards

Low Cost

- Entry level VOC detector with all the essential functions
- Inexpensive consumables and parts for low cost operation



The leading technology of the TIGER LT makes it the most advanced, low-cost handheld VOC detector on the market giving you the most accurate, reliable results you can count on, every time. Whether deciding to wear PPE or checking head space for compliance TIGER LT gives confidence that the right decision will be made in all environments, humid or dusty.

This variant of the hugely popular TIGER VOC detector is low on cost but high on performance. Its revolutionary, patented PID sensor technology with humidity resistance and anti-contamination design provide market leading accuracy and run time. Combined with 24 hour battery life, these features maximize field time by minimizing erroneous readings in high humidity and drift in harsh environments.

The world's leading PID manufacturer, ION Science's PID sensor technology has also received independent verification as the best performing on the market for its speed of response, accuracy and linearity

TIGER LT accurately detects gases from 0 to 5,000 ppm, has the fastest response time on the market of just 2 seconds, and is as quick to clear down. Its push-to-log data logging stores up to 80,000 data points in up to 128 user selectable zones.

TIGER LT offers simple, one handed operation even when wearing multiple pairs of thick gloves. Its rugged design and protective, removable rubber boot withstand harsh environmental conditions.

The large, clear back-lit display allows for easy viewing in any light condition. An integrated torch is designed for directing the instrument's probe into dimly lit areas. The illuminated keypad activates when light is low.



THE LEADING TECHNOLOGY OF TIGER LT PROVIDES THE MOST ACCURATE, RELIABLE DETECTION OF VOCs GIVING THE RIGHT RESULTS WHILST MAXIMIZING FIELD TIME.

TIGER LT is a ground breaking, low cost entry level PID with all the essential functions you need for VOC detection. The instrument has the lowest running costs on the market with inexpensive disposable parts, lamps and filters.

Extend your instrument warranty

Warranty can be extended from one to two years if the instrument is registered online within one month of purchase. Visit www.ionscience.com/instrument-registration

Applications Include

- Environmental monitoring
- Soil contamination
- VOCs in landfill
- IAQ
- Health & Safety
- Confined space entry
- First Response
- Wing tank entry
- VOC leak detection
- Fumigation gases
- Fugitive emissions
- Medical gases

Minimum resolution*

- 0.1 ppm

Maximum reading

- 5,000 ppm

Response time

- T90 < 2 seconds

Accuracy*

- 5% display reading one digit

Linearity*

- 5% display reading one digit

Intrinsically safe approvals

- II 1G Ex ia IIC T4 Ga
- Tamb = - 15 °C ≤ Ta ≤ +45 °C
(with lithium ion battery pack)
- Tamb = - 15 °C ≤ Ta ≤ +40 °C
(with alkaline battery pack)
- ITS09ATEX26890X
- IECEx ITS 10.0036X
- 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

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 in ambient conditions (with blocked flow alarm)

Temperature

- Operating: -20 to 60 °C, -4 to 140 °F (non-Intrinsically Safe)

- Humidity: 0-99% RH (non condensing)

Protection

- Designed to IP65 (heavy rain)
- 1180
- EMC tested to EN61326-1:2006, EN50270:2006 & CFR 47:2008 Class A

Weight & dimensions

- Instrument (with probe)
- Width: 91.4 x Height: 370 x Depth: 61 mm (3.59 x 14.56 x 2.4")
- Instrument weight 0.75 kg



Standard Kit

- Tiger LT Instrument with rubber boot
- Rechargeable Battery (Li-ion)
- Battery Charger
- Mains Adaptor
- Compact Case
- PTFE Filter Discs
- Removal Tool MiniPID Stack
- PID Lamp Cleaning Kit
- USB Cable
- Quick Start Guide



Premium Kit

- Tiger LT Instrument with rubber boot
- Rechargeable Battery (Li-ion)
- Battery Charger
- Mains Adaptor
- Rugged Case
- Carbon Zero Filter Assembly
- Calibration Adaptor
- PTFE Filter Discs
- Removal Tool MiniPID Stack
- PID Lamp Cleaning Kit
- Lanyard
- USB Cable
- Quick Start Guide

Tiger LT Instruments	Description
PTLSLBMR-0000	Tiger LT with Rechargeable Battery- Standard Kit
PTLSLBMP-0000	Tiger LT with Rechargeable Battery- Premium Kit

* All specifications are against isobutylene calibration at 20 °C, 90% RH and up to 3000 ppm unless otherwise stated. *Gas dependent.



TIGER

HANDHELD VOC DETECTOR

Best available photoionization (PID) detection

- PID independently verified as best performing on the market
- Humidity resistant and anti-contamination design
- Dynamic range ppb to 20,000 ppm
- Fast response time and clear down
- Internal gas table with over 700 VOCs & toxic compounds

Ease of Use

- Intuitive, easy to use software
- Easy access sensor, electrode stack and lamps
- Large clear keypad and slim design allows one handed operation
- Keypad backlit in low light conditions

Minimize Downtime

- Fast start up with no complicated set up
- Battery life up to 24 hours continual use
- Simple icon driven menu requires minimal user training
- Direct USB connectivity for fast data download
- Instrument easily upgradeable via Ion Science website

Safety

- Accurate results in all environmental conditions
- Intrinsically safe; meets ATEX, IECEx, North American and Canadian standards

Low Cost Operation

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



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Tiger is the most advanced hand held VOC detector on the market with the widest measurement range, accurately detecting gases down to ultra low ppb levels up to 20,000 ppm. Tiger has the fastest response time of just two seconds, and is as quick to clear down. Its internal gas table contains over 700 response factors.

The instrument'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 with three electrode format and anti-contamination design ensures optimal performance within humid and heavily contaminated atmospheres, extending run time in the field.

Tiger is ready to use with no complicated programming. The set up procedure can be done via a PC to perform basic functions. Direct connection from the instrument to the computer via a standard USB cable offers the fastest communication and data download available.

Batteries can be replaced in potentially explosive environments due to the innovative intrinsic safe design. Low cost filters and lamps can be easily changed in seconds, minimizing instrument downtime. Fast battery charging allows the instrument to be fully charged in 6.5 hours.



TIGER PROVIDES RAPID, ACCURATE DETECTION OF VOCs WITH EXCEPTIONAL RESISTANCE TO HUMIDITY AND CONTAMINATION.

Tiger offers simple, one handed operation. Its rugged design and protective, removable rubber boot withstand the harshest environments. The large, clear back-lit display allows for easy viewing in any light condition. An integrated torch is designed for directing the instrument's probe into dimly lit areas. The illuminated keypad comes on when light is low.

Tiger is fully upgradeable. This allows lower cost instruments to be purchased with the option of adding functionality if needed, without having to return it to the factory for modification.

Extend your instrument warranty

Tiger has the lowest running costs on the market with inexpensive disposable parts, lamps and filters. Warranty can be extended from two to five years if the instrument is registered online within one month of purchase. Visit www.ionscience.com/instrument-registration

Applications Include

- Environmental monitoring
- Soil contamination detection
- Medical gases within Hospitals
- IAQ measuring industrial volatiles
- Leakage in fuel and chemical storage
- STEL & TWA monitoring
- Screening tool for First Responders
- Confined space entry
- VOCs in landfill
- VOC leak detection
- Wing tank entry
- Health & Safety
- Fumigation gases
- Fugitive emissions



Minimum resolution*

- 1 ppb or 0.001 mg/m³

Maximum reading**

- 20,000 ppm or 20,000 mg/m³ (gas dependent)

Response time

- T90 < 2 seconds

Accuracy*

- 5% display reading one digit

Linearity*

- 5% display reading one digit

Intrinsically safe approvals

- II 1G Ex ia IIC T4 Ga
- Tamb = -15 °C ≤ Ta ≤ +45 °C (with lithium ion battery pack)
- Tamb = -15 °C ≤ Ta ≤ +45 °C (with alkaline battery pack)
- ITS09ATEX26890X
- IECEx ITS 10.0036X
- 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
- Alkaline: (Duracell Procell MN 1500) life up to 8.5 hours continual use

Lamps

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

Data logging*

- Including date / time: 120,000 points

Communication

- Direct USB 1.1 connection

Alarm

- Flashing LED and 95 dBA at 300mm (12") audible sounder
- Selectable vibrating alarm
- Pre-programmed TWA and STEL*
- Pre-programmed with over 700 gases*

Flow rate

- 220 ml/min in ambient conditions (with blocked flow alarm)

Temperature

- Operating: -20 to 60 °C, -4 to 140 °F (non Intrinsically Safe)
- Humidity: 0-99% RH (non condensing)

Protection

- Designed to IP65 (heavy rain)
- 1180
- EMC tested to EN61326-1:2006, EN50270:2006 & CFR 47:2008 Class A

Weight & dimensions

- Instrument with probe
- Width: 340 x Height: 90 x Depth: 60 mm (13.4 x 3.6 x 2.4")
- Standard case
- 367 x 89 x 90 mm (14.45 x 3.54 x 2.36")
- Instrument weight 0.72 kg (1.56lb)
- Packed weight: 5.5kg (12lb)

Included in Tiger Kit***

- Tiger Instrument with rubber boot
- Rechargeable Battery (Li-ion)
- Battery Charger
- Mains Adaptor
- Rugged Case
- Carbon Zero Filter Assembly
- Calibration Adaptor
- PTFE Filter Discs
- Removal Tool MiniPID Stack
- PID Lamp Cleaning Kit
- Lanyard
- USB Cable
- Quick Start Guide



Tiger Instruments	Description
PTXSLBMP-0005	Tiger Rechargeable Battery - PPM / H&S / Data Logging
PTXSLBMP-0007	Tiger Rechargeable Battery - PPB / H&S / Data Logging

Firmware Upgrades	Description
861301	Tiger Firmware Upgrade -PPB Sensitivity

All specifications are against isobutylene calibration at 20°C, 90% RH and up to 3000 ppm unless otherwise stated. *Model and gas dependent.

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

***Kit does not include a spare rechargeable battery pack as pictured. Spare battery sold separately.

TIGER

FIRE INVESTIGATION KIT



The ION Science Fire Investigation Kit with TIGER VOC detector has been specifically designed to provide you with all the tools for a convenient, easy-to-use solution for the detection of volatile organic compounds (VOCs) within fire and arson investigation applications.

Fire investigation teams are responsible for the examination and assessment of suspected arson-related sites, and further analysis of suspicious samples. Investigators require a solution for the fast discovery of potential arson incident accelerants, and initial crime scene VOC assessment.

Utilizing the TIGER's unique patented fence electrode technology within its photoionization detection (PID) sensor, TIGER utilizes humidity resistant and anti-contamination design and is ideal for use in harsh, high-humidity environments.

The Fire Investigation Kit Includes:

- **TIGER or TIGER LT handheld VOC detector*** for rapid, accurate response to VOCs
- **1m Flexi-probe** for versatile, practical detection of VOCs in hard-to-reach places
- **Bump test pen** for simple, quick reassurance that your detector is responding to the presence of volatiles prior to use
- **AA TIGER battery pack** for emergency power source during long shifts or when access to a charging point is not available
- **Charging cradle & travel charge adaptor** for remote charging of your instrument on-the-go
- **Exhaust barb** which can be connected to a collection bag to allow users to collect samples for further lab analysis
- **Quick start guide** for ease of use and no specialized training required
- **PTFE filters (pack of 10)** spares are provided for quick and simple TIGER maintenance
- **Rugged Carry Case** for easy, secure and robust transportation of the TIGER and accessories
- **Integrated flashlight** ideal for use within dark or dimly lit areas

In addition, the Fire Investigation kit can also be purchased with the option for 100 ppm isobutylene gas cylinder for accurate calibration and verification of instrument performance.

* Kits can also be purchased individually for use with existing TIGER instruments.



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V2.3

TIGER LT SPECIFICATIONS

Minimum resolution*
• 0.1 ppm
Maximum reading
• 5,000 ppm
Response time
• T90 < 2 seconds
Accuracy*
• 5% display reading one digit
Linearity*
• 5% display reading one digit
Intrinsically safe approvals
• II 1G Ex ia IIC T4 Ga
• Tamb = - 15 °C ≤ Ta ≤ +45 °C (with lithium ion battery pack)
• Tamb = - 15 °C ≤ Ta ≤ +40 °C (with alkaline battery pack)
• ITS09ATEX26890X
IECEX ITS 10.0036X
• 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
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 in ambient conditions (with blocked flow alarm)

Temperature
• Operating: -20 to 60 °C, -4 to 140 °F (non-Intrinsically Safe)
• Humidity: 0-99% RH (non condensing)
Protection
• Designed to IP65 (heavy rain)
• 1180
• EMC tested to EN61326- 1:2006, EN50270:2006 & CFR 47:2008 Class A
Weight & dimensions
• Instrument (with probe)
• Width: 91.4 x Height: 370 x Depth: 61 mm (3.59 x 14.56 x 2.4")
• Instrument weight 0.75 kg

Tiger LT Instrument	Description
PTLSRBMP-0000	Tiger LT Rechargeable Battery - Fire Investigation

TIGER SPECIFICATIONS

Minimum resolution*
• 1 ppb or 0.001 mg/m3
Maximum reading**
• 20,000 ppm or 20,000 mg/ m3 (gas dependent)
Response time
• T90 < 2 seconds
Accuracy*
• 5% display reading one digit
Linearity*
• 5% display reading one digit
Intrinsically safe approvals
• II 1G Ex ia IIC T4 Ga
• Tamb = - 15 °C ≤ Ta ≤ +45 °C (with lithium ion battery pack)
• Tamb = - 15 °C ≤ Ta ≤ +45 °C (with alkaline battery pack)
• ITS09ATEX26890X
IECEX ITS 10.0036X
• 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
• Alkaline: (Duracell Procell MN 1500) life up to 8.5 hours continual use
Lamps
• 10.6 eV Krypton PID lamp (standard.) 10.0 eV and 11.7 eV lamps available
Data logging
• Including date / time: 120,000 points
Communication
• Direct USB 1.1 connection
Alarm
• Flashing LED and 95 dBA at 300mm (12") audible sounder
• Selectable vibrating alarm
• Pre-programmed TWA and STEL*
• Pre-programmed with over 700 gases*

Flow rate
• 220 ml/min in ambient conditions (with blocked flow alarm)
Temperature
• Operating: -20 to 60 °C, -4 to 140 °F (non Intrinsically Safe)
• Humidity: 0-99% RH (non condensing)
Protection
• Designed to IP65 (heavy rain)
• 1180
• EMC tested to EN61326- 1:2006, EN50270:2006 & CFR 47:2008 Class A
Weight & dimensions
• Instrument with probe
• Width: 340 x Height: 90 x Depth: 60 mm (13.4 x 3.6 x 2.4")
• Standard case
• 367 x 89 x 90 mm (14.45 x 3.54 x 2.36")
• Instrument weight 0.72 kg (1.56lb)
• Packed weight: 5 .5kg (12lb)

Tiger Instrument	Description
PTXSRBMP-0000	Tiger Rechargeable Battery - PPM - Fire Investigation

TIGER FIRE INVESTIGATION KIT ACCESSORIES

Fire Investigation Kit Only	Description
A-861644	Fire Investigation Kit (NO INSTRUMENT)

Accessories	Description
4/QM-01	Bump Test Pen
861642	Flexi Probe 1m
A-861220	Tiger Battery Charger Cradle
1/VS-22	Mains Adaptor with Multiple Adaptors
	NOTE. Connects to battery charger cradle A-861220
1/JAWU-01	2.1mm DC Jack- Cigar Lighter Plug Tiger Car Charger Lead
A-861240	Rechargeable Battery Assembly
A-861241	AA Battery Pack Assembly
A-861472	PTFE Filter Discs (pack of 10)
A-861482	Exhaust Barb for Tiger

Calibration	Description
44ES-248-100	100 ppm Isobutylene Cal Gas in 44L Ecosmart Cylinder
70-0.5	0.5 LPM Fixed Flow Regulator with C-10 Fitting
75-DFR	Demand Flow Regulator with C-10 Fitting



TIGER SELECT

HANDHELD BENZENE DETECTOR

Best available photoionization (PID) detection

- PID independently verified as best performing on the market
- Unrivalled sensitivity detects down to ppb levels
- Selectively detects benzene with Ion Science benzene pre-filter tube
- Continuous readings shown as max level reached
- In-built humidity resistance with no need to compensate
- Anti-contamination design for extended field operation

Ease of Use

- Self explanatory software and calibration routine
- Easy change sensor, electrode stack and lamps
- Large user friendly key pad
- Simple, one-handed operation

Minimize Downtime

- Ready to use instantly with no complicated set up
- Large battery capacity gives several days of use
- Fast charge capability gets you up and running quickly
- Simple menu requires no user training
- Fastest data download via true USB connection
- Easily upgrade your instrument via the web 24/7

Safety

- Accurate results in all environmental conditions
- Intrinsically safe; meets ATEX, IECEx, North American and Canadian standards

Low Cost Operation

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





**RAPIDLY DETECTS BENZENE AND
TOTAL AROMATIC COMPOUNDS (TACS)
PROVIDING THE MOST ACCURATE,
RELIABLE DATA AVAILABLE.**

A revolutionary hand-held detector, Tiger Select can be operated either with a benzene pre-filter tube to detect benzene selectively, or without to detect total aromatic compounds (TAC). For simplicity and ease of use, the Tiger Select has been split into two, user-friendly modes: Basic and Advanced. Both modes are user-selectable.

Utilizing the high output Ion Science 10.0 eV lamp configuration, a reading for total aromatic compounds (TACs) is seen immediately on start-up. Should aromatics be detected, an Ion Science benzene pre-filter tube can be easily attached to ensure rapid detection and selective measurement of benzene. Tiger Select can also provide 15 minute short term exposure limits (STELs) and 8 hour time weighted averages (TWAs) for TACs.

Throughout the measurement process, Tiger Select continues to display real time data, ensuring the final reading represents the full value of actual benzene present. Benzene concentrations are displayed down to ppb levels, giving you the most accurate, reliable data you can count on.

In addition, the unique MiniPID 2 sensor incorporates both anti-contamination technology and Fence Electrode technology for extended operation in difficult working environments.

Tiger Select can also be used in standard operational mode without the use of a benzene pre-filter tube to deliver active indications of volatile organic compounds (VOCs), including benzene at concentrations as low as 1 ppb benzene equivalent.

Additionally, Tiger Select may be used alongside the Cub TAC personal PID monitor to provide the ultimate solution for benzene detection. Visit www.ionscience/cub for more details.

Applications Include

- Confined space entry pre-screening during refinery and plant maintenance screening during refinery and plant maintenance
- Marine spill response
- Refinery down-stream monitoring
- Hazardous material response
- Total Aromatic Compounds (TAC) detection at loading docks and barge operations



TIGER SELECT

Technical Specifications

MINIMUM RESOLUTION

Select ppm

- Standard running mode 0.1 ppm
- TAC 0.01 ppm
- Tube mode 0.001 ppm

MINIMUM RESOLUTION

Select ppb

- Standard running mode 0.001 ppm
- TAC 0.001 ppm
- Tube mode 0.001 ppm

MAXIMUM READING

- Standard mode 20,000 ppm or 20,000 mg/m³ (gas dependent)
- Tube mode 200 ppm or 639 mg/m³ benzene

RESPONSE TIME

- 120 seconds. Progressive indication of benzene breakthrough is displayed in real time

ACCURACY

- 10% display reading one digit benzene

LINEARITY

- 5% display reading one digit

INTRINSICALLY SAFE APPROVALS

- II 1G Ex ia IIC T4 Ga
- Tamb = - 15 °C ≤ Ta ≤ +45 °C (with lithium ion battery pack)
- Tamb = - 15 °C ≤ Ta ≤ +45 °C

(with alkaline battery pack)

- ITS09ATEX26890X
- IECEx ITS 10.0036X
- 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, charge time 6.5 hours
- Alkaline: 3 x AA, typically 8.5 hours life

LAMPS

- 10.0 eV Krypton PID lamp

DATA LOGGING

- > 120,000 data log points including date and time stamp

COMMUNICATION

- Direct USB 1.1

CALIBRATION

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

ALARM

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

FLOW RATE

- ≥ 220 ml/min

TEMPERATURE

- Operating: -20 to 60 °C, -4 to 140 °F (non Intrinsically Safe)
- Humidity: 0-99% RH (non condensing)

PROTECTION

- Designed to IP65 (heavy rain)
- 1180
- EMC tested to EN61326-1:2006, EN50270:2006 & CFR 47:2008 Class A

WEIGHT & DIMENSIONS

- Instrument (probe fitted, no tube attached)
- Height: 465 x Width: 89 x Depth: 61 mm (18.3 x 3.5 x 2.4")
- Instrument weight: 0.75 kg
- Standard case
- Packed weight: 5 kg (176 oz)

Included in Tiger Select Kit

- Tiger Select Instrument with rubber boot
- Rechargeable Battery (Li-ion)
- Battery Charger
- Mains Adaptor
- Probe Tube (60mm)
- Benzene Pre-filter Tube Probe
- Ion Science Benzene Pre-filter Tubes x 10
- Draeger Benzene Pre-filter Tube Opener
- Rugged Case
- Carbon Zero Filter Assembly
- Calibration Adaptor
- PTFE Filter Discs
- Removal Tool MiniPID Stack
- PID Lamp Cleaning Kit
- Lanyard
- USB Cable



Tiger Select Instruments	Description
PTXSLBMP-0517	Tiger Select - PPM / H&S / Data Logging
PTXSLBMP-0519	Tiger Select - PPB / H&S / Data Logging

Tiger Select Tubes	Description
861614	Ion Science Benzene Pre-Filter Tube (pack of 10)
A-861626	Ion Science Benzene Pre-Filter Tube (10 packs of 10)
A-861627	Ion Science Benzene Pre-Filter Tube (50 packs of 10)

* Requires registration on line at www.ionscience.com/customer-support/instrument-registration



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TIGER ACCESSORIES

Batteries, Chargers, Comms	Description	Tiger LT	Tiger	Tiger Select
1/JAWU-01	2.1mm DC Jack- Cigar Lighter Plug Tiger Car Charger Lead	✓	✓	✓
1/VS-22	Mains Adaptor with Multiple Plug Adaptors	✓	✓	✓
	NOTE. Connects to battery charger cradle A-861220			
A-861220	Tiger Battery Charger Cradle	✓	✓	✓
A-861240	Tiger Rechargeable Battery Assembly	✓	✓	✓
A-861241	AA Battery Pack Assembly	✓	✓	✓
A-861511	Tiger Docking Plate and Charger	✓	✓	✓
861230	USB Cable - Angled B Connector	✓	✓	✓
A-861546	Tiger USB - RS232 Converter	✓	✓	✓

Boxes and Cases	Description	Tiger LT	Tiger	Tiger Select
861629	Rugged Case	✓	✓	✓
A-880205	Techno Case- Tiger LT	✓	✓	✓
861266	Leather Instrument Holster (Belt strap and holder allows hands free operation)	✓	✓	✓
861412	Leather Instrument Harness	✓	✓	✓
861235	Lanyard	✓	✓	✓
861245	Charger Support Strap	✓	✓	✓
861205	Protective, Removable Rubber Boot	✓	✓	✓

Filters and Probes	Description	Tiger LT	Tiger	Tiger Select
861579	Tiger Filter Clamp (2017 on)	✓	✓	✓
861642	Flexi Probe 1m	✓	✓	✓
880202	Tiger Probe Seal (2016 on)	✓	✓	✓
880207	Tiger Inlet Nozzle	✓	✓	✓
A-880210	Tiger Probe Upgrade Kit, 2016 Design	✓	✓	✓
A-880214	Tiger Probe (pack of 5) 2016 Design	✓	✓	✓
A-880216	Tiger Probe Seals (pack of 10) 2016 Design	✓	✓	✓
861476	Calibration Adaptor	✓	✓	✓
A-31057	Carbon Filter Assembly	✓	✓	✓
A-861482	Exhaust Barb for Tiger	✓	✓	✓
A-861406	Flexible Probe	✓	✓	✓
A-861413	5m Extension Hose	✓	✓	✓
A-861414	10m Extension Hose	✓	✓	✓
A-861624	Tiger Range Maintenance Kit: Filters PTFE x 5, Filter Clamp x 1, Probe Seal x 1	✓	✓	✓
A-861625	Tiger Range Maintenance Kit: Filters PTFE x 25, Filter Clamp x 5, Probe Seal x 5	✓	✓	✓
A-861441	PTFE Filter Discs (pack of 100)	✓	✓	✓
A-861472	PTFE Filter Discs (pack of 10)	✓	✓	✓
861218	Filter Housing Cap	✓	✓	✓
5/OV-02	O-Ring Viton 25ID x 2 Sect	✓	✓	✓

TIGER ACCESSORIES CONT.

Sensors and Access.	Description	Tiger LT	Tiger	Tiger Select
A-846417	Electrode Stack 10.0eV (white with gold dot)		✓	✓
A-846267	Electrode Stack (White)		✓	
A-846496	Electrode Stack (Orange)	✓		
LA4TM600	10.6 eV Lamp	✓	✓	✓
LA4SM700	MiniPID Lamp 11.7 eV		✓	
MP6SX6BXU2	MiniPID2 6-Pin 10.6eV		✓	
MP6SX66XU2	MiniPID2 H-PPM 6-Pin 10.6eV	✓		
MP6SX7BXU2	MiniPID2 6-Pin 11.7eV		✓	
846600	MiniPID Lamp Spring	✓	✓	✓
846216	MiniPID Electrode Stack Removal Tool	✓	✓	✓
A-861259	Sensor Cover Assembly	✓	✓	✓
861234	Sensor Cover Screw	✓	✓	✓
A-861214	Sensor Seal Coated	✓	✓	✓

Miscellaneous Access.	Description	Tiger LT	Tiger	Tiger Select
A-861268	Software USB Stick - Tiger Range		✓	✓
4/GB-01	Gas Bubbler NO DISCOUNT	✓	✓	✓
A-861267	Tiger Accessory Box	✓	✓	
A-880204	Tiger LT Accessory Box	✓		
A-31063	PID Lamp Cleaning Kit	✓	✓	✓

Tiger Select Access.	Description	Tiger LT	Tiger	Tiger Select
861614	Ion Science Benzene Pre-Filter Tube (pack of 10)			✓
A-861626	Ion Science Benzene Pre-Filter Tube (10 packs of 10)			✓
A-861627	Ion Science Benzene Pre-Filter Tube (50 packs of 10)			✓
5/FD-02	Tube Opener NO DISCOUNT			✓
A-880209	Tube Holder Assembly			✓
A-861498	Tiger Select Accessory Box			✓
861523	Tiger Select Inlet Nozzle			✓

Firmware Upgrades	Description	Tiger LT	Tiger	Tiger Select
861301	Tiger Firmware Upgrade - PPB Sensitivity		✓	✓

Calibration*	Description	Tiger LT	Tiger	Tiger Select
44ES-248-100	100 ppm Isobutylene Cal Gas in 44L Ecosmart Cylinder (C10)	✓	✓	✓
70-0.5	0.5 LPM Fixed Flow Regulator with C-10 Fitting	✓	✓	✓
75-DFR	Demand Flow Regulator with C-10 Fitting	✓	✓	✓
73-PBR	Push Button Regulator	✓	✓	✓
EB-248-100	Ecobump 100ppm Isobutylene, Balance Air	✓	✓	✓

* See calibration page for more options (page 24)



TIGER MULTI ADAPTERS

Probe Access.	Description
TIG-0002	MultiAdapter with Flexible Probe Extension 300 mm
TIG-0003	MultiAdapter with Flexible Probe Extension Custom (100-1000 mm)
TIG-0004	MultiAdapter with Pipe Connector for Pipe 4/6 mm (ID/OD)
TIG-0005	MultiAdapter with Pipe Connector for Pipe 1.5/3 mm (ID/OD)
TIG-0006	MultiAdapter with Stäubli Quick Connector Kit
	NOTE. Included Coupler for Pipe 4/6 mm (ID/OD)
TIG-0008	Tiger Select Pipe Connection Kit
	NOTE. MultiAdapter with Stäubli Quick Connector Kit and Special Design Tube Holder with Stäubli Connector
TIG-0009	Quickcoupler for Tiger Exhaust Pipe Connector for 4/6 mm (ID/OD)
TIG-0013	Float Probe
TIG-0012	Borehole Probe (500-1500 mm)
TIG-012.5	Borehole Probe (1501-2500 mm)



TIG-0002



TIG-0004



TIG-0005



TIG-0006



TIG-0008



TIG-0009



TIG-0013



TIG-0012



CUB

PERSONAL VOC DETECTOR

Best available photoionization (PID) detection

- PID independently verified as best performing on the market
- Unrivalled 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)

Safety

- Fast (<13 seconds) response to hazardous gases & vapours
- Clear audio, visual and vibrating alarms
- Large LCD display for clear readings
- Longest battery life (16 hours)
- Meets ATEX, IECEx, North American and Canadian standards

Easy of Use

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

Low Cost Operation

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



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V2.3

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. Cub TAC 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.



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

Upgradeable ppb sensitivity can be purchased quickly and easily. Cub 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 anticontamination 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



Sensitivity

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

Accuracy

- +/- 5% display reading +/- one digit

Response

- <13 seconds (T90)

Approvals

US and Canadian approvals: Class I, II and III, Division I, Hazardous (Classified) Locations

Battery

- Battery life up to 16 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 86 dB @ 300mm Pre-programmed TWA & STEL. Work exposure alarm levels on all models.

Temperature

- ATEX/IECEX: II 2G Ex d II B+H2 T4 Gb (-20 °C to +55 °C)

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)

Cub Kits with Docking Stations	Description
CKPSXCAX-CH	Cub PPM (0.1 - 5000ppm) + Charge Dock
CKPSXCAX-WD	Cub PPM (0.1 - 5000ppm) + Data Dock
CKPSXCAX-WC	Cub PPM (0.1 - 5000 ppm) + Calibration Dock
CKBXCAX-CH	Cub PPB (1ppb - 5000ppm) + Charge Dock
CKBXCAX-WD	Cub PPB (1ppb - 5000ppm) + Data Dock
CKBXCAX-WC	Cub PPB (1ppb - 5000ppm) + Calibration Dock
CKTSCAX-CH	Cub TAC (10ppb - 5000ppm) + Charge Dock
CKTSCAX-WD	Cub TAC (10ppb - 5000ppm) + Data Dock
CKTSCAX-WC	Cub TAC (10ppb - 5000ppm) + Calibration Dock

Cub Instruments Only	Description
TCPSXCXX-X	Cub PPM (0.1 - 5000 ppm)
TCBXCXX-X	Cub PPB (1 ppb - 5000 ppm)
TCTXCXX-X	Cub TAC (10 ppb - 5000 ppm)

Chargers/ Docking Stations Only	Description
CDSSXCAX-X	Cub Charge Docking Station
CDDXCAX-X	Cub Data Docking Station
CDASXCAX-X	Cub Calibration Docking Station

Upgrade Options	Description
CUBUPG-M2B	Software Upgrade PPM to PPB

* Model dependant



Sensors and Access.	Description
A-846267	Electrode Stack (White)
A-846417	Electrode Stack 10.0eV (white with gold dot)
LA4TM600	10.6 eV Lamp
MP6SX6BXU2	MiniPID2 6-Pin 10.6eV
MP6SX60XU2	MiniPID2 6-Pin 10.0eV
846216	MiniPID Electrode Stack Removal Tool
846600	MiniPID Lamp Spring

Filters	Description
871026	PTFE Filter Membrane
A-871027	Cub Cap
5/OO-108	O-Ring (cub sensor cap-external)
5/OO-110	O-Ring (cub sensor cap-internal)

Service & Calibration*	Description
A-871205	Cub Accessory Kit
871200	Calibration Cup
A-31063	PID Lamp Cleaning Kit
44ES-248-100	100 ppm Isobutylene Cal Gas in 44L Ecosmart
70-0.5	0.5 LPM Fixed Flow Regulator with C-10 Fitting
75-DFR	Demand Flow Regulator with C-10 Fitting

* See calibration page for more options (page 24)



CALIBRATION GAS



TIGER & TIGER LT instruments have space in the case for one cylinder 44L or 116L size. Tiger users would normally use 100ppm Isobutylene and 0.5 LPM regulator although the unit can be calibrated with any PIDable cal gas and with a 0.5 LPM or demand flow regulator.

TIGER SELECT users have more choices. The most popular cal gas is 5ppm Benzene for both the TAC and tube modes although some users like to calibrate the TAC mode with Isobutylene to reduce the benzene cal gas used. As with the Tiger the case has space for one 44L or 116L cylinder and you can use either a 0.5 LPM or demand flow regulator.

CUB units can be manually calibrated using a 0.5 LPM regulator and single gas mixture, PPM and PPB units are calibrated with 100ppm Isobutylene while TAC units are calibrated with 5ppm Benzene. If you have the calibration docking station you need an demand flow regulator. When using the docking station the 116L cylinder is preferred.



TITAN units must be used with an demand flow regulator and are normally calibrated with 5ppm Benzene. Due to the time a cal cycle takes it is advised to use the 116L cylinders.

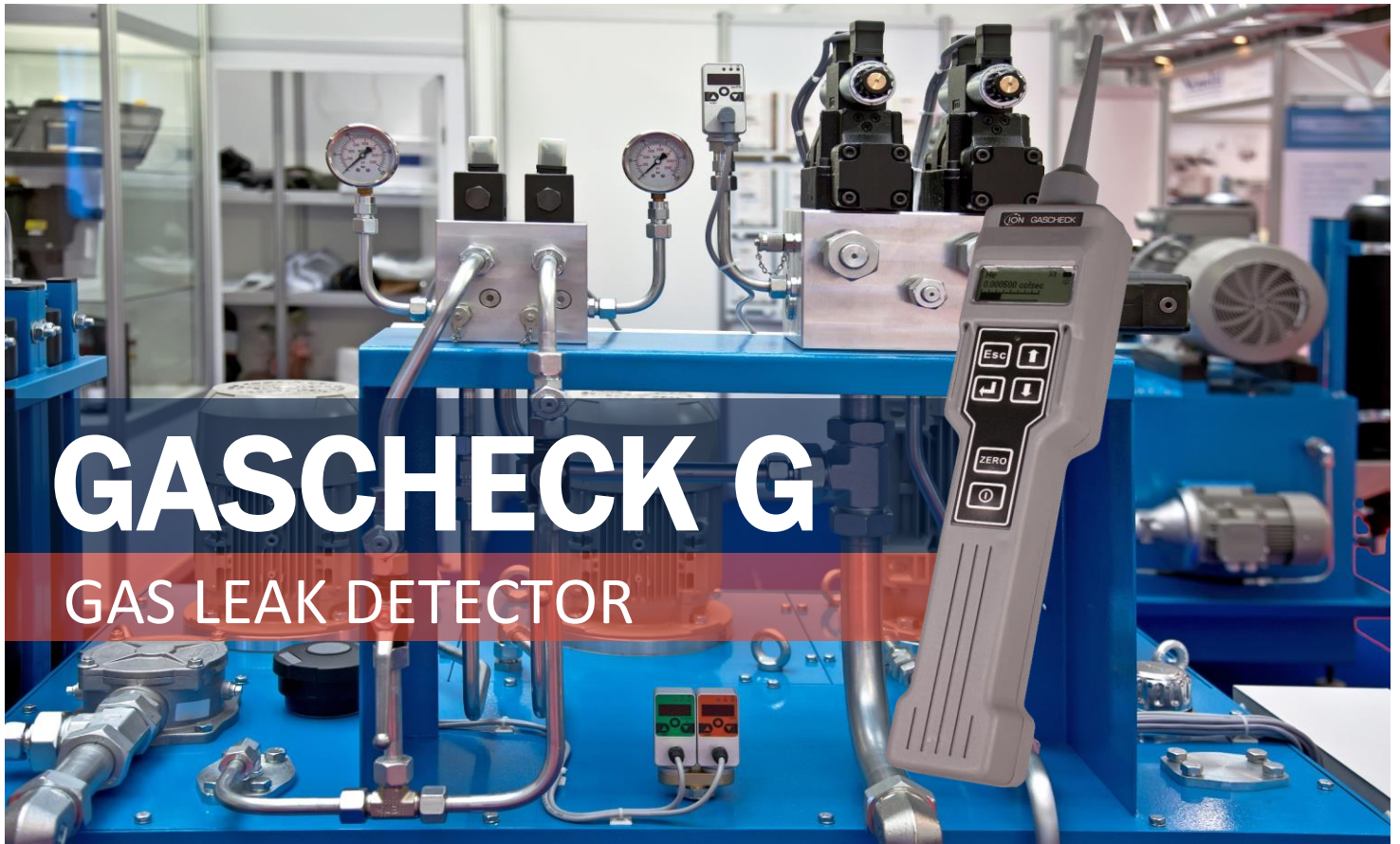
TVOC & FALCO units need 10ppm, 100ppm, or 1000ppm Isobutylene depending on the range being used. A non pumped setup should be calibrated with a 0.5 LPM regulator while a pumped configuration should use an demand flow regulator.

Calibration Gas	Description
44ES-21-5	5 ppm Benzene Cal Gas in 44L Ecosmart Cylinder (C10)
116ES-21-5	5 ppm Benzene Cal Gas in 116L Ecosmart Cylinder (C10)
44ES-248-10	10 ppm Isobutylene Cal Gas in 44L Ecosmart Cylinder (C10)
116ES-248-10	10 ppm Isobutylene Cal Gas in 116L Ecosmart Cylinder (C10)
44ES-248-100	100 ppm Isobutylene Cal Gas in 44L Ecosmart Cylinder (C10)
116ES-248-100	100 ppm Isobutylene Cal Gas in 116L Ecosmart Cylinder (C10)
EB-248-100	Ecobump 100ppm Isobutylene, Balance Air

Regulators	Description
75-DFR	Demand Flow Regulator with C-10 Fitting
70-0.5	0.5 LPM Fixed Flow Regulator with C-10 Fitting
73-PBR	Push Button Regulator

Carry Cases	Description
CC-17/34	Carrying Case for 17L to 66L Cylinders
CC-58-AL	Carrying Case for 58L to 116L Cylinders





GASCHECK G

GAS LEAK DETECTOR

Best Available Leak Detection

- Fast, accurate leak detection at highly sensitive levels
- Detects almost any known gas or gas mixture
- Particularly sensitive to ammonia, argon, butane, helium, hydrogen and SF6
- Reliable, stable, repeatable readings

Ease of Use

- Simple, one handed operation
- Large, clear LCD back lit display for easy viewing
- Graphical icon menu
- Conveniently calibrated against helium



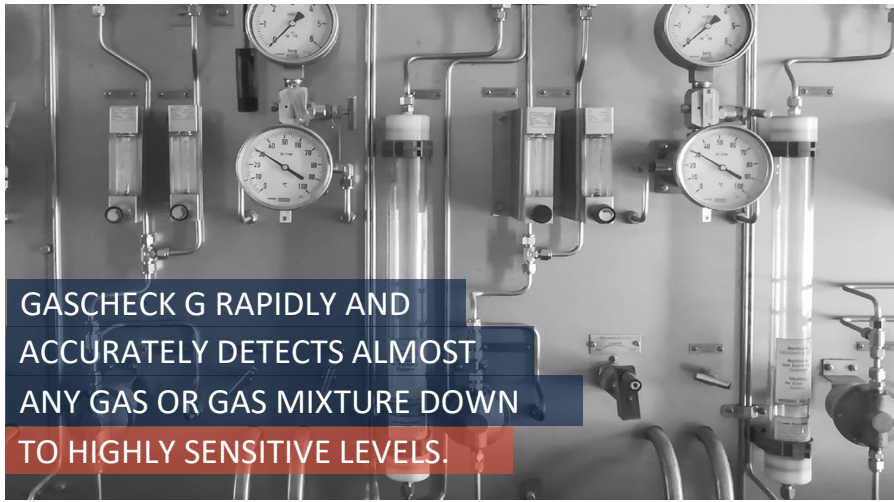
Flexibility

- Choice of readings in cc/sec, g/yr, mg/m3
- Easily upgradeable throughout the range

Low Cost Operation

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





GASCHECK G RAPIDLY AND ACCURATELY DETECTS ALMOST ANY GAS OR GAS MIXTURE DOWN TO HIGHLY SENSITIVE LEVELS.

Designed for the search and location of gas leaks, GasCheck G has an advanced micro thermal conductivity sensor for fast, effective detection of almost any gas or gas mixture.

Robust and reliable, GasCheck G provides stable, repeatable readings of the detected gas. The instrument's LCD display, LED indicator and audible sounder clearly indicate the leak present.

GasCheck G automatically zeros to the ambient air around it when switched on and is ready to detect immediately. The instrument's easy to use graphical interface and intuitive keypad allows simple function, selection and adjustment.

Upgradeable throughout the range, GasCheck G is available in three distinct versions; G1, G2 and G3 with varied capabilities. Features can be easily added to upgrade the instrument without it having to be returned to the factory.

Extend your instrument warranty

Your GasCheck G instrument warranty may be extended by simply registering your product on the Ion Science website within one month of purchase. Visit www.ionscience.com/instrument-registration to take advantage of this offer.

Applications include

- Industrial
- Quality Assurance
- Manufacturing
- Laboratory
- Medical
- Research

Summary of Gascheck Features	G1	G2	G3	Tesla
Rapid Qualitative Leak Detection	✓	✓	✓	✓
Gas Quantification Factors	0	1	20	20
Audible Alarms & Flashing Backlit Display	✓	✓	✓	✓
Peak Hold Readings	✓	✓	✓	✓
User Calibration Available	✓	✓	✓	✓
Data Logging Time Points	0	0	10	10
Unit Options of cc/sec, g/yr, ppm or mg/m ³	✓	✓	✓	✓
Selectable Battery Type	✓	✓	✓	✓
Upgradeable	✓	✓	✓	✓
Resistance to Strong Magnetic Fields	✓	✓	✓	✓



GASCHECK TESLA

GAS LEAK DETECTOR



Best Available Helium Leak Detection

- Operates effectively within a magnetic field
- Detects the smallest of leaks down to ultra-low levels
- Small internal flow rate provides maximum sensitivity
- Fast, accurate leak detection
- Reliable, stable, repeatable readings
- Choice of readings in cc/ sec, g/yr, mg/m³

Cost Saving

- Rapidly detects liquid helium leaks minimizing downtime
- Low cost alternative to expensive mass spectrometers
- Inexpensive consumables and parts
- 2 year warranty when instrument registered online

Ease of Use

- Simple, one handed operation
- Probe designed to get into the smallest of places
- Large, clear LCD back lit display for easy viewing of results
- Easy to use graphical icon menu

GasCheck Tesla is a highly sensitive helium leak detector designed for effective use within high magnetic fields found around the outside of Magnetic Resonance Imaging (MRI) scanners. The instrument's advanced micro thermal conductivity sensor provides rapid, accurate measurement of helium leaks down to ultra-low levels.

The instrument can be used on an MRI scanner whilst in operation, meaning interruptions to the machinery are avoided. Helium leaks are found quickly reducing cost, wastage and downtime of the machinery.



GasCheck Tesla provides a highly effective, low cost, easy to use alternative to expensive and cumbersome mass spectrometers. As well as being costly, mass spectrometers must be located outside the magnetic field and use long leak testing probes.

GasCheck Tesla provides stable, repeatable readings. The instrument's LCD display, LED indicator and audible sounder clearly indicate the helium leaks present. GasCheck Tesla automatically zeros to the ambient air around it when switched on, and is ready to detect immediately. The instrument's easy to use graphical interface and intuitive keypad allows simple function, selection and adjustment.

Handheld and portable, GasCheck Tesla provides simple one handed operation. The probe is designed to get into the smallest of places and is typically moved along a joint or weld seam a few centimeters per second, enabling fast detection of all possible leak paths.



ONLY HANDHELD HELIUM LEAK DETECTOR AVAILABLE TO OPERATE IN A HIGH MAGNETIC FIELD, DETECTING LEAKS AT ULTRA-LOW LEVELS.

GasCheck Tesla is an advancement of the existing GasCheck G leak detector. GasCheck G is capable of detecting almost any gas or gas mixture, and is particularly sensitive to ammonia, argon, butane, helium, hydrogen and SF6.

GasCheck G is available in three distinct versions; G1, G2 and G3 with varied capabilities and can be upgraded quickly and easily without being returned to the factory.

Extend your Instrument Warranty

The GasCheck Tesla instrument warranty may be extended by simply registering your product on the Ion Science website within one month of purchase. Visit www.ionscience.com/instrument-registration to take advantage of this offer.

Summary of Gascheck Features	G1	G2	G3	Tesla
Rapid Qualitative Leak Detection	✓	✓	✓	✓
Gas Quantification Factors	0	1	20	20
Audible Alarms & Flashing Backlit Display	✓	✓	✓	✓
Peak Hold Readings		✓	✓	✓
User Calibration Available		✓	✓	✓
Data Logging Time Points	0	0	10	10
Unit Options of cc/sec, g/yr, ppm or mg/m ³			✓	✓
Selectable Battery Type			✓	✓
Upgradeable	✓	✓		
Resistance to Strong Magnetic Fields				✓



DETECTOR

- Micro thermal conductivity detector (MTCDD)
- Sensor is poison resistant with over range protection

OPERATION

- Battery Type: 4 x alkaline AA size or NiMH (rechargeable)
- Typically 40 hours life

SENSITIVITY (CC/SEC)

- He 1 x 10⁻⁵, CH4 5 x 10⁻⁵, R12 5 x 10⁻⁵, Ar 1 x 10⁻⁴

ACCURACY

- + 5% Displayed reading One digit

RESPONSE

- T90 = 1 second rise and clear down

SOUND

- Flashing LED and 90 dBA (at 10 cm) audible sounder

CALIBRATION

- Factory calibrated to fully documented procedures in accordance with our ISO 9001:2008 Quality Management System

DATA LOGGING

- 10 data points (available for G3 only.)

TEMPERATURE

- Operating: 20 to +60 °C, -4 to 140 °F
- Storage: 20 to +70 °C, -4 to 158 °F
- Humidity: 0 to 99% RH (non-condensing)

FLOW RATE

- 2 cc/min

WEIGHT & DIMENSIONS

- Instrument with probe: 390 x 60 x 49 mm, 15.5 x 2.3 x 1.9"
- Case: 420 x 320 x 97 mm, 16.5 x 12.5 x 3.8"
- Instrument: 0.45 kg, 1 lb, Packed 1.6 kg, 3.5 lb

Included in all Gascheck Kits

- Gascheck Instrument
- Battery Holder
- Long Probe Assembly
- Drilled Box Spanner
- Standard Universal Case
- Printed Quick Start Guide



Gascheck	Description
GG1SAXXS-X	GasCheck G1
GG2SAXXS-X	GasCheck G2
GG3SAXXS-X	GasCheck G3
GGMSAXXS-X	GasCheck Tesla

Gascheck Access.	Description
08024CPC8	Nozzle Std Grey
1/BH-01	Battery Holder
A-08029	Drilled Box Spanner
A-08043	Short Probe Assembly
A-08045	Long Probe Assembly
A-21500	CalCheck Helium

Upgrade Options	Description
GGUP1-2	Software Upgrade of a GasCheck G1 to G2
GGUP1-3	Software Upgrade of a GasCheck G1 to G3
GGUP2-3	Software Upgrade of a GasCheck G2 to G3



The SF6 GasCheck 6000 is a low cost, easy to use, portable detector for the fast detection of SF6 leaks with automatic range shifting. It is supplied in a transport case with a 385mm Flexible Probe with a protective cap and water vapor filter, supplied with a multilingual User Manual.

Features

- Fast, accurate leak detection
- Audible alarm and LED bar graph display
- automatic compensation to ambient conditions
- Sensitivity of 1x10⁻⁶ mbar l/s
- Operating temperature -20 to +60° C
- Auto shift function

SF6 GC6000 Instrument	Description
SF6000	GasCheck 6000 Handheld Leak Detector

SF6 GC6000 Access.	Description
SF6000-SENS	Replacement Sensor for GasCheck 6000 Leak Detector

CALCHECKS & STANDARD LEAKS

Calibrators for Gas Leak Detectors



Gas leak detectors use standard calibrated leak (SCL) fittings for easy and reliable calibration. Gases include H₂, He, SF₆, Refrigerants, and any other non-corrosive gas. Standard systems give leaks of 5 x 10⁻⁴ cc/sec, but can be lowered to 5 x 10⁻⁸ cc/sec using lower concentration gas cylinders. SCL's are also sold separately to build into your own calibration system.

Calchecks	Description
A-21500	Cal Check Helium
A-21520	Cal Check SF ₆
A-21521	Cal Check Refrigerant
A-21522	Cal Check 5% Hydrogen / 95% Nitrogen

Calcheck Canisters	Description
5/BA-09	Cal Check Canister Helium
5/BA-15	Cal Check Canister 0.01% SF ₆
5/BA-10	Cal Check Canister 0.1% SF ₆
5/BA-11	Cal Check Canister 1.0% SF ₆
5/BA-12	Cal Check Canister 5% 134a
5/BA-14	Cal Check Canister 5% R404a
5/BA-18	Cal Check Canister 5% R410
5/BA-21	Cal Check Canister 5% H ₂ (Balance Nitrogen)
5/BA-26	Cal Check Canister 1% FM-200 (Balance Air)
5/BA-31	Cal Check Canister 5% R22 (Balance Air)

Quality leaks produced to your precise pressure and flow requirements with exceptional long term stability. Ion Science calibrated leaks are produced in order for a known leak to be presented to a test system. Should the leak be detected by your gas / leak detector at the correct value then the system is within calibration, giving you confidence in the accuracy of the instruments upon which you depend.



Features

- Calibrated using equipment traceable to National Standards
- Supplied in storage case with certificate of calibration
- Produced under ISO9001:2000 standards
- Made from stainless steel
- Corrosion and contamination resistant

Standard Leaks	Description
A-21045	Standard Leak Helium
A-21046	Standard Leak SF ₆
A-21048	Standard Leak Refrigerant
A-21049	Standard Leak Air
A-21059	Standard Leak 5% Hydrogen / 95% Nitrogen

Std Leak Calibration & Repair	Description
CAL SCL	Service & Calibration of Standard Cal Leaks



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V2.3



TVOC

FIXED VOC MONITOR

Best available photoionization (PID) detection

- PID independently verified as best performing on the market
- Range: 0 to 10, 0 to 100 or 0 to 1000 ppm from just one instrument
- In-built humidity resistance with no need to compensate
- Anti-contamination design for extended field operation
- Variable duty cycle prolongs run time
- Reliable diffusive monitoring - no pump required

Ease of Use

- Simple to use - minimal training required
- Easy access PID sensor for fast, simple servicing
- Simple calibration procedure
- Easily integrated into a control system

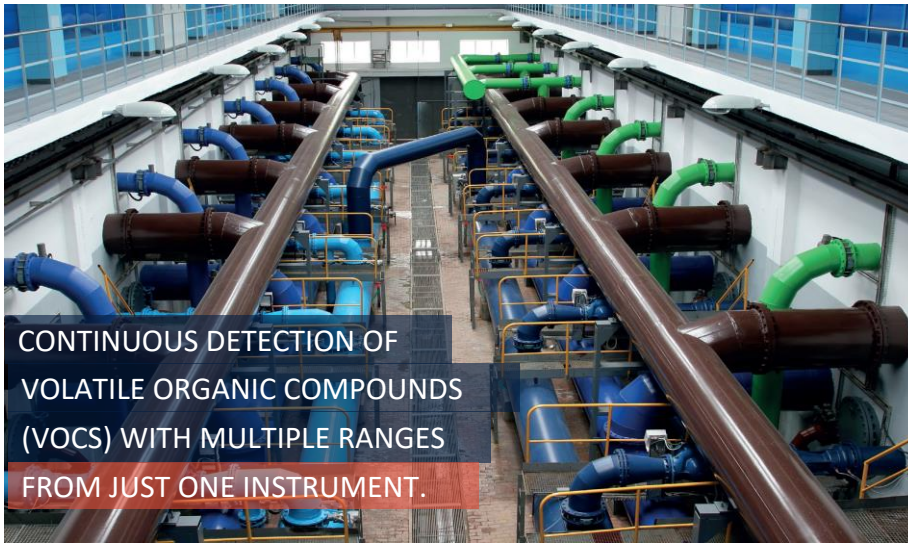
Safety

- Accurate results over all environmental conditions
- Rugged and robust design withstands harsh environments
- Large LCD display for clear readings
- ATEX and IECEx approved

Low Cost Operation

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





Applications Include

- Manufacturing
- Processing
- Offshore
- Refineries & Petrochemical
- Chemical
- Waste Water Treatment
- Pulp & Paper
- Pharmaceutical
- Indoor Air Quality
- Solvent Recovery Systems
- Industrial Painting & Coating

TVOC is a fixed photoionization detector (PID) for the continuous measurement of total volatile organic compounds (VOCs). TVOC accurately measures over three different detection ranges from just one instrument.

TVOC has a variable duty cycle set to 1 minute as standard. The user can adjust this between 5 seconds and 5 minutes.

TVOC utilizes a diffusive sample technique resulting in less contamination issues compared to pumped systems, reducing lamp cleaning and servicing requirements. The 4-20 mA analogue output enables TVOC to be integrated into a DCS control system to give warning or control of high VOC levels in the working environment.

ATEX approvals enable a 3 wire TVOC system to be used in Zone 2 hazardous areas, without safety barriers. ATEX and IECEx approvals allow TVOC to be used in Zone 1 hazardous areas, with safety barriers.

Simple to install, service and calibrate, TVOC requires no hot work permit and the PID sensor is accessible and changeable in a matter of seconds.

TVOC SystemPlus comes complete with a pumped sample system for applications where a sample needs to be drawn to the unit from as far away as 30 meters. SystemPlus incorporates a TVOC unit together with pump, sample preconditioning with flow cut off switch, optional USB data logger and power supply all contained in a water proof housing.

Extend your instrument warranty

Your TVOC instrument warranty may be extended by simply registering your product on the Ion Science website within one month of purchase. Visit www.ionscience.com/instrument-registration to take advantage of this offer.



TVOC

Technical Specifications

SENSOR (PID)

- 10.6 eV lamp with Ion Science patented Fence Electrode Technology*

HAZARDOUS AREA

SAFETY APPROVALS

- ATEX: II 3 G Ex nA IIC T4 (-40°C ≤ Ta ≤ 50°C)
- ATEX / IECEx: II 2 G EEx ia IIC T4 (-20°C ≤ Ta ≤ 50°C)

INGRESS PROTECTION RATING

- Designed to IP65
- Dependent on cable glands fitted sensor to IP53

POWER

- 5-28 VDC Max 65 mA

OUTPUT

- 4-20 mA requires a 8-35 VDC power supply
- For IS requirements 8-30 VDC power supply

RANGE

- 0 to 10 ppm, 0 to 100 ppm, 0 to 1000 ppm (user selectable)

SAMPLING

- Diffusion (can be pumped if required using an adaptor)

DISPLAY

- 7 segment, 4 digit LCD, 4 color LEDs

RESPONSE

- Sensor - T90 < 5 sec**

ACCURACY

- 0 to 100 ppm : +/- 2% or +/- 1 ppm (whichever is greater)
- 100 to 1000 ppm: +/- 10%

LINEARITY

- 0 to 1000 ppm: >75%

CALIBRATION

- Magnetically accessed
- 100 ppm Isobutylene via calibration kit accessory

TEMPERATURE

- Operating: -20 to 50 °C (-4 - 122 °F) Humidity: 0-95% RH
- (non- condensing)

WEIGHT & DIMENSIONS

- Instrument: 1.4 kg (3.1 lb)
- Packed: 1.6 kg (3.5 lb)
- Dimensions: 188 x 126 x 78 mm (7.4 x 4.9 x 3")

4-20 MA ALARM LEVELS

- Selectable 2 mA & 3.5 mA options

TVOC Instrument	Description
TVOSXBMX-X	TVOC Fixed PID Detector (ATEX Approved)
TVESXBXX-X	System+ Environmental Monitor with PSU + Lower Input glands

TVOC Access	Description
1/EA-2	Electrode Stack PID Sensor (pack of 2)
1/EO-2	TVOC PID Sensor (includes lamp and electrode stack)
849217	TVOC Fixed Cal Adaptor
A-849246	TVOC Flow Adaptor
116ES-248-100	100 ppm Isobutylene Cal Gas in 116L Ecosmart Cylinder (C10)
70-0.5	0.5 LPM Fixed Flow Regulator with C-10 Fitting
A-833227	Mini Lamp for TVOC
A-849209	TVOC Calibration Adaptor
A-849214	TVOC Tool Kit
A-849219	TVOC Calibration Magnet
A-849221	Hand Aspirator (Cal Zero)



TVOC Tool Kit
A-849214



MVI

MERCURY DETECTOR

Best Available Detection

- Fast 3 second response
- Highly accurate
- Range: 0.1 - 200 & 1.0 - 1999 microgram / cubic meter
- Fast indication and recovery

Minimal Downtime

- No saturation, no regeneration - eliminates downtime
- Ready to detect within minutes
- Continuous 5 1/2 hour operation

Convenience

- Large, clear digital display
- Portable simple one handed operation
- Easy to use - minimal training required
- Robust and withstands harsh environments
- Audible alarm gives clear indication of mercury vapors

Low Cost Operation

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

The Mercury Vapour Indicator (MVI) is a revolutionary instrument accurately detecting hazardous mercury vapours in just 3 seconds! The instrument's unique advantage is its dual beam UV absorption technology and ability to measure high concentrations of mercury without saturating; requiring no regeneration between readings, eliminating downtime.

Fast and accurate, MVI gives a real time response and is ready to detect in minutes. MVI provides continuous readings and offers two detection ranges: 0.1 to 200 and 1.0 to 1999 microgram/cubic meter, ideal for time weighted average (TWA) monitoring.

MVI is a portable mercury vapour detector that utilizes a high performance pump for fast indication and recovery. The instrument's audible alarm and large digital display clearly indicate the levels of mercury present.

Ergonomically designed with simple, one handed operation MVI is the ideal survey unit for rapid and accurate mercury detection, screening for mercury spills and monitoring for exposure limits.



**ACCURATELY DETECT MERCURY VAPOURS
IN JUST 3 SECONDS. MVI DOES NOT
SATURATE OR NEED REGENERATING
ELIMINATING INSTRUMENT DOWNTIME.**

Service and Calibration

MVI requires annual calibration to maintain best accuracy, instrument performance, and to maintain its extended warranty. Contact Ion Science or a local service centre for more information.

Applications Include

- Manufacturing
- Recycling
- Fluorescent Lamp Reprocessing Plants
- Mining
- Petroleum
- Hydrocarbon
- Refining
- Bioremediation

Extend your instrument warranty

Your MVI instrument warranty may be extended by simply registering your product on the Ion Science website within one month of purchase. Visit www.ionscience.com/instrument-registration to take advantage of this offer.



DETECTOR

- Dual Beam Ultraviolet Absorption Module

ACCURACY

- ± 5 micrograms or $\pm 10\%$ reading

OPERATION

- After warm up MVI gives real time mercury vapour concentrations

ALARM

- Audible Alarm Factory pre-set to 20 microgram/cubic meter

INSTRUMENT RANGE

- 0.1 to 200 and 1.0 to 1999 microgram.cubic meter

TEMPERATURE

- 10 °C to 50 °C

WEIGHT & DIMENSIONS

- 6 lbs 10 oz (3Kgs)
- 145 x 295 x 80 mm

REPEATABILITY

- $\pm 5\%$ FSD @ 1 g/m3

BATTERIES

- NiMH - last up to 5 1/2 hours from full charge

POWER

- NiMH

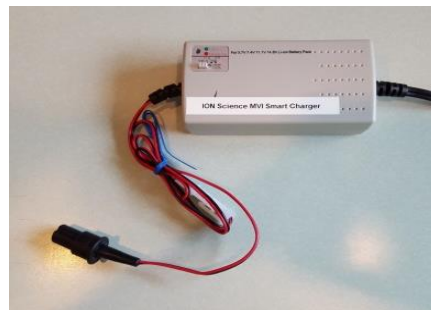
RESPONSE

- 3 seconds



MVI Instrument	Description
MVSSRXMP-X	MVI in Case

MVI Access.	Description
A-869204	MVI Data Logger Assembly
4/JLF-03	Water Trap Filter PTFE 1.0microM
A-26007	Probe + pk 10 Water Trap Filters
A-26017	5 Probe + pk 50 Water Trap Filters
A-26220	MVI 24V 6 Way Power Supply Assembly
A-31057	Carbon Filter Assembly
MVI Smart Charger	Upgrade a New or Existing MVI with Smart Charger



MVI Smart Charger



SF6 P1:P

SF6 LEAK DETECTOR

Best Available SF6 Leak Detection

- Ultra high sensitivity with a 1×10^{-8} ml/sec*
- Award winning Negative Ion Capture (NIC) technology
- 1 second rise and clear down for rapid leak detection
- Unaffected by large leaks and 100% SF6 meaning no frustrating delays between searches
- Choice of display units cc/ sec, gm/yr and ppm for monitoring conformance to leak minimization targets

Ease of Use

- Non radioactive source for easy storage and transportation
- No training required - switch on and go
- Lightweight, ergonomically designed handgun
- Touch screen for easy navigation menus
- Simple data storage and printing for analysis

Low Cost

- No argon or other pressurized gases required for reduced cost of ownership
- 2 year warranty when instrument registered online

*Higsense option



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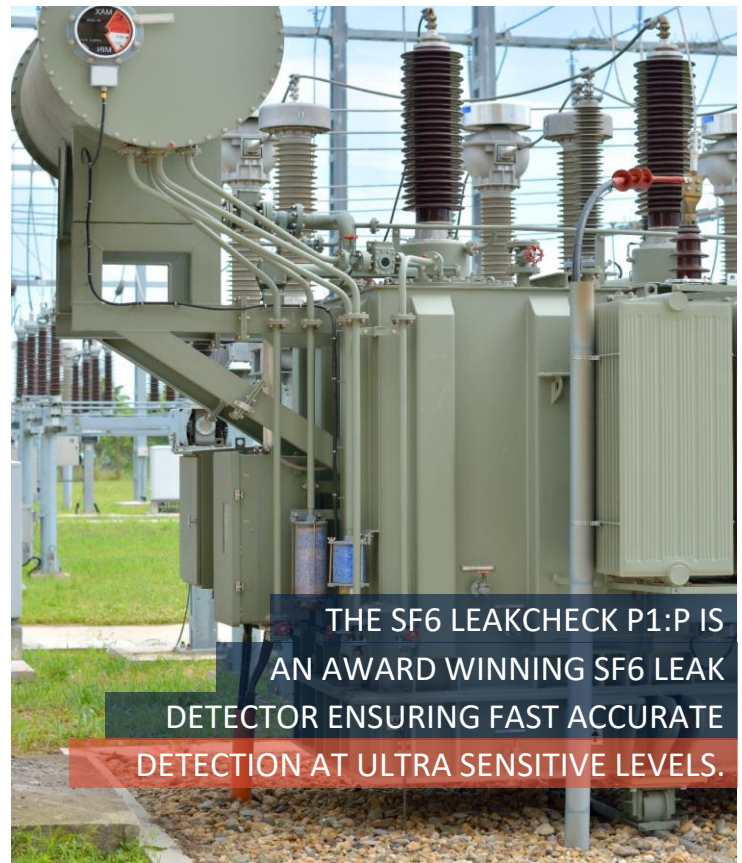
SF6 LeakCheck P1:p is a revolution in SF6 leak detection, ensuring incredibly fast searching at ultra sensitive levels. Even the smallest of leaks can be detected and located swiftly with a minimum detection level of 1×10^{-7} ml/sec or optional 1×10^{-8} ml/sec, equivalent to a grain of rice per year!

Designed for SF6 gas leak testing and measurement in high voltage electrical SF6 switchgear, the instrument also detects other gases with a high affinity for electrons, such as refrigerant R12.

A unique advantage of the instrument is that it is unaffected by exposure to large leaks. Even after saturation or exposure to leaks of 100%, clear down remains rapid (<1s). The SF6 gas leak detector also benefits from having a non-radioactive source, eliminating registration, storage and transportation issues found with traditional radioactive ECD SF6 gas leak detectors.

Additional features of the SF6 gas leak detector include data-logging, alarms; both audio and visual, and a robust portable case. The instrument requires no consumables, such as Argon, reducing the ongoing costs of operation. There are no items requiring maintenance or service in the handgun or console.

The P1:p SF6 gas leak detector meets the demands for quality and traceability to international standards as required by today's industry. It is designed for the location, leak testing and measurement of SF6 leaks in high voltage electrical switchgear.



THE SF6 LEAKCHECK P1:P IS
AN AWARD WINNING SF6 LEAK
DETECTOR ENSURING FAST ACCURATE
DETECTION AT ULTRA SENSITIVE LEVELS.

The instrument's award winning Negative Ion Capture (NIC) technology with non-radioactive source eliminates problems of registration, storage and transportation.

Extend your instrument warranty

Your SF6 P1:p instrument warranty may be extended by simply registering your product on the Ion Science website within one month of purchase. Visit www.ionscience.com/instrument-registration to take advantage of this offer.

Applications Include

- SF6 leak testing and measurement in high voltage switchgear (GIS)
- Breathing apparatus testing Medical device testing
- Leak integrity testing on medical, refrigeration and air conditioning equipment containing SF6 and (H)CFCs



SF6 Leakcheck P1:p

Technical Specifications

MEASUREMENT PRINCIPLE

- Negative Ion Capture (NIC): a non-radioactive, nonrestricting carriage and
- no licensing required.

SENSITIVITY

- Standard SF6 GasCheck P1 and LeakCheck P1:p
- 1 x 10⁻⁷ ml/sec, 1 ppm, 0.01 gm/yr SF6
- Highsense option
- 1 x 10⁻⁸ ml/sec, 0.1 ppm, 0.001 gm/yr SF6

RESPONSE

- T90 = < 1 second rise and clear down

OPERATION

- Lead acid battery, internal and fully protected
- Recharge between 85-265 AC V, 50/60Hz

ALARM

- Audio and visual with an optional handset alarm

MEASUREMENT UNITS

- Measures in ml/sec, gm/yr and ppm
- Range: each unit 1:500
- Accuracy: ± 5% of displayed leak rate or ± 2 digits
- Repeatability: ± 1 digit

CALIBRATION

- Via CalCheck calibration accessory

DATA LOGGING

- Over 500 data points with date and time stamp
- Download via RS232 to a PC

TEMPERATURE

- Storage: -10 to 60 °C (14 to 140 °F)
- Operating: 0 to 50 °C (32 to 122 °F)

DIMENSIONS

- SF6 LeakCheck P1:p
- Consol: 500 x 400 x 190 mm (19.7 x 15.7 x 7.5")
- Shipped: 520 x 430 x 210 mm (20.5 x 16.9 x 8.3")

WEIGHT

- SF6 LeakCheck P1:p
- Shipped 15 kg (33 lb)



SF6 Portable	Description
LCP1-p HS	Leakcheck P1:p Hi Sens Option

SF6 Portable Access.	Description
P1-100-0000	Spare Probe Complete with Filter and Stainless Steel Tips
P1-100-0021	P1 Front Filter PES (Pack of 10)
P1-100-0004	Standard Probe Tip
EXTEND 300	300mm Probe Tip Extender
EXTEND 500	500mm Probe Tip Extender
P1-100-0011	SF6 Hose Filter Pack of 10
EXTEND 5	5m Extension Hose for SF6 P1p
EXTEND 10	10m Extension Hose for SF6 P1p
EXTEND 15	15m Extension Hose for SF6 P1p
P1-100-0013	O-ring for All Lemo Connectors (Pack 10)
A-21520	Cal Check SF6
5/BA-15	Cal Check Canister 0.01% SF6
5/BA-10	Cal Check Canister 0.1% SF6
5/BA-11	Cal Check Canister 1.0% SF6

SF6 Portable Calibration & Repair	Description
SF6 Refurbish	Refurbish Complete Sensorhead



SF6 AREACHECK P2

FIXED SF6 DETECTOR



Best proven SF6 leak detection

- Award winning Negative Ion Capture (NIC) technology
- Fast, accurate detection down to highly sensitive levels
- No cross sensitivity with other gases or moisture in air

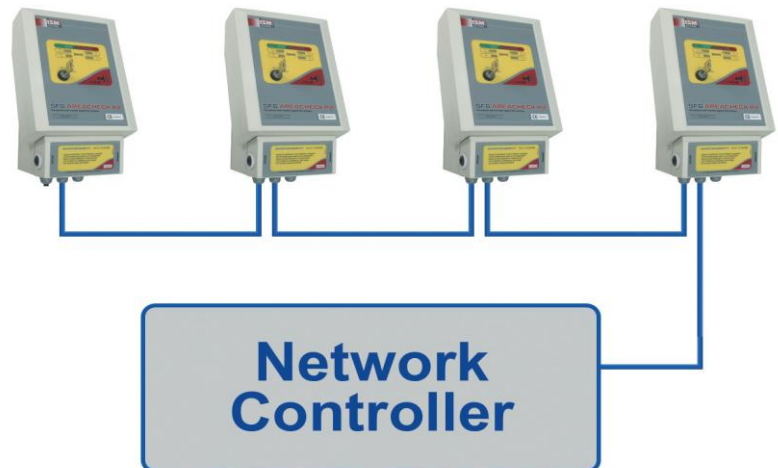
Safety

- Relay output for immediate awareness of leaks detected
- Audio and visual alarms provide clear indication of SF6 leaks
- Complete safe set up via PC or the Network Interface protects from unauthorised access
- Built in low flow alarm and diagnostics test*

*will alarm due to mechanical failures

Flexibility

- Can be used on an RS485 network, it also outputs RS232 and has relay outputs for standalone functionality
- Exchangeable SmartSensor (12 month lifetime)
- Maintenance free operation



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Stafford, TX 77477
Unrivaled Gas Detect**ion**



DESIGNED FOR CONTINUOUS SF6 AREA MONITORING, THE AREACHECK P2 RAPIDLY DETECTS LOW-LEVEL SF6 LEAKS PROTECTING WORKERS AND THE ENVIRONMENT.

Designed for fixed continuous SF6 area monitoring, the AreaCheck P2 rapidly detects low-level SF6 leaks. AreaCheck P2 utilizes relay output for immediate awareness of detected leaks, and presents no cross sensitivity with any other gas or moisture in the air.

Instrument setup is carried out easily via a computer or network interface, allowing optimal protection from unauthorized access. The SF6 AreaCheck P2 has a built-in low flow alarm and self-diagnostic testing.

The instrument's serviceable components are comprised in the user exchangeable SmartSensor, with a lifetime of up to 12 months. Measuring stations are maintenance-free, ensuring instrument downtime is minimized.

AreaCheck P2 has no filter problems due to its minimum air intake (compared to pump operated systems).

Can be used on an RS485 network, it also outputs RS232 and has relay outputs for standalone functionality.

Why monitor SF6?

The award winning technology of the SF6 AreaCheck P2 can rapidly detect low level SF6 leaks ensuring worker safety, help protect the environment, and save costs.

Suffocation Risk

SF6 is a colorless, odorless gas that can easily go undetected by workers and create a suffocation risk. SF6 has a Maximum Allowable Concentration (MAC) of 1000 ppm.

Harmful to the Environment

SF6 is a greenhouse gas and leakages are extremely harmful to the environment. SF6 leaks have been targeted for reduction under the Kyoto Protocol.

Expensive

An expensive gas, SF6 leakages from indoor gas insulated switchgear (GIS) are very costly.

Applications Include

- SF6 leak testing and measurement in high voltage switchgear (GIS)
- Leak integrity testing on medical, refrigeration and air conditioning equipment containing SF6 and (H)CFCs
- Breathing apparatus testing
- Medical device testing



SF6 Areacheck P2

Technical Specifications

DETECTION PRINCIPLE

- SF6: NIC

RANGE

- 0 - 2000 ppm SF6

RESOLUTION

- 500 ppm SF6 /10 ppm

MAINS POWER

- 100 - 240 VAC, 50/60 Hz

POWER CONSUMPTION

- 18VA

OPERATING TEMPERATURE

- -5°C to 45°C

STORAGE TEMPERATURE

- -20°C to 60°C

OPERATING HUMIDITY RANGE

- 10 - 90% non condensing

MAX LOAD, RELAY OUTPUT

- 2.5A / 230 VAC

SIZE

- H 280 x B 165 x T 125 mm

PROTECTION CLASS

- IP 52

NOISE LEVEL OF AUDIBLE ALARM

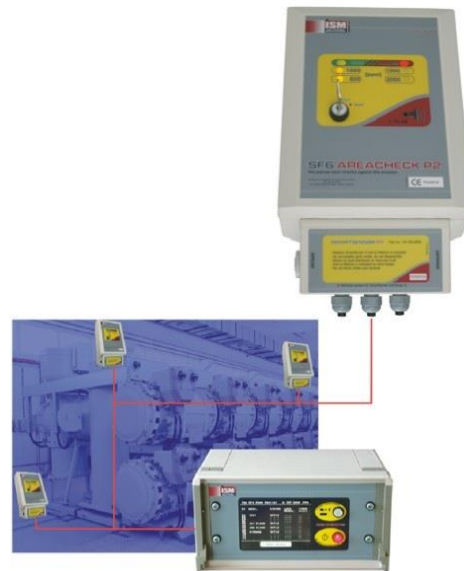
- > 75 dbA, 1m

WEIGHT

- 1,5 Kg (w/o wall mounting bracket)

FUSE

- T 1A (Slow Blow)



SF6 AreaCheck P2	Description
ACP2	SF6 Areacheck P2

SF6 AreaCheck P2 Access	Description
P2-100-0006	AreaCheck Replacement Sensor
P2 Program Cable	AreaCheck P2 Programming Cable

SF6 AreaCheck P2 Repair	Description
P2AC Exchange Sensor	Area Check Exchange Sensor



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Unrivaled Gas Detection

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V2.3

Gas Sampling Bulbs are designed for sampling out of natural gas pipelines, and especially useful for measuring water vapor. The 3 and 3.5 inch bulb connects to a valve on the pipeline via a 1/4 inch male pipe-threaded Swagelok® fitting. The bulb is flushed with gas and the gas is then sampled by inserting the detection tube through the holes in the side of the bulb.



Gas Sampling Bulbs	Description	
FD00-01-BULBS	Stainless Steel Sampler Bulb w/ 1/4" male NPT, 3" Diameter	
FD00-01-BULBS2	Stainless Steel Sampler Bulb w/ 1/4" male NPT, 3.5" Diameter	