

Much more than a personal safety monitor

Detecting VOC's from ppb to 10,000 ppm, plus O₂, CO, H₂S and LEL sensors



The first multigas detector to include a reliable PID for unrivalled toxic and combustible gas detection

Applications include:

- First response
- Confined space entry
- HazMat
- Industrial
- Leak detection / fugitive emissions

Detection levels:

- VOC's 0.1 – 10,000 ppm
 1 ppb – 10,000 ppm
- O₂ 0 – 28%
- CO 1 – 1000 ppm
- H₂S 0.1 – 100 ppm
- LEL 0 – 100% LEL

FIRSTCHECK™

FirstCheck 4000

- much more than a personal safety monitor

FirstCheck 4000 combines Ion Science Ltd's patented fence electrode PID technology for the detection of VOCs from 0.1 – 10,000 ppm with O₂, CO, H₂S and LEL detection. FirstCheck 4000 is ATEX approved and includes an inbuilt gas table with over 250 gases and their relevant STEL and TWA alarm levels. All five sensor readings are automatically datalogged every second with a date and time stamp which can be downloaded to a PC for detailed data analysis with easy to use software.

FirstCheck 6000

- the worlds only multigas with a ppb PID

FirstCheck 6000 is Ion Science's most sophisticated instrument including all the above features of the 4000 with an extended PID detection range of 1 ppb to 10,000 ppm. FirstCheck is the only instrument available on the market to combine a ppb PID detection range with traditional multigas sensors for the ultimate in detection capabilities.

Due to the FirstCheck's unique combination of a ppb capable PID VOC detector with the other four sensors the instrument can be used for a vast range of applications and by covering the entire range from ppb up to 100% LEL

there are no gaps. With safety as a primary focus the instrument has been developed with input from First Responder agencies making FirstCheck suitable for any eventuality including HazMat incidents involving TICs, TIMs and WMDs. FirstCheck offers a rapid response, T90 in 1 sec*, enabling speedy



assessment of a given situation or incident allowing the appropriate response to be initiated swiftly and smoothly.

* Sensor dependent, PID = T90 in 1 sec

FirstCheck is a unique multigas instrument combining the flexibility of photoionisation technology (PID) detecting volatile organic compounds (VOCs) from ppb up to 10,000 ppm with traditional multigas sensors for oxygen, hydrogen sulfide, carbon monoxide and explosive gas detection. Making FirstCheck a must have instrument for first responders and confined space entrants.

FirstCheck's highly sensitive PID enables the detection of many gases that are toxic at low ppb levels and are undetectable by other VOC detecting multigas instruments. Traditionally two or three instruments are needed to insure workers safety. Now FirstCheck has it all covered in one handheld detector.

- ppb ~ 10,000 ppm for unrivalled multigas detection of VOC's
- Large numerical back-lit display for easy viewing of readings in adverse conditions
- A choice of readout display including real time graph and simultaneous viewing of all 5 sensors for ease of understanding
- Data download via an IRDA to a PC for analysis of all 5 sensor outputs with easy to use software
- Health and Safety mode for STEL and TWA monitoring
- Multilingual icon driven menu for ease of understanding
- Intrinsically safe for use in flammable areas
- Rapid clear down even after exposure to large quantities of gas
- Easy to use PC software for adjusting instrument functions via an IRDA link

Personalised display and easy to use icon menu

FirstCheck is unique in that it allows the user to select the most appropriate method for readings to be viewed to suit both the individual, and any given detection situation that may arise.



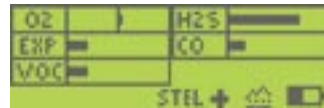
Large Numeric Screen

Ideal for use in confined spaces, the large number readings can be viewed easily and when set to 'rotate', each sensor measurement can be viewed in turn.



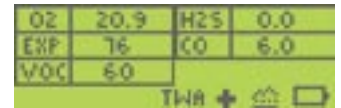
Single Graph Screen

Each sensor reading can be viewed as a real-time graph giving an instant overview of developing trends.



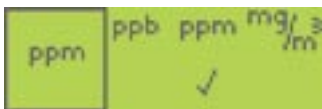
Multiple Bar-Graph Screen

Allows the viewing of all measurements simultaneously in an easy to understand bar-graph format.



Multiple Numeric Screen

Enables the viewing of all sensor readings at the same time as numbers for instant understanding of results.



Thanks to FirstCheck's simple icon driven menu translation difficulties and language barriers experienced when using some instruments are virtually eliminated. Adjustments of functions is confirmed with a tick ✓ and the user-friendly icons allow for easy navigation as well as rapid operator training.

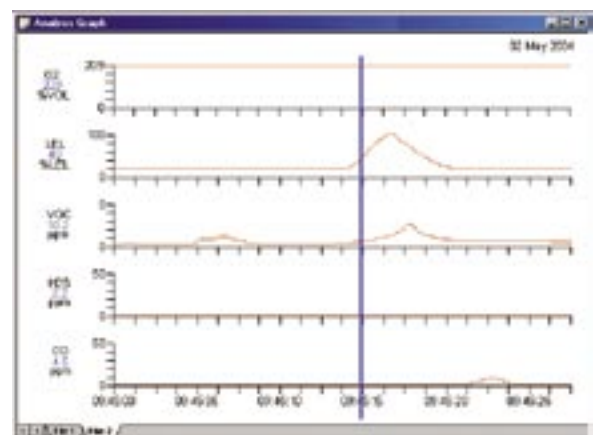
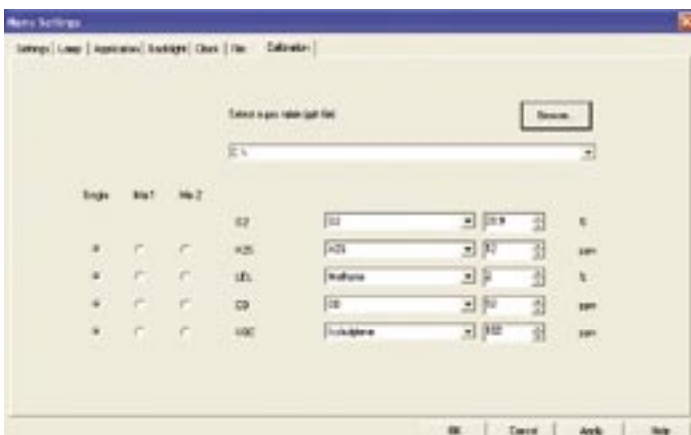
Continuous data logging and fully interactive software

FirstCheck puts safety first with automatic, continuous data logging of all five sensors readings, ensuring truly traceable results. Readings from each sensor are logged every second into the instruments memory for download and analysis.

Logged readings are swiftly and simply downloaded via an IRDA link to a software enabled PC for detailed analysis. With Ion Science Ltd's easy to use FirstCheck software analysis is simple, as all five sensor readings are shown in tabular and graph format.

FirstCheck's software is more than an analysis tool. It allows the user to program the instruments features from a PC via the IRDA link. Adjustable features include zone references, alarm settings and the clock. The software also has a security setting whereby the instrument can be 'locked' so that features cannot be adjusted manually. This is useful for example when a supervisor sets alarm levels and then hands the instrument to an operator for use. Specified settings can be stored on a PC and later downloaded to any number of instruments giving them identical features such as alarms and zone references.

Another feature of the FirstCheck software is the calibration menu, which allows the user to select their own combination of calibration mixtures, specific gases and concentration thresholds. Again these unique customer selections can be stored and retrieved as needed, saving much time during recalibration.




Technical Specification

DETECTOR

For details of each sensor, its range and response time please see the FirstCheck Sensor Specification table.

INTRINSICALLY SAFE APPROVALS

 II2 G Baseefa 03ATEX0742
 EEx iad IIC T4 (-20 °C ≤ Ta ≤ 60 °C)
 IECEx BAS 04.0033
 EX iad IIC T4 (-20 °C ≤ Ta ≤ 60°C)

ACCURACY*

± 5% displayed reading at calibration point

LINEARITY*

± 5%

DATA LOGGING

Automatically recording all 5 sensors every second including date and time stamp.
 8 Mb (expandable) data memory.
 Incorporates a secure storage algorithm to reduce stored data corruption.

CALIBRATION

Via calibration kit accessory

OPERATION

Dry cell: Alkaline 4 x AA: 11 hours
 Rechargeable NIMH: 8 hours

ALARM

Flashing LED and 90 dBA (10 cm) audible sounder
 User set and TWA & STEL
 Pre-programmed 250+ gases and gas mixtures

FLOW RATE (APPROX)

220 ml/min or 220 cc/min with flow fail alarm

TEMPERATURE

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

WEIGHT & DIMENSIONS

Instrument without probe

340 x 60 x 49 mm (13.5 x 2.3 x 1.9")

Case 420 x 320 x 97 mm (16.5 x 12.5 x 3.8")

Instrument 0.615 kg (1.36 lb)

Packed 3.045 kg (6.7 lb)

NB: PID specifications relate to an isobutylene 100 ppm in air calibration at 20 °C and 90% RH. LEL specifications relate to a methane (CH₄) calibration, other gases available upon request. Other gas sensors as specified at appropriate international alarm standards.

*Assuming constant environmental conditions

ION SCIENCE is
 ISO9001:2000 certified



FirstCheck Sensor Specifications

Detector	Range	Response Time
PID (VOC detector) New Ion Science photoionisation cell Fitted with new fence electrode technology*. 10.6 eV Krypton PID Lamp supplied as standard, others available please see accessories.	FirstCheck 4000 0.1 to 10,000 ppm FirstCheck 6000 1 ppb to 10,000 ppm	T90 < 1 seconds
Oxygen, O ₂ – Electrochemical sensor	0 to 28%	T90 < 15 seconds
Carbon monoxide, CO – Electrochemical sensor	1 to 1000 ppm	T90 < 25 seconds
Hydrogen sulfide, H ₂ S – Electrochemical sensor	0.1 to 100 ppm	T90 < 20 seconds
Lower Explosive Level, LEL - Catalytic (Pellistor) sensor	0 to 100% LEL	T90 < 15 seconds

*The fence electrode technology referred to in this document is produced by Ion Science Ltd, and protected by patents. U.S. Patent No. 7,046,012. EP 1474681, other patents pending.

Volatile Organic Compounds (VOC's)

FirstCheck includes Ion Science Ltd's unique photoionisation cell which detects volatile organic compounds (VOC's) from ppb up to 10,000 ppm. Some VOC's are hazardous to health at very small levels and chemical WMD's** are potentially deadly. Please see below a list of some of the most common VOC's.

**FirstCheck's PID can detect some chemical weapons of mass destruction. For a complete list please contact us.

Common Detectable VOC Gases

Gas Name	Formula	10.6 eV Lamp Response Factor	STEL	TWA
Ammonia	H ₃ N	8.5	35	25
Benzene	C ₆ H ₆	0.5	-	1
Ethylene	C ₂ H ₄	8	-	-
Isobutanol	C ₄ H ₁₀ O	3.5	75	50
Gasoline Vapours	-	1.05	-	-
Jet Fuel	-	0.75	-	-
Acetone	C ₃ H ₆ O	0.715	1500	500
Ethyl acetate	C ₄ H ₈ O ₂	3.634	400	200
Styrene	C ₈ H ₈	0.44	250	100

Accessories

Ion Science has developed an exclusive range of high quality accessories to compliment the FirstCheck. Please see a selection of these below. For a full list please see a member of our sales team.

Part No.	Accessories
A-820213	FirstCheck calibration kit
A-31063	PID lamp cleaning kit
A-31064	25 mm (1 in) diameter 0.5 micron probe filters PK of 5
A-31066	Std probes attachment PK of 5
30618	Photec lamp, type 8.4 eV Xenon
30619	Photec lamp, type 10.2 eV Deuterium
30620	Photec lamp, type 10.6 eV Krypton
30621	Photec lamp, type 11.7 eV Argon
31052	Leather instrument jacket
A-40052	Leather instrument jacket with magnetic attachment
4/VH-01	Chest harness for hands free operation
A-30555	5 m (16 ft) flexible extension hose
A-30556	10 m (33 ft) flexible extension hose
A-31153	Exhaust barb, Tedlar Bag Connector
A-31057	Carbon Filter
A-820233	In-Car Charger 6 V
A-830206	IS protective cover, for stopping moisture and contaminants PK of 10