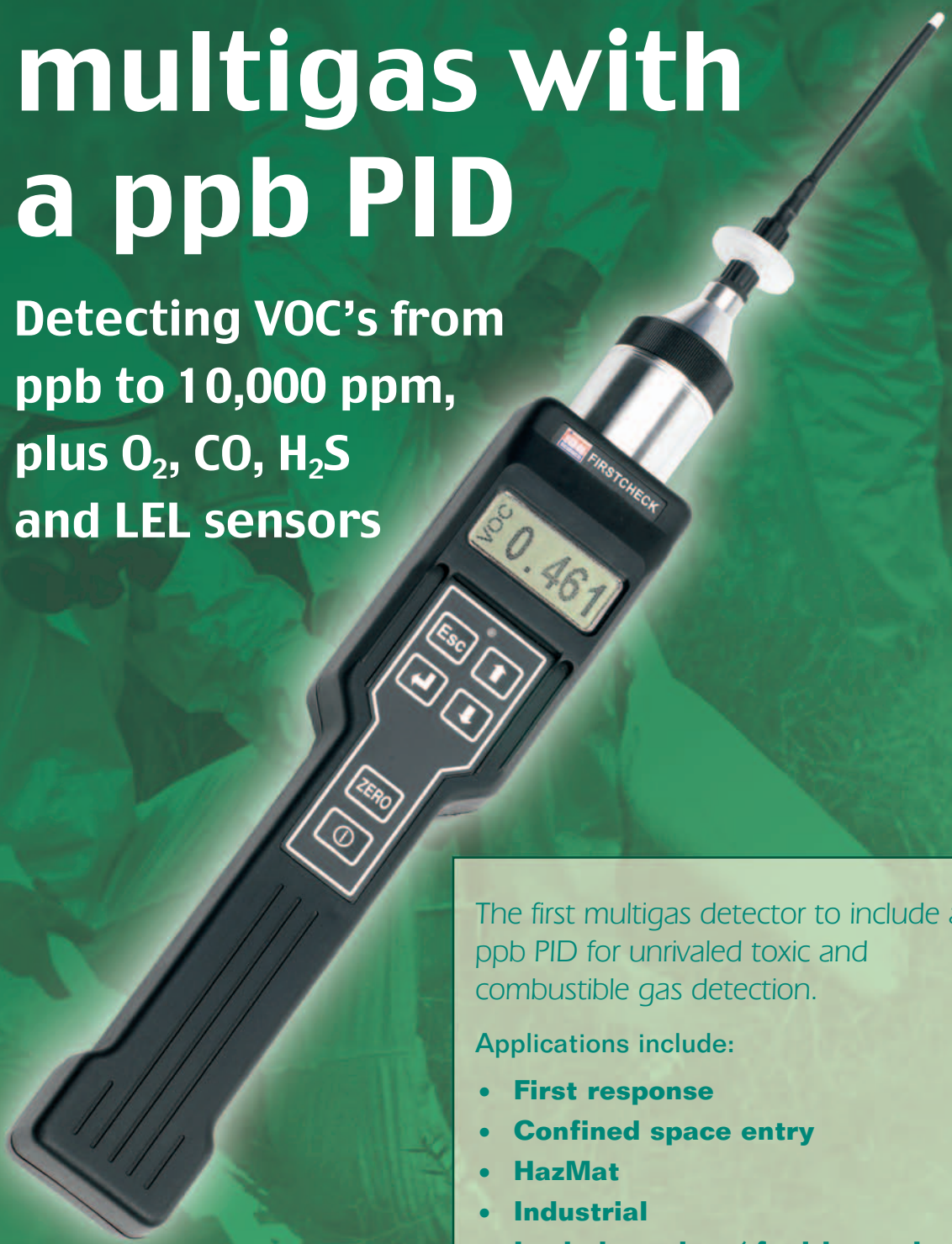
The world's first multigas with a ppb PID

Detecting VOC's from ppb to 10,000 ppm, plus O_2, CO, H_2S and LEL sensors



FIRSTCHECK™

The first multigas detector to include a ppb PID for unrivaled toxic and combustible gas detection.

Applications include:

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

Detection levels:

- **VOC's** **ppb – 10,000 ppm**
- **O_2** **0 – 25%**
- **CO** **0.1 – 1000 ppm**
- **H_2S** **0.1 – 100 ppm**
- **LEL** **0 – 100% LEL**

ION Science INNOVATION

FIRSTCHECK

FirstCheck 6000 is the very first multigas to combine complete VOC and toxic gas detection 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 unique, highly sensitive photoionisation detector (PID) enables the detection of many gases that are toxic at low ppb levels and are undetectable by traditional VOC detecting multigas instruments. Traditionally two to three instruments are needed to ensure workers safety. Now FirstCheck has it all covered in one handheld detector.

Due to 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 from a fuel spill to a suspected terrorism event.

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

NB: Other gas sensors and detection capabilities to follow, for details please contact us.

Ion Science Ltd's unique IS Protective Cover enhances the base intrinsically safe approval from category 2 (Zone 1) to category 1 (Zone 0) classification, giving the instrument the highest safety approval for this type of unit. The cover also increases the instrument's ingress protection rating to IP66 so that the instrument can be used in applications where it is likely to get wet such as arson investigation, emergency response and in heavy rainfall. The cover being very low in cost has the advantage when used in HazMat applications, including possible WMD exposure, in that it is simply removed after use and replaced with a fresh one keeping both the user and instrument safe from exposure long after the event.

- **ppb ~ 10,000 ppm**
  for unrivaled 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 us 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.

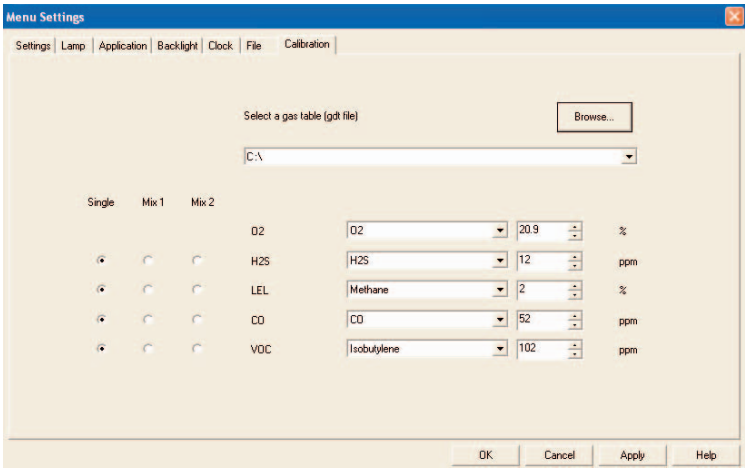
Continuous data logging and fully interactive software

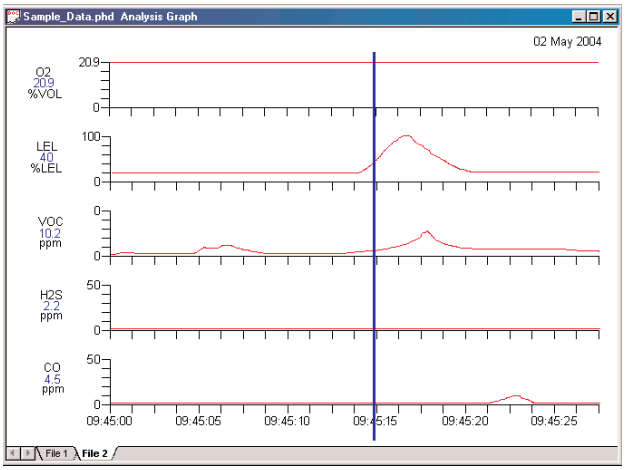
FirstCheck puts safety first with automatic, continuous data logging of all five sensor readings, ensuring truly traceable results. Readings from each sensor are logged every second into the instrument memory for download and analysis.

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.





FIRSTCHECK™

Technical Specification

DETECTOR

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

INTRINSICALLY SAFE APPROVALS

Used with supplied IS protective cover
Part No A-830206:
Ⓔx II 1 G EEx ia IIC T4 Baseefa02ATEX0742

If used without IS protective cover rating is:
Ⓔx II 2 G EEx ia IIC T4 Baseefa02ATEX0742
(-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.
Rechargable NIMH: 8 hours

ALARM

Flashing LED and 90 dBA (10 cm) audible sounder
User set TWA and 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 mm (13.5") L x 60 mm (2.3") W x 49 mm (1.9") H
Case
420 mm (16.5") x 320 mm (12.5") x 97 mm (3.8")
Instrument
0.615 kg – 1.36 lb
Packed
3.045 kg – 6.7 lb

ION SCIENCE is ISO9001:2000 certified (December 2003)

NB: PID specifications relate to an isobutylene 100 ppm in air calibration at 20 °C and 90% RH.
LEL specifications relate to a methane (CH_4) calibration, other gases are available upon request.
Other gas sensors as specified at appropriate international alarm standards.

✧ Assuming constant environmental conditions

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.	1 ppb to 10,000 ppm	T90 < 1 second
Oxygen, O_2 - Electrochemical sensor	0 to 28%	T90 < 10 seconds
Carbon monoxide, CO - Electrochemical sensor	0.1 to 1000 ppm	T90 < 25 seconds
Hydrogen sulfide, H_2S - Electrochemical sensor	0.1 to 100 ppm	T90 < 20 seconds
Lower Explosive Level, LEL - Catalytic (Pellistor) sensor	0 to 100% LEL	T90 < 15 seconds

** 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 comprehensive list please contact us.

Common Detectable VOC Gases

Gas Name	Formula	10.6 eV lamp Response Factor	STEL	TWA
Ammonia	H_3N	8.5	35	25
Benzene	C_6H_6	0.5	-	3
Ethylene	C_2H_4	8	-	-
Isobutanol	$C_4H_{10}O$	3.5	75	50
Gasoline Vapors	-	1.05	-	-
Jet Fuel	-	0.75	-	-
Acetone	C_3H_6O	0.715	1500	500
Ethyl acetate	$C_4H_8O_2$	3.634	400	200
Styrene	C_8H_8	0.440	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-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
40052	Leather instrument jacket with magnetic attachment
4/VH-01	Instrument 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,Teldlar Bag Connector
A-31057	Carbon Filter fitted with Luer connector
A-820213	Calibration kit
1/VD-02	In-Car Charger
A-31063	IPA Wipes PK of 5
A-830206	IS Protective Cover Ⓔx II 1 G EEx ia IIC T4 Baseefa02ATEX0093X, Baseefa03ATEX0742X PK of 10.

Part number FC V2.1

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