



[1] **UNITED KINGDOM CONFORMITY ASSESSMENT**
UK-TYPE EXAMINATION CERTIFICATE

[2] **Product or Protective System Intended for use in Potentially Explosive Atmospheres**
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1

[3] UK-Type Examination Certificate No.: **UL22UKEX2405X Rev. 0**

[4] Product: **Gas-Pro Portable Hand-held Gas Detector**

[5] Manufacturer: **Crowcon Detection Instruments Ltd.**

[6] Address: **172 Brook Drive, Milton Park, Abingdon, Oxfordshire, OX14 4SD, UK**

[7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8] UL International (UK) Ltd, Approved Body number 0843, in accordance with Regulation 44 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential report **DK/ULD/ExTR11.0005/10**.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-11:2012

Except in respect of those requirements listed at section 19 of the schedule to this certificate.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the Schedule to this certificate.

[11] This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

 **II 1 G Ex ia IIC T4 Ga -20°C ≤ Ta ≤ +55°C**
 **II 2 G Ex db ia IIC T4 Gb -20°C ≤ Ta ≤ +55°C**

Certification Officer
Andrew Moffat

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the UKEx Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Regulations. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2022-12-02

Approved Body UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade Road, Basingstoke RG24 8AH, UK
Phone : +44 (0)1256 312100

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[15] Description of Product

Gas-Pro is a portable, hand-held, re-chargeable battery operated Gas Detector used for the detection of Combustible and Toxic gases, and Oxygen depletion. The unit functions as an alarm and data-logger. The circuitry is housed within a polymeric enclosure manufactured from clear polycarbonate over-moulded with static-dissipative TPE in orange, red, or black with openings in the TPE providing display windows. Battery charging and data transfer to the equipment is by the use of an optional charging and communications cables, for use in a safe area only. An optional pump is available to facilitate gas sampling.

The Main PCB is divided into separate power limiting nets to distribute power to processor, gas sensors, vibrator, sounder and pump drive circuitry. It interfaces to a charging and communications Interface and to the separate Display PCB. Up to 4 Gas Sensors are fitted of the infrared, pellistor, PID, toxic and oxygen types. The infrared, pellistor and PID type are suitably certified components. All sensors are located within energy limited circuitry

The equipment is designed to be used with a defined selection of toxic/O₂ electrochemical gas sensors and one or more flammable/pellistor gas sensor. The flammable/pellistor gas sensors are 'Ex db' certified components or certified equipment. Alternatively, one or more of the permitted flammable/pellistor gas sensors are certified to the intrinsically safe protection concept only.

The certification type is assigned at the time of manufacture based on the sensors fitted to the equipment. Adding or removing sensors from an instrument configuration is forbidden as it can change the certification type. If any of the following sensors in Table 1 are fitted to the equipment, then the certification type is "Ex db ia".

Table 1 – Sensors leading to Certification Type "Ex db ia"	
Sensor Part No	Detector Type
SS0151	Pellistor
SS0101	Pellistor
SS0280	Infrared CO ₂
SS0201	Infrared flammable

If none of the sensors in Table 1 are fitted to the equipment, then the certification type is "Ex ia".

The Main PCB types determine the type of sensors fitted as follows:

Main PCB Assy No. (Crowcon Part Number)	Sensors Configuration
1004-1080 (S013005)	Toxic (Universal)
	Toxic (Single)
	Combustible (IR)
	Oxygen
1004-1047 (S013001)	Toxic (Universal)
	Pellistor or PID (5V max)
	Toxic (Single)
	Oxygen
1004-1047-01 (S013021)	Toxic (Universal)
	Pellistor or PID (4.25V max)
	Toxic (Single)
	Oxygen
1004-1042 (S013002)	Toxic (Universal)
	Pellistor or PID (5V max)
	Combustible (IR)
	Oxygen
1004-1042-01 (S013022)	Toxic (Universal)
	Pellistor or PID (4.25V max)
	Combustible (IR)
	Oxygen
ECAD-000106 (S013004)	Toxic (Universal)
	Pellistor or PID (5V max)
	Pellistor or PID (5V max)
	Oxygen
ECAD-000106-01 (S013024)	Toxic (Universal)
	Pellistor or PID (4.25V max)
	Pellistor or PID (4.25V max)
	Oxygen

The Display PCB consists of LCD Module, Display Processor, LED backlight, interface circuits to Main PCB and LED lights for displaying status of the unit. The Battery is a re-chargeable Li-Ion battery wired to the Main PCB. A flow plate used to facilitate the flow of gases over the sensor heads is screwed to the front of the Gas-Pro enclosure.

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Performance testing

The measuring function of the product for explosion protection, according to Schedule 1 clause 24 of the Regulation 2016 No. 1107 (as amended by UKSI 2019:696) is not covered in this certificate.

The optical radiation output of the product with respect to explosion protection, according to Schedule 1 clause 16 of the Regulation 2016 No. 1107 (as amended by UKSI 2019:696) is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015.

Temperature range

Safe Area: 0 °C to +40 °C. (Charging and communication)

Hazardous Area: -20 °C to +55 °C

Electrical data

Intrinsically safe specifications:

U_m : 9.1 V

Routine tests

None.

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Test Report No. (associated with this certificate issue)

The test report no. is provided under item no. [8] on page 1 of this UK-Type Examination Certificate.

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Specific conditions of use:

- Only connect to Gas-Pro in a safe area for charging or communications.
- Gas-Pro must not be charged or have communication to the device, at ambient temperatures outside of the temperature range 0°C to 40°C.

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Conditions of certification:

Where ATEX certified Ex Components or Ex Equipment are used, it is the responsibility of the manufacturer to ensure that only Ex Components or Ex Equipment having equivalent UKEx certification are used after the permission to accept such ATEX certified Ex Component or Ex Equipment is withdrawn.


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Essential Health and Safety Requirements (Regulations Schedule 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

Additional information

The Gas-Pro has in addition passed the tests for Ingress Protection to IP 20 in accordance with EN60529:1991+A1:2000+A2:2013.

The trademark  will be used as the company identifier on the marking label.

The certified Gas Sensors used in the Gas-Pro have been assessed based on their rated parameters. These devices are separately certified equipment or components that are controlled outside the scope of this certification. The manufacturer shall monitor the certification of these equipment/components to ensure that the use of these devices remains within certification of this equipment and shall notify the certification authority of any changes to these devices that may affect this certification.

The manufacturer shall inform the approved body concerning all modifications to the technical documentation as described in Annex III to UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1.

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Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Gas Pro Front Case Moulding (2 pages)	1004-1005	02	2013-11-12
Gas Pro Dust Filter Flow Plate Assembly (1 Page)	MCAD-000743	01	2013-09-05
Gas Pro B4 Sensor Insulator (1 Page)	MCAD-002434	01	2013-09-19
Gas Pro B4 Main PCB Version 4 – Circuit Diagram (5 pages)	ECAD-000106-CD-CERT	1	2013-09-26
GasPro B4 Main PCB Version 4 (5 pages)	ECAD-000106-CD-CERT	3	2021-12-01
Gas Pro B4 Main PCB Version 4b – Circuit Diagram (5 pages)	ECAD-000106-01-CD-CERT	1	2013-09-26
Gas Pro B4 Main PCB Version 4b – Circuit Diagram (5 pages)	ECAD-000106-01-CD-CERT	4	2021-12-01
Gas Pro B4 Main PCB Version 4 (10 pages)	ECAD-000106-PCB-CERT	2	2013-11-18
Gas Pro B3 and B4 Main Board Potting Detail (1 Page)	1004-1091	02	2013-09-18
Pumped Flow Plate Assembly (1 Page)	1004-1008	01	2010-04-08
Pumped Flow Plate (1 Page)	1004-1009	01	2010-04-08
GasPro-Battery Tray (1 Page)	1004-1014	01	2010-06-15
B1 Potting Box (1 Page)	1004-1093	01	2011-02-09
B2 Potting Box (1 Page)	1004-1016	01	2010-10-22
B3 Potting Box (1 Page)	1004-1077	01	2010-06-15
Non Pumped Flow Plate Assembly (1 Page)	1004-1022	01	2010-04-08
Non Pumped Flow Plate (1 Page)	1004-1023	01	2010-06-15
Flow Plate Assembly Two (1 Page)	1004-6010	01	2010-04-08
Flow Plate Two (1 Page)	1004-6011	01	2010-04-08
GasPro Display Board PCB Assembly (1 Page)	1004-1086	01	2010-08-04
GasPro Display to Main Board Connection (1 Page)	1004-1090	01	2010-11-10
B1 Main Board Potting Details (1 Page)	1004-1095	01	2011-02-21
B2 Main Board Potting Detail (1 Page)	1004-1094	01	2011-02-21
Battery Connection (1 Page)	1004-6000	01	2011-02-22
Pump Cable Restraint (1 Page)	1004-6003	01	2011-02-22
B1 Sensor Insulator (1 Page)	1004-1266	01	2011-02-23
B2 Sensor Insulator (1 Page)	1004-1101	01	2011-02-23
B3 Sensor Insulator (1 Page)	1004-1099	01	2011-01-20
KNF PUMP - PJ25004 - NMS020 (1 Page)	1004-6005	01	2011-02-23
Vibrator (1 Page)	1004-7001	01	2011-02-22
Connecting Cable – Main Board to Display Board (1 Page)	1004-7002	01	2011-02-22
Piezo Transducer (1 Page)	1004-7003	01	2011-02-23
Grip Clip (2 pages)	3072	10	2011-02-21
GasPro Display (Circuit Diagram) (13 pages)	1004-1027-CD-CERT	8	2011-03-16
GasPro Display (Parts List) (1 Page)	1004-1027-PL-CERT	8	2011-05-31
GasPro Display (PCB Layout) (10 pages)	1004-1027-PCB-CERT	8	2011-03-16
GasPro B1 Main PCB (Circuit Diagram) (5 pages)	1004-1080-CD-CERT	1	2011-03-10
GasPro B1 Main PCB (Circuit Diagram)	1004-1080-CD-CERT	2	16/12/2015
GasPro B1 Main PCB (Circuit Diagram) (5 pages)	1004-1080-CD-CERT	5	2021-11-29
GasPro B1 Main PCB (PCB Layout) (10 pages)	1004-1080-PCB-CERT	1	2011-03-10
GasPro B1 Main PCB (PCB Layout)	1004-1080-PCB-CERT	2	17/12/2015
GasPro B2 Main PCB (Circuit Diagram) (5 pages)	1004-1047-CD-CERT	1	2011-03-10

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Title:	Drawing No.:	Rev. Level:	Date:
GasPro B2 Main PCB (Circuit Diagram) (5 pages)	1004-1047-CD-CERT	4	2021-11-30
GasPro B2 Main PCB (Circuit Diagram) (5 pages)	1004-1047-01-CD-CERT	1	2011-03-31
GasPro B2 Main PCB (Circuit Diagram) (5 pages)	1004-1047-01-CD-CERT	4	2021-11-30
GasPro B2 Main PCB (PCB Layout) (10 pages)	1004-1047-PCB-CERT	1	2011-03-10
GasPro B3 Main PCB (Circuit Diagram) (5 pages)	1004-1042-CD-CERT	6	2011-04-18
GasPro B3 Main PCB (Circuit Diagram) (5 pages)	1004-1042-CD-CERT	9	2021-11-30
GasPro B3 Main PCB (Circuit Diagram) (5 pages)	1004-1042-01-CD-CERT	1	2011-04-18
GasPro B3 Main PCB (Circuit Diagram) (5 pages)	1004-1042-01-CD-CERT	4	2021-11-30
GasPro B3 Main PCB (PCB Layout) (10 pages)	1004-1042-PCB-CERT	6	2011-03-01
Grip Clip (2 pages)	3072	11	2011-02-21
Gas Pro Rear Case Moulding (2 pages)	1004-1006	04	2017-11-23
Gas Pro B4 Main PCB Version 4 – Certified Parts List (1 page)	ECAD-000106-PL-CERT	2	2015-04-30
Gas Pro B4 Main PCB Version 4 – Certified Parts List (1 page)	ECAD-000106-PL-CERT	4	2021-02-26
Gas Pro B4 Main PCB Version 4b – Certified Parts List (1 page)	ECAD-000106-01-PL-CERT	2	2015-04-30
Gas Pro B4 Main PCB Version 4b – Certified Parts List (1 page)	ECAD-000106-01-PL-CERT	5	2021-02-26
GasPro B2 Main PCB (Parts List) (1 page)	1004-1047-PL-CERT	2	2015-04-15
GasPro B2 Main PCB (Parts List) (1 page)	1004-1047-PL-CERT	5	2021-02-24
GasPro B2 Main PCB (Parts List) (1 page)	1004-1047-01-PL-CERT	2	2015-04-17
GasPro B2 Main PCB (Parts List) (1 page)	1004-1047-01-PL-CERT	5	2021-02-25
GasPro B3 Main PCB (Parts List) (1 page)	1004-1042-PL-CERT	8	2015-04-13
GasPro B3 Main PCB (Parts List) (1 page)	1004-1042-PL-CERT	11	2021-02-25
GasPro B3 Main PCB (Parts List) (1 page)	1004-1042-01-PL-CERT	2	2015-04-15
GasPro B3 Main PCB (Parts List) (1 page)	1004-1042-01-PL-CERT	5	2021-02-26
GasPro B1 Main PCB (Parts List) (1 page)	1004-1080-PL-CERT	2	2015-04-17
GasPro B1 Main PCB (Parts List) (1 page)	1004-1080-PL-CERT	5	2021-02-24
Gas Pro Certification GA (1 Page)	1004-1049	04	2013-11-12
Gas Pro Certification GA (1 Page)	1004-1049	05	25/04/2016
GasPro MED ATEX/IECEx Certification Label	MCAD-003205	05	2010-07-07
IR Sensor EMC Shield	MCAD-003241	01	13/01/2016
Front Case RFI Shielding	MCAD-003242	01	13/01/2016
Rear Case RFI Shielding	MCAD-003243	01	13/01/2016
GasPro Battery Assembly	1004-1075	04	2010-08-26
Gas Pro Sensors – Certification Control Document	ENG-000024	6	2021-07-22
Minimum Manual Content Gas-Pro - Certification Control Document	ENG-000028	12	2022-08-31
GasPro ATEX Certification Label (1 page)	1004-1076	06	2010-07-07
GasPro ATEX Certification Label (China)	MCAD-003840	1	2020-03-18
GasPro ATEX Certification Label (China)	MCAD-003844	3	2020-03-24
GasPro MED ATEX/IECEx Certification Label	MCAD-003849	4	2020-03-24
GasPro ATEX Certification Label	MCAD-003850	3	2020-03-24
GasPro UKEX Certification Label	MCAD-003990	1	2021-08-10
GasPro UK MCA MED Certification Label	MCAD-004154	1	2020-03-24
Gas Pro UKEx "Ex ia" Certification Label	MCAD-004179	02	2022-10-19
Gas Pro UK MCA MED "Ex ia" Certification Label	MCAD-004180	02	2022-10-19