EU Type Examination Certificate CML15ATEX2122X Issue 1

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment **GasHawk TX7000**

3 Manufacturer **Trolex Limited**

4 Address Newby Road,
Hazel Grove,
Stockport,
Cheshire
SK7 5DY,
UK

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Certification Management Limited, Unit 1 Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK, Notified Body Number 2503, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN 60079-0:2012:A11:2013 EN 60079-11:2012

10 The equipment shall be marked with the following:

Ex I M1	Ex II 1G	Ex II 2G
Ex ia I Ma Ex ia da I Ma Ex ia d I Ma	Ex ia IIC T4 Ga	Ex ia d IIC T4 Gb Ex ia db IIC T4 Gb
(-20°C≤Ta≤+50°C)	(-20°C≤Ta≤+50°C)	(-20°C≤Ta≤+50°C)

H M Amos MIET
Technical Manager

11 Description

The GasHawk TX7000 handheld portable gas monitor is designed to detect the presence of up to six gases simultaneously including oxygen, toxic and combustible gases and provide visual, audible and physical (vibrator) alarms if the set limits are exceeded. The equipment comprises an optional built-in pump for pre-enter testing in confined space and gas pocket monitoring.

The equipment is powered from an intrinsically safe battery pack interchangeable in the hazardous area, which comprises the Lithium Ion rechargeable battery and the Battery PCB. The battery is charged in inductive (wireless) charging system based on Qi architecture.

The main unit comprises the Main MCU PCB, Sensor/Interface PCB and the LCD Interface PCB, all contained in a plastic (polycarbonate base and TPE overmold) enclosure providing a degree of protection of at least IP54. Two buttons and liquid crystal display provide an interface to the end-user and the IrDA port is used for data communication.

The GasHawk TX7000 is marked GasHawk TX7000.xx.xx.xx.xx.xx.xx.xx.xx, where xx details variants that allow alternate versions of the certified product.

Variation 1

This variation introduces the following modifications to the GasHawk TX7000:

i. The addition of two pressure sensor IC's to the Sensor/Interface PCB
ii. The replacement of three Zener diodes on the Sensor/Interface PCB with alternative parts
iii. Changes to the case sealing arrangements
iv. The use of an alternative encapsulant
v. Minor amendment to safety component table of original assessment report
vi. To update the certificate reference to the 2014//34/EU Directive.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	01/04/2016	R525A/00	Original issue.
1	15/05/2017	R2089A/00	The issue of variation 1

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

13.1 Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

14 Special Conditions for Safe Use (Conditions of Certification)

The following conditions relate to safe installation and/or use of the equipment.

14.1 No precautions against electrostatic discharge are necessary for portable equipment that has an enclosure made of plastic, metal or a combination of the two, except where a significant static-generating mechanism has been identified. Activities such as placing the item in a pocket or on a belt, operating a keypad or cleaning with a damp cloth, do not present a significant electrostatic risk. However, where a static-generating mechanism is identified, such as repeated brushing against clothing, then suitable precautions shall be taken, e.g. the use of anti-static footwear.

14.2 The equipment must only be re-charged in the safe (non-hazardous) area.

Certificate Annex

Certificate Number CML 15ATEX2122X

Equipment GasHawk TX7000

Manufacturer Trolex Ltd

The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
P5593.35.ATEX.IECEX	1 of 1	A	31 Mar 16	GasHawk Block Diagram ATEX/IECEx
TX7000.ATEX.IECEX	1 of 1	A	31 Mar 16	GasHawk GA Certification
TX7010.ATEX.IECEX	1 of 1	A	31 Mar 16	GasHawk Battery Pack Assembly Certification
P5593.01.ATEX.IECEX	1 to 5	A	31 Mar 16	GasHawk MCU Board ATEX/IECEx Certification Schematic
P5593.02.ATEX.IECEX	1 to 6	A	31 Mar 16	GasHawk MCU Board PCB Layout
P5593.31.ATEX.IECEX	1 of 1	A	31 Mar 16	MCU Board PCB, Final Assembly Certification
P5593.04.ATEX.IECEX	1 to 7	A	31 Mar 16	GasHawk Sensor/Interface PCB ATEX/IECEx Certification Schematic
P5593.05.ATEX.IECEX	1 to 6	A	31 Mar 16	GasHawk Sensor/Interface PCB Layout
P5593.32.ATEX.IECEX	1 of 1	A	31 Mar 16	Sensor Interface PCB, Final Assembly Certification
P5593.07.ATEX.IECEX	1 & 2	A	31 Mar 16	GasHawk Battery Pack PCB ATEX/IECEx Certification Schematic
P5593.08.ATEX.IECEX	1 to 4	A	31 Mar 16	GasHawk Battery Pack PCB Layout
P5593.10.ATEX.IECEX	1 to 5	A	31 Mar 16	GasHawk LCD Interface PCB ATEX/IECEx Certification Schematic
P5593.11.ATEX.IECEX	1 to 3	A	31 Mar 16	GasHawk LCD Interface PCB Layout
P5593.33.ATEX.IECEX	1 of 1	A	31 Mar 16	LCD Interface PCB, Final Assembly Certification
P5593-2002.ATEX.IECEX	1 of 1	A	31 Mar 16	Battery Pack Label, Certification
P5593-2003.ATEX.IECEX	1 of 1	A	31 Mar 16	Rear Case Label ATEX/IECEx, Group I, Standard, Certification
P5593-2006.ATEX.IECEX	1 of 1	A	31 Mar 16	Rear Case Label ATEX/IECEx, Group II, Standard, Certification
P5593-2007.ATEX.IECEX	1 of 1	A	31 Mar 16	Rear Case Label ATEX/IECEx, Group I, DY, Certification

Certificate Annex

Certificate Number CML 15ATEX2122X

Equipment GasHawk TX7000

Manufacturer Trolex Ltd

Drawing No	Sheets	Rev	Approved date	Title
P5593-2008.ATEX.IECEX	1 of 1	A	31 Mar 16	Rear Case Label ATEX/IECEx, Group II, DY, Certification
P5593-2009.ATEX.IECEX	1 of 1	A	31 Mar 16	Rear Case Label ATEX/IECEx, Group I, CT, Certification
P5593-2010.ATEX.IECEX	1 of 1	A	31 Mar 16	Rear Case Label ATEX/IECEx, Group II, CT, Certification

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
P5593.04.ATEX.IECEX	1 to 7	B	15/05/2017	GasHawk Sensor/Interface PCB ATEX/IECEx Certification Schematic
P5593.05.ATEX.IECEX	1 to 3	B	15/05/2017	ATEX/IECEx Certification Drawing Sensor Interface PCB Layout
P5593.31.ATEX.IECEX	1 of 1	B	15/05/2017	MCU Board PCB, Final Assembly, Certification
P5593.32.ATEX.IECEX	1 of 1	B	15/05/2017	Sensor Interface PCB, Final Assembly, Certification
P5593.33.ATEX.IECEX	1 of 1	B	15/05/2017	LCD Interface PCB, Final Assembly, Certification
TX7000.ATEX.IECEX	1 of 1	B	15/05/2017	GasHawk GA Certification
TX7010.ATEX.IECEX	1 of 1	B	15/05/2017	GasHawk Battery Pack Assembly, Certification