



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx CSA 17.0005X

Issue No: 6

Certificate history:

Issue No. 6 (2018-10-12)
Issue No. 5 (2018-03-12)
Issue No. 4 (2018-02-05)
Issue No. 3 (2017-10-12)
Issue No. 2 (2017-06-23)
Issue No. 1 (2017-06-20)
Issue No. 0 (2017-03-07)

Status: **Current**

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Date of Issue: **2018-10-12**

Applicant: **Blackline Safety**
Suite 101, 1215 – 13 St SE
Calgary, Alberta T2G 3J4
Canada

Equipment: **Model G7c / G7x Portable Gas Detector**

Optional accessory:

Type of Protection: **Ex ia, Ex ib, Ex da (when the equipment is used with pellistor sensor)**

Marking:

G7c - Ex ia IIC T4 Ga

G7c with pellistor sensor - Ex da ia IIC T4 Ga

G7x - Ex ib IIC T4 Gb

-20°C ≤ Ta ≤ +55°C

*Approved for issue on behalf of the IECEx
Certification Body:*

Dorin Stochitoiu

Position:

Technical Advisor

*Signature:
(for printed version)*

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

CSA Group
178 Rexdale Boulevard
Toronto, Ontario M9W 1R3
Canada





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Manufacturer: **Blackline Safety**
Suite 101, 1215 – 13 St SE
Calgary, Alberta T2G 3J4
Canada

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

CA/CSA/ExTR17.0004/00	CA/CSA/ExTR17.0004/01	CA/CSA/ExTR17.0004/02
CA/CSA/ExTR17.0004/03	CA/CSA/ExTR17.0004/04	CA/CSA/ExTR17.0004/05
CA/CSA/ExTR17.0004/06		

Quality Assessment Report:

[CA/CSA/QAR16.0006/02](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

G7* Portable Gas Detectors combining a Base Unit with a Gas Cartridge

Base unit – P/N “G7*-#” (Where * = c or x; # = NA, EU or AZ)

Gas Cartridge – Where # = Electro chemical sensor identifier or “X” indicating no sensor

No Gas Module P/N “Z”

Single Gas Module P/N “S-#”

Multi Gas Module P/N “Q-####”

Battery powered (3.8V nominal Lithium); Temperature Code T4,

Ambient temperature range of $-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$.

Note: The equipment shall only be charged when in the non-hazardous area using a charger specifically supplied for use with the unit (for example part number SAW06D-050-1000xx, manufactured by Shenzhen Shi Ying Yuan Electronics Co., Ltd.), approved as SELV or Class 2 equipment against IEC 60950, IEC 61010-1 or an equivalent IEC standard. The maximum voltage and current from the charger shall not exceed 5.625Vdc and 2A respectively.

The G7* is a worker safety monitoring and gas detection instrument. The purpose of the instrument is to provide real time monitoring and environmental conditions.

Internally, the G7* consists of a main microprocessor, an inertial motion unit, a GPS receiver, a 3G cellular transceiver, a magnetic speaker, a vibration motor, a microphone, an LCD screen, a lithium polymer battery, momentary switches, and various other supporting components. User input is registered through the momentary switches, a reed switch, and the microphone. Instrument output is given through the LCD screen, LEDs, the vibrator, and the speaker.

The G7c main unit is approved and marked for Ex ia IIC T4 Ga.

All the gas modules that are used with the main unit are approved for Ex ia IIC T4 Ga but are not marked as such since this marking is on the main unit already.

The G7c unit with pellistor sensor is approved and marked for Ex da ia IIC T4 Ga as the pellistor sensor is certified to Ex da IIC Ga under IECEx OBAC 18.0001U which satisfies the requirement per the decision sheet DS-2015-016.

The G7x main unit is approved and marked for Ex ib IIC T4 Ga.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The equipment shall only be charged when in the non-hazardous area using a charger specifically supplied for use with the unit (for example part number SAW06D-050-1000xx, manufactured by Shenzhen Shi Ying Yuan Electronics Co., Ltd.), approved as SELV or Class 2 equipment against IEC 60950, IEC 61010-1 or an equivalent IEC standard. The maximum voltage and current from the charger shall not exceed 5.625Vdc and 2A respectively.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue no: 6

1. Addition of pump board (two designs) to quint gas module
2. Update to main board
3. Update to single gas module
4. Update to G7 speaker board
5. Update to Manufacturer's document based on the above modifications

Issue no: 5

1. Addition of new capacitors and resistors in the G7c multi-gas cartridge module
2. Technical documents update

Issue no: 4

1. Revision to Quint gas cartridge module to add new components
2. Revision to Single gas PID cartridge module to add new components, modify and remove old components
3. Editorial changes
4. Addition of alternate non-metallic front label material

Issue no: 3

1. Update to add new G7 quint gas and Single gas module

Issue no: 2

1. Update to include layout changes to the main PCB for the G7c as well as component value changes/additions/removal to the critical and non-critical components

Issue no: 1

1. Update to add new model G7x Portable Toxic Gas Detector rated for Ex ib IIC T4 Gb and to add minor modifications to the No gas and Single gas cartridges