IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEx CSA 25.0092X**

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Certificate history:
Issue 0 (2026-01-06)

Status: **Current**

Issue No: 1

Date of Issue: 2026-01-22

Applicant: **Blackline Safety**
Suite 100, 803 24th Ave SE
Calgary, Alberta T2G 1P5
Canada
Canada

Equipment: **Model G8 Portable Body Worn Gas Detection Instrument**

Optional accessory:

Type of Protection: **Intrinsic Safety "ia"**

Marking: Ex ia IIC T4 Ga
-20°C ≤ Ta ≤+55°C

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

Position: **Senior Director of Operations**

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.

Certificate issued by:

CSA Group
178 Rexdale Boulevard
Toronto, Ontario M9W IR3
Canada

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Manufacturer: **Blackline Safety**
Suite 100, 803 24th Ave SE
Calgary, Alberta T2G 1P5
Canada
Canada

Manufacturing locations: **Blackline Safety**
Suite 100, 803 24th Ave SE
Calgary, Alberta T2G 1P5
Canada
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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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2023 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:7.0

This Certificate **does not** indicate compliance with 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 Reports:

CA/CSA/ExTR25.0066/00 CA/CSA/ExTR25.0066/01

Quality Assessment Report:

CA/CSA/QAR16.0006/07

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The G8 is a portable body worn single-gas detection instrument intended to enhance worker safety. The G8 can report information, such as location, elevated gas levels, and alerts to a centralized server. All information is reported back to the central server through a wireless backhaul.

The G8 does not require regular interaction with the user to perform its intended function. However, the G8 is equipped with momentary switches, an LCD screen, a speaker and microphone, an NFC reader, and LEDs for user interaction.

Internally the G8 consists of a microprocessor, an inertial motion unit, a GNSS receiver, a Bluetooth transceiver, a cellular transceiver, an NFC transceiver, a magnetic speaker, a microphone, an LCD screen, lithium polymer battery, LEDs, momentary switches, a vibration motor, and other various supporting components.

The battery is charged through a proprietary connector, used only for the G8. Charging shall occur in non-hazardous locations only.

Refer to certificate Annexe for additional information.

Conditions of Manufacture

The Manufacturer shall comply with the following:

At the conclusion of manufacture, and before shipping, each unit shall be subjected to the following tests:

1. Verification of encapsulation per IEC 60079-11:2023 Cl. 10.4

   No damage shall be evident to the encapsulation, this includes but is not limited to;
   - Cracks;
   - non-homogeneous covering of the encapsulated or coated parts;
   - inadmissible shrinkage;
   - swelling;
   - decomposition;
   - failure of adhesion (separation of any adhered parts) or flaking; and
   - softening.

   Routine verification may be replaced by batch verification where there is confidence in the manufacturing process, in which case the following criteria based on ISO 2859-1 shall apply:
   - For a production batch up to 100, a sampling of 8 shall be inspected with no failures
   - For a production batch from 101 to 1 000, a sampling of 32 shall be inspected with no failure
   - For a production batch from 1 001 up to 10 000, a sampling of 80 shall be inspected with no failures
   - Batches above 10 000 shall be subdivided into smaller batches

   If there are any non-compliant inspection results, 100 % of all remaining samples in the batch shall be inspected. Future batches shall be routinely inspected until confidence is established to reconsider batch verification.

   In cases where destructive testing is used to verify the encapsulation process, verification on fewer test samples is permitted. If it is not stated in the schedule drawings, this destructive testing shall take place at least at the beginning and at the end of each production batch. Representative samples for this verification are permitted.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The external battery pack and Remote Speaker Mic shall only be connected or detached in non-hazardous locations.
2. The equipment shall only be charged in 0 to 45°C ambient.
3. The equipment shall only be charged in non-hazardous locations using a charger specifically supplied for use with the unit, approved as SELV or Class 2 equipment against CSA/UL 60950, CSA/UL 61010-1 or CSA 223/UL 1310 standard. The maximum voltage and current from the charger shall not exceed 6Vdc and 2A respectively.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1 – this Issue introduced the following changes:

1. Modified G8MAIN board component ratings to increase the capacitance of capacitor C908 from 100pF to 1uF.
2. Corrected user manual typo error.

Annex:

IECEx CSA 25.0092X Iss 1 Annexe_1.pdf

EQUIPMENT (continued)

Model nomenclature:

Base unit P/N "G8^-*-#" (^ = c or blank; * = NA, EU, AZ, etc.; # = blank or cellular carrier code)
Gas cartridge:
- Standard P/N "Z"
- Single-gas P/N "S-#"
- Multi-gas P/N "Q-####"
- Pump Module P/N "P-####"

(# = Electrochemical sensor identifier or "X" indicating no sensor)

Note: the electronics of the above models are identical, the only difference between each model is the cartridge gas detector.

When connected to certified alternate components, the following conditions shall be considered.

	J900 (Cartridge Gas Detector)	TP5 – TP12 (Remote Speaker Mic)	J780 (Vibrator)
Vo	4.2V	4.2V	4.2V
Io	0.333A	0.325A	0.28A
Po	1.4W	1.365W	0.294W
Co	415.5µF	1.506µF	418.8µF
Lo	0.32mH	0.23998mH	453µH

Note:

1) The alternate component shall not have combination of capacitance of inductance, unless tested according to IEC 60079-11:2023 Cl. 9.1, or Annex F, or complies with Annex G with the combination of capacitance and inductance.

2) In addition to the above condition, for resistive current limiting linear circuit, J900 (Cartridge Gas Detector) and J780 (Vibrator), the following conditions applies.

- The Co and Lo values listed in the table above are allowed when the following conditions are met:
  - all inductance and capacitance are distributed; or
  - the total inductance of the circuit (excluding the cable) is < 1 % of the allowed value of inductance; or
  - the total capacitance of the circuit (excluding the cable) is < 1 % of the allowed value of capacitance;
- Where both the total inductance and capacitance of the circuit (excluding the cable) is greater than or equal to 1 % of the allowed values of Co and Lo, the allowed values shall be halved.

  The reduced capacitance of the circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and III, and 600 nF for Group IIC.

CSA Group Testing & Certification Inc.
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Toronto, Ontario M9W 1R3