



Certificate of Compliance

Certificate: 80011716

Master Contract: 267256

Project: 80157595

Date Issued: 2023-05-17

Issued To: Blackline Safety Corp.
Suite 100, 803 24th Ave SE,
Calgary, Alberta, T2G 1P5
Canada

Attention: Kevin Timmerman

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Bhas Nanavati*
Bhas Nanavati

PRODUCTS

CLASS 4828 01 - SIGNAL APPLIANCES- Combustible Gas Detection Instruments-For Hazardous Locations
CLASS 4828 81 - SIGNAL APPLIANCES- Combustible Gas Detection Instruments-For Hazardous Locations -
Certified to U.S. Standards

Class I, Division 1, Groups A, B, C, and D T3 (Canada & U.S.)

Ex ia IIC T3 Ga (Canada)

Class I, Zone 0, AEx ia IIC T3 Ga (U.S.)

EXO Transportable Combustible Gas Detector, Models G7EXO-XXX
Battery Powered: 3.3V Nominal
Operating temperature range: -20°C to +50°C

Notes:

1. The above model is battery operated, Pollution Degree 3.
2. Mode of operation: Continuous



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3. Environmental Conditions: Normal: -20°C to 50°C ambient
4. The XXX suffix characters in the Model designation may be AZ2, EU2, or NA.
5. Battery Models: ACC-G7EXO-BATXX suffix characters in the Model designation may be blank or LT

Conditions of Acceptability:

1. Installed as per. control drawing MAN_103482 for Hazardous and Non-Hazardous areas.
2. Combustible and toxic gas detection performance is not in the scope of the assessment to 61010-1.
3. External circuits are supplied by a Certified I.S. barrier, a Certified Class 2 circuit, or Certified solar panel with an open circuit voltage not exceeding 16Vdc and maximum (short circuit) current not exceeding 687mA.
4. The battery ACC-G7EXO-BATXX is charged only in ambient of 0°C - 45°C.
5. The following Combustible gas sensor configurations have been accepted:

Gas Sensor	Combustible Gas	Pump Board Added	Pump used for Combustible Gas
PN: MPS003-S40501-11	Accepted (Project 80011716 Ed. 1)	No	None
MPS003-S40501-11 Firmware Ver. 3.0	Accepted (Project 80071864 Ed. 3)	No	None
Nevada Nano -PN: MPS003-S40501-EX Firmware Ver. 3.0	Accepted (Project 80107400 Ed. 4, TIS 80062076)	Yes	Original Pump Parker T5-1LI-03- 1EEB-1
PN: MIPEX-02-1-II Firmware Ver. 3.1	Accepted (Project 80107400 Ed. 4, TIS 80062076)	Yes	Original Pump Parker T5-1LI-03- 1EEB-1
Mipex IR sensor Firmware version 3.1 PN: MIPEX-02-1-II/ SN: 0200715141	Accepted (Project 80107400 Ed. 4, TIS 80062076)	No	None

4828 02 SIGNAL APPLIANCES - Toxic Gas Detection Instruments - For Hazardous Locations
 4828 82 SIGNAL APPLIANCES - Toxic Gas Detection Instruments - For Hazardous Locations - Certified to U.S. Standards

Class I, Division 1, Groups A, B, C, and D T3 (Canada & U.S.)
Ex ia IIC T3 Ga (Canada)
Class I, Zone 0, AEx ia IIC T3 Ga (U.S.)

EXO Transportable Toxic Gas Detector, Models G7EXO-XXX
 Battery Powered: 3.3V Nominal
 Operating temperature range: -20°C to +50°C

Notes:

1. The above model is battery operated, Pollution Degree 3.



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2. Mode of operation: Continuous
3. Environmental Conditions: Normal: -20°C to 50°C ambient
4. The XXX suffix characters in the Model designation may be AZ2, EU2, or NA2.
5. Battery Models: ACC-G7EXO-BATXX suffix characters in the Model designation may be blank or LT.

Conditions of Acceptability:

1. Installed as per. control drawing MAN_103482 for Hazardous and Non-Hazardous areas.
2. Combustible and toxic gas detection performance is not in the scope of the assessment to 61010-1.
3. External circuits are supplied by a Certified I.S. barrier, a Certified Class 2 circuit, or Certified solar panel with an open circuit voltage not exceeding 16Vdc and maximum (short circuit) current not exceeding 687mA.
4. The battery ACC-G7EXO-BATXX is charged only in ambient of 0°C - 45°C.

APPLICABLE REQUIREMENTS

CAN/CSA- C22.2 No. 61010-1-12, UPD1: 2015, UPD2: 2016, AMD1: 2018	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
CSAC22.2 No. 60079-0:19	Explosive atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-11:14	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”
CSAC22.2 No. 152-M1984 (R2016)	Combustible Gas Detection Instruments
UL 61010-1, 3rd edition (2012), AMD1: 2018	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
UL 913, 8th Edition	Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II, III, Division 1, Hazardous (Classified) Locations
ANSI/UL 60079-0-2019	Explosive atmospheres – Part 0: Equipment - General requirements
ANSI/UL 60079-11-2018	Explosive atmospheres – Part 11: Equipment Protection by Intrinsic safety “i”
ANSI/ISA 12.13.01:2000	Performance Requirements for Combustible Gas Detectors



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MARKINGS





The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The following marking details appear:

- The CSA Monogram with adjacent qualifiers:   , or  . The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US, or with adjacent indicator 'US' for US only, or without either indicator for Canada only.
- Submitter's name, trademark, or the CSA file number (adjacent the CSA Mark).
- Catalog or Model designation or equivalent, traceable to the month and year (at least) of manufacture
- Date of manufacture: Month and year of manufacture or date code. If a serial number is used instead of date of manufacture, a record of serial numbers shall be kept traceable to date of manufacture. (Not related to date of sale).
- Complete electrical rating (amps, hertz, and volts)
- Temperature code or equivalent, Ambient temperature range
- Hazardous Location designations
- Serial number, date code or equivalent
- For intrinsically safe equipment, the words "INTRINSICALLY SAFE" or "IS" or "I.S." or the symbol "Ex ia".
- Temperature Code
- Maximum ambient -20°C to +50°C.
- Electrical rating in form of "Use only battery ACC-G7EXO-BATXX"
- Symbol 14 of Table 1  is provided on the label adjacent the battery marking.
- "CSA C22.2 No. 152"

The following Caution markings or equivalents are required in English and French.

- "WARNING: Read and understand manual completely before operating or servicing" and "AVERTISSEMENT: Lisez et comprenez complètement le manuel avant d'utiliser ou de réparer" or equivalent.
- "WARNING: Charge only in a non-hazardous location" and "AVERTISSEMENT: Chargez uniquement dans un endroit non dangereux" or equivalent.







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- “WARNING: Charge only with approved accessories. Use only battery ACC-G7EXO-BATXX. Replace battery only in nonexplosive atmosphere. Read and understand the manual completely before operating or servicing” and “AVERTISSEMENT: Chargez uniquement avec des accessoires approuvés. Utilisez uniquement la batterie ACC-G7EXO-BATXX. Remplacez la batterie uniquement dans une atmosphère non explosive. Lisez et comprenez complètement le manuel avant d'utiliser ou de réparer” or equivalent.

Units with Toxic Gas Sensor Installed

The following marking details appear:

- The CSA Monogram with adjacent qualifiers:  , or  , or  . The products listed are eligible to bear the CSA Mark shown with adjacent indicators ‘C’ and ‘US’ for Canada and US, or with adjacent indicator ‘US’ for US only, or without either indicator for Canada only.
- Submitter’s name, trademark, or the CSA file number (adjacent the CSA Mark).
- Catalog or Model designation or equivalent, traceable to the month and year (at least) of manufacture
- Date of manufacture: Month and year of manufacture or date code. If a serial number is used instead of date of manufacture, a record of serial numbers shall be kept traceable to date of manufacture. (Not related to date of sale).
- Complete electrical rating (amps, hertz, and volts)
- Temperature code or equivalent, Ambient temperature range
- Hazardous Location designations
- Serial number, date code or equivalent
- For intrinsically safe equipment, the words “INTRINSICALLY SAFE” or “IS” or “I.S.” or the symbol “Ex ia”.
- Temperature Code
- Maximum ambient -20°C to +50°C.
- Electrical rating in form of “Use only battery ACC-G7EXO-BATXX”
- Symbol 14 of Table 1,  is provided on the label adjacent the battery marking.

The following Caution markings or equivalents are required in English and French.

- “WARNING: Read and understand manual completely before operating or servicing” and “AVERTISSEMENT: Lisez et comprenez complètement le manuel avant d'utiliser ou de réparer” or equivalent.
- “WARNING: Charge only in a non-hazardous location” and “AVERTISSEMENT: Chargez uniquement dans un endroit non dangereux” or equivalent.
- “WARNING: Charge only with approved accessories. Use only battery ACC-G7EXO-BATXX. Replace battery only in nonexplosive atmosphere. Read and understand the manual completely before operating or servicing” and “AVERTISSEMENT: Chargez uniquement avec des accessoires approuvés. Utilisez uniquement la batterie ACC-G7EXO-BATXX. Remplacez la batterie uniquement dans une atmosphère non explosive. Lisez et comprenez complètement le manuel avant d'utiliser ou de réparer” or equivalent.



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Notes:

Products certified under Class C482801, C482802, C482881, C482882 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC).
www.scc.ca





Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80157595	2023-05-17	Evaluation to update CSA Report 80011716 for addition of JYG-5W-M Mono Solar Panel as an approved accessory for the equipment and addition of alternate encapsulation materials based on assessment conducted as part of CSA Letter of Attestation Report 80146527.
80131885	2023-04-13	Evaluation to update CSA Report 80011716 to update firmware version to 3.465B1.
80118388	2022-08-15	Evaluation to update cCSAus report # 80011716 (last project 80107400) for Class I, Division 1 and Zone 0 intrinsically safe EXO Transportable Combustible Gas or Toxic Gas Detector Models G7EXO-XXX for firmware update with minimum gas detector performance testing, and electrical and mechanical updates described in RFQ. Addition of CAN/CSA - C22.2 No. 60079-26:2016 and ANSI/UL Std. No. 60079-26, 3rd Ed.
80107400	2022-04-25	Evaluation to update cCSAus report # 80011716 for intrinsically safe EXO Transportable Combustible Gas Detector Models G7EXO-XXX and EXO Transportable Toxic Gas Detector Models G7EXO-XXX to include a new pump model and addition of TIS 80062076 TIS Report G7EXO.
80071864	2021-04-22	Update to cCSAus report # 80011716 to include the test results from the following attestation projects . 1. Project 80063121 Attestation project referencing cCSAus report # 80011716 for intrinsically safe EXO Transportable Combustible Gas Detector models G7EXO-XXX for the addition of satellite module, addition of pump module, addition of single cell battery, reduction of entity parameters for the high voltage output, and review of conditions of manufacture. 2. Project 80056876 -Update report 80011716 to do the reduced set of minimum combustible gas detector performance testing for intrinsically safe EXO gas detector for firmware updates. 3. Project 80067121 Letter of Attestation to verify the Pellistor protection components in EXO Transportable Combustible Gas Detector (last project 80011716) are suitable to meet the entity parameters (Pi = 0.5W) of the new City Tech 4P75C Pellistor sensor.



4. Addition of Toxic Gas Class' 4828 02, 4828 82

80060371	2021-01-15	Update to cCSAus report # 80011716 for intrinsically safe EXO transportable combustible gas detector model G7EXO-XXX for the addition of three components (two resistors, one diode) and two flywires
80011716	2020-10-02	Original North American Hazloc model certification of semi portable gas detection product