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 15.0014X

Issue No: 1

Certificate history:
Issue No. 1 (2018-01-29)
Issue No. 0 (2015-07-11)

Status: **Current**

Date of Issue: **2018-01-29**

Applicant: **Detcon Inc.**
4055 Technology Forest Blvd.
The Woodlands, TX 77381
United States of America

Equipment: **Gas Detector**
Optional accessory:

Type of Protection: **Ex db ib**

Marking:

Ex db ib IIB T4 Gb

CXT-IR and Model CX-IR:-40°C to +60°CCXT-DM and CX-DM:-40°C to +50°C

CXT-IR and CXT-DM :7.2V-11Vdc, 50mA Max

CX-IR and CX-DM: 9V-30Vdc, 50mA Max, Um = 30V

Approved for issue on behalf of the IECEx Certification Body: Dorin Stochitoiu

Position: Technical Advisor

Signature:
(for printed version)

Date: January 29, 2018

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.

Certificate issued by:

CSA Group
178 Rexdale Boulevard
Toronto, Ontario M9W IR3
Canada

CSA Group

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Manufacturer:	Detcon Inc. 4055 Technology Forest Blvd. #100 The Woodlands, TX 77381 United States of America	

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 electrical 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/ExTR15.0019/00 CA/CSA/ExTR15.0019/01

Quality Assessment Report:

DE/TUR/QAR15.0003/01

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The CXT and CX Series are combustible and oxygen/toxic gas detectors. The CXT and CX Series are comprised of a sensor assembly which contains: an Intelligent Transmitter Module (ITM), made of stainless steel, houses the main electronics and is fully encapsulated with a viewing window; has an intrinsically safe field replaceable Plug-in Sensor, and is mechanically retained by the CXT Series Bottom Housing, and Splash/Rain Guard.

See Annex attached to this certificate for a further description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annex attached to this certificate for specific conditions of use.

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

Issue 1:

i. The addition of alternative Aluminium explosion proof tall box model Condulet j- box (897-850902-010) to CXT-IR/DM models for the battery housing.

ii. Addition of alternative non-rechargeable 5 series D cell battery pack P/N 602-004402-000, 19Ah, rated as: 10.25V to 18V DC, 50mA Max; installed inside the Aluminium explosion proof tall box.

iii. Antenna potting passage, small internal diameter change for CXT-IR/DM models.

iv. Changes to the main board PCB to cover battery monitoring.

v. Following appropriate assessment for the existing products to demonstrate compliance with the latest technical knowledge, IEC 60079-1:2007 was replaced with IEC 60079-1:2014, the markings were updated accordingly.

vi. Drawing amendments, none of which affect compliance with the standards listed.

vii. Model Number Updates: CXT-DM (PN 96C-XX0202) becomes CXT-DM (PN 96C-XX020Z-YYY) and CXT-IR (PN 96C-IR0202-100) becomes CXT-IR (PN 96C-XX020Z-YYY), with Z being 2 = mini condulet 316SS (PN 897-860001-316) or D = Aluminum Condulet – "D-size non-rechargeable lithium thionyl chloride battery pack." Where XX and YYY represent the gas code for optional target gas and the concentration range for various sensors that are not safety critical.

Annex:

Annex_to_IECEx_CSA_15.0014X_Issue_1.pdf

Product Description

The CXT and CX Series are combustible and oxygen/toxic gas detectors. The CXT and CX Series are comprised of a sensor assembly which contains: an Intelligent Transmitter Module (ITM), made of stainless steel, houses the main electronics and is fully encapsulated with a viewing window; has an intrinsically safe field replaceable Plug-in Sensor, and is mechanically retained by the CXT Series Bottom Housing, and Splash/Rain Guard.

The CXT series incorporates a junction box base, with three, threaded openings and a threaded cover; as well as, an RF antenna assembly. The sensor assembly and RF antenna assembly are threaded into two of the openings and the unused entry is plugged using a certified plug. The junction box houses the battery pack used to power the CXT series and connections from the sensor assembly to the RF antenna. This series is designed as flameproof with integral intrinsically safe outputs at the sensor cell and RF antenna.

The CX Series incorporates a junction box base with 3 threaded openings and a threaded cover. The sensor assembly is attached to one of the openings, conduit/field wiring enters another opening and the unused entry is plugged using a certified plug. The junction box houses a transient protection PCB attached to the flying lead wires that exit the sensor assembly to allow for wiring termination for end users to power the device. This series is designed as flameproof with integral intrinsically safe outputs at the sensor cell.

Sensor Cells for the CXT-IR and CX-IR are PN 371-IR1II1-000.

The existing CXT-IR/DM sensor housing and the antenna P/N 976-0003 A7-010 can be connected by threaded joints to an Aluminium explosion proof box Condulet junction box (897-850902-010) which provides housing for the D cell battery pack P/N 602-004402-000, see drawing 4649 rev.0.

Another type of Non rechargeable battery pack 18V is available. It has five interchangeable D-Cell 3.6V, 19 Ah Lithium Thionyl Chloride batteries, P/N 602-004402-000 and is housed inside of the Aluminium explosionproof box. It powers up product CXT-IR/DM with WiHART and has identical mechanical construction and identical rated voltage and current.

Specific Conditions of Use

i. The only batteries that are approved to be used in the CXT-DM and CXT-IR equipment are as follows:
   - Non rechargeable battery pack 18 V, 5 D-Cell each 3.6 V, 19 Ah lithium thionyl chloride battery.
   - Non rechargeable battery pack 10.8 V, 3 C-Cell each 3.6 V, 8.5 Ah, Lithium thionyl chloride battery, Tadiran model TL 5920.

ii. The CXT-IR and CX-IR is only to be used with sensor cell assembly PN 371-IR1II1-000; where the sensor cell incorporates an MIPEX measuring transducer part number MIPEX-02-1-11-1.1

iii. The CX-DM and CX-IR enclosures shall be grounded during installation.

iv. The CXT-DM and CX-DM shall be used with plug-in sensor cell assembly PN 371-XXYY00-ZZZ (where XX is the gas code representing the target gas being measured, YY is the cell code representing the electrochemical cell type being used, and where ZZZ is the concentration range of the replaceable plug-in sensor assembly). Only sensor versions that have electrochemical cells producing less than 1 V, 0.5 mA may be used.