



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 17.0025X

Issue No: 0

Certificate history:

[Issue No. 0 \(2017-12-07\)](#)

Status: **Current**

Page 1 of 4

Date of Issue: **2017-12-07**

Applicant: **ARDETEM SFERE**

Parc Activité Arbora N°2, Route de Brindas, 69510 Soucieu en Jarrest

France

Equipment: **Temperature / mA Converters, Types: TPIV-L-SI and μ CvL-SI ; TPIV-SI and μ Cv-SI ; DSvL-SI and DASvL-SI ; DSv-SI and DASv-SI**

Optional accessory:

Type of Protection: **Ex ec; Ex nC; Ex [ia]**

Marking:

Ex ec nC [ia Ga] IIC T4 Gc
Tamb: -20°C to +60°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](#).

Certificate issued by:

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





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Certificate No: IECEx CSA 17.0025X

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Page 2 of 4

Manufacturer: **ARDETEM SFERE**
Parc Activité Arbora N°2, Route de Brindas, 69510 Soucieu en Jarrest
France

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 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*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/ExTR17.0017/00](#)

Quality Assessment Report:

[NL/DEK/QAR12.0055/04](#)



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Certificate No: IECEx CSA 17.0025X

Issue No: 0

Date of Issue: 2017-12-07

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Programmable Measurement Converter Boards Models TPIvL-SI and μ CvL-SI ; TPIv-SI and μ Cv-SI ; DSvL-SI and DASvL-SI ; DSv-SI and DASv-SI are used to convert the measurement signal of intrinsically safe field equipment as a voltage or current source, into one current or voltage signal and/or contact outputs. It relies on opto-isolators to provide an isolated, intrinsically safe output. The equipment is housed in a DIN-rail mounted polyamide enclosure that is intended to be installed in a location that provides suitable protection against moisture and dust. The converter boards are located in Zone 2 hazardous area. The Maximum supply voltage is $U_m = 250\text{VAC}$.

The following entity parameters apply to the intrinsically safe outputs (IIC gas group):

- H1/G1 (sensor supply):

$U_o = 28.4\text{V}$, $I_o = 90.5\text{mA}$, $P_o = 643\text{mW}$, $C_o = 77\text{nF}$, $L_o = 4\text{mH}$

- H2, H 3, H4, G1, G2, G3, G4 (mV, mA, TC, resistive):

$U_o = 8.0\text{V}$, $I_o = 2.0\text{mA}$, $P_o = 2.0\text{mW}$, $C_o = 8.4\mu\text{F}$, $L_o > 1000\text{mH}$

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Warning – in locations where high external humidity and internal temperature variations (e.g. frequent on-off cycles) may cause condensation inside the equipment, the interior should be periodically inspected.
- When installed in the hazardous area, the equipment shall be installed in a suitably-certified enclosure (Ex ec for Gas applications Zone 2). When installed in a non-hazardous area, the equipment may alternatively be installed in a controlled environment that provides equivalent protection. The installer shall ensure that the maximum ambient temperature of the equipment when installed is not exceeded. Cable entry and blanking elements shall fulfil the same requirements.
- When the device is mounted in a hazardous area, connection and disconnection of the module from the rail (TPIv-SIN) or any of its connectors (TPIv-SI / TPIv-SIN) while live is only permitted if the potentially explosive atmosphere is shown to be absent.
- The field installation shall be done in a controlled environment with suitably reduced pollution, limited to pollution degree 2 or better as stated in manufacturer's documentation.
- The non-intrinsically safe circuits may only be connected to an overvoltage category I or II power source, as defined in IEC 60664-1.
- The supply shall be protected such that transients are limited to a maximum of 140% of the rated voltage; no such protection is required for the signal lines.



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Page 4 of 4

EQUIPMENT (continued):

The Manufacturer shall comply with the following:

i. In accordance with IEC 60079-7:2015 clause 7, each manufactured sample of the equipment shall be subjected to an electric strength test for at least 1 minute using a test voltage of:

- at least 1500 V r.m.s. $+5_0$ %, shall be applied for modules rated over 24VDC, between all joined module supply leads and the ground terminal, for at least 60 seconds as required by IEC 60079-7:2015: Clause 6.1.
- at least 500V r.m.s. $+5_0$ %, shall be applied for modules rated below 24VDC, between all joined module supply leads and the ground terminal, for at least 60 seconds as required by IEC 60079-7:2015: Clause 6.1.

Alternatively, a test voltage of 1.2 times the voltage shall be applied for at least 100 ms, as required by IEC 60079-7:2015: Clause 7.2. Where there is a routine dielectric strength test in the relevant industrial standard for the individual items of electrical equipment, this test is acceptable.