



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 SIR 13.0030X

Issue No: 1

Certificate history:

Status: **Current**

Issue No. 1 (2017-08-29)

Issue No. 0 (2013-10-22)

Date of Issue: **2017-08-29**

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Applicant: **Expo Technologies**
Unit 2, The Summit
Hanworth Road
Sunbury on Thames
Surrey, TW16 5DB
United Kingdom

Equipment: **Pre-Start Ventilation System**

Optional accessory:

Type of Protection: **Increased Safety**

Marking: **Standard versions**
Ex e IIC T5 Gb
(Ta -20°C to +60°C) Refer to the Annexe for additional marking options

Approved for issue on behalf of the IECEx
Certification Body:

C Ellaby

Position:

R.A. CRAIG
Deputy Certification Manager

Signature:
(for printed version)

Date:

2017-08-29

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:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

sira
CERTIFICATION





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Manufacturer: **Expo Technologes**
Unit 2, The Summit
Hanworth Road
Sunbury on Thames
Surrey, TW16 5DB
United Kingdom

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 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-7 : 2006-07 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:4

*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:

GB/SIR/ExTR13.0267/00 GB/SIR/ExTR17.0181/00

Quality Assessment Report:

GB/SIR/QAR07.0012/04



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Expo Technologies Pre-Start Ventilation System is intended to provide pre-start ventilation for Ex e motors. The equipment consists of a control unit and a relief valve, which comprise various electrical, mechanical and pneumatic components for the control of ventilation gas to an associated motor (not included in this certification), at a set flow rate and for a predetermined time. Alternative arrangements include the provision of an electronic timer, a solenoid valve and the option for extended or continuous ventilation. A low temperature version is available which includes a certified heater and thermostat. Refer to the Annexe for model nomenclature.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- i. The intended use of this equipment is as a pre-start ventilation system. It is the user's responsibility to ensure the correct functionality of the equipment when in use.
- ii. The equipment enclosure may contain RTDs or simple resistive switches. It is the user's responsibility to ensure that these are connected into suitably certified intrinsically safe circuits.
- iii. The Pre-Start Ventilation System, low temperature version, shall be protected by a safety related system that ensures that it cannot be energised if the temperature of the air inlet or controller unit falls below -20°C. This system shall utilise the RTDs that are fitted to the control unit to provide the appropriate level of safety integrity; note that these RTDs have not been assessed as a safety related device.
- iv. When the equipment is provided with an intrinsically safe solenoid valve, the user must ensure that any associated line inductance is within the parameters of the solenoid valve certificate.



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

Refer to the certificate annex to view a comprehensive history of changes.

Annex:

[IECEx SIR 13.0030X Issue 1 Annexe.pdf](#)

Annexe to: IECEx SIR 13.0030X Annexe Issue 1
Applicant: Expo Technologies
Apparatus: Pre-Start Ventilation System



All Marking options

Standard versions

Ex e IIC T5 Gb
(Ta -20°C to +60°C)

Standard /ET versions

Ex e ia IIC T5 Gb
(Ta -20°C to +59°)
or
Ex e ia IIC T4 Gb
(Ta -20°C to +60°)

Low temperature versions

Ex db e IIC T3 or T4* Gb
(Ta -60°C to +60°C)

Low temperature /ET versions

Ex db e ia IIC T3 or T4* Gb
* Depending on heater
(Ta -60°C to +60°C)

Model designation is of the form:

a b c d e

where, a = Size or Capacity

- i.e.
- 1 = Flow rate up to 225 l/min
 - 2 = Flow rate up to 450 l/min
 - 3 = Flow rate up to 1500 l/min
 - 4 = Flow rate up to 3000 l/min
 - 5 = Flow rate up to 6000 l/min
 - 6 = Flow rate up to 9000 l/min
 - 7 = Flow rate up to 14000 l/min

b = Pre-start Ventilation Type

- i.e.
- PV = Pre-start Ventilation
 - PP = Pre-start Ventilation (alternative)

c = Control Unit Enclosure Material/Mounting Configuration

- i.e.
- al = Aluminium alloy
 - cs = Mild steel, painted
 - ss = Stainless steel
 - bp = Back Plate only
 - co = Chassis only
 - pm = Panel mounting
 - nm = Non-Metallic

dd = Start Option

- i.e.
- LS = Local start using start switch on PV/PP system
 - RS## = Remote start using Ex rated solenoid kit

e = Fitting Option

- i.e.
- A = ANSI flange connection fittings used
 - D = DIN flange connection fittings used
 - B = BSP Pipe connection fittings used

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Sira Certification Service

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Annexe to: IECEx SIR 13.0030X Annexe Issue 1
Applicant: Expo Technologies
Apparatus: Pre-Start Ventilation System



N = NPT Pipe connection fittings used
= letter showing non-certified pipe fitting

Option codes (Added only if used)

- i.e.
- FM = Flow Meter(s) fitted on enclosure to indicate ventilation flow
 - IS = Internal Switches suitable for Ex i circuits.
 - MR = Mechanically Resets ventilation reset signal.
 - ER = Electronically Resets ventilation reset signal.
 - PR = Pneumatically Resets ventilation reset signal.
 - MT = Mechanical Timing used to time pre-start ventilation cycle
 - PT = Pneumatic Timing used to time pre-start ventilation cycle
 - ET = Electronic Timing used to time pre-start ventilation cycle
 - HP = High Pressure sensor fitted to prevent over pressure.
 - OV = Outlet valve, pneumatically operated.
 - PA = "Ex" switch(es) built-in, with/without "Ex" junction box.
 - SP = Secondary Pre-Ventilation supply options.
 - SS = Separate Supply for Protective gas and Logic air.
 - TW = Twin (or more) outputs for two or more separate ventilated enclosures ventilated in parallel.
 - HS = High Supply Pressure up to 16 Bar.
 - CV = Ventilation sustained indefinitely after completion of ventilation cycle
 - EV = Ventilation extended for predefined period of time after completion of ventilation cycle
 - DXXX = Special design, not certification related options
 - LT = Low Temperature option

Conditions of Manufacture

The Manufacturer shall comply with the following:

1. The following tests shall be performed by the manufacturer:
 - Verification of Ventilation Failure Protection
An output flow failure shall be simulated whilst the Pre-start Ventilation Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.
 - Verification of Air Supply Failure Protection
An air supply failure shall be simulated whilst the Pre-start Ventilation Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.
 - Verification of Ventilation Overpressure Protection
Where HP is specified an overpressure shall be simulated whilst the Pre-Start Ventilation Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.
2. When an Ex d junction box with flange openings is used in the low temperature (LT) versions of the pre-start ventilation system the manufacturer shall ensure that it is installed such that there are no obstructions within 40mm of the Ex d junction box flameproof flanged joints.

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Annexe to: IECEx SIR 13.0030X Annexe Issue 1
Applicant: Expo Technologies
Apparatus: Pre-Start Ventilation System



This issue recognises the following changes:

Issue 1 – this Issue introduced the following changes:

- 1 A solenoid in the Expo Technologies Electronic Timer (ET) Module ETM-IS**-*** covered by certificate IECEx FME 10.0001X was replaced due to obsolescence resulting in a change of the temperature classification. The ET Module ETM-IS**-*** is incorporated in 'ET versions' of the Pre-Start Ventilation Systems covered by certificate IECEx SIR 13.0030X, as a result of this update, only the temperature class and ambient temperature marking of the 'Standard/ET versions' were affected and were therefore amended as follows, T5 retained with the maximum ambient temperature limit lowered from +60°C to +59°C. T5 raised to T4 with the maximum ambient temperature limit retained at +60°C.
- 2 A Low Temperature (LT) option was introduced, the description was changed to recognise this option.
- 3 The certification coding for the equipment certified heater, incorporated in the low temperature versions of Pre-Start Ventilation System, was amended from Ex d mb IIC T3...T4 (Ta -50°C to +60°C) to Ex db IIC T3...T4 (Ta -60°C to +60°C). As a result of this modification the main certification coding for the low temperature versions of Pre-Start Ventilation System were amended with 'd' being replaced with 'db' and 'mb' being removed.
- 4 The minimum ambient temperature limit for the Low Temperature and Low Temperature/ET versions was lowered from -50°C to -60°C.
- 5 The introduction of an alternative adhesive label was approved.
- 6 The introduction of drawing SD8312 revision 1, which replaces drawing SD7449 revision 7.
- 7 The introduction of drawing SD8313 revision 1, which replaces drawing SD7448 revision 9.
- 8 To assess and document minor modifications to the drawings in the certification package for this equipment. Resulting in a Condition of Manufacture being added to the certificate.

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