



# Motor System Certificates

**ML497**

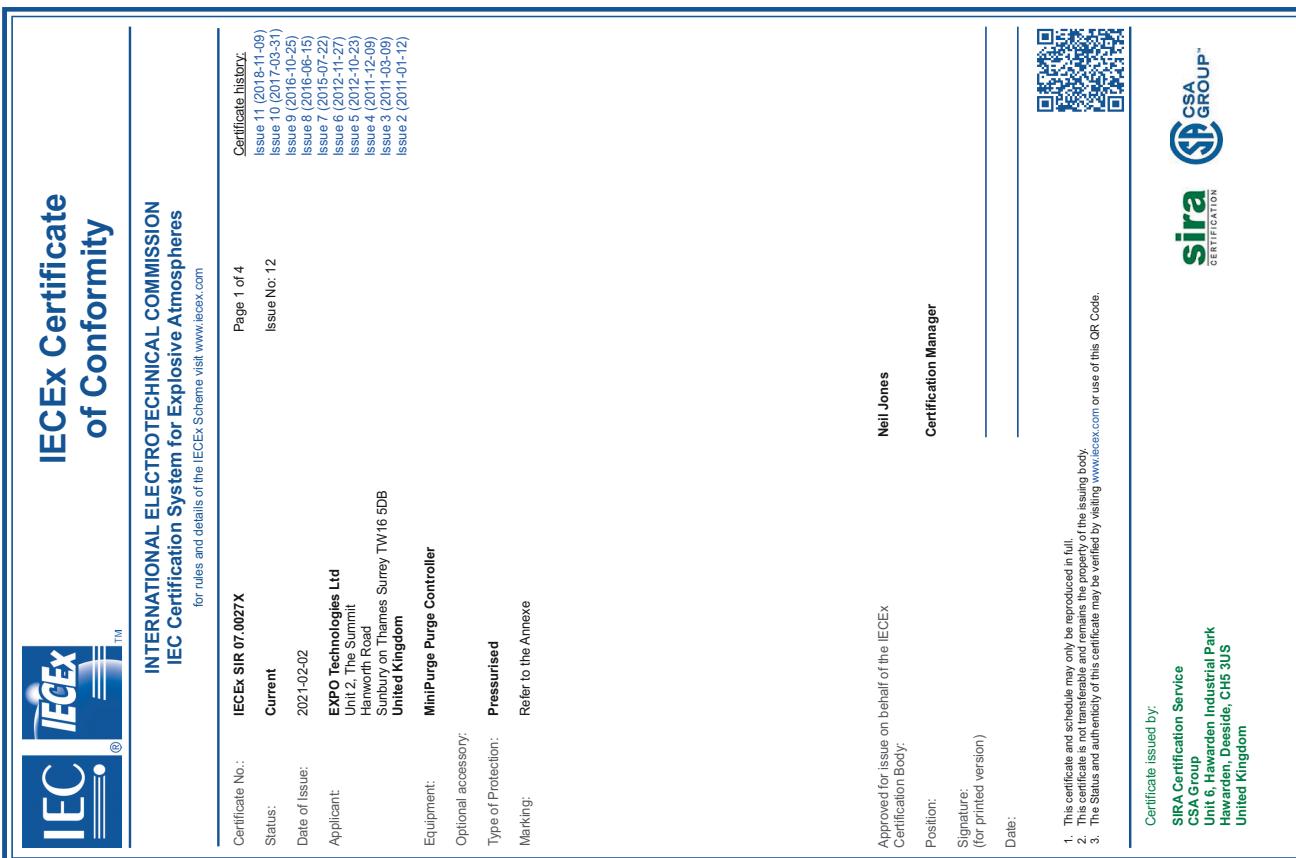
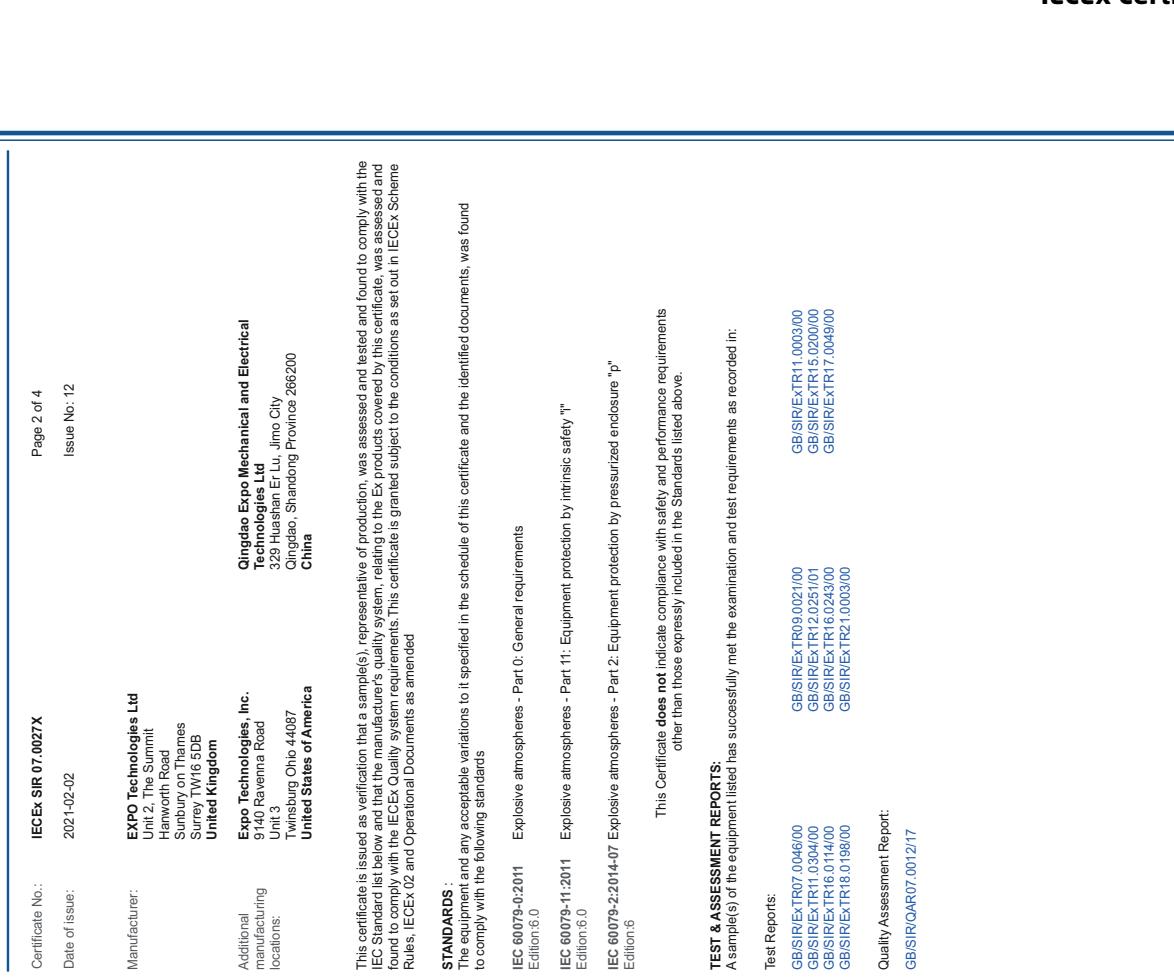
**Important Note**

Refer to the system manual for applicable certificates.



## CONTENTS

Purge System IECEx Certificate - IECEx SIR07.0027X .....	1
Purge System ATEX Certificate - SIRA 01ATEX1295X.....	7
Purge System INMETRO Certificate - TÜV 12.1462X.....	15
Purge System FM Certificate - 1X8A4.AE.....	19
Purge System FM Certificate - 1X8A4.AE(Canadian) .....	22
MIU/d Terminal Box - SIRA 02ATEX1129 .....	25
MIU/d Terminal Box - IECEx SIR 07.0008.....	28
MIU/d Terminal Box - IECEx EXV 19.0057X.....	31
MIU/e Ex e Terminal Box ATEX Certificate - ExVeritas 19 ATEX0542X.....	33
MIU/e Ex e Terminal Box INMETRO Certificate - TÜV 12.1463 .....	34
Electronic Timer IECEx FME 10.0001X.....	36
Electronic Timer ATEX Certificate - FM10ATEX0003X.....	39
Electronic Timer FM Certificate (Canada) - FM16CA0176X.....	41
Electronic Timer FM Certificate (US) - FM16US0373X .....	43
Electronic Switches Ex d limit switch - IECEx EPS 14.0092X.....	45
Electronic Switches Ex d limit switch - EPS 14 ATEX 1 766X .....	47
EPPS - DEMKO 17ATEX1795X .....	49
EPPS - IECEx UL 17.0016X.....	51



 <b>IECEx Certificate of Conformity</b>	 <b>IECEx Certificate of Conformity</b>
<p><b>IECEx SIR 07.0027X</b></p> <p>Page 3 of 4      Issue No: 12</p> <p>Certificate No.: <b>IECEx SIR 07.0027X</b></p> <p>Date of issue: <b>2021-02-02</b></p>	
<p><b>DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)</b></p> <p>This issue, Issue 12, recognises the following changes; refer to the certificate annex to view a comprehensive history:</p> <ol style="list-style-type: none"> <li>To recognise a new option code (LD) for addition of LED, resulting in the introduction of a change to the marking, the introduction of a Specific Condition of Use and the introduction of IEC 60079-11-2011 Edition 6.0 as assessment standard.</li> <li>To extend the range of overpressure relief valve (RLV) sizes up to RLV400 and to include all possible RLV sizes, within minimum 25 mm and maximum 400 mm RLV bore size.</li> <li>To introduce an alternative configuration for the Delay Trip (DT) option.</li> <li>To introduce an alternative configuration for the leakage compensation system.</li> <li>To record the addition of alternative manufacturing sites as follows:</li> </ol> <p>Expo Technologies, Inc. 9140 Ravenna Road, Unit 3 Twinsburg Ohio OH 44087 United States of America Qingdao Expo Mechanical and Electrical Technologies Ltd 329 Huashan Er Lu, Jimo City Qingdao, Shandong Province 266200 China</p>	
<p><b>Annex:</b></p> <p><a href="#">IECEx SIR07.0027X annexe Ies 12.pdf</a></p>	

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<p><b>IECEx SIR 07.0027X</b></p> <p>Page 3 of 4      Issue No: 12</p> <p>Certificate No.: <b>IECEx SIR 07.0027X</b></p> <p>Date of issue: <b>2021-02-02</b></p>	
<p><b>EQUIPMENT:</b> Equipment and systems covered by this Certificate are as follows:</p> <p>The Purge Controllers are pneumatically operated devices, which are intended to provide a given flow rate of purging gas for a predetermined time to unspecified Ex p protected electrical equipment. The MiniPurge Control Units provide one of the following four methods of purge operation.</p> <ul style="list-style-type: none"> <li>LC1:Leakage compensation only after initial high purge</li> <li>CF-Continuous flow (same flow rate during and after purging)</li> <li>CFHP-Continuous (lower) flow after initial high purge</li> <li>DP – Dust Protection (for pressurization only)</li> </ul> <p>The MiniPurge control unit may be supplied within a heated enclosure to permit the use of the system within an ambient temperature down to -60°C.</p> <p>See Annex for more information.</p>	
<p><b>SPECIFIC CONDITIONS OF USE: YES as shown below:</b></p> <ol style="list-style-type: none"> <li>When using the AO, AS and DT options, the recommendations for the additional requirements of Ex p apparatus contained within IEC 60079-14 shall be applied.</li> <li>The installer/user shall ensure that the MiniPurge Control Unit is installed in accordance with the equipment certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.</li> <li>The values of the safety parameters shall be set in accordance with the equipment certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.</li> <li>This MiniPurge Control Unit shall be incorporated into equipment and the appropriate Conformity Assessment Procedures applied to the combination. This certificate does not cover the combination.</li> <li>The purge controller, low temperature version, shall be protected by a system that ensures that it cannot be energised if the temperature of the controller logic air or purge controller falls below -20°C. This system shall utilise the RTDs that are fitted to the purge controller to provide the appropriate level of system integrity.</li> <li>Where a Vortex cooler is fitted, the air outlet pipe shall be kept free from obstructions and blockage.</li> <li>The following routine tests are to be carried out. <ul style="list-style-type: none"> <li>The vortex cooler is functioning correctly. (H6 and H7 options ONLY)</li> <li>The pneumatic logic isolator is functioning correctly (H8 and H9 options ONLY)</li> </ul> </li> <li>When using the 'LD' option, the LEDs have the following IS input parameters and it shall be supplied from a suitable intrinsically safe power supply for Zone 1 or Zone 2 depending on which zone the purge controller is being installed.</li> </ol> <p>UI = 30V, II = 100mA, PI = 1W, CI = 0 and LI = 0.</p>	



Annex to: IECEx SIR 07.0027X Issue 12  
 Applicant: EXPO Technologies Limited  
 Apparatus: Purge Controller



Annex to: IECEx SIR 07.0027X Issue 12  
 Applicant: EXPO Technologies Limited  
 Apparatus: Purge Controller

Standard versions:	Ex [pxb] IIC T6 Gb Ex [pxb] IIC T6 Gb (Ta -20°C to +55°C)	Ex [pxb] IIC T6 Gb Ex [pxb] IIC T785°C Db (Ta -20°C to +55°C)	Ex [pxb] IIC T785°C Db (Ta -20°C to +55°C)
<b>Low temp./ET/ES versions:</b>			
Ex [pxb] ia IIC T3 Gb	Ex [pxb] db e IIC T3 Gb	Ex [pxb] db e IIC T3 Gb	Ex [pxb] db e IIC T3 Gb
Ex [pxb] ia IIC T100°C Db (Ta -20°C to +55°C)	Ex [pxb] db e IIC T4 Gb (Ta -20°C to +55°C)	Ex [pxb] db e IIC T4 Gb (Ta -20°C to +55°C)	Ex [pxb] db e IIC T4 Gb (Ta -20°C to +55°C)
<b>High temperature versions – H6:</b>			
Ex [pxb] IIC T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +60°C]	Ex [pxb] ia IIC T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +60°C]	Ex [pxb] ia IIC T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +60°C]	Ex [pxb] ia IIC T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +60°C]
<b>High temperature versions – H7:</b>			
Ex [pxb] IIC T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +70°C]	Ex [pxb] ia IIC T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +70°C]	Ex [pxb] ia IIC T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +70°C]	Ex [pxb] ia IIC T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +70°C]
<b>Combined Versions</b>			
<b>Low temp. with High temp. H6</b>			
Ex [pxb] db e IIC T3 or T4 Gb (Ta -60°C to +60°C) [Purge air temp. up to +60°C]	Ex [pxb] db e IIC T3 or T4 Gb (Ta -60°C to +60°C) [Purge air temp. up to +60°C]	Ex [pxb] db e IIC T3 or T4 Gb (Ta -60°C to +60°C) [Purge air temp. up to +60°C]	Ex [pxb] db e IIC T3 or T4 Gb (Ta -60°C to +60°C) [Purge air temp. up to +60°C]
<b>Low temp. with High temp. H7</b>			
Ex [pxb] db e IIC T3 or T4 Gb (Ta -60°C to +60°C) [Purge air temp. up to +70°C]	Ex [pxb] ia IIC T3 or T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +60°C]	Ex [pxb] ia IIC T3 or T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +60°C]	Ex [pxb] ia IIC T3 or T4 Gb (Ta -20°C to +60°C) [Purge air temp. up to +60°C]
<b>Standard versions LD:</b>			
Ex [pxb] IIC T4 Gb (Ta -20°C to +55°C)	Ex [pxb] IIC T4 Gb (Ta -20°C to +55°C)	Ex [pxb] IIC T4 Gb (Ta -20°C to +55°C)	Ex [pxb] IIC T4 Gb (Ta -20°C to +60°C)
<b>Standard ET/ES/LD Versions</b>			
Ex [pxb] ia IIC T3 or T4 Gb (Ta -20°C to +55°C)	Ex [pxb] db e IIC T3 or T4 Gb (Ta -20°C to +55°C)	Ex [pxb] db e IIC T3 or T4 Gb (Ta -20°C to +55°C)	Ex [pxb] db e IIC T3 or T4 Gb (Ta -20°C to +55°C)

Date: 02 February 2021  
 Form 9530 Issue 1

Page 1 of 7

Date: 02 February 2021  
 Form 9530 Issue 1

Page 2 of 7

Page 2 of 7

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Annex to:	IECEx SIR 07.0027X Issue 12
Applicant:	EXPO Technologies Limited
Apparatus:	Purge Controller



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**Relief Valve** - The MiniPurge controller is supplied with an optional overpressure relief valve, which is to be fitted to the Ex p protected apparatus to prevent an internal overpressure above the maximum over pressure rating of the apparatus. There are 14 models of relief valve; the designation of each relief valve refers to its nominal bore in mm, as follows: RLV3, RLV6, RLV9, RLV12, RLV19, RLV25, RLV26, RLV52, RLV75, RLV104, RLV125, RLV150 and RLV200.

The outlet of each relief valve is fitted with a spark arrestor, of which there are four optional types:

- Metal foam
- Tortuous path with at least 4 x 90° or 2 x 180° bends
- Multi-layer stainless steel mesh
- Knitted mesh

**Outlet Orifice** - Three types of orifice are used:

- Threaded Orifices e.g. ¼" NPT or 2" BSP with a built in spark arrester. These are selected to maintain a desired back pressure within the Ex p protected apparatus when used with the Continuous Flow options. The designation of each outlet orifice indicates the nominal inlet diameter. The designations are as follows: SA3, SA6, SA9, SA12, SA19, SA25, SA32, SA38 and SA50.
- Plain holes in the Relief Valve disk, sized according to the flow rate required.
- Replaceable orifice type SAU\*\*.

**High Pressure Sensor for CF Systems (HPS code)** - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the controller resets cutting the power to the endosure. On detecting the overpressure an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

**High Pressure Sensor for LC Systems (HPS code)** - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the purge gas flow is isolated from the pressurised enclosure. The valve isolates both the leakage compensation and the purge streams. On detecting the overpressure, an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

**Pneumatically Operated Outlet Valve** - The pneumatically operated outlet valve is used to positively open or close the outlet of the purged enclosure by means of a spring return pneumatic cylinder. Systems fitted with the Pneumatically Operated Outlet Valve will carry the option O.

#### Conditions of Manufacture

- 1 The switches incorporated in the PA option shall be suitably certified for Zone 1.
- 2 The following routine tests shall be performed by the manufacturer:

#### Verification of Minimum Overpressure Cut Off

An overpressure loss shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

#### Verification of Purge Failure Protection

A purge failure shall be simulated whilst the MiniPurge 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 MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

#### Verification of Purging Overpressure protection

Where the HPS is specified an overpressure shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.



IECEx SIR 07.0027X Issue 12

EXPO Technologies Limited

Purge Controller

Annex to:

Applicant:

Apparatus:

IECEx SIR 07.0027X Issue 12

EXPO Technologies Limited

Purge Controller

**Issue 7 –** this Issue introduced the following changes:

- The inlet air temperature sensing system was changed; as a consequence, a Special Condition For Safe Use was amended.
- A Local Sensing (LS) option was introduced.
- The RLV configuration was changed to show an optional alternative position of the flow sensing connection.
- The recognition of minor drawing modifications; the addition of notes and the clarification of the markings etc., these amendments are administrative that do not affect the aspects of the product that are relevant to explosion safety.
- The minimum ambient temperature limit for the Low Temperature and Low Temperature/ET versions was lowered from -50°C to -60°C.
- Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-2:2007, IEC 61241-4:2001 Edition 1 and EN 61241-4:2006 were replaced by IEC 60079-2:2014 Edition 6, the markings were updated accordingly.

**Issue 8 –** this Issue introduced the following changes:

- The introduction of the:
- H6 high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 60°C. Optionally this may include an intrinsically safe electronic timer (ET).

The MiniPurge and other components are fitted inside the same enclosure which is made from stainless steel (or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and/or terminals, with electrical cables entering it via cable glands.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller. A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

The optional terminal box (T/B) may be any suitable IECEx certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-20°C to +60°C), with a minimum Temperature Class of T4 (135°C),

- H7 - high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 70°C. Optionally this may include an intrinsically safe electronic timer (ET).

The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel (or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and/or terminals, with electrical cables entering it via cable glands.

One cooled chamber contains the system control logic circuit, the Vortex Cooler and the logic isolator. The other hot chamber contains all of the purge air flow path parts rated for continuous operation at a minimum of 70°C. The two chambers are thermally insulated from each other.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.



Annex to:

Applicant:

Apparatus:

IECEx SIR 07.0027X Issue 12

EXPO Technologies Limited

Purge Controller

IECEx SIR 07.0027X Issue 12

EXPO Technologies Limited

Purge Controller

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

The optional terminal box (T/B) may be any suitable IECEx certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-20°C to +60°C), with a minimum Temperature Class of T4 (135°C).

**Issue 9 –** this Issue introduced the following changes:

- The introduction of the Combined Low Temperature (LT) and High Temperature (H6 or H7) options:
- Combined Low Temperature (LT) and High Temperature (H6) options – Combination of the previously certified Low temperature and High temperature (H6) versions, with an ambient temperature range of -60°C to +60°C and permitting a maximum purge air temperature of 60°C. Optionally this may include an intrinsically safe electronic timer (ET).

This version has two separate variants, as detailed below:

- The MiniPurge and other components are fitted inside the same enclosure which is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and/or terminals, with electrical cables entering it via cable glands.
- The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and/or terminals, with electrical cables entering it via cable glands.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller. A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

At the bottom of the enclosure is fitted the heater, which is identical to that used in the Low Temperature version. This will operate at +5°C.

The optional terminal box (T/B) may be any suitable ATEX certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-60°C to +60°C), with a minimum Temperature Class of T4 (135°C).

Combined Low Temperature (LT) and High Temperature (H7) options – Combination of the previously certified Low temperature and High temperature (H7) versions, with an ambient temperature range of -60°C to +60°C and permitting a maximum purge air temperature of 70°C. Optionally this may include an intrinsically safe electronic timer (ET).

The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and/or terminals, with electrical cables entering it via cable glands.

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Page 5 of 7

Page 6 of 7

Annex to:

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IECEx SIR 07.0027X Issue 12

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Purge Controller

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Form 9530 Issue 1

Page 5 of 7

Page 6 of 7

Date: 02 February 2021

Form 9530 Issue 1

Page 6 of 7



IECEx SIR 07.0027X Issue 12

Applicant: EXPO Technologies Limited

Apparatus: Purge Controller

Annex to:

IECEx SIR 07.0027X

One cooled chamber contains the system control logic circuit, the Vortex Cooler and the logic isolator. The other hot chamber contains all of the purge air flow path parts rated for continuous operation at a minimum of 70°C. The two chambers are thermally insulated from each other.

The Vortex Coder is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

At the bottom of the enclosure is fitted the heater, which is identical to that used in the Low Temperature version. This will operate at +5°C.

The optional terminal box (T/B) may be any suitable IECEx certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-60°C to +60°C), with a minimum Temperature Class of T4 (135°C).

- ii. To remove IS marking which was incorrectly applied in a previous variation.
- iii. To permit the addition of a previously assessed drawing which was not listed in a previous variation.

**Issue 10** - this issue introduced the following changes:

- i. To align the manufacturer's product name between certificates, resulting in the model designation table being amended in the certificate annex and a Condition of Manufacture being amended.
- ii. The (ES) option was introduced. This is the (ET) electronic timer option complete with an Electro Pneumatic Power Supply (EPPS), covered by certificate IECEx FME 10.0001X, resulting in the model designation table being amended in the certificate annex, to recognise the new (ES) option and amend the (ET) option. The assessment for the introduction of the (ES) option is against the listed electrical standards. A non-electrical assessment has not been conducted.
- iii. The RLV configuration was changed to show an alternative position of the flow sensing connection.
- iv. The main certification coding for the low temperature versions of the mini-purge controller, certified for use in gas atmospheres, were amended with 'd' being replaced with 'db' and 'm' being removed in recognition of the change of heater certification coding introduced in Issue 7 of certificate IECEx SIR 07.0027X.
- v. The withdrawal of dust certification coding from the main certification coding for the low temperature versions of the mini-purge controller.
- vi. The withdrawal of approved drawing SD8196.
- vii. To assess and document minor modifications to the drawings in the certification package for this equipment, resulting in the introduction of a Condition of Manufacture.

**Issue 11** - this issue introduced the following changes:

- i. To recognise a new option code (LD) for addition of LED, resulting in the introduction of a change to the marking, the introduction of a Specific Condition of Use and the introduction of IEC 60079-11:2011 Edition 6.0 assessment standard.
- ii. To extend the range of overpressure relief valve (RLV) sizes up to RLV400 and to include all possible RLV sizes, within minimum 25 mm and maximum 400 mm RLV bore size.
- iii. To introduce an alternative configuration for the Delay Trip (DT) option.
- iv. To introduce an alternative configuration for the leakage compensation system.
- v. To record the addition of alternative manufacturing sites as follows:
  - a. Expo Technologies, Inc. 9140 Ravenna Road, Unit 3, Twinsburg, Ohio OH 44087, United States of America
  - b. Qingdao Expo Mechanical and Electrical Technologies Ltd, 329 Huashan Er Lu, Jimo City, Qingdao, Shandong Province 266200,

Date: 02 February 2021

Page 7 of 7

Form 9530 Issue 1

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## EU-TYPE EXAMINATION CERTIFICATE

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU  
 2 Certificate Number: **Sira 01ATEX1295X**  
 3 Issue: **15**

## EU-TYPE EXAMINATION CERTIFICATE

1 Sira 01ATEX1295X  
 Issue 15

## SCHEDULE

## EU-TYPE EXAMINATION CERTIFICATE

- 4 Equipment: **MinIPurge Purge Controller**  
**EXPO Technologies Limited**  
 5 Applicant:  
 6 Address:  
 Unit 2  
 The Summit  
 Hanworth Road  
 Sunbury on Thames  
 Surrey TW16 5DB  
 UK
- 7 This equipment and any acceptable variation thereof is specified in the schedule to this certificate and the documents therein referred to.
- 8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in the confidential reports listed in Section 14.2.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:
- EN 60079-11:2012  
 EN 60079-2:2014  
 EN 60079-0:2012/A11: 2013
- 10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.
- 11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.
- 12 The marking of the equipment shall include the following:  
 Refer to the schedule for marking

13 DESCRIPTION OF EQUIPMENT

Standard versions:	Low temperature/ET/ES versions:	High temperature/ET/ES versions – H6:	High temperature/ET/ES versions – H7:	Low temp. with High temp. H6 and Et/ES	Low temp. with High temp. H7 and Et/ES	Standard versions LD:
Ex II 2(2) GD Ex [pxb] IIC T6 Gb Ex [pxb] IIC T85°C Db (Ta -20°C to +55°C)	Ex [pxb] IIC T6 Gb Ex [pxb] IIC T85°C Db (Ta -20°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T4 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex II 2(2) G
Ex II 2(2) GD Ex [pxb] IIC T6 Gb Ex [pxb] IIC T85°C Db (Ta -20°C to +55°C)	Ex [pxb] IIC T6 Gb Ex [pxb] IIC T85°C Db (Ta -20°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T4 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex II 2(2) G
Ex II 2(2) GD Ex [pxb] IIC T6 Gb Ex [pxb] IIC T85°C Db (Ta -20°C to +55°C)	Ex [pxb] IIC T6 Gb Ex [pxb] IIC T85°C Db (Ta -20°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T4 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex II 2(2) G
Ex II 2(2) GD Ex [pxb] IIC T6 Gb Ex [pxb] IIC T85°C Db (Ta -20°C to +55°C)	Ex [pxb] IIC T6 Gb Ex [pxb] IIC T85°C Db (Ta -20°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T4 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta -60°C to +55°C)	Ex II 2(2) G

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 Page 1 of 12

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 Netherlands  
 Page 2 of 12



## SCHEDULE

## EU-TYPE EXAMINATION CERTIFICATE

Sira 01ATEX1295X  
Issue 15

The Purge Controllers are pneumatically operated devices which are intended to provide a given flow rate of purging gas for a predetermined time to unspecified Ex p protected electrical equipment. The MiniPurge Control Units provide one of the following four methods of purge operation.

LC-Leakage compensation only after initial high purge

CF-Continuous flow (same flow rate during and after purging)

CF2-Two flow CF system with initial high purge rate only at one orifice

CFHP-Continuous (lower) flow after initial high purge

DP - Dust Protection (for pressurization only)

The MiniPurge control unit may be supplied within a heated enclosure to permit the use of the system within an ambient temperature down to -60°C.

**Relief Valve** - The MiniPurge controller is supplied with an optional overpressure relief valve, which is to be fitted to the Ex p protected apparatus to prevent an internal overpressure above the maximum overpressure rating of the apparatus. There are 14 models of relief valve; the designation of each relief valve refers to its nominal bore in mm, as follows:

RLV3, RLV6, RLV9, RLV12, RLV19, RLV25, RLV26, RLV52, RLV75, RLV104, RLV125, RLV150 and RLV200.

The outlet of each relief valve is fitted with a spark arrestor, of which there are four optional types:

- Metal foam
- Tortuous path with at least 4 x 90° or 2 x 180° bends
- Multi-layer stainless steel mesh
- Knitted mesh

**Outlet Orifice** - Three types of orifice are used:

- Threaded Orifices e.g. 1/4" NPT or 2" BSP with a built in spark arrester. These are selected to maintain a desired back pressure within the Ex p protected apparatus when used with the Continuous Flow options. The designation of each outlet orifice indicates the nominal inlet diameter. The designations are as follows: SA3, SA6, SA9, SA12, SA19, SA25, SA32, SA38 and SA50.
- Plain holes in the Relief Valve disk, sized according to the flow rate required.
- Replaceable orifice type SAU\*\*.

**High Pressure Sensor for LC Systems (HP code)** - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the controller resets cutting the power to the enclosure. On detecting the overpressure an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

**High Pressure Sensor for CF Systems (HP code)** - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the purge gas flow is isolated from the pressurised enclosure. The valve isolates both the leakage compensation and the purge streams. On detecting the overpressure, an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

**Pneumatically Operated Outlet Valve** - The pneumatically operated outlet valve is used to positively open or close the outlet of the purged enclosure by means of a spring return pneumatic cylinder. Systems fitted with the Pneumatically Operated Outlet Valve will carry the option OV.

## SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE  
Sira 01ATEX1295X  
Issue 15

Size or Capacity		Model Number: 1 X LC cs DS SS AA MO FM OA TW Key: a b cc mm Example option codes	
1	MiniPurge with Purge Flow Capacity up to 225 N/min.	CF	Leakage Compensation only after initial High Purge
2	MiniPurge with Purge Flow Capacity up to 450 N/min.	CF2	Two Flow CF System with initial High Purge rate but only one orifice
3	MiniPurge with Purge Flow Capacity up to 900 N/min.	CFHP	Continuous (lower) flow after initial High Purge
4	MiniPurge with Purge Flow Capacity up to 2000 N/min.	DP	Dust Protection (pressurization only)
5	MiniPurge with Purge Flow Capacity up to 6000 N/min.	mm	Material of the Control Unit Enclosure
6	MiniPurge with Purge Flow Capacity up to 8000 N/min.	al	Aluminium alloy
7	MiniPurge with Purge Flow Capacity above 8000 N/min.	cs	Mild steel, painted
b	Presurization Type	ss	Stainless steel
x	X Presurization	hp	Back Plate only
y	Y Presurization	co	Classic only
z	Z Presurization	pm	Panel mounting
cc	Action after initial purging	nn	Non-Metallic
lc	Leakage Compensation (same flow rate during and after purging)	aa	Active Alarm output fitted.
cc	Continuous (lower) flow after initial High Purge rate but only one orifice	ao	Alarm cancellation circuit.
cc	Action after initial purging	as	Alarm "Action on Pressure or Flow failure", Selector valve.
cc	Leakage Compensation (same flow rate during and after purging)	cs	Containment System Monitor.
cc	Continuous (lower) flow after initial High Purge rate but only one orifice	ds	Door switch Power Interlock fitted.
cc	Action after initial purging	dd	Delayed trip after pressure or flow failure.
cc	Leakage Compensation (same flow rate during and after purging)	es	Electronic timer with EPSS
cc	Action after initial purging	et	Electronic liner (not EPSS option)
cc	Leakage Compensation (same flow rate during and after purging)	fm	Flow Meter(s) fitted.
cc	Action after initial purging	h6	High Temperature Tamb -20°C to +60°C, Air Supply Max Temp +60°C.
cc	Action after initial purging	h7	High Temperature Tamb -20°C to +60°C, Air Supply Max Temp +70°C.
cc	Action after initial purging	lc9	System LC or CF with High Pressure Sensor
cc	Action after initial purging	is	Internal switches suitable for Ex circuits.
cc	Action after initial purging	ls	Local Sourcing
cc	Action after initial purging	d	LED Option
cc	Action after initial purging	lt	Low Temperature
cc	Action after initial purging	no	Manual Overdrive fitted.
cc	Action after initial purging	mt	Mechanical Timer.
cc	Action after initial purging	ok	On/Off switch controlling Protective gas and logic supply.
cc	Action after initial purging	ob	On/Off switch controlling logic supply only.
cc	Action after initial purging	oc	On/Off switch controlling Protective gas supply only.
cc	Action after initial purging	os	Outlet Orifice Selector valve.
cc	Action after initial purging	ov	Outlet valve automatically operated.
cc	Action after initial purging	pa	"Ex" switch fitted built-in without "Ex" Junction box.
cc	Action after initial purging	pc	PC Pressure Control, leakage Compensation Valve (CAPS System).
cc	Action after initial purging	po	Pneumatic Output signals for power and Alarm control.
cc	Action after initial purging	sp	Secondary Pressurization Supply options.
cc	Action after initial purging	ss	Separate Supply for Protective gas and Logic air.
cc	Action after initial purging	tw	Two (or more) outputs for two or more separate pressurized enclosures purged in parallel
cc	Action after initial purging	dxxx	Special design for specific flow rates, or other non-certification related options.

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DQD 544.09

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DQD 544.09

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Page 4 of 12

**SCHEDULE****EU-TYPE EXAMINATION CERTIFICATE**

**Sira 01ATEX1295X**  
Issue 15

**Variation 1** This variation introduced the following changes:

- i. The purge controller to be fitted inside an additional, heated, stainless steel enclosure that allows it to be used down to -50°C.

The heater (500 W maximum) is manufactured by Intertec-Hess GmbH and coded Ex d IIC T3 (max) under PTB 02ATEX1041X. If the outer enclosure is reduced in size the power of the heater may be reduced in proportion to the reduction in surface area. Other alternative heaters may be used as a replacement if they are suitably certified, carry the same or greater ambient temperature range, occupy the same or smaller physical space, have the same certification code and have the same or more restrictive Temperature Class.

The enclosure is made from 1.5mm or 2.5 mm thick stainless or mild steel painted and the lid is made from 1.5 mm thick stainless steel, lined with 38 mm thick insulation, or other materials with equivalent insulating properties. The purge inlet, purge outlet and pressure sensing lines are similarly insulated. The door may optionally be hinged with quick release catches, these will be fitted with a padlock. An enclosure breather tube is fitted to help prevent condensation. A plastic clear viewing window may optionally be fitted to the door.

RTDs are fitted to the air inlet pipe-work and inside the purge controller enclosure.

An ex terminal box is provided within the main enclosure for connection of the heater leads. This polyester box is manufactured by BarTec and coded Ex e II T6 under BAS 94ATEX3008X. Other alternative ATEX terminal boxes may be used as a replacement if they are suitably certified, carry the same or greater ambient temperature range, occupy the same or smaller physical space, have the same certification code and have the same Temperature Class.

Any suitable ATEX, Category 2 approved cable gland may be used, if it can be used with the ambient temperature range.

- ii. A change of the Applicant's name on the certificate and the substitution of the new name for the old name on the approved label affixed to the purge controllers.

**Old Name:**  
Expo Teletron Safety System Limited  
**New name:**  
Expo Technologies Limited

**Variation 2** This variation introduced the following change:

- i. To permit the pressurisation of enclosures for the exclusion of combustible dusts, in accordance with IEC61241-4-2:2001, and modification of the marking to include one of the following:

[Ex pd] II T200°C 21 (Ta = -20°C to +55°C) - (used with the low temperature versions)  
[Ex pd] II T85°C 21 (Ta = -20°C to +55°C) - (used with the standard temperature versions)

The ATEX coding is modified to:

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Rev 2018-04-20  
DQD 544.09

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Page 5 of 12

**SCHEDULE****EU-TYPE EXAMINATION CERTIFICATE**

**Sira 01ATEX1295X**  
Issue 15

**Variation 3** This variation introduced the following changes:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents originally listed in section 9, EN 50014-1:997 (amendments A1 to A2) and EN 50016:1995 were replaced by EN 60079-0:2006, EN 60079-1:2004, EN 61241-0:2006 and EN 61241-1:2006, the markings in section 12 were updated accordingly, the removal of special conditions for safe use that were not specifically associated with the equipment covered by this certificate.

**Variation 4** - This variation introduced the following change:

- i. To permit the inclusion of the following coding for the Low Temperature MiniPurge Enclosure:  
Ex [p] IIC T4  
Ex pb II 21 T135C  
(Ta = -50°C to +55°C)

**Variation 5** - This variation introduced the following changes:

- i. The introduction of an alternative to the pneumatic or mechanical timer system, this incorporates an Electronic Timer Module ETM-1S\*\*-\*\*\*. In the Mini Purge, the certification includes 'a' marking when the ETM is fitted.
- ii. The dust marking was changed to be consistent with the marking for gases and vapours.
- iii. The introduction of a high pressure sensor for the LC option.

**Variation 6** - This variation introduced the following change:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the latest EN 60079 series of standards, the documents previously listed in section 9, EN 60079-0: 2006 and EN 60079-2: 2004 were replaced by those currently listed (EN 61241-0: 2006 was removed as this is incorporated into the current version of 60079-0), the markings in section 12 were updated accordingly and a new condition of certification was added.

**Variation 7** - This variation introduced the following change:

- i. The recognition of the Applicant's address change from Summer Road, Thames Ditton, Surrey KT7 ORH to Unit 2, The Summit, Hanworth Road, Sunbury on Thames, Surrey TW16 5DB.
- ii. The inlet air temperature sensing system was charged; as a consequence, a Special Condition For Safe Use was amended.
- iii. A Local Sensing (LS) option was introduce.
- iv. The RLV configuration was changed to show an optional alternative position of the flow sensing connection, etc., these amendments are administrative that do not affect the aspects of the product that are relevant to explosion safety.
- v. The minimum ambient temperature limit for the Low Temperature and Low Temperature/ET versions was lowered from -50°C to -60°C.
- vi. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012, EN 60079-2:2007, IEC 61241-4:2001 Edition 1 and EN 61241-4:2006 were replaced by EN 60079-0:2012 and EN 60079-2:2014, the markings in section 12 were updated accordingly.

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Rev 2018-04-20  
DQD 544.09

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Page 6 of 12



SCHEDULE	EU-TYPE EXAMINATION CERTIFICATE
Sira 01ATEX1295X Issue 15	

**Variation 9** - This variation introduced the following changes:

i.

- The introduction of the:
  - H6 - high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 60°C. Optionally this may include an intrinsically safe electronic timer (ET).
  - The MiniPurge and other components are fitted inside the same enclosure which is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet, fitted to the regulator, and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.
  - The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

The optional terminal box (T/B) may be any suitable ATEX certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-20°C to +60°C), with a minimum Temperature Class of T4 (135°C).

H7 - high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 70°C. Optionally this may include an intrinsically safe electronic timer (ET).

The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet, fitted to the regulator, and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

One cooled chamber contains the system control logic circuit, the Vortex Cooler and the logic isolator. The other hot chamber contains all of the purge air flow path parts rated for continuous operation at a minimum of 70°C. The two chambers are thermally insulated from each other. The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

The optional terminal box (T/B) may be any suitable ATEX certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-20°C to +60°C), with a minimum Temperature Class of T4 (135°C).

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Rev 2018-04-20

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Rev 2018-04-20

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Utrechtseweg 310,  
6312 AR, Arnhem Netherlands

Page 7 of 12

Page 8 of 12



SCHEDULE	EU-TYPE EXAMINATION CERTIFICATE
Sira 01ATEX1295X Issue 15	

**Variation 9** - This variation introduced the following changes:

i.

- The introduction of:
  - H6 - high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 60°C. Optionally this may include an intrinsically safe electronic timer (ET).
  - The MiniPurge and other components are fitted inside the same enclosure which is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

The MiniPurge and other components are fitted inside an enclosure which is made from two stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

The MiniPurge and other components are fitted inside an enclosure which is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

At the bottom of the enclosure is fitted the heater, which is identical to that used in the Low Temperature version. This will operate at -5°C.

The optional terminal box (T/B) may be any suitable ATEX certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-60°C to +60°C), with a minimum Temperature Class of T4 (135°C).

Combined Low Temperature (LT) and High Temperature (H7) options – Combination of the previously certified Low temperature and High temperature (H7) versions, with an ambient temperature range of -60°C to +60°C and permitting a maximum purge air temperature of 70°C. Optionally this may include an intrinsically safe electronic timer (ET).

The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

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Rev 2018-04-20

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**CSA Group Netherlands B.V.**  
Utrechtseweg 310,  
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Page 8 of 12



## SCHEDULE

## EU-TYPE EXAMINATION CERTIFICATE

Sira 01ATEX1295X  
Issue 15

transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals with electrical cables entering it via cable glands.

One cooled chamber contains the system control logic circuit, the Vortex Cooler and the logic isolator. The other hot chamber contains all of the purge air flow path parts rated for continuous operation at a minimum of 70°C. The two chambers are thermally insulated from each other.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller. A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

At the bottom of the enclosure is fitted the heater, which is identical to that used in the Low Temperature version. This will operate at +5°C.

The optional terminal box (T/B) may be any suitable IECEx certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-60°C to +60°C), with a minimum Temperature Class of T4 (135°C).

ii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012 was replaced by EN 60079-0:2012/A1:2013

iii. To remove IS marking which was incorrectly applied in a previous variation.

iv. To permit the addition of a previously assessed drawing which was not listed in a previous variation.

## Variation 11 - This variation introduced the following change:

i. A solenoid in the Expo Technologies Electronic Timer (ET) Module ETM-1S\*\*\*-\*\*\* covered by certificate FM10ATEX0003X was replaced due to obsolescence, resulting in a change of the temperature classification. The ET Module ETM-1S\*\*\*-\*\*\* is incorporated in 'VET versions' of the purge controller covered by certificate Sira 01ATEX1295X, as a result of this update, only the temperature class/markings of the 'Standard/ET versions' were affected and were therefore amended as follows, raising T6 to T5 and T55°C to T100°C.

## Variation 12 - This variation introduced the following changes:

i. The previous product name was changed from 'Purge Controllers; Sub-MiniPurge, MiniPurge, Super-MiniPurge, Super-MiniPurge 1.800/3500/7000/7000X to 'MiniPurge Purge Controller', resulting in the model designation table being amended in the product description and a Condition of Manufacture being amended.

ii. The (ES) option was introduced. This is the (ET) electronic timer option complete with an Electro Pneumatic Power Supply (EPPS), covered by certificate FM10ATEX0003X, resulting in the model designation table being amended in the product description, to recognise the new (ES) option and amend the (ET) option.

iii. The RLV configuration was changed to show an alternative position of the flow sensing connection.

iv. The main certification coding for the low temperature versions of the mini-purge controller, certified for use in gas atmospheres, were amended with 'd' being replaced with 'db' and 'm' being removed in recognition of the change of heater certification coding introduced in variation 8 of certificate Sira 01ATEX1295X.

v. The withdrawal of the dust certification coding from the main certification coding for the low temperature versions of the mini-purge controller.

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Rev 2018-04-20

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DQD 544.09  
Rev 2018-04-20

EU-TYPE EXAMINATION CERTIFICATE			
SCHEDULE			
<b>Sira 01ATEX1295X</b>			Issue 15
14	1	Drawings	Refer to Certificate Annex.
14	2	Associated Sira Reports and Certificate History	
Issue	Date	Report no.	Comment
0	3 July 2002	R53A1769A	The release of prime certificate.
1	29 March 2004	R53V11342A	The introduction of Variation 1.
2	30 September 2004	R51A11080A	The re-issue of Variation 2 to include the changes described in report number R51A15629A.
3	19 September 2006	R51A15629A	This Issue covers the following changes: • All previously issued certification was rationalised into a single certificate, Issue 4, Issues 0 to 3 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.
4	7 June 2007	R51L15966B	The introduction of Variation 3.
5	18 February 2009	R51L19695A	The introduction of Variation 4.
6	22 December 2010	R23665A/00	This Issue covers the following changes: • This certificate history was modified to recognise that Variation 2 was re-issued, subsequent variations have therefore been re-numbered.
7	07 December 2011	R25983A/00	The introduction of Variation 5.
8	05 October 2012	R29097A/00	The introduction of Variation 6.
9	10 July 2015	R70012182A	The introduction of Variation 7.
			The introduction of Variation 8.

vi. The withdrawal of approved drawing SD8196.
vii. To assess and document minor modifications to the drawings in the certification package for this equipment, resulting in the introduction of a Condition of Manufacture.
<b>Variation 13 - This variation introduced the following changes:</b>
i. To recognise a new option code (ID) for addition of LED, resulting in the introduction of a change to the marking, the introduction of a Specific Condition of Use and the introduction of EN 60079-11:2012 assessment standard.
ii. To extend the range of overpressure relief valve (RLV) sizes up to RLV400- and to include all possible RLV sizes, within minimum 25 mm and maximum 400 mm RLV bore size.
iii. To introduce an alternative configuration for the Delay Trip (DT) option.
iv. To introduce an alternative configuration for the leakage compensation system.
v. To update existing condition of use 15.5, to remove the reference to withdrawn standard EN 954-1 that is used as an example and to clarify that the safety related system that protects the low temperature version of the purge controller shall comply with the requirements of ATEX Directive 2014/34/EU.



**SCHEDULE**  
**EU-TYPE EXAMINATION CERTIFICATE**

Sira 01ATEX1295X  
Issue 15

Issue	Date	Report no.	Comment
10	15 June 2016	R/004822/A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. (In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referred to 94/9/EC, that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</li></ul>
11	25 October 2016	R70086964	The introduction of Variation 9.
12	31 March 2017	R7017326A	The introduction of Variation 11.
13	09 November 2018	R70198821/A	The introduction of Variation 12.
14	15 October 2019	0964	Transfer of certificate Sira 01ATEX1295X from Sira Certification Service to CSA Group Netherlands B.V.
15	02 February 2021	R80041858A	The introduction of Variation 13.

**SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

- 15.1 When using the AO, AS and DT options, the recommendations for the additional requirements of Ex p apparatus contained within EN 60079-14 shall be applied.
- 15.2 The installer/user shall ensure that the MiniPurge Control Unit is installed in accordance with the equipment Certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.
- 15.3 The values of the safety parameters shall be set in accordance with the equipment certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.
- 15.4 This MiniPurge Control Unit shall be incorporated into equipment and the appropriate Conformity Assessment Procedures applied to the combination as defined by Directive 2014/34/EU. This certificate does not cover the combination.
- 15.5 The purge controller, low temperature version, shall be protected by a safety related system, complying with the requirements of ATEX Directive 2014/34/EU, that ensures that it cannot be energised if the temperature of the controller logic air or purge controller falls below -20°C. This system shall utilise the RTDs that are fitted to the purge controller to provide the appropriate level of system integrity; note that these RTDs have not been assessed as a safety related device in accordance with EHSR 1.5 of Directive 2014/34/EU.
- 15.6 Where a Vortex cooler is fitted the hot air outlet pipe shall be kept free from obstructions and blockage.
- 15.7 The following routine tests are to be carried out
  - The Vortex cooler is functioning correctly (H6, H7 high temperature variants and H6, H7 combination variants only).
  - The pneumatic logic isolator is functioning correctly (H6, H7 high temperature variants and H6, H7 combination variants only).
- 15.8 When using the 'LD' option, the LEDs have the following IS input parameters and it shall be supplied from a suitable intrinsically safe power supply for category 2 (Zone 1) or Category 3 (Zone 2) depending on which zone the purge controller is being installed.
  - $U_i = 30V$ ,  $I_i = 100mA$ ,  $P_i = 1W$ ,  $C_i = 0$  and  $L_i = 0$ .

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Page 11 of 12



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**Page**  
**12**

**SCHEDULE**

**EU-TYPE EXAMINATION CERTIFICATE**

Sira 01ATEX1295X  
Issue 15

**ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHRS)**

The relevant EHRS that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

**CONDITIONS OF MANUFACTURE**

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 The switches incorporated in the PA option shall be suitably certified for Category 2.

17.4 The following routine tests shall be performed by the manufacturer:

**Verification of Minimum Overpressure Cut Off**

An overpressure loss shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

**Verification of Purge Failure Protection**

Where the HP is specified an overpressure shall be simulated whilst the MiniPurge 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 MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

**Verification of Purging Overpressure protection**

Where the HP is specified an overpressure shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

17.5 The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of the products.

17.6 The certification code that is appropriate to Purge Controllers Low Temperature and High Temperature H6 or H7 versions shall appear in the product marking applied to outer stainless steel or painted mild steel enclosure.

17.7 The MiniPurge Controller shall not be marked as suitable for use in explosive dust atmospheres when a non-metallic or painted housing is used.

17.8 When the optional electronic timer (FM10ATEX0003X) is fitted the manufacturer shall take into account any certification restrictions or special conditions for safe use that are applicable to the certified device.

17.9 When an Ex d junction box with flange openings is used in the low temperature (LT) versions of the MiniPurge controller, the manufacturer shall ensure that it is installed such that there are no obstructions within 40mm of the Ex junction box flameproof flanged joints.

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DDQ 544.09 Rev 2018-04-20



## Certificate Annex

**Certificate Number:** Sira 01ATEX1295X  
**Equipment:** MiniPurge Purge Controller  
**Applicant:** EXPO Technologies Limited

**Issue 0** (The drawings associated with this issue were replaced by those listed in Issue 4)

Number	Sheet	Rev.	Date	Description
SD7281	1 to 4	3	02 Jul 02	MiniPurge ATEX Certification Labelling
SD7282	1 to 2	2	21 May 01	MiniPurge ATEX Certification Type Numbering Scheme
EP99-2-17	1 of 1	1	21 Sep 00	MiniPurge, Continuous Flow with /HP Sensor -Schematic diagram
EP99-7-7	1 of 1	1	21 Sep 00	RLV, outlet orifice
EP99-7-9	1 of 1	1	21 Sep 00	Outlet Valve Control Circuit Diagram

**Issue 1** (The drawings associated with this issue were replaced by those listed in Issue 4)

Number	Sheet	Rev.	Date	Description
SD7448	1 of 1	3	22 March 04	Low Temperature Housing - General Arrangement
SD7449	1 of 1	1	18 Dec 03	Certification label

**Issue 2** (The drawings associated with this issue were replaced by those listed in Issue 4)

Number	Sheet	Rev.	Date	Description
SD7281*	1 to 5	4	17 Dec 03	Certification label

\* Modified by Sira 30 September 2004

**Issue 3** (The drawings associated with this issue were replaced by those listed in Issue 4)

Number	Sheet	Rev.	Date	Description
SD7281	1 to 5	5	30 Aug 06	Certification label

**Issue 4**

Number	Sheet	Rev.	Date	Description
EP99-3-1	1 of 1	02	15 Mar 07	Minipurge Control Unit - General Assembly
EP99-2-1	1 of 1	03	09 Jul 07	Schematic - Type X leakage Compensation
EP99-2-3	1 of 1	02	15 Mar 07	Sequence Diagram - Type X leakage Compensation
EP99-2-2	1 of 1	02	15 Mar 07	Schematic - Type X Continuous Flow
EP99-2-7	1 of 1	02	15 Mar 07	Schematic - Separate Supply and Mechanical Timer
EP99-2-8	1 of 1	02	15 Mar 07	Schematic - Delay Before Trip and On/Off
EP99-2-9	1 of 1	02	15 Mar 07	Schematic - Twin Outfit and Manual Override
EP99-2-10	1 of 1	03	15 Mar 07	Schematic - Pressure Control Leakage Compensation
EP99-2-11	1 of 1	03	15 Mar 07	Internal "IS" Switches
EP99-2-12	1 of 1	02	15 Mar 07	Schematic - Containment System and Secondary pressurisation
EP99-2-14	1 of 1	02	15 Mar 07	Schematic - Continuous Flow with 2 Flow Rates
EP99-2-17	1 of 1	02	15 Mar 07	Schematic - Continuous Flow with High Pressure
EP99-2-16	1 of 1	02	15 Mar 07	Schematic - Outlet Valve Control
SD7533	1 of 1	01	15 Mar 07	Schematic - Dust Protection
SD7535	1 of 1	01	15 Mar 07	Spark Arrestor
SD7536	1 of 1	01	18 Apr 07	Differential Flow Monitor
SD7538	1 of 1	01	27 Mar 07	Continuous Flow Outlet Orifice
SD7449	1 of 1	02	15 Mar 07	Wiring Diagram - Low temperature
SD7500	1 of 1	01	25 Apr 07	Outlet Orifice Closing Device
SD7448	1 of 1	04	15 Mar 07	Low Temperature Housing
SD7281	1 to 2	06	20 Feb 07	Certification Label Details
SD7282	1 to 2	03	20 Feb 07	Minipurge Data Sheet

**Issue 5**

Number	Sheet	Rev.	Date	Description
SD7781	1 to 2	7	12 Feb 09	Minipurge ATEX/IECEx Certification Label
SD7448	1 of 1	05	12 Feb 09	Minipurge Low temperature Housing

**Issue 6**

Number	Sheet	Rev.	Date	Description
SD7781	1 to 2	8	23 Dec 10	Minipurge ATEX/IECEx Certification Label
SD7782	1 to 2	4	21 Dec 10	Minipurge Data Sheet
SD7913	1 of 1	2	21 Dec 10	Minipurge electronic timer

**Issue 7**

Number	Sheet	Rev.	Date	Description
SD7781	1 to 1	2	21 Dec 10	Minipurge HP sensor
SD7782	1 to 1	2	21 Dec 10	Minipurge Dust Protection Schematic
SD7914	1 of 1	2	21 Dec 10	Minipurge Certification Label

**Issue 8**

Number	Sheet	Rev.	Date	Title
SD7281	1 to 3	10	05 Oct 12	Minipurge Certification Label

**Issue 9**

Number	Sheet	Rev.	Date	Title
SD7448	1 to 3	10	22 Jun 15	Low Temperature Housing
SD7781	1 to 3	11	22 Jun 15	Minipurge Certification Label
SD7782	1 to 2	6	22 Jun 15	Minipurge Data Sheets
SD7913	1 of 1	2	23 Nov 11	Minipurge ATEX/IECEx Certification Label
SD7733	1 of 1	2	23 Nov 11	Minipurge Dust Protection Schematic
SD7281	1 to 3	10	05 Oct 12	Minipurge Certification Label

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## Certificate Annex

**Certificate Number:** Sira 01ATEX1295X  
**Equipment:** MiniPurge Purge Controller  
**Applicant:** EXPO Technologies Limited

**Issue 10**

Drawing	Sheets	Rev.	Date(Sira stamp)	Title
SD7782	1 to 2	8	20 Sep 16	Minipurge Data Sheet
SD7281	1 to 5	13	16 Sep 16	Minipurge Certification Label
SD8244	1 of 1	3	16 Sep 16	High Temperature Vortex Cooler & Logic Isolator
SD8245	1 to 2	3	16 Sep 16	High Temperature 60°C Tamb/Purge Air 60°C Option - H6
SD8251	1 to 3	2	20 April 16	High Temperature 60°C Tamb/Purge Air 70°C Option - H7
SD8258	1 to 2	1	20 April 16	Minipurge Manual Extracts

**Issue 11**

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
SD7782	1 to 2	8	20 Sep 16	Minipurge Data Sheet
SD7281	1 to 5	13	16 Sep 16	Minipurge Certification Label
SD8244	1 of 1	3	16 Sep 16	High Temperature 60°C Tamb/Purge Air 60°C Option - H6
SD8245	1 to 2	3	16 Sep 16	High Temperature 60°C Tamb/Purge Air 70°C Option - H7
SD8251	1 to 8	2	16 Sep 16	Minipurge Manual Extracts
SD8259	1 to 3	2	20 Sep 16	Combined Low Temperature (LT) and High Temperature (H6)
SD8258	1 to 2	1	16 Sep 16	Combined Low Temperature (LT) and High Temperature (H7)

**Issue 12**

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
SD7781	1 to 5	14	28 Feb 17	Minipurge Certification Label
SD8251	1 to 8	3	28 Feb 17	Minipurge Manual Extracts

**Issue 13**

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
EP99-2-11	1 of 1	4	04 Oct 18	Internal switches
EP99-7-9	1 to 2	3	04 Oct 18	Outlet Valve Circuit N/O
SD7781	1 to 6	15	04 Oct 18	Minipurge Certification Label
SD7282	1 to 3	9	04 Oct 18	Minipurge Data Sheet
SD7448	1 of 3	12	04 Oct 18	Low Temperature Housing
SD7449	1 of 1	9	04 Oct 18	Low Temperature Wiring
SD7555	1 to 5	4	04 Oct 18	RLV Configurations
SD8251	1 to 10	4	04 Oct 18	Minipurge Manual Extracts
SD8329	1 of 1	2	04 Oct 18	Typical Minipurge with Electronic Timer
SD8340	1 of 1	1	04 Oct 18	Typical Earth Stud Assembly

**Issue 14**

No new drawings were introduced.

**Issue 15**

Drawing	Sheets	Rev.	Date (Stamp)	Title
EP99-2-1	1 to 2	04	30 Nov 20	Minipurge Type 'X' Leakage Compensation
EP99-2-8	1 to 2	04	30 Nov 20	Delay Before Trip "D1" and On/Off Controls
SD7781	1 to 7	16	24 Nov 20	Minipurge ATEX/IECEx Certification Label
SD7282	1 to 3	10	30 Nov 20	Minipurge Data Sheet
SD7537	1 to 4	2	30 Nov 20	Fault Evaluation
SD7555	1 to 5	08	17 Dec 20	RLV Configurations

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Page 3 of 4

**Certificate Number:** Sira 01ATEX1295X  
**Equipment:** MiniPurge Purge Controller  
**Applicant:** EXPO Technologies Limited

**Issue 11**

Drawing	Sheets	Rev.	Date (Stamp)	Title
SD7913	1 to 2	04	30 Nov 20	Electronic Timer
SP8251	1 to 10	5	24 Nov 20	Minipurge Manual Extracts
SD8422	1 to 3	02	24 Nov 20	Minipurge LD option
SD8424	1 of 1	2	24 Nov 20	Minipurge LD option - BOM

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**Page 14**

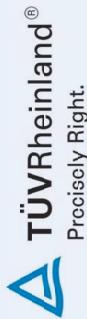
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DQD 544.09 Rev 2018-04-20

Page 4 of 4







## Certificado de Conformidade

Certificado de Compliance • Certificado de Conformidade



**Certificado N.º: TÜV 12.1462 X**  
 Revisão: 05  
 Review • Revisão:  
**Emitido em: 28/09/2018**  
 Issued • Emissido:

Valido até: 28/09/2021  
 Valid until • Válido hasta:

Válido até: 28/09/2021  
 Valid until • Válido hasta:

Documento	Pág.	Descrição	Rev.	Data
EP99-3-1	1	Minipurge Control Unit - CA	2	15/03/2007
EP99-2-1	1	Schematic - Type "X" Leakage Compensation	3	09/07/2007
EP99-2-3	1	Sequence Diagram - Minipurge Type X LC systems	2	15/03/2007
EP99-2-2	1	Minipurge Type "X" Continuous Flow	2	15/03/2007
EP99-2-4	1	Sequence Diagram - Minipurge Type X CF systems	2	15/03/2007
EP99-2-5	1	Alarm Only "AO" and Alarm Action Selector "AS"	2	15/03/2007
EP99-2-6	1	Door switch "DS" Active Alarm "AA" and Alarm cancel "AC"	2	15/03/2007
EP99-2-7	1	Separate Supply "SS" and Mech Timer "MT"	2	15/03/2007
EP99-2-8	1	Delay before trip "DT" and On/Off controls	2	15/03/2007
EP99-2-9	1	Twin Output "TW" and Manual Override "MO"	2	15/03/2007
EP99-2-10	1	Pressure Control Leakage Compensation "PC"	3	15/03/2007
EP99-2-11	1	Internal Ex switches "IS"	3	15/03/2007
EP99-2-12	1	Options "CS" and "SP"	2	15/03/2007
EP99-2-14	1	Minipurge CEI and CFHP	2	15/03/2007
EP99-2-16	1	Outlet Selector Valve, Option "OS"	2	15/03/2007
EP99-2-17	1	Minipurge Continuous Flow with HP sensor	2	15/03/2007
EP99-7-9	1 de 2	Outlet Valve Circuit N/O	2	15/03/2007
EP99-7-9	2 de 2	Outlet Valve Circuit N/C	1	15/03/2007
SD7531	1	Minipurge type "Z" or "Y" Leakage Compensation	2	09/03/2007
SD7532	1	Minipurge type "Z" or "Y" Continuous Flow	1	15/03/2007
SD7533	1	Minipurge, Dust Protection schematic	2	14/11/2011
SD7555	4	RLV Configurations	3	05/07/2007
SD7535	1	Spark arrestor	1	15/03/2007
SD7536	1	Differential Flow Monitor	1	18/04/2007
SD7538	1	CF Outlet Orifice	1	27/03/2007
SD7550	1	Outlet Orifice Closure Device	1	25/04/2007
SD7537	3	Minipurge Fault Evaluation	1	20/02/2007
SD7556	2	Alternative ZBY LC system	1	09/07/2007
SD7282	2	Minipurge data sheet	8	20/09/2016
SD7913	1	Minipurge Electronic timer	2	17/12/2010
SD7914	1	Minipurge HP sensor	2	14/12/2010
SD7649	3	Minipurge TUV Certification Label	9	14/10/2017
SD7652	14	Minipurge Portuguese Handbook Extracts	7	24/01/2018
SD7449	1	System Low Temperature Wiring (typical)	8	22/06/2015
SD7448	3	Low Temperature Housing	10	30/04/2015
SD8158	1	Local Sensing	2	22/06/2015

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TÜV 12.1462 X - Revisão 05 - 28/09/2018 - Página 3 de 8  
 Endereço Escritório: Rua Libero Badaró, 293 - 09 Andar, Conjunto B, Centro, São Paulo - SP, CEP: 01009-000 /  
 Endereço Sede: Av. Newton 33 - 2º Andar, Sala 04, Alphaville, Santana de Parnaíba - SP, CEP: 06541-015  
 CNPJ: 01.392.467/0001-53 - Iel: 55.11.3515.57-003 - [www.tuv.com.br/](http://www.tuv.com.br/) - 0004-49-00

Conforme art. 10, § 1º da Medida Provisória n. 2.200-2, de 26 de agosto de 2002, as despesas com ônus administrativo produzidas com a utilização de processos de certificação que não sejam de competência da CP-Brasil, conforme art. 10, § 1º da Medida Provisória n. 2.200-2, de 26 de agosto de 2002, as despesas com ônus administrativo produzidas com a utilização de processos de certificação que não sejam de competência da CP-Brasil.

Endereço Escritório: Rua Libero Badaró, 293 - 09 Andar, Conjunto B, Centro, São Paulo - SP, CEP: 01009-000 /  
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 CNPJ: 01.392.467/0001-53 - Iel: 55.11.3515.57-003 - [www.tuv.com.br/](http://www.tuv.com.br/) - 0004-49-00



## Certificado de Conformidade

*Certificado de Compliance • Certificado de Conformidade*



## Certificado de Conformidade

*Certificado de Compliance • Certificado de Conformidade*

Certificado N.º: TÜV 12.1462 X

Review • Revision:

Valido até: 28/09/2021

Valid until • Válido hasta:

Valid até: 28/09/2021

Valid until • Válido hasta:

Emitido em: 28/09/2018

Issued • Emissão:

Emitido em: 28/09/2018

Issued • Emissão:

(versão baixa temperatura com alta temperatura /H6)  
**Ex [pxb] d e m IIC T3 ou T4 Gb**  
 $-60^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$   
 (Temperatura do ar de purga : 60 °C)

(versão baixa temperatura com alta temperatura /H7)  
**Ex [pxb] d e m IIC T3 ou T4 Gb**  
 $-60^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$   
 (Temperatura do ar de purga : 70 °C)

(versão baixa temperatura com alta temperatura /H6/ET – com temporizador eletrônico)  
**Ex [pxb] d e m IIC T3 ou T4 Gb**  
 $-60^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$   
 (Temperatura do ar de purga : 60 °C)

(versão baixa temperatura com alta temperatura /H7/ET – com temporizador eletrônico)  
**Ex [pxb] d e m IIC T3 ou T4 Gb**  
 $-60^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$   
 (Temperatura do ar de purga : 70 °C)

### Observações:

- O número do certificado é finalizado pela letra X para indicar as seguintes restrições no uso:  
 Quando o controlador de purga MiniPurge é incorporado a um equipamento, as implicações da operação dos indicadores e/ou sinais opcionais de alarme e a aplicação das etiquetas apropriadas de aviso e identificação devem ser incluídas na avaliação do equipamento.  
 O instalador/usuário deve garantir que o controlador de purga MiniPurge seja instalado de acordo com o certificado do equipamento que cobre a combinação do invólucro pressurizado com o controlador de purga MiniPurge.

Os valores dos parâmetros de segurança devem ser ajustados de acordo com o certificado do equipamento que cobre a combinação do invólucro pressurizado e do controlador de purga MiniPurge.  
 Ao utilizar as opções AO, AS e DT, as recomendações para os requisitos adicionais do equipamento Ex p contido na ABNT NBR IEC 60079-14 devem ser aplicadas.  
 O controlador de purga e a versão de baixa temperatura a devem ser protegidos por um sistema de segurança que assegure que ele não pode ser energizado se a temпература da entrada de ar ou controlador de purga reduzir para -20 °C. Este sistema deve utilizar os RTDs que são montados no controlador de purga para fornecer o nível apropriado da integridade do sistema (Nota: Estes RTDs não foram avaliados como um dispositivo de segurança).

- Os seguintes testes de rotina deverão ser realizados para
- Verificação funcional do resfriador do Vortex (H6, H7 para altas temperaturas e H6, H7 para combinações permitidas);
  - Verificação funcional do isolador lógico pneumático (H6, H7 para altas temperaturas e H6, H7 para combinações permitidas).

TUV 12.1462 X – Rev05 – 28/09/2018 – Página 7 de 8  
 Endereço: Rua Libero Badaró, 293 – 9º Andar, Centro, São Paulo – SP CEP: 01039-000 / CNPJ: 01.350.467/0001-65  
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 O=Aray,CN=TÜV RHEINLAND DO BRASIL LTDA,  
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## Certificado de Conformidade

*Certificado de Compliance • Certificado de Conformidade*

Certificado N.º: TÜV 12.1462 X

Review • Revision:

Valido até: 28/09/2021

Valid until • Válido hasta:

Emitido em: 28/09/2018

Issued • Emissão:

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Expo Technologies US  
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Expo Technologies China  
 T: +86 532 8906 9858  
 E: qingdao@expoworldwide.com

Portaria nº 179 do INMETRO, publicada em 18 de Maio de 2010. Esta marcação deve ser legível e durável, levando-se em conta possível corrosão química.

- Este Certificado de Conformidade é válido para os produtos de modelo e tipo idêntico ao protótipo ensaiado. Qualquer modificação de projeto ou utilização de componentes e materiais diferentes daqueles descritos na documentação deste processo, sem autorização prévia da TÜV Rheinland, invalidará o certificado.
- É de responsabilidade do fabricante assegurar que os produtos fabricados estejam de acordo com as especificações do protótipo ensaiado, através de inspeções visuais e dimensionais.
- Os produtos devem ostentar, na sua superfície externa e em local visível, a Marca de Conformidade e as características técnicas da mesma de acordo com as especificações da ABNT NBR IEC 60079-0 / ABNT NBR IEC 60079-11 / ABNT NBR IEC 60079-31 / ABNT NBR IEC 60529 e Regulamento de Avaliação da Conformidade, anexo à Portaria nº 179 do INMETRO, publicada em 18 de Maio de 2010. Esta marcação deve ser legível e durável, levando-se em conta possível corrosão química.
- As atividades de instalação, inspeção, manutenção, reparo, revisão e recuperação dos produtos são de responsabilidade do usuário e devem ser executadas de acordo com os requisitos das normas técnicas vigentes e com as recomendações do fabricante.

Natureza das Revisões / Data  
*Nature of Revisions/Date • Natureza das Revisões / Fecha*

Revisão 00:

Rev05:

Rev06:

Rev07:

Rev08:

Rev09:

Rev10:

Rev11:

Rev12:

Rev13:

Rev14:

Rev15:

Rev16:

Rev17:

Rev18:

Rev19:

Rev20:

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Rev22:

Rev23:

Rev24:

Rev25:

Rev26:

Rev27:

Rev28:

Rev29:

Rev30:

Rev31:

Rev32:

Rev33:

Rev34:

Rev35:

Rev36:

Rev37:

Rev38:

Rev39:

Rev40:

Rev41:

Rev42:

Rev43:

Rev44:

Rev45:

Rev46:

Rev47:

Rev48:

Rev49:

Rev50:

Portaria nº 179 do INMETRO, publicada em 18 de Maio de 2010. Esta marcação deve ser legível e durável, levando-se em conta possível corrosão química.

Portaria nº 179 do INMETRO, publicada em 18 de Maio de 2010. Esta marcação deve ser legível e durável, levando-se em conta possível corrosão química.

TUV 12.1462 X – Rev05 – 28/09/2018 – Página 8 de 8  
 Endereço: Rua Libero Badaró, 293 – 9º Andar, Centro, São Paulo – SP CEP: 01039-000 / CNPJ: 01.350.467/0001-65  
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## CERTIFICATE OF COMPLIANCE

### HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

1. **aXCFbc. Mini-X-Purge Type CF Control System.**  
APX / I / 1 ABCD / T6 Ta = 60°C - ML383 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.  
Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.
2. **aXCFHPbc. Mini-X-Purge Type CFHP Control System.**  
APX / I / 1 ABCD / T6 Ta = 60°C - ML384 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.  
Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.
3. **aXDpb. Mini-Y-Purge Type DP Control System.**  
APY / I / 1 EFG / T6 Ta = 60°C - ML386 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.  
Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.
4. **aXLpb. Mini-Y-Purge Type DP Control System.**  
APX / I / 1 EFG / T6 Ta = 60°C - ML387 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.
5. **aYCFbc. Mini-Y-Purge Type CF Control System.**  
APY / I / 1 ABCD / T6 Ta = 60°C - ML383 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.  
Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.
6. **aYCFHPbc. Mini-Y-Purge Type CFHP Control System.**  
APY / I / 1 ABCD / T6 Ta = 60°C - ML384 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.  
Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.
7. **aYDpb. Mini-Y-Purge Type DP Control System.**  
APY / I / 1 EFG / T6 Ta = 60°C - ML386 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.
8. **aYLcbc. Mini-Y-Purge Type LC Control System.**  
APY / I / 1 ABCD / T6 Ta = 60°C - ML384 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.  
Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.
9. **aZCpb. Mini-Z-Purge Type CF Control System.**  
APZ / I / 2 ABCD / T6 Ta = 60°C - ML383 / EP80-2-11  
a = Model size 1, 2, 3, 4, 5 or 6.  
b = Enclosure type cs, ss, bp, pm or nm.  
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

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FM Approvals HLC 5/13 1X8A4.AE Page 1 of 5

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PC, PN, PO, SS, TW, and/or \*\*.  
\*\* Denotes special, non-approval related option such as color or enclosure mounting arrangements.

Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

**10. aZCFHPbc. Mini-Z-Purge Type CHP Control System.**

APZ/I/1/2 / ABCD/T6 Ta = 60°C - ML384 / EP80-2-11

a = Model size 1, 2, 3, 4, 5 or 6.

b = Enclosure type cs, ss, bp, pm or nm.

c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,

PC, PN, PO, SS, TW, and/or \*\*.

\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

**11. aZDPbc. Mini-Z-Purge Type DP Control System.**

APZ/I/1/2 / FG/T6 Ta = 60°C - ML386 / EP80-2-11

a = Model size 1, 2, 3, 4, 5 or 6.

b = Enclosure type cs, ss, bp, pm, or nm.

c = Option code AA, AC, AO, AS, CI, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,

PC, PN, PO, SS, TW, and/or \*\*.

\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

**12. aZL/Cbc. Mini-Z-Purge Type LC Control System.**

APZ/I/1/2 / ABCD/T6 Ta = 60°C - ML384 / EP80-2-11

a = Model size 1, 2, 3, 4, 5 or 6.

b = Enclosure type cs, ss, bp, pm or nm.

c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,

PC, PN, PO, SS, TW, and/or \*\*.

\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

**13. aZL/Cbc. Mini-Z-Purge Type LC Control System.**

APZ/I/1/2 / ABCD/T6 Ta = 60°C - ML384 / EP80-2-11

a = Model size 1, 2, 3, 4, 5 or 6.

b = Enclosure type cs, ss, bp, pm or nm.

c = Option code AA, AC, AO, AS, CI, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,

PC, PN, PO, SS, TW, and/or \*\*.

\*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

**Equipment Ratings:**

1. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML383 Cr.

2. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFP.

3. Associated Type X Pressurization System for use in Class II, Division 1, Group E, F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 Dp.

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4. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location, in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFP.

5. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFP.

6. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFP.

7. Associated Type Y Pressurization System for use in Class II, Division 1, Group E, F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class II, Division 2, Group F and G hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 DP.

8. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFP.

9. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML383 CF.

10. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location, in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFP.

11. Associated Type Z Pressurization System for use in Class II, Division 2, Group F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location, in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 DP.

12. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location, in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFP.

**FM Approved for:**

Expo Technologies Ltd  
Sunningdale, United Kingdom

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This certifies that the equipment described has been found to comply with the following  
Approval Standards and other documents:

FM Class 3600
FM Class 3610
FM Class 3615
FM Class 3620
ANSI/NFPA 496
2011
2010
2006
2014
2013

Original Project ID: 1X8A4.AE

Approval Granted:

Subsequent Revision Reports / Date Approved Amended	Date	Report Number	Date
OB3A3.AE	November 5, 1996		
3010469	June 25, 2001		
071029	June 23, 2008		
080905	September 24, 2008		
101230	March 3, 2011		
3052954	July 28, 2015		

FM Approvals LLC

J.E. Marquedant  
 Manager, Electrical Systems

28 July 2015  
 Date

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b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system.  
 Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

## CERTIFICATE OF COMPLIANCE

### HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

#### 1. aXCFPbc. Mini-X-Purge Type CF Control System.

APX / I / ABCD /T6 Ta = 60°C - ML383 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office

#### 2. aXCFHPbc. Mini-X-Purge Type CFHP Control System.

APX / I / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

#### 3. aXPDPbc. Mini-X-Purge Type DP Control System.

APX / I / EFG /T6 Ta = 60°C - ML386 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

#### 4. aXLcbc. Mini-X-Purge Type LC Control System.

APX / I / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

FM Approvals Form OLC 5/13

Page 1 of 5

#### 5. aYCFPbc. Mini-Y-Purge Type CF Control System.

APY / I / 1 ABCD /T6 Ta = 60°C - ML383 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

#### 6. aYCFHPbc. Mini-Y-Purge Type CFHP Control System.

APY / I / 1 ABCD /T6 Ta = 60°C - ML384 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

#### 7. aYDPhc. Mini-Y-Purge Type DP Control System.

APY / I / 1 EFG /T6 Ta = 60°C - ML386 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

#### 8. aYLChc. Mini-Y-Purge Type LC Control System.

APY / I / 1 ABCD /T6 Ta = 60°C - ML384 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Office.

#### 9. aZCFPbc. Mini-Z-Purge Type CF Control System.

APZ / I / 2 ABCD /T6 Ta = 60°C - ML383 / EP80-2-11  
 a = Model size 1, 2, 3, 4, 5 or 6.  
 b = Enclosure type cs, ss, bp, pm or nm.  
 c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,  
 PC, PN, PO, SS, TW, and/or \*\*.  
 \*\* Denotes special, non-Approval related options such as color or enclosure mounting arrangements.

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

Page 2 of 5



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P.O. Box 9102 Norwood, MA 02062 USA  
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**1X8A4.AE(Canadian)**

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T: +44 (0) 20 8398 8011  
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**Expo Technologies US**  
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**Expo Technologies China**  
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**Page 22**





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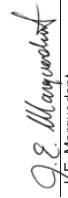
This certifies that the equipment described has been found to comply with the following  
Approval Standards and other documents:

ANSI/NFPA 496	2013
CSA C22.2 No 25	1986
CSA C22.2 No 30	1986
CSA C22.2 No. 157	1992

Original Project ID: 1X8A4.AE  
Canadian Project ID: 3052954  
Approval Granted: July 28, 2015

Subsequent Revision Reports / Date Approved Amended	Date	Report Number	Date
---	------	---------------	------

FM Approvals LLC

  
J.E. Marquedant  
Manager, Electrical Systems

28 July 2015  
\_\_\_\_\_  
Date

To verify the availability of the Approved product, please refer to [www.approvalmfg.com](http://www.approvalmfg.com)  
1X8A4.AE

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Page 5 of 5



## EU-TYPE EXAMINATION CERTIFICATE

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Issue: 7

3 Certificate Number: Sira 02ATEX1129

4 Equipment: Minipurge Interface Unit Type MIU/d

5 Applicant: Expo Technologies Limited

6 Address: Unit 2, The Summit

Hanworth Road

Sunbury on Thames

Surrey TW16 5DB

UK

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., Notified Body Number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012/A11:2013

EN 60079-3-1:2014

10 If the sign X is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

For Types dA, dx and dT

For Types dk and dn

Breather drain installed

 II 2 G D Ex db IIB+H<sub>2</sub> T3 Gb

 II 2 G D Ex tb IIIC T<sup>\*\*</sup>C Db

Ta = -20°C to +40°C

T<sub>a</sub> = -20°C to +55°C

\* The temperature markings are 16 and T80°C for an ambient temperature range of -20°C to +40°C

ambient temperature range of -20°C to +55°C

Project Number 1571

This certificate and its schedules may only be

reproduced in its entirety and without change

CSA Group Netherlands B.V.  
Utrechtseweg 310,  
6812 AR, Arnhem,  
Netherlands

Page 1 of 4

DQD 544.09 Rev 2018-04-20

DQD 544.09 Rev 2018-04-20

Page 2 of 4



## SCHEDULE

## EU-TYPE EXAMINATION CERTIFICATE

Sira 02ATEX1129  
Issue 7

## DESCRIPTION OF EQUIPMENT

The Minipurge Interface Units comprise a flameproof enclosure with various internal equipment dependent upon the application. The enclosures used are either Expo dA, dX, dT, dK or dN depending upon the size or type required.

The range of enclosures have the same basic geometry but are of differing sizes. The enclosures are all essentially square in profile, with a circular lid. The joint between the lid and the enclosure forms a threaded flange; the lid is secured by means of a locking device. There is an option to include bosses for the installation of internal apparatus. Mounting is by means of two or more tapped holes in the rear face or by the use of mounting pads. Two or more protruding mounting lugs are optional.

External earthing facilities comprise M4 (or larger) earth studs on the surface of the box or mounting pads; the studs are equipped with nuts, washers and anti-rotation lugs. Alternatively or additionally, external earthing may be provided at the mounting lug(s). Tapped holes in the earth lugs between anti-rotation ribs are optional.

Internal earthing is provided either by a tapped hole in the internal rear face or by means of conventional rail-mounted earth terminals secured to the internal rear face.

"O" ring seals may be used to enhance the ingress protection rating.

The enclosures may be manufactured from copper-free aluminium, grey iron, S.G. iron, phosphor bronze, gunmetal or stainless steel.

Cable entry facilities are provided on the sides and rear of the enclosure.

To allow the control of the internal equipment, linear feed through devices, Type C9L, may be utilised as required. These are installed in the areas designated for cable entry devices. The feed through device comprises a threaded barrel with a central shaft secured with circlips at each end. The device is secured in the wall (or rear) of the enclosure by means of a locknut and optional thread sealing washer. An optional external "O" ring seal around the shaft, outside the flampath, can improve the IP rating. The feed through can be fitted with unspecified external operators, e.g. push-buttons.

The scope of this certificate covers a range of internal components which may be installed within the flameproof enclosure, including limitations with respect to their location. Typical internal equipment comprises terminals, switches, contactors, relays and some intrinsically safe equipment. Although this certificate allows the fusion of this intrinsic safety equipment, it does not endorse their intrinsic safety properties (see certificate conditions).

## Variation 1

This variation introduced the following changes:

- The company name was changed from Expo-Telektron Safety Systems Ltd. to Expo Technologies Ltd. together with a change of company logo.
- The Minipurge Interface Unit Type MIU/d was allowed to be used in the presence of combustible dust; the marking of the equipment to include the following:

II 2 G D IP6X

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6812 AR, Arnhem,  
Netherlands

Page 1 of 4

DQD 544.09 Rev 2018-04-20

Page 2 of 4

Sira 02ATEX1129

Issue 7

## DESCRIPTION OF EQUIPMENT

The Minipurge Interface Units comprise a flameproof enclosure with various internal equipment dependent upon the application. The enclosures used are either Expo dA, dX, dT, dK or dN depending upon the size or type required.

The range of enclosures have the same basic geometry but are of differing sizes. The enclosures are all essentially square in profile, with a circular lid. The joint between the lid and the enclosure forms a threaded flange; the lid is secured by means of a locking device. There is an option to include bosses for the installation of internal apparatus. Mounting is by means of two or more tapped holes in the rear face or by the use of mounting pads. Two or more protruding mounting lugs are optional.

External earthing facilities comprise M4 (or larger) earth studs on the surface of the box or mounting pads; the studs are equipped with nuts, washers and anti-rotation lugs. Alternatively or additionally, external earthing may be provided at the mounting lug(s). Tapped holes in the earth lugs between anti-rotation ribs are optional.

Internal earthing is provided either by a tapped hole in the internal rear face or by means of conventional rail-mounted earth terminals secured to the internal rear face.

"O" ring seals may be used to enhance the ingress protection rating.

The enclosures may be manufactured from copper-free aluminium, grey iron, S.G. iron, phosphor bronze, gunmetal or stainless steel.

Cable entry facilities are provided on the sides and rear of the enclosure.

To allow the control of the internal equipment, linear feed through devices, Type C9L, may be utilised as required. These are installed in the areas designated for cable entry devices. The feed through device comprises a threaded barrel with a central shaft secured with circlips at each end. The device is secured in the wall (or rear) of the enclosure by means of a locknut and optional thread sealing washer. An optional external "O" ring seal around the shaft, outside the flampath, can improve the IP rating. The feed through can be fitted with unspecified external operators, e.g. push-buttons.

The scope of this certificate covers a range of internal components which may be installed within the flameproof enclosure, including limitations with respect to their location. Typical internal equipment comprises terminals, switches, contactors, relays and some intrinsically safe equipment. Although this certificate allows the fusion of this intrinsic safety equipment, it does not endorse their intrinsic safety properties (see certificate conditions).

## Variation 1

This variation introduced the following changes:

- The company name was changed from Expo-Telektron Safety Systems Ltd. to Expo Technologies Ltd. together with a change of company logo.
- The Minipurge Interface Unit Type MIU/d was allowed to be used in the presence of combustible dust; the marking of the equipment to include the following:

II 2 G D IP6X

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Page 2 of 4

DQD 544.09 Rev 2018-04-20

Page 1 of 4



## Certificate Annex



**Certificate Number:** Sira 02ATEX1129  
**Equipment:** Minipurge Interface Unit Type MIU/d  
**Applicant:** Expo Technologies Limited

**Issue 0**

The drawings associated with this Issue were replaced by those listed in Issue 3.

**Issue 1**

The drawings associated with this Issue were replaced by those listed in Issue 3.

**Issue 2**

The drawings associated with this Issue were replaced by those listed in Issue 3.

**Issue 3**

Drawing No.	Sheet	Rev.	Date	Description
EP90-30A	1 of 1	6	21 Nov 06	Ex d Boxes Dimensions Key
EP90-26A	1 of 1	3	21 Nov 06	da Box
EP90-8A	1 of 1	4	05 Feb 07	da Box Contents
EP90-26X	1 of 1	2	21 Nov 06	dX Box
EP90-8X	1 of 1	4	05 Feb 07	dX Box Contents
EP90-26T	1 of 1	2	21 Nov 06	dT Box
EP90-8T	1 of 1	4	05 Feb 07	dT Box Contents
SD7528	1 of 1	1	22 Feb 07	To Dimensions dK and dN Boxes
SD7529	1 of 1	1	22 Feb 07	dK and dN Boxes Contents
EP90-5	1 of 1	4	05 Feb 07	Earthing and Other Details
SD7485	1 of 1	2	15 Mar 07	Ex d Box Sealing for Dust Certification
EP90-10	1 of 1	3	27 Feb 07	Linear Feedthrough CylL
EP90-40A	1 to 9	5	20 Feb 07	d Series Boxes Data Sheets
EP90-6	1 of 1	6	20 Feb 07	Permitted Contents for MIU/d
SD7526	1 of 1	1	20 Feb 07	MIU/d Certification Label ATEX/IECEx

**Issue 4**

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
SD7526	1 of 1	2	05 Oct 12	MIU/d Certification Label

**Issue 5**

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
EP90-40A	1 to 9	6	10 Apr 15	d-Series Boxes Data Sheets
SD7526	1 to 2	3	10 Apr 15	MIU/d Certification Label ATEX/IECEx

**Issue 6**

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
EP90-40A	1 to 9	7	30 Jul 2015	d-Series Boxes Data Sheets
SD7526	1 to 2	4	30 Jul 2015	MIU/d Certification Label ATEX/IECEx

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Utrechtseweg 310,  
6812 AR, Amhem,  
Netherlands

Rev. 2018-04-20

Page 1 of 1

# 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](http://www.iecex.com)

Certificate No.:	IECEx SIR 07.0008	Issue No.:	4
Status:	Current	Issue No.:	2015-08-25
Date of Issue:	Page 1 of 4		
Applicant:	EXPO Technologies Limited Unit 2, The Summit Hanworth Road Sunbury-on-Thames Surrey TW16 5DB United Kingdom		

Certificate history:	
Issue No. 4 (2015-8-25)	
Issue No. 3 (2015-6-30)	
Issue No. 2 (2012-11-27)	
Issue No. 1 (2012-10-23)	
Issue No. 0 (2007-5-4)	

Electrical Apparatus:  
Optional accessory:

Minipurge Interface Unit Type MIU/d

Type of Protection:  
Flameproof and Dust

Marking:  
For Types dA, dK and dT  
Ex db IIC T<sup>4</sup> Gb  
Ex tb IIIC T<sup>4</sup> C Db  
Ta = -20°C to +55°C  
\* The temperature markings are -16 and 180°C for an ambient temperature range of -20°C to +40°C or TS and T95°C for an ambient temperature range of -20°C to +55°C

Approved for issue on behalf of the IECEx  
Certification Body:  
A.C. Smith

Position:  
Certification Manager

Date:

2015-08-25

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 3JS  
United Kingdom



# IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0008  
Date of Issue: 2015-08-25  
Issue No. 4  
Page 2 of 4

Manufacturer:  
EXPO Technologies Limited  
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
IEC 60079-1 : 2014-06	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "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: GB/SIREX/TR07/032/200 GB/SIREX/TR12/025/101  
Quality Assessment Report: GB/SIRQA/R07/0012/200

# IECEx Certificate of Conformity



# IECEx Certificate of Conformity



Certificate No.: IECEx SIR 07.0008

Date of Issue: 2015-08-25

Issue No.: 4

Page 3 of 4

## Schedule

### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Minipurge Interface Units comprise a flameproof enclosure with various internal equipment dependent upon the application. The enclosures used are either Exeo da, dK, dT, dK or dn depending upon the size or type required, see detailed description in the certificate Annex.

The option of using a Klarck Type KDB breather drain was introduced resulting in an alternative marking, Ex d IIB+H, T3 Ta = -20°C to +55°C.

The option of using a Klarck Type KDB breather drain was introduced resulting in an alternative marking, Ex d IIB+H, T3 Ta = -20°C to +55°C.

CONDITIONS OF CERTIFICATION: NO

# IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0008

Date of Issue: 2015-08-25

Issue No.: 4

Page 4 of 4

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

Issue 1 – this issue introduced the following changes:
1 The recognition of the Applicant's address change from Summer Road, Thames Ditton, Surrey KT17 0RH to Unit 2, The Summit, Hanworth Road, Sunbury on Thames, Surrey TW16 5QB
Issue 2 – this issue introduced the following changes:
1 Issued to allow GB/IECEx R12/025/00 to be replaced by GB/S/IECEx R12/025/00
Issue 3 – this issue introduced the following changes:
1. The option of using a Klarck Type KDB breather drain was introduced resulting in an alternative marking, Ex d IIB+H, T3 Ta = -20°C to +55°C.
Issue 4 – this issue introduced the following changes:
1 Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2004 Ed 4, IEC 60079-1:2003 Ed 5, IEC 61241-1:2004 and IEC 61241-1:2004 were replaced by IEC 60079-0:2011 Ed 6, IEC 60079-1:2014 Ed 7 and IEC 60079-31:2013 Ed 2, the markings were updated accordingly and removed from the description.

Annex: IECEx SIR 07.0008\_Issue 4\_Annex.pdf



**Annexe to:** IECEx SIR 07.0008 Issue 4 Annex  
**Applicant:** Expo Technologies Limited  
**Apparatus:** Minipurge Interface Unit Type MIU/d

#### Description of Apparatus

The range of enclosures have the same basic geometry but are of differing sizes. The enclosures are all essentially square in profile with a circular lid. The joint between the lid and the enclosure forms threaded flangeplate; the lid is secured by means of a locking device. There is an option to include bosses for the installation of internal apparatus. Mounting is by means of two or more tapped holes in the rear face or by the use of mounting pads. Two or more protruding mounting lugs are optional.

External earthing facilities comprise M4 (or larger) earth studs on the surface of the box or mounting pads; the studs are equipped with nuts, washers and anti-rotation lugs. Alternatively or additionally, external earthing may be provided at the mounting lug(s). Tapped holes in the earth lugs between anti-rotation ribs are optional.

Internal earthing is provided either by a tapped hole in the internal rear face or by means of conventional rail-mounted earth terminals secured to the internal rear face.

"O" ring seals may be used to enhance the ingress protection rating.

The enclosures may be manufactured from copper-free aluminium, grey iron, S.G. iron, phosphor bronze, gunmetal or stainless steel.

Cable entry facilities are provided on the sides and rear of the enclosure.

To allow the control of the internal equipment, linear feed through devices, Type C9L, may be utilised as required. These are installed in the areas designated for cable entry devices. The feed through device comprises a threaded barrel with a central shaft secured with circlips at each end. The device is secured in the wall (or rear) of the enclosure by means of a locknut and optional thread sealing washer. An optional external "O" ring seal around the shaft, outside the flamepath, can improve the IP rating. The feed through can be fitted with unspecified external operators, e.g. push-buttons.

The scope of this certificate covers a range of internal components which may be installed within the flameproof enclosure, including limitations with respect to their location. Typical internal equipment comprises terminals, switches, contactors, relays and some intrinsically safe equipment. Although this certificate allows the inclusion of this intrinsic safety equipment, it does not endorse their intrinsic safety properties (see conditions of manufacture below).

The manufacturer shall note the following conditions of manufacture:

- Only the internal components listed in the manufacturer's drawing EP90-6 may be installed in the Minipurge Interface Units, in accordance with the geometrical restrictions laid down in manufacturer's drawings EP90-8A, EP90-8X, EP90-8T and SD7529.
- The scope of this certificate, though allowing intrinsically safe equipment to be installed in accordance with condition i, does not imply compliance with IEC 60079-11:2006 for either the installation or output parameters of such equipment.

#### Sira Certification Service

Unit 6, Hawarden Industrial Park,  
Hawarden, CH5 3US, United Kingdom  
Tel: +44 (0) 1244 670 900  
Fax: +44 (0) 1244 539 301  
Email: ukinfo@siracert.org  
Web: www.csargroupuk.org

**Date:** 31 July 2015 **Page:** 1 of 1

 <b>IECEx Certificate of Conformity</b>	
 <b>IECEx</b> 	
<p><b>INTERNATIONAL ELECTROTECHNICAL COMMISSION</b> <b>IEC Certification System for Explosive Atmospheres</b></p> <p>for rules and details of the IECEx Scheme visit <a href="http://www.iecex.com">www.iecex.com</a></p>	<p><b>IECEx Certificate of Conformity</b></p>
<b>IECEx EXV 19.0057X</b>	
Page 2 of 3 Issue No: 0	
<p>Certificate No.: <b>IECEx EXV 19.0057X</b></p> <p>Date of issue: <b>2019-11-12</b></p> <p>Applicant: <b>EXPO Technologies Limited</b> Unit 2, The Summit Hanworth Road Sunbury on Thames Surrey TW16 5DB United Kingdom</p> <p>Equipment: <b>Minipurge Interface Units MIUe</b></p> <p>Optional accessory: <b>Increased Safety Ex tb' Protection by Enclosure Ex tb'</b></p>	<p>Certificate history: Issue No.: 0</p> <p>Manufacturer: <b>EXPO Technologies Limited</b> Unit 2, The Summit Hanworth Road Sunbury on Thames Surrey TW16 5DB United Kingdom</p> <p>Additional manufacturing locations:</p> <p>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</p> <p><b>STANDARDS :</b> 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</p> <p>IEC 60079-0:2017      Explosive atmospheres - Part 0: Equipment - General requirements Edition:7.0</p> <p>IEC 60079-31:2013      Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" Edition:2</p> <p>IEC 60079-7:2015      Explosive atmospheres - Part 7: Equipment protection by increased safety "e" Edition:5.0</p> <p>This Certificate <b>does not</b> indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.</p> <p><b>TEST &amp; ASSESSMENT REPORTS:</b> A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:</p> <p>Test Report: <b>GB/IEV/EX/19.0059/00</b></p> <p>Quality Assessment Report: <b>GB/SIF/QAR07/003/215</b></p> <p>Approved for issue on behalf of the IECEx Certification Body: <b>Sean Clarke CEng MSc FIET</b></p> <p>Position: <b>Certification Manager</b></p> <p>Signature: (for printed version)</p> <p>Date:</p>
 <b>ExVeritas</b>	

 <b>IECEx Certificate of Conformity</b>	
 <b>IECEx</b> 	
<p><b>INTERNATIONAL ELECTROTECHNICAL COMMISSION</b> <b>IEC Certification System for Explosive Atmospheres</b></p> <p>for rules and details of the IECEx Scheme visit <a href="http://www.iecex.com">www.iecex.com</a></p>	
<b>IECEx EXV 19.0057X</b>	
Page 1 of 3 Issue No: 0	
<p>Certificate No.: <b>IECEx EXV 19.0057X</b></p> <p>Date of Issue: <b>2019-11-12</b></p> <p>Marking: Ex eb IIC T5/4° Gb      Ta = -20°C to +55/60° °C "Manual override (MO) modes exempt Ex tb IIIC T100°C Db      Ta = -20°C to +55°C</p>	<p>Certificate history: Issue No.: 0</p> <p>Type of Protection: <b>Increased Safety Ex tb' Protection by Enclosure Ex tb'</b></p> <p>Marking: Ex eb IIC T5/4° Gb      Ta = -20°C to +55/60° °C "Manual override (MO) modes exempt Ex tb IIIC T100°C Db      Ta = -20°C to +55°C</p> <p>Approved for issue on behalf of the IECEx Certification Body: <b>Sean Clarke CEng MSc FIET</b></p> <p>Position: <b>Certification Manager</b></p> <p>Signature: (for printed version)</p> <p>Date:</p>
 <b>ExVeritas</b>	



Annex to: IECEx EXV 19.0057X Issue 0

Manufacturer's documents:					
Title:	Drawing No.:	Rev:	Sheets:	Date:	
MIU/d Permitted Contents	SD7623	2	1 of 1	02/10/19	
MIU IECEx & ATEX Certificate label	SD7624	4	2 of 2	02/10/19	
MIU User Instructions	SD7644	3	3 of 3	02/10/19	
Minipurge Interface Unit	SD7850	3	1 of 1	02/10/19	
Minipurge Interface Unit	SD7851	3	1 of 1	02/10/19	
MIU with manual override	SD7861	3	1 of 1	02/10/19	

## IECEx Certificate of Conformity



Certificate No.: IECEx EXV 19.0057X

Date of Issue: 2019-11-12

Page 3 of 3

Issue No.: 0

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

The Minipurge interface units are part of a series of IP66 rated enclosures that are used as Junction Boxes. The construction of the boxes has been assessed under the component certificate IECEx EXV 19.0031CU. A permitted content of the boxes is specified on drawing SD7623. The current rating and maximum voltage for each terminal box is specified on the label and the general assembly drawings. Three types of boxes have been covered by this certificate:

MIU/e1 - 7A, 400V, IP66 assembly drawing SD7851

MIU/e2 - 7A, 400V, IP66 assembly drawing SD7850

MIU/e1/MO - 2A, 400V, IP66 assembly drawing SD7861

### SPECIFIC CONDITIONS OF USE: YES as shown below:

- Cable glands, breathers, drains and plugs shall be appropriately IECEx certified types, suitable for the cable and conditions for use and installed in accordance with their manufacturers' instructions. They shall maintain the IP66 rating of the enclosure.

### Annex:

EXV 19.0057X IECEx Annex.pdf



## 1 EU - Type Examination Certificate

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

Issue: 1

3 Certificate Number: ExVeritas 19ATEX0542X

4 Equipment: MiniPurge Interface Units MIUe

5 Manufacturer: Expo Technologies Ltd

6 Address: Unit 2, The Summit, Hanworth Road, Sunbury on Thames, Surrey, TW16 5DB, UK

7 This equipment and any acceptable variation thereof are specified in the schedule to this certificate and the documents therein referred to.

8 ExVeritas, Notified Body number 2804 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the Directive

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with the following Standards and section 16 of this certificate:

EN IEC 60079-7-2015+A1: 2018 EN 60079-31: 2014

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design, construction, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment shall include the following:



This certificate may only be reproduced in its entirety and without any change, schedule included.

The status of this certificate can be verified at [www.exveritas.com](http://www.exveritas.com)

For help or assistance relating to this certificate, contact [info@exveritas.com](mailto:info@exveritas.com).

ExVeritas A/S, Sevensandsvej 6, 4420 Risskov, Denmark.

ExVeritas® is a registered trademark, unauthorised use will lead to prosecution.

Page 1 of 2



## 13 Description of Equipment or Protective System

The MiniPurge Interface Units are part of a series of IP66 rated enclosures that are used as Junction Boxes. The construction of the boxes has been assessed under the component certificate ExV19ATEX0454U. A permitted content of the boxes is specified on drawing SD7623. The current rating and maximum voltage for each terminal box is specified on the label and the general assembly drawings. Three types of boxes have been covered by this certificate:

- MIU/e1 – 7A, 400V, IP66 assembly drawing SD7651
  - MIU/e2 – 7A, 400V, IP66 assembly drawing SD7650
  - MIU/e/MO – 2A, 400V, IP66 assembly drawing SD7861
- 13.1 Details of change:
- The following changes are introduced in issue 1 of the certificate:
- Transfer of the certificate from ExVeritas UK, Notified Body number 2585 to ExVeritas Denmark, Notified Body number 2804. Certificate number remains unchanged.

## 14 Descriptive Documents

### 14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R226/A/I	17-Oct-2019	0	Initial issue of the Prime Certificate
ExV19ATEX0454A	12-Jan-2021	1	Issue of the first Variation, see section 13.1.

## 14.2 Compliance Drawings:

### Issue 0

Title:	Drawing No.:	Rev. Level:	Date:
MIU/e Permitted Contents	SD7623	2	02/10/19
MIU/e EX & ATEX Certificate label	SD7624	4	02/10/19
MIU User Instructions	SD7644	3	02/10/19
Minipurge Interface Unit	SD7850	3	02/10/19
Minipurge Interface Unit	SD7851	3	02/10/19
MIU with manual override	SD7861	3	02/10/19

## 15 Conditions of Certification

- 15.1 Special Conditions for Safe Use
  - Cable glands, breathers, drains and plugs shall be appropriately ATEX certified types, suitable for the cable and conditions for use and installed in accordance with their manufacturers' instructions. They shall maintain the IP66 rating of the enclosure.
- 15.2 Conditions for Use (Routine tests)
  - None

On behalf of ExVeritas



Peter Lauritsen  
Managing Director

The manufacturer shall inform the Notified Body of any modifications to the design of the product described by this schedule.

This certificate may only be reproduced in its entirety and without any change, schedule included.

The status of this certificate can be verified at [www.exveritas.com](http://www.exveritas.com)

For help or assistance relating to this certificate, contact [info@exveritas.com](mailto:info@exveritas.com).

ExVeritas A/S, Sevensandsvej 6, 4420 Risskov, Denmark.

ExVeritas® is a registered trademark, unauthorised use will lead to prosecution.

Page 1 of 2



PROD REG. NO. 7044  
Member of EA MLA

ExVeritas 19 ATEX0542X

Expo Technologies China

T: +86 532 8906 9858

E: qingdao@expoworldwide.com





# IECEx Certificate of Conformity



# 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](http://www.iecex.com)

Certificate No.:	IECEx FME 10.0001X	Issue No.:	IECEx FME 10.0001X
Status:	Current	Issue No.:	IECEx FME 10.0001X
Date of issue:	2017-07-24	Page 1 of 5	Issue No.:
Applicant:	Expo Technologies Ltd Unit 2, The Summit Haworth Road Sunbury on Thames TW16 5DB United Kingdom	Issue No.:	IECEx FME 10.0001X
Equipment:	Electronic Timer Module ETM-S	Issue No.:	IECEx FME 10.0001X
Optional accessory:		Issue No.:	IECEx FME 10.0001X
Type of Protection:	Intrinsic Safety	Issue No.:	IECEx FME 10.0001X
Marking:	Ex ia IIC T4 Ga Ta = -20°C to +60°C Ex ia IICT4 Ga Ta = -20°C to +60°C Ex ia IIC TS Ga Ta = -20°C to +60°C Ex ia II CT40°C Da Ta = -20°C to +59°C Ex ia IIC TS Ga Ta = -20°C to +44°C Ex ia II CT45°C Da Ta = -20°C to +44°C	Issue No.:	IECEx FME 10.0001X

Approved for issue on behalf of the IECEx  
Certification Body:

Mick Gower

Certification Manager

Position:

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:

FM Approvals  
1 Windsor Drive  
SL4 1RS Windsor  
United Kingdom



Member of the FM Global Group

# IECEx Certificate of Conformity



Certificate No.: IECEx FME 10.0001X  
 Date of issue: 2017-07-24  
**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):**  
 Issue 6: Addition of EPPs pneumatically powered generator.

## EQUIPMENT:

### Equipment and systems covered by this certificate are as follows:

The ETM-IS is battery powered electronic timer module. The Timer module is designed to be supplied from a self contained battery pack or separately certified AIS power supply. This battery pack contains a nonrechargeable battery together with current limiting resistors. The timer settings are controlled by two BCD switches located on the main part of the timer. Connections from the timer to a solenoid valve and switch are also provided. This solenoid is supplied as part of the timer circuit. Four LEDs are used to indicate the status of the timer circuit. The Timer module and Solenoid Valve are designed to be installed within another enclosure.

a = sub module 1 = Timer Module powered by Expo Battery Pack  
 b = Timer module powered by IS power supply  
 c = Expo IS Battery Pack  
 d = Expo IS remote Battery Pack  
 e = Timer module powered by E.P.P.S  
 f = Mounting Style 1 = Plate mounted  
 g = Panel mounted  
 h = LED connection 1 = LED's on Timer surface  
 i = LED's on flying leads  
 j = Maximum time = Reference Value 1 to 9  
 k = Multiplying digit 1, 2, 3 or 4

## SPECIFIC CONDITIONS OF USE: YES or struck below.

1. The Electronic Timer shall not be used where UV light or radiation may impinge the Electronic Timer System.
2. The Electronic Timer shall be installed within an enclosure which provides protection against impact.
3. The Enclosure shall be metallic providing a minimum ingress protection of IP20.
4. For light alloy enclosures, materials shall not contain, by mass more than 7.5% in total of magnesium, titanium and zirconium. Where more than 10% in total of aluminium, magnesium, titanium and zirconium the user shall take special precautions to avoid ignition hazard due to impact or friction.

# IECEx Certificate of Conformity



Certificate No.: IECEx FME 10.0001X  
 Date of issue: 2017-07-24  
**Schedule**  
 Issue No.: 6  
 Page 3 of 5

## EQUIPMENT:

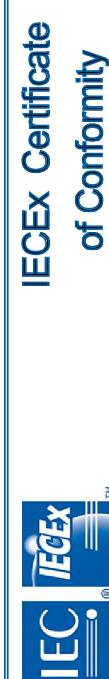
### Equipment and systems covered by this certificate are as follows:

The ETM-IS is battery powered electronic timer module. The Timer module is designed to be supplied from a self contained battery pack or separately certified AIS power supply. This battery pack contains a nonrechargeable battery together with current limiting resistors. The timer settings are controlled by two BCD switches located on the main part of the timer. Connections from the timer to a solenoid valve and switch are also provided. This solenoid is supplied as part of the timer circuit. Four LEDs are used to indicate the status of the timer circuit. The Timer module and Solenoid Valve are designed to be installed within another enclosure.

a = sub module 1 = Timer Module powered by Expo Battery Pack  
 b = Timer module powered by IS power supply  
 c = Expo IS Battery Pack  
 d = Expo IS remote Battery Pack  
 e = Timer module powered by E.P.P.S  
 f = Mounting Style 1 = Plate mounted  
 g = Panel mounted  
 h = LED connection 1 = LED's on Timer surface  
 i = LED's on flying leads  
 j = Maximum time = Reference Value 1 to 9  
 k = Multiplying digit 1, 2, 3 or 4

## SPECIFIC CONDITIONS OF USE: YES or struck below.

1. The Electronic Timer shall not be used where UV light or radiation may impinge the Electronic Timer System.
2. The Electronic Timer shall be installed within an enclosure which provides protection against impact.
3. The Enclosure shall be metallic providing a minimum ingress protection of IP20.
4. For light alloy enclosures, materials shall not contain, by mass more than 7.5% in total of magnesium, titanium and zirconium. Where more than 10% in total of aluminium, magnesium, titanium and zirconium the user shall take special precautions to avoid ignition hazard due to impact or friction.



## IECEx Certificate of Conformity

Certificate No. IECEX FME 10.0001X Issue No. 6

Date of Issue: 2017-07-24 Page 5 of 5

### Additional Information:

<b>Electronic Timer Module ETM4-Sab-01e</b>	a = sub module	1 = Timer Module powered by Expo Battery Pack
		2 = Timer module powered by IS power supply
		3 = Expo IS Battery Pack
		4 = Expo IS remote Battery Pack
		5 = Timer module powered by EPPS
b = Mounting Style		
		1 = Plate mounted
		2 = Panel mounted
c = LED connection		
		1 = LEDs on Timer surface
		2 = LEDs on flying leads
d = Maximum Time		
		d = Reference value * 9
		e = Multiplying digit 1, 2, 3 or 4

<b>SCHEDULE</b>		to EU-Type Examination Certificate No. FM10ATEX0003X								
13	Description of Equipment or Protective System:									
<p>The ETM-IS is a powered electronic timer module. The Timer module is designed to be supplied from either a self contained battery pack or an IS certified Power Supply. The battery pack contains a non-rechargeable battery together with current limiting resistors. The timer settings are controlled by two BCD switches located on the main part of the timer. Connections from the timer to a solenoid valve and switch are also provided. The solenoid is supplied as part of the timer circuit. Four LED's are used to indicate the status of the timer circuit.</p> <p>The Timer module and Solenoid Valve are designed to be installed within another enclosure.</p> <p><b>Electronic Timer Module ETM-ISab-cde</b></p> <p>a = sub module      1 = Timer Module powered by IS power supply                                2 = Timer module powered by IS power supply</p> <p>b = Mounting Style      1 = Plate mounted                                2 = Panel mounted</p> <p>c = LED connection      1 = LEDs on timer surface                                2 = LEDs on flying leads</p> <p>d = Reference Value 1 to 9</p> <p>e = Multiplying digit 1, 2, 3 or 4</p> <p>de = Maximum Time</p> <p>The input parameters for the power supply option are:           Ui = 11.1V      Pi = 2.613 W (non linear)           Ui = 10.8V      Pi = 3.28 A      Ci = 363 nF      Li = 0</p> <p>The input parameters for the E.P.P.S. option are:           Ui = 11.1V      Pi = 340 mA      Ci = 363 nF      Li = 0</p> <p>The temperature class is dependent on the ambient temperature:</p> <table border="1"> <thead> <tr> <th>Ambient</th> <th>Temperature Class</th> </tr> </thead> <tbody> <tr> <td>Tamb = -20 °C to +60 °C</td> <td>Group II T4 T5 T6</td> </tr> <tr> <td>-20 °C to +59 °C</td> <td>Group III T101 °C T100 °C</td> </tr> <tr> <td>-20 °C to +44 °C</td> <td>T85 °C</td> </tr> </tbody> </table>			Ambient	Temperature Class	Tamb = -20 °C to +60 °C	Group II T4 T5 T6	-20 °C to +59 °C	Group III T101 °C T100 °C	-20 °C to +44 °C	T85 °C
Ambient	Temperature Class									
Tamb = -20 °C to +60 °C	Group II T4 T5 T6									
-20 °C to +59 °C	Group III T101 °C T100 °C									
-20 °C to +44 °C	T85 °C									
14	Specific Conditions of Use:									
<p>1. The Electronic Timer shall not be used where UV light or radiation may impinge the Electronic Timer System.</p> <p>2. The Electronic Timer shall be installed within an enclosure which provides protection against impact.</p> <p>3. The Enclosure shall be metallic providing a minimum IP20.</p> <p>4. For light alloy enclosures, materials shall not contain, by mass, more than 7.5% in total of magnesium, titanium and zirconium. Where more than 10% in total of aluminium, magnesium, titanium and zirconium the user shall take special precautions to avoid ignition hazard due to impact or friction.</p>										
15	Essential Health and Safety Requirements:									
<p>The relevant EH&amp;SRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.</p> <p><b>THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE</b></p>										
<p>FM Approvals Europe Ltd, One Georges Quay Plaza, Dublin, Ireland, D02 E440                                T: +353 (0) 1761 4200 E-mail: alex@fmapprovals.com www.fmapprovals.com</p> <p>F ATEX 020 (Mar 2019)</p>										

<b>EU-TYPE EXAMINATION CERTIFICATE</b>	
1	Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU
2	EU-Type Examination Certificate No.: FM10ATEX0003X
3	Name of Applicant: <b>Expo Technologies Ltd</b>
4	Address of Applicant: Unit 2, The Summit Haworth Road Sunbury on Thames TW16 5DB United Kingdom
5	This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.
6	FM Approvals Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
7	The examination and test results are recorded in confidential report number:
8	3036907EC dated 12 <sup>th</sup> November 2010
9	Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:
10	EN60079-0:2012+A11:2013, and EN 60079-11:2012  If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
11	This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
12	The marking of the equipment or protective system shall include:
 II 1 G Ex ia IIC T4 Ga  II 1 D Ex ia IIC T4 Da * See Description <p>Digitally signed by                                Richard Zammitt                                Director of Engineering                                FM Approvals Europe                                Limited                                Email: richard.zammitt@fmapprovals.com                                Date: 13/03/2019</p>	
<b>Richard Zammitt</b> <b>Certification Manager, FM Approvals Europe Ltd.</b> Issue Date: 13 <sup>th</sup> March 2019 <p><b>THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE</b></p>	
<p>FM Approvals Europe Ltd, One Georges Quay Plaza, Dublin, Ireland, D02 E440                                T: +353 (0) 1761 4200 E-mail: alex@fmapprovals.com www.fmapprovals.com</p> <p>F ATEX 020 (Mar 2019)</p>	



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**SCHEDULE**

to EU-Type Examination Certificate No. FM10ATEX0003X

**16 Test and Assessment Procedure and Conditions:**

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment or supporting documentation. It does not imply an assessment on the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

**17 Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

**18 Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
12 <sup>th</sup> November 2010	Original Issue.
30 <sup>th</sup> January 2013	<p>Supplement 1: Report Reference: 3036906rev130109 dated 25<sup>th</sup> January 2013. Description of the Change: 1. Change of address 2. Addition of I.S. power Supply option.</p>
22 <sup>nd</sup> October 2013	<p>Supplement 2: Report Reference: 3036907rev141016 dated 18<sup>th</sup> October 2013 Description of the Change: Addition of ETM-IS21-001 battery pack module. (This corresponds to a =3, No change to the model code.)</p>
08 <sup>th</sup> December 2014	<p>Supplement 3: Report Reference: 3036907rev141016 dated 04<sup>th</sup> December 2014 Description of the Change: Change to Valve part number and update of Valve certificate number (DEKRA 1ATEX027X).</p>
20 <sup>th</sup> July 2015	<p>Supplement 4: Report Reference: 3055146 dated 15<sup>th</sup> July 2015 Description of the Change: Update to the standards used.</p>
25 <sup>th</sup> November 2016	<p>Supplement 5: Report Reference: RR20962 dated 23<sup>rd</sup> November 2016 Description of the Change: Change of T-Class due to solenoid. Updated certificate to EU format.</p>
24 <sup>th</sup> July 2017	<p>Supplement 6: Report Reference: RR20962 dated 22<sup>nd</sup> June 2017 Description of the Change: Addition of EPPS pneumatically powered generator (this corresponds to a =5 in model number).</p>
13 <sup>th</sup> March 2019	<p>Supplement 7: Report Reference: RR20962 dated 22<sup>nd</sup> June 2017 Description of the Change: Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.</p>

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals Europe Ltd, One Georges Quay Plaza, Dublin, Ireland. D02 E440  
T: +353 (0) 1761 4200 E-mail: [alex@fmapprovals.com](mailto:alex@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F ATEX 020 (Mar/2019)

3/1/2020

Page 3 of 3

**Blueprint Report****Expo Technologies Ltd (1000002806)**

Class No 3610

Original Project ID: FM10.ATEX0003X

Drawing No. EPC-B000-114

Revision Level 1

Drawing Title Electronic Timer Main PCB Layout

Last Report 3049400

Electronic Drawing Yes (msw6)

Yes (pdf)

3036907

Yes (pdf)

3036907

Yes (msw6)

3049400

Yes (zip.htm)

3049400

Yes (pdf)

3049400

Yes (msw6)

3049400

Yes (pdf)

3049400

Yes (zip.htm)

3036907

Yes (pdf)

3049400

Page 1 of 1

**CERTIFICATE OF CONFORMITY**

FM Approvals<sup>®</sup>  
Member of the FM Global Group

1. HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS  
FM16CA0176X  
Electronic Timer Module ETM-S\*\*\*

2. Certificate No.: FM16CA0176X

3. Equipment:  
(Type Reference and Name)

4. Name of Listing Company:  
Expo Technologies Ltd  
Unit 2, The Summit  
Hanworth Road  
Sunbury on Thames  
TW16 5DB  
United Kingdom

5. Address of Listing Company:

6. The examination and test results are recorded in confidential report number:  
3036907 dated 21st October 2010

7. FM Approvals LLC certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
CAN-CSA C22.2 No. 157-1992 (R2012), CAN-CSA C22.2 No. 61010-1:1992 (R1999)

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:  
Intrinsically safe for Class I, II and III, Division 1, Groups A, B, C, D, E, F, and G indoor/hazardous (Classified) locations. Temperature Class T6 at Ta = +44 °C, T5 at Ta = +59 °C and T4 at Ta = 60 °C.

**Certificate issued by:**  
*J.E. Marquedant*  
J.E. Marquedant  
Manager, Electrical Systems

23 November 2016  
Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 115 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)  
F 348 (Mar 16)

**SCHEDULE**

Canadian Certificate Of Conformity No: FM16CA0176X

11. The marking of the equipment shall include:  
Class I Division 1, Groups A, B, C, D;  
Class II, Division 1, Groups E, F, G,  
Class III, Division 1;  
T4 Ta = -20°C to +60 °C; T5 Ta = -20°C to +59 °C T6 Ta = -20°C to +44 °C

**Description of Equipment:**

General - The Timer module is designed to be supplied from either from a self contained battery pack or from an intrinsically safe power supply. The battery pack contains a non-rechargeable battery together with current limiting resistors.

**Construction:** The Timer module and Solenoid Valve are designed to be installed within another enclosure.

**Ratings - Input Parameters for when a = 2**  
Ui = 11.1V  
Ii = 340 mA  
Pi = 2.613 W (non linear)

**Electronic Timer Module ETM-Sab-cde**  
IS / I.I. III / 1 ABCDEFG / I\* Ta = -20°C to \*  
a = sub module  
1 = Timer Module powered by Expo Battery Pack  
2 = IS Power Supply  
3 = Expo IS Battery Pack  
4 = Expo IS Remote Battery Pack

b = Mounting Style  
1 = Plate mounted  
2 = Panel mounted  
c = LED connection  
1 = LED on timer surface  
2 = LED's on flying lead  
d = Maximum time  
e = Reference Value 1 to 9  
e = Multiplying digit 1, 2, 3 or 4

\*T4 Ta = +60°C  
T5 Ta = +59°C  
T6 Ta = +44°C

**Specific Conditions of Use:**

1. The Electronic Timer shall not be used where UV light or radiation may impinge the Electronic Timer System.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 115 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)  
Page 1 of 3

Page 2 of 3

 <p><b>SCHEDULE</b></p> <p>Canadian Certificate Of Conformity No: FM16CA0176X</p> <p>2. The Electronic Timer shall be installed within an enclosure which provides protection against impact.      3. The Enclosure shall be metallic providing a minimum IP20.      4. For light alloy enclosures, materials shall not contain, by mass, more than 7.5% in total of magnesium, titanium and zirconium. Where more than 10% in total of aluminium, magnesium, titanium and zirconium the user shall take special precautions to avoid ignition hazard due to impact or friction.</p> <p><b>14. Test and Assessment Procedure and Conditions:</b>      This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.</p> <p><b>15. Schedule Drawings</b>      A copy of the technical documentation has been kept by FM Approvals.</p> <p><b>16. Certificate History</b>      Details of the supplements to this certificate are described below.</p>	
Date	Description
21 <sup>st</sup> October 2010	Original Issue. Supplement 1. Report Reference: 3038907/RR1/30109 Dated 25 <sup>th</sup> January 2013 Description of the Change: Addition of IS Power Supply.
25 <sup>th</sup> January 2013	Supplement 2. Report Reference: – 3019400 dated 18 <sup>th</sup> October 2013 Description of the Change: Additional cell types for the battery pack and alternate power source.
18 <sup>th</sup> October 2013	Supplement 3. Report Reference: – RR206511 dated 23 <sup>rd</sup> November 2016 Description of the Change: Change in T-Class.
23 <sup>rd</sup> November 2016	

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F348 (Mar 16)

Page 3 of 3

**FM16CA0176X**
**Expo Technologies UK**  
 T: +44 (0) 20 8398 8011  
 E: sales@expoworldwide.com

**Expo Technologies US**  
 T: +1 (440) 247 5314  
 E:sales.na@expoworldwide.com

**Expo Technologies China**  
 T: +86 532 8906 9858  
 E: qingdao@expoworldwide.com

**CERTIFICATE OF CONFORMITY**

FM Approvals<sup>®</sup>  
Member of the FM Global Group

1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS  
FM16US0373X  
Electronic Timer Module ETM-S\*\*\*

2. Certificate No:  
FM16US0373X

3. Equipment:  
(Type Reference and Name)

4. Name of Listing Company:  
Expo Technologies Ltd

5. Address of Listing Company:  
Unit 2, The Summit  
Haworth Road  
Sunbury on Thames  
TW16 5DB  
United Kingdom

6. The examination and test results are recorded in confidential report number:  
3036907 dated 29<sup>th</sup> October 2010

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600/2011, FM Class 3610/2010, FM Class 3810/2005,  
ANSI/ISA 50079-0:2009, ANSI/ISA 60079-11:2011

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:  
Intrinsically safe for Class I, II and III, Division 1, Groups A, B, C, D, E, F, and G indoor hazardous (Classified) locations. Temperature Class T6 at Ta = +44 °C, T5 at Ta = +59 °C and T4 at Ta = 60 °C.

**Certificate issued by:**  
*J.E. Marquandant*  
J.E. Marquandant  
Manager, Electrical Systems

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)  
F 347 (Mar 16)

23 November 2016  
Date

**SCHEDULE**

US Certificate Of Conformity No: FM16US0373X

11. The marking of the equipment shall include:  
Class I Division 1, Groups A, B, C, D;  
Class II, Division 1, Groups E, F, G;  
Class III, Division 1;  
T4 Ta = -20°C to +60 °C; T5 Ta = -20°C to +59 °C T6 Ta = -20°C to +44 °C

12. **Description of Equipment:**

**General** - The Timer module is designed to be supplied from either from a self contained battery pack or from an intrinsically safe power supply. The battery pack contains a non-rechargeable battery together with current limiting resistors.

**Construction** - The Timer module and Solenoid Valve are designed to be installed within another enclosure.

**Ratings - Input Parameters for when a = 2**  
Ui = 11.1V  
Ii = 340 mA  
Pi = 2.613 W (non linear)

**Electronic Timer Module ETM-Sab-cde**  
IS / I, II, III / 1 ABCDEFG / T\* Ta = -20°C to \*

a = sub module  
1 = Timer Module powered by Expo Battery Pack  
2 = IS Power Supply  
3 = Expo IS Battery Pack  
4 = Expo IS remote Battery Pack

b = Mounting Style  
1 = Plate mounted  
2 = Panel mounted

c LED connection  
1 = LEDs on timer surface  
2 = LEDs on flying lead

d = Maximum time

e = Reference Value 1 to 9

e = Multiplying digit 1, 2, 3 or 4

\*T4 Ta = +80°C  
T5 Ta = +59°C  
T4 Ta = +44°C

13. **Specific Conditions of Use:**

1. The Electronic Timer shall not be used where UV light or radiation may impinge the Electronic Timer System.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)  
Page 1 of 3

F 347 (Mar 16)

<b>SCHEDULE</b>	
US Certificate Of Conformity No: FM16US0373X	
2. The Electronic Timer shall be installed within an enclosure which provides protection against impact.	
3. The Enclosure shall be metallic providing a minimum IP20.	
4. For light alloy enclosures, materials shall not contain, by mass, more than 7.5% in total of magnesium, titanium and zirconium. Where more than 10% in total of aluminium, magnesium, titanium and zirconium the user shall take special precautions to avoid ignition hazard due to impact or friction.	
<b>14. Test and Assessment Procedure and Conditions:</b>	
This Certificate has been issued in accordance with FM Approvals US Certification Requirements.	
<b>15. Schedule Drawings</b>	
A copy of the technical documentation has been kept by FM Approvals.	
<b>16. Certificate History</b>	
Details of the supplements to this certificate are described below:	
Date	Description
21 <sup>st</sup> October 2010	Original Issue.
25 <sup>th</sup> January 2013	Supplement1: Report Reference: 3036007RR130109 Dated 25 <sup>th</sup> January 2013 Description of the Change: Addition of IS Power Supply.
18 <sup>th</sup> October 2013	Supplement2: Report Reference: - 3049400 dated 18 <sup>th</sup> October 2013 Description of the Change: Additional cell types for the battery pack and alternate power source.
23 <sup>rd</sup> November 2016	Supplement3: Report Reference: - RR206511 dated 23 <sup>rd</sup> November 2016 Description of the Change: Change in T-Class.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (781) 762 4300 F: +1 (781) 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Mar 16)

Page 3 of 3

FM16US0373X

**Expo Technologies UK**  
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**Expo Technologies US**  
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**Expo Technologies China**  
T: +86 532 8906 9858  
E: qingdao@expoworldwide.com

# 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](http://www.iecex.com)

Certificate No.: IECEx EPS 14.0092X

Date of Issue: 2018-06-20

Status: Current

Applicant: BARTEC GmbH

Max-Eyth-Straße 16  
97960 Bad Mergentheim  
Germany

Equipment: Limit switch type 07-2251-\*\*\*-\*\*\* and Position switch type 07-291-\*\*\*-\*\*\*

Optional accessory:  
Type of Protection: **\*db\*, \*tb\***

Marking: Ex db IIC T61°C Db

Ex tb IIIC T80°C, T95°C Db

Approved for issue on behalf of the IECEx  
Certification Body:  
Holger Schaffer

Position: Certification manager

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:



**IECEx EPS 14.0092X**

<b>IECEx Certificate of Conformity</b>		<b>IECEx Certificate of Conformity</b>	
Certificate No:	IECEx EPS 14.0092X	Certificate No:	IECEx EPS 14.0092X
Date of Issue:	2018-08-20	Date of Issue:	2018-08-20
Page 3 of 4		Page 4 of 4	
<b>DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):</b>			
Update of standards			
Annex: <a href="#">IECExEPS14.0092X-Annex.pdf</a>			
<b>EQUIPMENT:</b>			
Equipment and systems covered by this certificate are as follows:			
<p>Equipment and systems covered by this certificate are as follows:</p> <p>The limit switch type 07-2511-**** / *** and 07-2581-**** / *** as well as the position switch type 07-291-*** / *** is used as equipment or utility power switch for signal and control circuits. The connection is made by cemented hose cables. The position Switch is designed with a guard (protective enclosure) which protects against the risk of high mechanical hazards according to the IEC 60079-0, Table 13b, group II.</p>			
<b>SPECIFIC CONDITIONS OF USE: YES as shown below:</b>			
<p>The limit switch and position switch shall be used within its operating range and rating according to manufacturer's documents and marking.</p> <p>The limit switch shall be installed so that it is protected by a guard against the risk of high mechanical danger, which means at least the requirements of IEC 60079-0, Table 13b, group II. Resistance to light exposure is fulfilled by the housing material according to IEC 60079-0.</p> <p>The specific installation standards and manufacturer's instructions must be respected.</p>			

<b>IECEx Certificate of Conformity</b>	
Certificate No:	IECEx EPS 14.0092X
Date of Issue:	2018-08-20
Page 3 of 4	
<b>Schedule</b>	
<b>EQUIPMENT:</b>	
Equipment and systems covered by this certificate are as follows:	
<p>Equipment and systems covered by this certificate are as follows:</p> <p>The limit switch type 07-2511-**** / *** and 07-2581-**** / *** as well as the position switch type 07-291-*** / *** is used as equipment or utility power switch for signal and control circuits. The connection is made by cemented hose cables. The position Switch is designed with a guard (protective enclosure) which protects against the risk of high mechanical hazards according to the IEC 60079-0, Table 13b, group II.</p>	
<b>SPECIFIC CONDITIONS OF USE: YES as shown below:</b>	
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BUREAU  
VERITAS

## EU - Type Examination Certificate

- (1) Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 2014/34/EU
- (2) Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 2014/34/EU

- (3) EU - Type Examination Certificate Number
- (4) Equipment:

**EPS 14 ATEX 1 766 X**  
Limit switch type 07-251-\*\*\*\*/\*\*\*\* and Position switch type 07-291-\*\*\*\*/\*\*\*\*

- (5) Manufacturer:
- (6) Address:

BARTEC GmbH  
Max-Eyth-Straße 16  
97960 Bad Mergentheim  
Germany

(7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EC of the European Parliament and of the Council of February 2014, certifies that this equipment has been found to comply with the essential health and safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 141H0090.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN 60079-1:2014  
EN 60079-31:2014  
IEC 60079-30-2017  
Fr:EN 60079-30-2017 (IEC 60079-30-2017)

(10) If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.

(11) This EU - Type Examination Certificate relates only to the design and examination of the specified equipment in accordance with Directive 2014/34/EC. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 2G Ex db IIC T6,T5 Gb  
II 2D Ex tb IIIC T80°C,T95°C Db



Certification department of explosion protection



Nuremberg, 2018-06-22

## Annex

(13)

EU - Type Examination Certificate EPS 14 ATEX 1 766 X

Revision 1

(14) EU - Type Examination Certificate EPS 14 ATEX 1 766 X

The limit switch type 07-251-\*\*\*\*/\*\*\*\* and 07-291-\*\*\*\*/\*\*\*\* as well as the position switch type 07-291-\*\*\*\*/\*\*\*\* is used as equipment or utility power switch for signal and control circuits. The connection is made by cemented hose cables. The position Switch is designed with a guard (protective enclosure) which protects against the risk of high mechanical hazards according to the EN 60079-0, Table 13b, group II.

Electrical data:

Type	max. Rated current <sup>(1)</sup>	max. Rated voltage
AC 2 A	AC 400 V	
AC 7 A	AC 250 V	
DC 0,5 A	DC 250 V	
DC 7 A	DC 30 V	
0,4 A	30 V	

(15) Description of equipment:  
The limit switch type 07-251-\*\*\*\*/\*\*\*\*, 07-291-\*\*\*\*/\*\*\*\*, 07-251-1-\*\*\*\*/\*\*\*\*, 07-291-1-\*\*\*\*/\*\*\*\* is used as equipment or utility power switch for signal and control circuits. The connection is made by cemented hose cables. The position Switch is designed with a guard (protective enclosure) which protects against the risk of high mechanical hazards according to the EN 60079-0, Table 13b, group II.

(16) Electrical data:  
The classification of a specific temperature class depends on ambient temperature, current load, cable type and cross section. These data are defined on the marking plate and they are also provided by the manufacturer within the technical documents and instruction manual.



## EU-Type Examination Certificate EPS 14 ATEX 1 766 X

Rev. 0

- (16) Reference number: 14TH0090
- (17) Special conditions for safe use:  
The limit switch and position switch shall be used within its operating range and rating according to manufacturer's documents and marking.

The limit switch shall be installed that it is protected by a guard against the risk of high mechanical danger, which meets at least the requirements of IEC 60079-0, Table 13 b), group II. Resistance to light exposure is fulfilled by the housing material according to EN 60079-0.

The specific installation standards and manufacturer's instructions must be respected.

- (18) Essential health and safety requirements:

Met by compliance with standards.



Nuremberg, 2018-06-22

Certificates without signature and seal are void. This certificate is allowed to be distributed only if not modified. Extracts or modifications must be authorized by  
Bureau Veritas Consumer Products Services Germany GmbH, EPS 17 ATEX 1 766 X, Revision 1.  
Page 1 of 3  
spw-nuremberg@de.bureauveritas.com  
www.bureauveritas.de/cps

BUREAUVERITAS  
Consumer Products Services Germany GmbH  
Thurn-und-Taxis-Straße 18, 91061 Nürnberg, Germany  
Phone: +49 910 74041 0

# EU-TYPE EXAMINATION CERTIFICATE



**Equipment or Protective System intended for use  
in Potentially Explosive Atmospheres**  
Directive 2014/34/EU

[1] EU-Type Examination Certificate Number: DEMKO 17 ATEX 1795X Rev. 1

[2] Product: EPPS

[3] Manufacturer: **Expo Technologies Limited**

[4] Address: **Unit 2 The Summit, Hanworth Road, Sunbury on Thames, Surrey, TW16 5DB, United Kingdom**

[5] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[6] UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

[7] The examination and test results are recorded in confidential report no. 4147788.1020154.

[8] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

[9] EN 60079-0-2012+A11:2013 EN 60079-1:2014 EN 60079-11:2012 EN 60079-31:2014

[10] If the sign **X** is placed after the certificate number, it indicates that the product is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.

[12] The marking of the product shall include the following:



*Jan-Erik Storgaard*  
Certification Manager

Date of issue: 2017-05-19

Re-issued: 2018-05-11



**Notified Body**  
UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark  
Tel +45 44 85 65 65, [info.dk@ul.com](mailto:info.dk@ul.com), [www.ul.com](http://www.ul.com)

## Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 17 ATEX 1795X Rev. 1

### Description of Product

[13] These devices are the electro pneumatic power supplies (EPPS), electric generators for use in hazardous locations, providing intrinsically safe circuits for connection to intrinsically safe devices. The EPPS, flameproof protection method comprises of a cylindrical main body that houses a generator and a shaft unit which completes the flameproof enclosure. The dust ignition protection by enclosure comprises of the cylindrical main body with a lead seal and cowling. These devices use a limited amount of compressed air, 4 bar max., to provides intrinsically safe output.

### Nomenclature:

E	P	W	-	E	P	P	S	-	0	0	1
I	II	III	IV	V	VI	VII	VIII	IX	X		
I-	E - Model Designation Given as E										
II-	P - Model Designation Given as P										
III-	W - Model Designation Given as W										
IV-	E - Electro										
V-	P - Pneumatic										
VI-	P - Power										
VII-	S - Supply										
VIII-	- Numerical Value Given as 0										
IX-	- Numerical Value Given as 0										
X-	Output Entity Parameter Designations Given as Q, 1, or 2										

Temperature range  
The ambient temperature range is -50 °C to +65 °C.

### Electrical data:

Input Pressure Rating: 4.0 bar (58 psi)  
Input Pressure Temperature: 65 °C max

The output entity parameters assigned to the models are as follows:

Output Entity Parameters											
EPW-EPPS-000				EPW-EPPS-001				EPW-EPPS-002			
U <sub>o</sub> :	10.8 V	U <sub>o</sub> :	14.3 V	U <sub>o</sub> :	7.0 V	U <sub>o</sub> :	3.16 V	U <sub>o</sub> :	3.16 V	U <sub>o</sub> :	3.16 V
I <sub>o</sub> :	3.28 A	I <sub>o</sub> :	1.085 A	I <sub>o</sub> :	1.942 A	I <sub>o</sub> :	1.882 A	I <sub>o</sub> :	1.882 A	I <sub>o</sub> :	1.882 A
P <sub>o</sub> :	1.46 W	P <sub>o</sub> :	3.10 W	P <sub>o</sub> :	3.10 W	P <sub>o</sub> :	3.03 W	P <sub>o</sub> :	3.03 W	P <sub>o</sub> :	3.03 W
C <sub>o</sub> :	2.14 UF	C <sub>o</sub> :	0.68 UF								

Routine tests according to EN 60079-1 cl. 16 are not required.

### Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [ 8 ] on page 1 of this EU-Type Examination Certificate.

### Specific conditions of use:

- The EPPS shall be installed within an enclosure which provides protection against impact. The enclosure must have a minimum IP20 rating.
- The flameproof joints are not intended to be repaired, contact Expo for further information.

**Schedule**  
**EU-TYPE EXAMINATION CERTIFICATE No.**  
**DEMKO 17 ATEX 1795X Rev. 1**

[13] Essential Health and Safety Requirements  
 The Essential Health and Safety Requirements (EHSSRs) covered by the standards listed at item 9.

Additional Information



The trademark **Expo** will be used as the company identifier on the marking label.  
 The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.  
 Accredited by DANAK under registration number 7011 to certification of products.

**DEMKO 17ATEX1795X**

**Expo Technologies UK**  
 T: +44 (0) 20 8398 8011  
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**Page**  
**50**

# 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](http://www.iecex.com)

Certificate No.: IECEx UL 17.0016X

Status: Current

Date of Issue: 2018-01-11

Applicant: **Expo Technologies Limited**

Equipment: EPPS, Models EPPS/EPPS-001, EPPS-EPPS-002

Optional accessory:

Type of Protection: Flameproof "db", Intrinsic safety "ia", Dust "ib"

Marking: Ex db [ia Ga] IIC T6 Gb

Ex tb [ia Da] IIIC T65°C Db

-50°C to +65°C

Approved for issue on behalf of the IECEx

Certification Body:

Position:

Kay A. Holdedge  
Senior Staff Engineer

Signature:  
(For printed version)

Date:

Certificate issued by:



UL LLC  
333 Princeton Road  
Northbrook IL 60062-2098  
United States of America

<b>IECEx Certificate of Conformity</b>									
<b>IECEx</b> <b>TM</b>									
<b>IECEx Certificate of Conformity</b>									
<p><b>Certificate No.:</b> IECEx UL 17.0016X      <b>Issue No.:</b> 1</p> <p><b>Date of Issue:</b> 2018-01-11      <b>Issue No.:</b> 1</p> <p><b>Manufacturer:</b> <b>Expo Technologies Limited</b> Unit 2 The Summit Haworth Road Sunbury on Thames Surrey TW16 5DB <b>United Kingdom</b></p>									
<p><b>Additional Manufacturing Location(s):</b></p> <p>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(s) 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.</p>									
<p><b>STANDARDS:</b></p> <p>The 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:</p> <table border="0"> <tr> <td><b>IEC 60079-0 : 2011</b> Edition:6.0</td> <td>Explosive atmospheres - Part 0: General requirements</td> </tr> <tr> <td><b>IEC 60079-1 : 2014-06</b> Edition:7.0</td> <td>Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"</td> </tr> <tr> <td><b>IEC 60079-11 : 2011</b> Edition:6.0</td> <td>Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"</td> </tr> <tr> <td><b>IEC 60079-31 : 2013</b> Edition:2</td> <td>Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "n"</td> </tr> </table>		<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements	<b>IEC 60079-1 : 2014-06</b> Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"	<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"	<b>IEC 60079-31 : 2013</b> Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "n"
<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements								
<b>IEC 60079-1 : 2014-06</b> Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"								
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"								
<b>IEC 60079-31 : 2013</b> Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "n"								
<p><b>TEST &amp; ASSESSMENT REPORTS:</b></p> <p>A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in</p> <table border="0"> <tr> <td><b>Test Report:</b></td> <td><b>US/UL/EX/TR/17.0016/01</b></td> </tr> <tr> <td><b>Quality Assessment Report:</b></td> <td><b>GB/SIR/QAR/07.2012/12</b></td> </tr> </table>		<b>Test Report:</b>	<b>US/UL/EX/TR/17.0016/01</b>	<b>Quality Assessment Report:</b>	<b>GB/SIR/QAR/07.2012/12</b>				
<b>Test Report:</b>	<b>US/UL/EX/TR/17.0016/01</b>								
<b>Quality Assessment Report:</b>	<b>GB/SIR/QAR/07.2012/12</b>								
<p><b>This Certificate does <i>not</i> indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.</b></p>									

# IECEx Certificate of Conformity



# IECEx Certificate of Conformity



Issue No. 1

IECEx UL 17.0016X

Page 3 of 5

**Schedule**

**EQUIPMENT:**  
Equipment and systems covered by this certificate are as follows:

These devices are the electro pneumatic power supplies (EPPS), electric generators for use in hazardous locations, providing intrinsically safe outputs for connection to intrinsically safe devices. The EPPS flameproof protection method comprises a cylindrical main body that houses a generator and I.S. Barrier with a lead seal and shaft joint which completes the flameproof enclosure. The dust ignition protection by enclosure comprises of the cylindrical main body with a lead seal and cooling. These devices use a limited amount of compressed air, 4 bar max, to provide intrinsically safe output.

Please see Annex for additional information.

**SPECIFIC CONDITIONS OF USE: YES as shown below:**

- The EPPS shall be installed within an enclosure which provides protection against impact. The enclosure must have a minimum IP20 rating.
- The flameproof joints are not intended to be repaired, contact Expo for further information.

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Issue No. 1

IECEx UL 17.0016X

Page 4 of 5

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

Issue 1: Update of drawing list, rating and model nomenclature.

Certificate No:

2018-05-11

Date of Issue:

2018-05-11

Issue No. 1

IECEx UL 17.0016X

Page 4 of 5

Issue No. 1

IECEx UL 17.0016X

Page 4 of 5

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