

# CERTIFICATE OF CONFORMITY



## 1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. Certificate No: FM23US0049X
3. Equipment:  
(Type Reference and Name) SmartPurge2 Purge Control Unit and  
SmartPurge2 Remote Control Terminal
4. Name of Listing Company: Expo Technologies Ltd
5. Address of Listing Company: Unit 2,  
The Summit,  
Hanworth Road,  
Sunbury on Thames,  
Surrey, TW16 5DB, United Kingdom

6. The examination and test results are recorded in confidential report number:

3047764 dated 10<sup>th</sup> January 2014

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

FM 3600:2022, FM 3620:2018, FM 3810:2005, ANSI/UL 60079-0:2009, ANSI/UL 60079-2:2015,  
ANSI/UL 60079-7:2013, ANSI/UL 60079-11:2011, ANSI/UL 60079-18:2012, ANSI/UL 60079-31:2013,  
ANSI/IEC 60529:2004, ANSI/UL 61010-1:2004

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:

See Annex

Certificate issued by:

J.E. Marquedant  
VP, Manager - Electrical Systems

24 July 2023

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. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

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## **SCHEDULE**

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**11. The marking of the equipment shall include:**

See Annex

**12. Description of Equipment:**

The SmartPurge 2 (SP2) is an electronic purge and pressurization control system consisting of a Control Unit containing the following: a power supply and switching module, a flow and pressure measuring unit and an electronic control unit. A display is provided for monitoring the status and for use during set-up.

Two versions of the SmartPurge2 are available, as a purge and pressurize control unit (P) and as a fan control unit (F). Both these versions are available with a universal voltage (M) or a low voltage (L) power supply. The SmartPurge 2 is housed within a stainless steel enclosure with an ingress protection rating of IP64.

The system can be connected to an optional Remote Panel which is housed in an aluminium enclosure. The maximum service temperature is 60 °C.

**13. Specific Conditions of Use:**

See Annex

**14. Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

**15. Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

**16. Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
10 January 2014	Original Issue.
24 July 2023	<u>Supplement 1:</u> Report Reference: PR465043 dated 24 July 2023. Description of the Change(s): Converted to new certificate format.

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# **ANNEX**

## **SP2-ab-SS SmartPurge2 Purge Control Unit**

### **Equipment Ratings:**

Suitable for Zone 1 protected by increased safety, intrinsic safety and encapsulation and as associated pressurization equipment AEx e ib m [p] IIC T4 and suitable for Zone 21 protection by enclosure and as associated pressurization equipment AEx tb [pD] IIIC T135°C with an ambient temperature rating of -20°C to +60°C Hazardous (Classified) Locations (indoors/outdoors - IP64) when installed per control drawing SD8113.

### **Markings:**

Class I Zone 1 AEx e ib m [p] IIC T4 -20°C ≤ Ta ≤ 60°C; - SD8112; Entity  
Zone 21 AEx tb [pD] IIIC T135°C Ta = -20°C to 60°C — SD8112; Entity

### **Description of Equipment:**

#### **SP2-ab-SS SmartPurge2 Purge Control Unit**

a = P or F, System type

b = M or L, Supply voltage

Power Supply (Terminals 1, 2): 90-254 Vac or 11-28 Vdc

Um = 254 Vac

Power Switching (Terminals 3, 4) 6 A at 250 Vac  
5 A at 30 Vdc

Alarm Contact ratings (Terminals 5, 6 and 7, 8): 250V, 1A

Fuse type (Terminals 9, 10): 100 mA (when b = M)  
500 mA (when b = L)

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### Energy Limitation Parameters:

	Terminal TB1	$U_0$ (Vdc)	$I_0$ (mA)	$C_0$ (μF)	$L_0$ (mH)	$P_0$ (W)
SOV	1,2	23.58	165.5	0.091	2.9	0.975
IP	3,4	23.58	165.5	0.091	2.9	0.975
Remote Output	9,10,11,12	8.465	405.1	5.145	0.48	0.857
External alarm	5,6	5.88	5.9	Negligible	0	0.009
Over-ride	7,8	5.88	5.9	Negligible	0	0.009

### Specific Conditions of Use:

The non-metallic window of the SmartPurge 2 may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TS 60079-32-1. Cleaning of the window should only be done with a damp cloth.

## SP2-RP SmartPurge2 Remote Control Terminal

### Equipment Ratings:

Intrinsically safe for Class I, Zone 1, AEx ib IIC T4 with an ambient temperature rating of -20°C to +60°C using the Entity concept when installed in accordance with Control Drawing SD8112.

### Markings:

Class I Zone 1 AEx ib IIC T4 -20°C ≤ Ta ≤ 60°C; - SD8112; Entity

### Description of Equipment:

#### SP2-RP SmartPurge2 Remote Control Terminal

Entity parameters

$U_i$ (Vdc)	$I_i$ (mA)	$C_i$ (μF)	$L_i$ (mH)	$P_i$ (W)
8.465	405.1	5.145	0.48	0.857

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### **Specific Conditions of Use:**

The powder coated surface and the non-metallic window of the SmartPurge 2 Remote Control Terminal may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TS 60079-32-1. Cleaning of the powder coated surface and window should only be done with a damp cloth.

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