



1. EU-TYPE EXAMINATION CERTIFICATE

2. Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU

3. EU-Type Examination Certificate No: FM11ATEX0060X

4. Equipment or protective system:
(Type Reference and Name) SmartPurge2 Purge Control Unit and
SmartPurge2 Remote Control Terminal

5. Name of Applicant: Expo Technologies Ltd

6. Address of Applicant Unit 2, The Summit, Hanworth Road, Sunbury on
Thames, Surrey, TW16 5DB, United Kingdom

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

8. 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.

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

3041589EC dated 23rd March 2012

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:

EN IEC 60079-0:2018, EN 60079-2:2014, EN 60079-7:2015+A1:2018, EN 60079-11:2012,
EN 60079-18:2015+A1:2017, EN 60079-31:2014, EN 60529:1991+A1:2000+A2:2013

10. 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:



Epsilon X accompanied by additional marking defined in the Annex.

Certificate issued by:

 FM Approvals

24 November 2025

Certification Manager, FM Approvals Europe Ltd.

Date

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

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SCHEDULE

EU-Type Examination Certificate No. FM11ATEX0060X

13. Description of Equipment or Protective System:

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.

Three versions of the SmartPurge2 are available, as a purge and pressurize control unit (P), as a fan control unit (F), and as a control unit with remote orifice (R). 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.

For further details including Energy Limitation Parameters – refer to ANNEX

14. Specific Conditions of Use:

See Annex.

15. Essential Health and Safety Requirements:

The relevant EHSRs 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.

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 of supporting documentation. It does not imply an assessment of 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.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

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
5 April 2012	Original Issue.

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SCHEDULE

EU-Type Examination Certificate No. FM11ATEX0060X

Date	Description
2 April 2013	<u>Supplement 1:</u> Report Reference: – 3041590rev120910 dated 25 th March, 2013. Description of the Change: 1. Address of Applicant change from: Summer Road, Thames Ditton, Surrey, KT7 0RH, UK. Update to Approved drawings due to address change.
3 June 2015	<u>Supplement 2:</u> Report Reference: RR201328 dated 2 nd June 2015 Description of the Change: Minor documentation update.
14 June 2016	<u>Supplement 3:</u> Report Reference: – RR205060 dated 26 th May 2016 Description of the Change: Update standards to the latest edition (EN 60079-0: 2009 to 2012 + A11:2013, EN 60079-11: 2007 to 2012), and minor documentation update. Updated to EU certificate.
29 June 2017	<u>Supplement 4:</u> Report Reference: – RR209790 dated 13 th June 2017 Description of the Change: Documentation updates.
12 April 2019	<u>Supplement 5:</u> Report Reference: – PR452625 dated 22 nd March 2019 Description of the Change: Update to standards used; EN 60079-2, EN 60079-7, EN 60079-18, EN 60079-31 and EN 60529. Certificate transferred from FM Approvals Ltd., notified body No. 1725, to FM Approvals Europe Ltd., notified body No. 2809.
26 July 2023	<u>Supplement 6:</u> Report Reference: PR465043 dated 24 July 2023. Description of the Change(s): Modification to the power supply board due to component obsolescence. Clarifications made to Marking and Specific Conditions of Use.
24 November 2025	<u>Supplement 7:</u> Report Reference: PR469170 dated 21 November 2025. Description of the Changes: Addition of alternative encapsulation materials and revise model code to reference remote orifice option.

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ANNEX

SP2-ab-SS SmartPurge2 Purge Control Unit

Markings:



II 2 (2) G Ex eb ib mb [ib Gb] [pxb Gb] IIC T4 Gb $-20^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$
II 2 (2) D Ex tb [pxb Db] IIIC 135°C Db $-20^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$

Description of Equipment:

SP2-ab-SS SmartPurge2 Purge Control Unit

a = P, F or R, System type

b = M or L, Supply voltage

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

$U_m = 254 V_{ac}$

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)

Energy Limitation Parameters:

	Terminal TB1	Uo (Vdc)	Io (mA)	Co (μF)	Lo (mH)	Po (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	21.5	1020	0.009
Over-ride	7, 8	5.88	5.9	21.5	1020	0.009

Specific Conditions of Use:

The non-metallic window may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in CLC/TR 60079-32-1. Cleaning of the window should only be done with a damp cloth.

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SP2-RP SmartPurge 2 Remote Control Terminal

Markings:



II 2 G Ex ib IIC T4 Gb -20 °C ≤ Ta ≤ 60 °C

Description of Equipment:

SP2-RP SmartPurge 2 Remote Panel
Energy Limitation Parameters:

Ui (Vdc)	Ii (mA)	Ci (μF)	Li (mH)	Pi (W)
8.465	405.1	5.145	0.48	0.857

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 painted 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 CLC/TR 60079-32-1. Cleaning of the powder coated surface and window should only be done with a damp cloth.

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Blueprint Report

Expo Technologies Ltd 1000002806

Class No. 3620

Original Project I.D. 3041589

Certificate I.D. FM11ATEX0060X

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
EPC-BGB0-001	3	SmartPurge2 UV LV PSU PCB Data Files	PR465043	Yes (unknown)
EPC-BGB0-002	1	Standard Transducer PCB Data Files	3041590	Yes (zip)
EPC-BGB0-003	3	Front Panel PCB Data Files	PR469170	Yes (zip)
EPC-BGB0-004	1	Remote Panel PCB Data Files	3041590	Yes (zip)
EPC-BGB0-006	1	SmartPurge2 PSU LV Daughter PCB Data Files	3041590	Yes (zip)
EPC-BGB0-008	4	Prime Transducer PCB Data Files	3041590	Yes (zip)
EPC-BGB0-009	2	Logic PCB Data Files V1	3041590	Yes (zip)
EPC-BGB0-010	1	Corrected Logic Board EPC-BGB0-010	3041590	Yes (zip)
EPC-BGB0-011	1	Mod-board Retrofit	3041590	Yes (zip)
IECEx KEM07.0023U	-	Component Certificate, Terminal Blocks	3041590	Yes (pdf)
IECEx KIWA 18_0009U	1	Optocoupler SpandexMeder 522-03-i	PR465043	Yes (pdf)
KIWA 18ATEX0017U	2	Optocoupler VISHAY CNY65EXI	PR465043	Yes (pdf)
PTB Ex 91.C.3123U	-	Component Certificate, Earth Terminal	3041590	Yes (pdf)
SD7272	3	Remote Panel Block Diagram	3041590	Yes (pdf)
SD7273	3	Logic Electronics Block Diagram	3041590	Yes (pdf)
SD7274	3	System Block Diagram	PR452625	Yes (pdf)
SD7306	2	Operational Sequences Document Part 3	3041590	Yes (pdf)
SD7571	2	Transformer, PSU LV	3041590	Yes (pdf)
SD7617	1	Design Document Part 1	3041590	Yes (pdf)
SD7618	2	Design Document Part 2	PR452625	Yes (pdf)
SD7619	7	Certification Labelling	PR469170	Yes (pdf)
SD7816	3	General Assembly - steel	PR469170	Yes (pdf)
SD7817	6	Enclosure - steel	PR469170	Yes (pdf)
SD7818	1	Terminal Block Clearances - steel	3041590	Yes (pdf)
SD7819	2	Spark Arrestor	3041590	Yes (pdf)
SD7820	2	Lid: Window & Sealing - steel	3041590	Yes (pdf)
SD7821	2	Lid: Display - steel	RR209790	Yes (pdf)
SD7822	2	LCD Module	PR469170	Yes (pdf)
SD7823	3	Flow Sensor Block - steel	PR469170	Yes (pdf)

SD7824	1	Type FN Sensor Block - steel	3041590	Yes (pdf)
SD7825	2	Earth Terminal - steel	3041590	Yes (pdf)
SD7923	2	Transformer, PSU UV	3041589	Yes (pdf)
SD7924	1	PSU Block Diagram	3041590	Yes (pdf)
SD7925	1	External Connections	3041590	Yes (pdf)
SD7926	1	PCB Interconnection	3041590	Yes (pdf)
SD7933	3	SmartPurge2 LV PSU Circuit Diagram	PR465043	Yes (pdf)
SD7934	1	SmartPurge2 LV PSU Daughter / Circuit Diagram	3041589	Yes (pdf)
SD7936	3	SmartPurge2 UV PSU Circuit Diagram	PR465043	Yes (pdf)
SD7942	2	UV Fuse Assembly	3041590	Yes (pdf)
SD7943	2	LV Fuse Assembly	3041590	Yes (pdf)
SD7944	4	CERT Label UV Fuse	RR205060	Yes (pdf)
SD7945	3	CERT Label LV Fuse	RR205060	Yes (pdf)
SD7977	3	SmartPurge2 Power Supply Encapsulation Procedure	PR469170	Yes (pdf)
SD7981	4	UV Power Supply Parts List	PR465043	Yes (pdf)
SD7983	3	LV Power Supply Parts List	PR465043	Yes (pdf)
SD7984	2	SP2 Fuse Assembly Encapsulation Process	PR469170	Yes (pdf)
SD7985	2	Logic Assembly / Circuit Diagram	3041590	Yes (pdf)
SD7986	2	Logic Board Parts List	3041590	Yes (pdf)
SD7987	2	Prime Transducer Board PCB / Circuit Diagram	3041590	Yes (pdf)
SD7988	2	Prime Transducer Board Parts List	452625	Yes (pdf)
SD7989	1	Standard Transducer Board PCB / Circuit Diagram	3041590	Yes (pdf)
SD7990	1	Standard Transducer Board Parts List	3041590	Yes (pdf)
SD7991	2	Front Panel Parts List	3041590	Yes (pdf)
SD7992	2	Front Panel PCB / Circuit Diagram	3041590	Yes (pdf)
SD7993	2	Remote Panel Parts List	PR452625	Yes (pdf)
SD7994	1	Remote Panel PCB / Circuit Diagram	3041590	Yes (pdf)
SD7995	1	LV PSU Daughter Board Parts List	3041590	Yes (pdf)
SD7997	2	SmartPurge2 External Connections (LED)	3041590	Yes (pdf)
SD8009	3	SP2 Retrofit Mod Board for Logic Board	RR209790	Yes (pdf)
SD8374	3	SmartPurge 2 Instructions (ATEX and IECEx)	PR469170	Yes (pdf)