



## Product Data Sheet

## SmartPurge II

IECEX & ATEX Certified Intelligent Purge  
and Pressurization System

**SP2-PM-SS**

**SP2-PL-SS**

Enclosure sizes up to 5.3 m<sup>3</sup> (187 cu ft)  
Zone 1 Gas and Zone 21 Dust



SmartPurge II Controller Unit

[www.expoworldwide.com](http://www.expoworldwide.com)

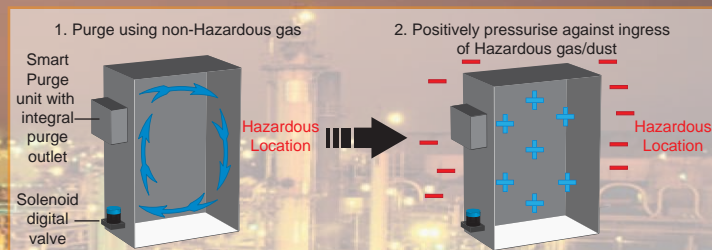


ISO 9001



## Purge and Pressurization

Expo Technologies are specialists in providing solutions for electrical equipment in Hazardous Locations. A Hazardous Location is an area in which there is a presence of ignitable gases, liquids or dusts and has been classified as hazardous/explosive. \* Purge and Pressurisation Control Systems allow general purpose electrical apparatus to be located safely in a Hazardous Location.



\* Hazardous Locations are defined in International IEC standards (Zone 0, 1 & 2) and in the USA, NEC Standards (Where Division 1 & 2 are mainly used)

### SmartPurge II Controller

Mains Voltage Model - 90-254 V AC - SP2-PM-SS  
Low Voltage Model - 11-28 V DC - SP2-PL-SS

- + The SmartPurge II carries International Certification, certified to both IECEx and ATEX Standards
- + Robust 316L Stainless Steel construction makes the SmartPurge II resistant to offshore and corrosive environments
- + Conforms to IEC 61508 Safety Integrity Level (SIL) 2
- + Universal Applications – a single model for both leakage compensation and continuous flow applications. Wide operating temperature range and universal power supply allows a large range of solutions to be provided by one model
  - +Temperature range -20°C to +60°C (-4°F to 140°F)
  - +Universal power supply 90-254 V AC or 11-28 V DC
- + High Purge air flow capacity
  - +Leakage Compensation 110-540 NI/min (3.9-19.1 cuft/min)
  - +Continuous Flow 10-540 NI/min (0.35-19.1 cuft/min)
  - +Purges enclosures up to 5.3 m<sup>3</sup> (187 cuft)
- + Universal mounting options and compact size make the unit easy to integrate into existing and custom sized enclosures The controller with its integral purge outlet can be mounted in any orientation on your enclosure
- +Configurable inputs/outputs
  - +Two selectable alarms
  - +Auxiliary inputs for override keyswitch, door switch or intermediate pressure switch

## Additional System Components

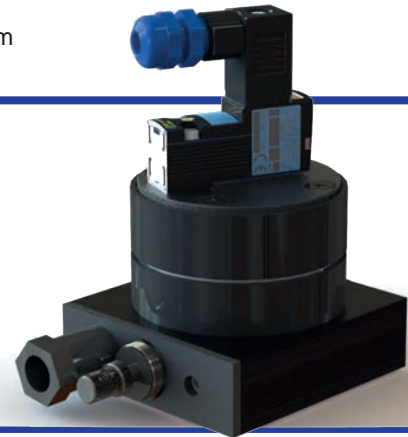
In addition to the Smart Purge II Controller, you will also need to select the appropriate system components for your application.



### Cable Glands - SP2-GK

IECEX and ATEX certified cable glands are supplied separately to the SmartPurge II controller unit enabling you to select the most suitable cable glands for your hazardous area application.

2 x M16 - Cable OD 4-8.4 mm  
2 x M20 - Cable OD 7.2-11.7 mm



### Digital Valve - SP2-DV

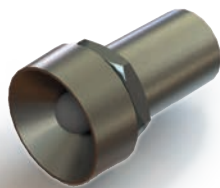
For the control of Leakage Compensation and High Purge Continuous Flow systems. This Intrinsically safe device switches between the purge flow and leakage compensation flow rate.



### Continuous Flow Kit - SP2-CF

For the control of Continuous Flow applications. Suitable for low flow rate applications, where a continuous flow of air is required for cooling, or dilution of hazardous gases generated inside the enclosure is required.

## Optional Accessories



### Remote LED - SP2-RL

Intrinsically Safe tri-colour LED giving simple remote indication of Purge system status. Stainless steel bezel mounts in 22 mm hole. Supplied with 2 m (6 ft) cable attached.

### Remote Panel - SP2-RP

The Intrinsically safe Remote Panel duplicates the status and operation of the SmartPurge system. The LCD and four navigation buttons enable all the functions of the SmartPurge to be duplicated up to 50 m (150 ft) away from the main control unit. The unit includes a password protected override function.



### SmartPurge Interface Unit - SIU

Flameproof Interface for switching higher loads or additional signals.

### Override Switch - SP2-OS

Panel mounting key operated override switch to bypass SmartPurge Controller output signal.

### Splash Cover - SP2-SC

Protects the output valve from direct water jets.

## Technical Specification

### Purge Flow Range

Leakage Compensation - 110 to 540 NI/min  
3.9 to 19.1 cu ft/min  
Continuous Flow - 10 to 540 NI/min  
0.35 to 19.1 cu ft/min

### Maximum Purge Time

99 minutes

### Power Switching

2 pole, 6 A, 250 V AC1 / 5 A, 30 V DC1

### Supply Voltage

90 to 254 V AC 50 / 60 Hz Part Code: SP2-PM-SS  
11 - 28 V DC Part Code: SP2-PL-SS

### Low Pressure Trip Options

Immediate trip. Alarm only. Delay trip  
(Maximum delay time: 99 minutes)

### Status/Alarm Function

Choice of two (SPNO) for Alarm: General Alarm,  
Pressure correct/Not correct, Low Pressure Pre-Alarm,  
Purge in Progress, Ready to Purge

### Alarm/Status

Two single pole 1 A, 250 V AC1

### Certification

II 2 (2) G Ex e ib mb [p] IIC T4 -20°C ≤ Ta ≤ 60°C  
II 2 (2) D Ex tb [pD] IIIC 135°C -20°C ≤ Ta ≤ 60°C

### Enclosure Pressure

0.8 to 7 mbarg (0.3 to 2.8 "wc) after purge

### Air Supply Pressure (Regulated)

2 to 7 barg (29 to 102 psi) @ certified flow +20%

### Control Valve Outputs

IS digital solenoid valve

### Purge Override

Password or IS Keyswitch

### External Control Input

IS Volt Free Contact (Override Keyswitch, Door Switch,  
Pressure Switch, Start Purge Switch)

### Environmental Protection

IP65 Stainless Steel 316 enclosure, satin finish

### Mounting Position

Side or top, external or internal

### Control Unit Dimensions

187 x 139 x 107 mm (7.3" x 5.3" x 4.2") (H x W x D)

20mm clearance for air exit and spark arrestor

### Temperature Range

-20°C to +60°C (-4°F to +140°F)

**Weight SmartPurge II** 4.2 kg (9.3 lb) approx.

### Controller

**Digital Valve** 1.0 kg (2.2 lb) approx.

**Remote Panel** 1.0 kg (2.2 lb) approx.

## EXPO Worldwide



Expo Technologies is the leading manufacturer of Internationally Certified Purge and Pressurisation equipment. Our range cover systems for Electronic equipment enclosures of varying sizes, including analytical equipment, as well as full Ex p for Large Electrical Machines.

Our design and consultancy facilities enable us to undertake and manage customer specific projects from front to back, supporting our manufacture with qualified specialists capable of performing installation, maintenance and commissioning.

We also manufacture intrinsically safe, increased safety and non-incentive equipment for hazardous areas. Please contact one of our sales offices to discuss your hazardous area protection projects.



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