

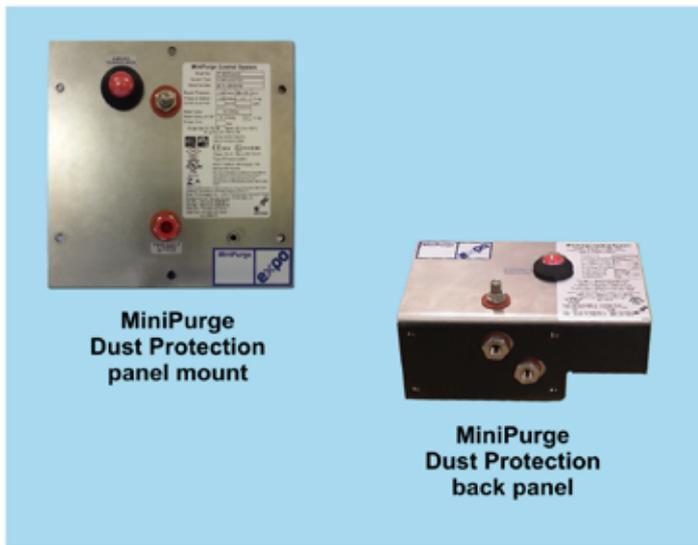


# MiniPurge Dust Protection Type X

Control System for Dust Protection for enclosures

## Data Sheet

Zone 21 - Class II Div 1



MiniPurge  
Dust Protection  
panel mount

MiniPurge  
Dust Protection  
back panel

## Operation

MiniPurge Dust Protection (DP) is a pressurization system used as a protection method for electrical equipment installed within areas subject to combustible dust accumulation. When fitted to a suitable enclosure, the system enables regular electrical equipment to be operated safely in a hazardous location.

International standards require that the enclosure is cleaned to remove any accumulated dust within it, prior to operation. Once the enclosure is free of dust, The MiniPurge DP can be started. The system opens the inlet valve to pressurize the enclosure, and then maintains that pressure for normal operation. Once proper pressurization is achieved, the local system indicator changes to GREEN (PRESSURIZED) and the remote output is energised, pneumatic (option: /PO) goes high, volt-free contacts (option: /IS) closed. Failure to achieve pressurization (or loss of pressure in normal operation) changes the local system indicator to RED (ALARM) and the remote output, where used is de-energised.

Power to the equipment within the enclosure needs to be automatically disconnected in case of failure of pressurization. Expo can also supply a variety of automatic interfaces to ensure operational compliance.

## Components

The system has two components: Control Unit (CU) and Relief Valve (RLV). The Control Unit contains the pneumatic logic to monitor and control air flow and pressure, and provides the system output (pneumatic or volt-free contact closure). The RLV provides over-pressure protection for the enclosure.

## Features

- + **Simple Order Code**  
One model number defines Control Unit (CU) and Relief Valve (RLV)
- + **Control Unit Direct Mounting on Enclosure**  
No interconnecting pipework, saving time and money
- + **Compact Size**  
Maximum usage of internal space within enclosure
- + **International Approval**  
IECEX & ATEX to IEC/EN 61241-4  
FM approved to NFPA 496  
INMETRO approval to ABNT NBR IEC 60079-2
- + **316L Stainless Steel enclosure and Fitting**  
Excellent resistance to corrosion for harsh environments
- + **Clear status indication**  
Pneumatic visual indicator on unit (ALARM/ PRESSURIZED)  
Volt-free contacts for remote indication

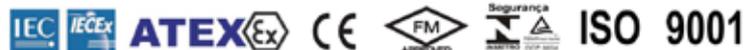
## Outputs

The system incorporates a local pneumatic indicator, GREEN for normal pressurization and RED for off or alarm. The external output can be pneumatic (option: /PO) or volt-free contact closure (option: /IS for use with either intrinsically safe or non-incendive circuits (by others).

## Accessories

Expo manufactures a range of interface units (MIU series) to provide isolation. For example, the MIU/dA is an external enclosure (Ex d IIC T5) containing a 4-pole contactor for power and a SPCO dry contact for alarm, both driven by the output pneumatic signal. A variety of alternative interface options are available.

Expo also offers additional services, including full enclosure assembly and certification, operator interfaces, a wide variety of standard and custom enclosures, plus a full technical support facility.



# Purge + Pressurization + Innovation

## MiniPurge Dust Protection Type X

07 1XDP/\_/\_

### Technical Specification

#### The Control Unit:

Pressurization Medium: Compressed Air or Inert Gas, clean and dry

Supply Pressure: Min 60 psi (4bar). Max 115 psi (8bar)

Temperature Range: -20oC, -4oF to 55oC, 131oF

**Alarm Indicators:** "Alarm" Red Indicates Low Pressure.  
Green Indicates Pressure OK.

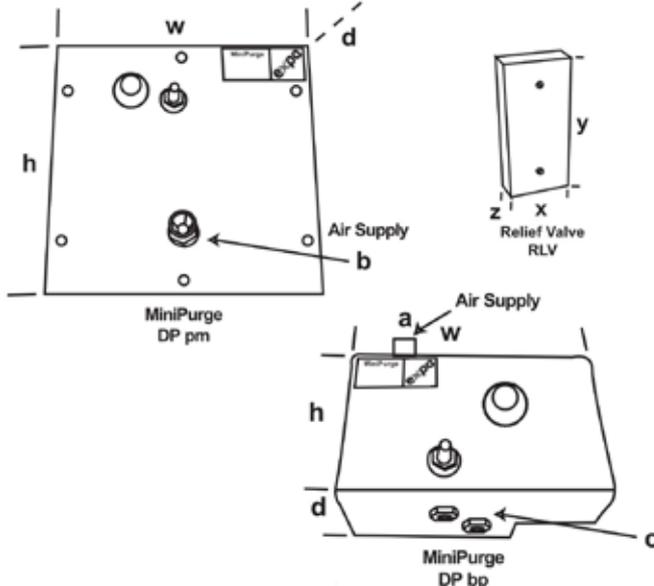
Low Pressure Sensor "Alarm" Setting: 1" WC (2.5 mbar)

Permissible Enclosure Leakage: 2 scfm (60 NI/min).

#### Construction Material

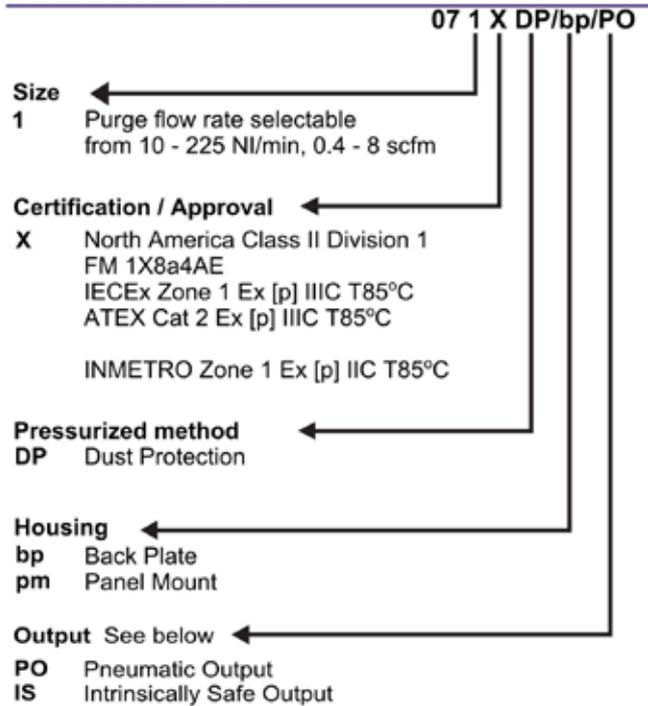
Control Unit: 316L Stainless steel mounting plates.

Relief Valve: 316L Stainless steel.



Dimensions/Spec.		1XDP/pm/___		1XDP/bp/___	
Width	w	7.9"	200mm	7.8"	197mm
Height	h	7.9"	200mm	5.0"	127mm
Depth	d	2.4"	62mm	3.1"	79mm
RLV Width	x	2.4"	62mm	2.4"	62mm
RLV Height	y	5.2"	133mm	5.2"	133mm
RLV Depth	z	1.3"	33mm	1.3"	33mm
Fitting Length	a	1.0"	25mm	0.4"	11mm
Fitting NPT	b	1/4"		1/4"	
Signals NPT	c	1/8"		1/8"	

### Technical Data



#### Panel Mount

Model No: 07 1XDP/pm/PO or /IS  
Location of Control Unit: Side or Front of pressurized enclosure

#### Back Plate:

Model No: 07 1XDP/bp/PO or /IS  
Location of Control Unit: Top, Side or Bottom of pressurized enclosure.

**Warning Label** (Loose) for user's calibration details, for mounting the pressurized enclosure.

#### "Alarm" Remote / Power Outputs:

##### /PO "Pneumatic Outputs"

Single output for Pressurize OK and Power On.  
Main supply 60 psi (4 bar)  
No output "Alarm" & Power disconnect.

##### /IS Dry contacts for switching intrinsically safe circuits.

"Alarm" & "Power disconnect", contacts open.  
"Pressurized" & "Power On", contacts closed.

#### NOTE:

**MiniPurge Interface Unit (MIU)** used with a 1XDP/\_/PO when using the 1XDP/\_/PO option the MIU (Data Sheet MPIFU) can be used for the Remote Alarm and Power Disconnect. The single pneumatic output from the Control Unit should be piped via a 'T' piece to the "Alarm" / "Pressurized" actuator and the Power Disconnect actuator on the MIU.

