



Panel mount (pm) configuration shown

Operation

MiniPurge Dust Protection (DP) is a pressurisation system used as a protection method for electrical equipment installed in 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 pressurisation is achieved, the local system indicator changes to GREEN (PRESSURISED) and the remote output is energised, pneumatic (option: /PO) goes high, volt-free contacts (option: /IS) closed. Failure to achieve pressurisation (or loss of pressure in normal operation) changes the local system indicator to RED (ALARM) and the remote output, where used is de-energised.

Expo DP systems are available as Type X or Y for Zone 21 / Class II Div 1 or Type Z for Zone 22 / Class II Div 2.

System 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

- **Type X:** Zone 21 / Class II Div 1 protection for enclosures with standard equipment
- **Type Y:** Zone 21 / Class II Div 1 protection for enclosures with Zone 22 / Class II Div 2 certified equipment
- **Type Z:** Zone 22 / Class II Div 2 protection for enclosures with standard equipment
- **Ambient temperature range:** Certified for use from -20°C to +55°C (-4°F to +131 °F).
- **Pressurisation flow rate:** Suitable for most enclosure sizes :
Size 1: up to 225 NI/min (8 SCFM)
Maximum permissible enclosure leakage: 60 NI/min (2 SCFM)
- **Clear Visual Status Indication :** Local indicator for "Alarm/ Pressurised".
- **Direct enclosure mounting:** Enclosed, panel mount or back-plate configurations. Requires no interconnecting piping
- **316L Stainless Steel construction & fittings :** Excellent resistance to corrosion for harsh environments.
- **Global Approvals –** IECEx; ATEX; UL; FM; INMETRO; EAC
- **Signal output:** Enclosure pressure alarm
IS option: output is suitable for connection to intrinsically safe circuits
PO option: Pneumatic output suitable for connection to a MiniPurge Interface Unit (MIU)

Certification

Europe: SIRA 01 ATEX 1295X

International: IECEx SIR 07.0027X

Brazil: INMETRO TUV 12. 1462

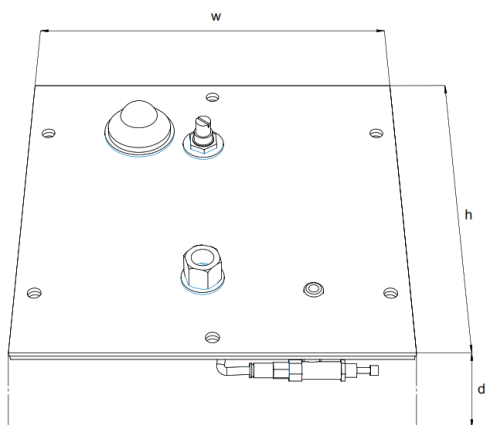
USA/CAN: NFPA 496 FM 1X8A4AE

Russia: EAC RU C-GB. AE61.B

Korea: KOSHA 14-AV4B0-0215

System Data X & Z(Y)-DP

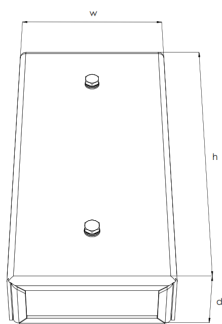
Control Unit (CU)



CU sizes 1	/ss config	/pm config	/bp config
Height h (mm)	180mm (7")	200mm (8")	127mm (5")
Width w (mm)	240mm (9.5")	200mm (8")	197mm (7.8")
Depth d (mm)	150mm (6")	65mm (2.6")	79mm (3")
Weight (kg)	5kg (11lbs)	1.5kg (3.3lbs)	2kg (4.4lbs)

Relief Valve (RLV)

RLV	Size 1
Height h	133mm (5.2")
Width w	62mm (2.4")
Depth d	33mm (1.3")
Weight	3kg (6.6lbs)



Enclosure & Mounting:

CU & RLV Housing & external process connections 316L stainless steel.

Direct enclosure mount. Wall mounting bars optional for /ss configuration.

Process Connections:

Purge inlet: /ss :1/2" NPT (F); /pm & /bp: 1/4" NPT (F)

Purge supply capacity—at least 1.5 times certified flow rate

Purge out to enclosure: /ss :1/2" NPT (F); /pm & /bp: 1/8" NPT (F)

Signals: 1/8" NPT (F).

Purge gas: Clean Dry Air or Inert Gas. Supply pressure 4-8 barg

(58-116 psi)

Technical Specifications X & Z(Y)-DP

07 1 X DP / pm / IS

Output signals:

IS=Suitable for IS / Non-incendive circuits.

PO=Pneumatic outputs

Construction:

ss= Stainless steel enclosure

pm= Panel mount

bp = Back plate

Pressurisation method:

DP: Dust protection

Protection type:

X: Zone 21 / NFPA 496 Class II Div 1

Y: Zone 21 / NFPA 496 Class II Div 1

Z: Zone 22 / NFPA 496 Class II Div 2

System size:

1 = up to 225 NI/min (8 SCFM)

Common Data

Enclosure minimum pressure sensor setting 2.5 mbarg (1"wc).

Relief Valve Lift-Off pressure: 10mbarg (4" wc)

Certification/Approvals

Ambient temperature: -20°C to +55°C (+60°C for US/CAN)

(-4°F to +131°F) (+140°F for US/CAN)

	Type X	Type Y	Type Z
ATEX	Ex [pxb] IIIc T85°C Db	Ex [pxb] IIIc T85°C Db	Ex [pzc] IIIc T85°C Db
IECEX	Ex [pxb] IIIc T85°C Db	Ex [pyb] IIIc T85°C Db	Ex [pyb] IIIc T85°C Db
USA/ CAN	Class II Div 1 Groups E, F & G	Class II Div 1 Groups F & G	Class II Div 2 Groups F & G
Brazil	Ex [pxb] IIIc T85°C Db	Ex [pyb] IIIc T85°C Db	Ex [pyb] IIIc T85°C Db

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