

MiniPurge Type Z(Y)–CF

Dual purpose purge control system for continuous flow applications

Purge flow rates up to 225 NI/min (8 SCFM)



Panel mount (pm) configuration shown

Operation

The MiniPurge Z(Y) system provides a fully certified purge and pressurisation solution for two different applications:

Type Z: For Class I Div 2 Groups A-D and/ or Zone 2 IIC approval. When fitted to a suitable enclosure, the system enables regular electrical equipment to be operated safely in a hazardous location.

Type Y: For Class I Div 1 Groups A-D and/ or Zone 1 IIC approval. When fitted to a suitable enclosure, the system enables Div.2 or Zone 2 certified electrical equipment to be operated safely in a hazardous location.

When manually initiated, the system allows a high flow of purge gas, usually compressed air, and measures that flow at the enclosure outlet. Providing that flow is sufficient, as shown on the indicator, the purge timing can be started. After completion of the purge time, the flow of protective gas continues at the selected rate. This flow may be required to dilute an internal source of hazardous gas release.

Internal pressure is thus maintained above external pressure, preventing potentially explosive gas/vapour from entering the enclosure. In this state it is then safe to permit external power to be supplied to internal equipment, either directly or via a separate interface unit.

System Components

The system comprises the Control Unit (CU), Relief Valve (RLV), and Spark Arrestor Unit (SAU). The Control Unit contains the pneumatic logic to monitor and control enclosure air flow and pressure, and provides the system outputs. The RLV provides over-pressure protection for the enclosure.

The SAU allows the flow of purge gas from the enclosure and provides flow measurement.

Features

- **Type Z:** Zone 2 / Class I Div 2 for enclosures with standard equipment
- **Type Y:** Zone 1 / Class I Div 1 for enclosures with Zone 2 / Div 2 certified equipment

Application: For applications where a continuous flow of purge gas is required through the enclosure.

- **Ambient temperature range:** Certified for use from -20°C to $+55^{\circ}\text{C}$ (-4°F to $+131^{\circ}\text{F}$)
- **Purge flow rate:** Adjustable via user selectable orifice plates
Size 1: 10 -225 NI/min (0.4-8 SCFM) (Enclosure vol. up to $1.35\text{m}^3/60\text{ft}^3$)*
- **Clear Visual Status Indication :** Local indicator for "Alarm/ Pressurized".
- **Direct enclosure mounting:** Enclosed, panel mount or back-plate configurations. Requires no interconnecting piping
- **316L Stainless Steel enclosure & fittings :** Excellent resistance to corrosion for harsh environments.
- **Full Compliance with Standards -** Direct purge flow measurement at Relief Valve exhaust orifice.
- **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)

* Enclosure volume calculations based on 30 minute purge time . Figures in m^3 based on 5 volume changes, figures in ft^3 based on 4 volume changes, in line with applicable codes and standards.

Certification

Europe: SIRA 01 ATEX 1295X

International: IECEx SIR 07.0027X

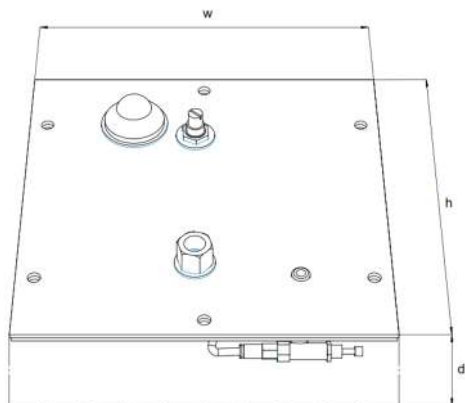
Brazil: INMETRO TUV 12. 1462X

USA/CAN: FM 1X8A4AE , UL E190061

Russia: EAC RU C-GB. AE61.B

System Data Z(Y)-CF

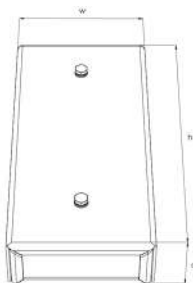
Control Unit (CU)



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

Relief Valve (RLV) & Spark Arrestor (SAU)

RLV	Size 1
Height h	133mm 5.2")
Width w	62mm (2.4")
Depth d	33mm (1.3")
Weight	3kg (6.6lbs)
SAU diam	55mm (2.2")



Enclosure & Mounting:

CU, SAU & 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 (58-116psi).

Technical Specifications Z(Y)-CF

07 1 Z CF / pm / IS / Other options

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:	CF: Continuous flow after purge
Purge system:	Z: Zone 2 / NFPA 496 Class I Div 2 Y: Zone 1 / NFPA 496 Class I Div 1
System flowrate:	1 = 10 -225 NI/min (0.4-8 SCFM)

Option codes: Wall mounting bars for /ss configuration : /WM 1

Common Data

Enclosure minimum pressure sensor setting 0.5 mbarg (0.2"wc)

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

Certification/Approvals:

Ambient temperature: -20°C to +55°C (-4°F to +131°F)

	Type Z	Type Y
ATEX	Ex [pzc] IIC T6 Gb	Ex [pyb] IIC T6 Gb
IECEX	Ex [pzc] IIC T6 Gb	Ex [pyb] IIC T6 Gb
USA/CAN	Class I Div 2 Groups A, B, C, D	Class I Div 1 Groups A, B, C, D
Brazil	Ex [pzc] IIC T6 Gb	Ex [pyb] IIC T6 Gb

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