

MiniPurge Type Z(Y)–LC

Dual purpose purge control system for leakage compensation applications

Purge flow rates up to 900 NI/min (32 SCFM)



Panel mount (pm) configuration shown

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
- **Ambient temperature range:** Certified for use from -20°C to $+55^{\circ}\text{C}$. (-4°F to $+131^{\circ}\text{F}$)
- **Purge flow rate:** Suitable for most enclosure sizes and series purging applications requiring leakage compensation:

Size 1: 225 NI/min (8 SCFM) (Enclosure vol. up to $1.35\text{m}^3 / 60\text{ft}^3$)*

Size 2: 450 NI/min (16 SCFM) (Enclosure vol. up to $2.7\text{m}^3 / 120\text{ft}^3$)*

Size 3: 900 NI/min (32 SCFM) (Enclosure vol. up to $5.4\text{m}^3 / 240\text{ft}^3$)*

- **Clear Visual Status Indication :** Local indicators for "Alarm/ Pressurised" and "Purging".
- **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 outputs:** Enclosure pressure alarm
 - IS option: outputs are suitable for connection to intrinsically safe circuits
 - PO option: Pneumatic outputs 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 change, in line with applicable codes and standards.

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 Relief Valve exhaust. Providing that flow is sufficient, as shown on the indicator, the purge timing can be started. After completion of the purge time, the purge flow is manually switched off and the system controls a lower flow to compensate for enclosure leakage. 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) and the Relief Valve (RLV). The Control Unit contains the pneumatic logic to monitor and control enclosure air flow and pressure, and provides the system outputs.

The RLV measures purge flow at the outlet and provides over-pressure protection for the enclosure during normal operation.

Certification

Europe: SIRA 01 ATEX 1295X

International: IECEx SIR 07.0027X

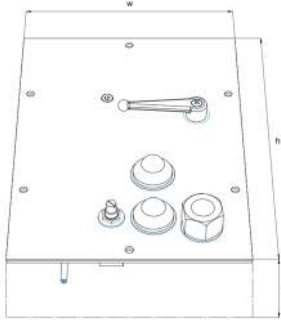
Brazil: INMETRO TUV 12.1462X

USA/CAN: FM 1X8A4AE , UL E190061

Russia: EAC RU C-GB. AE61.B

System Data Z(Y)-LC

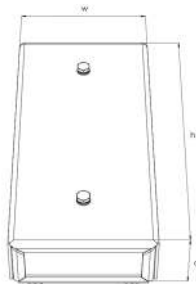
Control Unit (CU)



CU sizes 1,2,3	/ss config	/pm config	/bp config
Height h	180mm (7")	275mm (10.8")	127mm (5")
Width w	240mm (9.5")	200mm (8")	257mm (11")
Depth d	150mm (6")	98mm (4")	78mm (3")
Weight	5kg (11lbs)	1.5kg (3.3lbs)	2kg (4.4lbs)

Relief Valve (RLV)

RLV	Size 1	Size 2	Size 3
Height h	133mm (5.2")	170mm (6.7")	185mm (7.3")
Width w	62mm (2.5")	88mm (3.5")	110mm (4.3")
Depth d	33mm (1.3")	38mm (1.5")	42mm (1.7")
Weight	3kg (6.6lbs)	4kg (8.8lbs)	5kg (11 lbs)



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 & /pm: 1/2" NPT (F); /bp: 3/8" NPT (F)

Purge supply capacity—at least 1.5 times certified flow rate

Purge out to enclosure: /ss: 1/2" NPT (F); /pm & bp: 3/8" NPT (F)

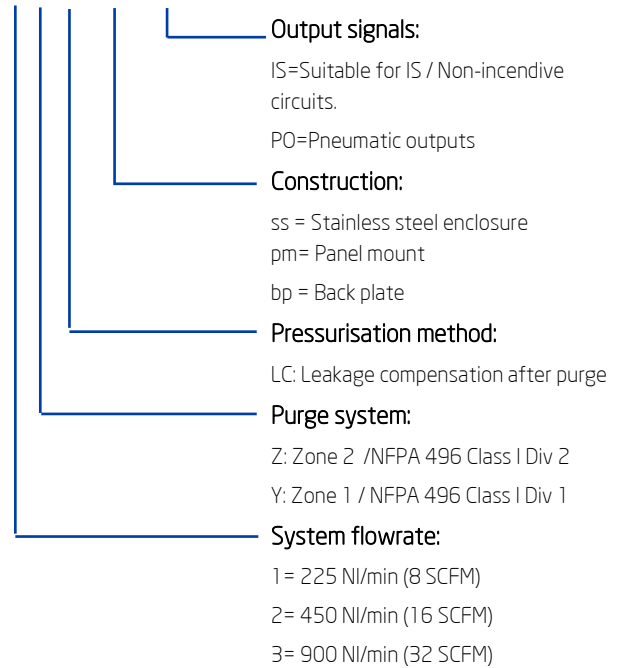
Signals: 1/8" NPT (F).

Purge gas: Clean Dry Air or Inert Gas.

Supply pressure 4-8 barg (58-115psi).

Technical Specifications Z(Y)-LC

07 1 Z LC /pm /IS /Other options



Option codes: Wall mounting bars for /ss configuration : /wM (1); /wM (2); /wM (3) (system size)

Common Data

Purge on/off via manual lever

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

Relief Valve Lift-Off pressure: 10mbar (4.02"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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