

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



Features

- **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: up to 225 NI/min (8 SCFM)
 - Size 2: up to 450 NI/min (16 SCFM)
 - Size 3: up to 900 NI/min (32 SCFM)
- **Clear Visual Status Indication :** Local indicators for "Alarm/ Pressurised" and "Purging".
- **Direct enclosure mounting:** 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; KOSHA; JPEX; PESO
- **Signal outputs:** Power interlock and alarm
 - PA option: volt-free contact closures terminated inside an Ex e junction box.
 - IS option: outputs are suitable for connection to intrinsically safe circuits
 - PO option: Pneumatic outputs suitable for connection to a MiniPurge Interface Unit (MIU)

Operation

The MiniPurge system provides a full purge and pressurisation system for Class I Division 1 Groups A-D and/ or Zone 1 IIC approval. When fitted to a suitable enclosure, the system enables regular electrical equipment to be operated safely in a hazardous location.

Initially, 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, the purge timer is started. After completion of the purge time, purge flow is 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, the system interlock allows 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, pressure and purge timing, and provides the system outputs.

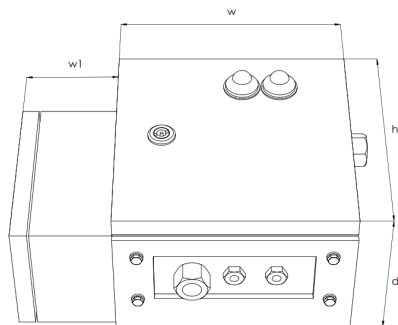
The RLV measures purge flow at the outlet and provides over-pressure protection for the enclosure during normal operation.

Certification

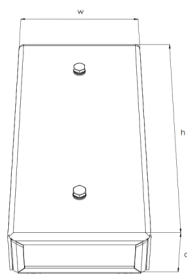
Europe: SIRA 01 ATEX 1295X
 International: IECEx SIR 07.0027X
 Brazil: INMETRO TUV 12.1462X
 USA/CAN: FM 1X8A4AE , UL E190061
 Korea: KOSHA 14-AV4BO-0215X (Size 1); 19-AVBO-0103 (Size 2)
 Russia: EAC RU C-GB. AE61.B

System Data X-LC

Control Unit



Relief Valve



	Size 1	Size 2	Size 3
Dimensions	CU / RLV	CU / RLV	CU / RLV
Height h	180/133mm (7/5.2")	240/170mm (9.5/6.7")	360/185mm (14/8.3")
Width w	240/62mm (9.5/2.5")	240/88mm (9.5/3.5")	360/110mm (14/4.3")
Width w1*	102mm (4")	102mm (4")	102mm (4")
Depth d	150/33mm (6/1.3")	150/38mm (6/1.5")	150/42mm (6/1.7")
Weight	5.5/3kg (12/6.6lbs)	6.1/4kg (13.5/8.8lbs)	15/5kg (33/11lbs)

* w1 dimension applicable only for /PA configuration with Ex e JB

Enclosure & Mounting:

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

Direct enclosure mount. Wall mounting bars optional.

Process Connections:

Purge inlet: 1/2" NPT (F), recommended supply pipe: 1/2" I.D min.

Purge supply capacity—at least 1.5 times certified flow rate

Purge outlet to enclosure: 1/2" NPT (F).

Signals: 1/8" NPT (F).

Purge gas: Clean Dry Air or Inert Gas.

Supply pressure 4-8 barg (58-116psi).

Technical Specifications X-LC

07 1 X LC / ss / ET / PA / Other options

Output signals:

PA= Ex e terminal box

IS=Suitable for IS / Non-incendive circuits.

PO=Pneumatic outputs

Purge Timer:

ET= Electronic timer with IS battery

Construction:

ss= 316 stainless steel enclosure

Pressurisation method:

LC: Leakage compensation after purge

Purge system:

X: Zone 1 / NFPA 496 Class I Div 1

System size:

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

2= up to 450 NI/min (16 SCFM)

3= up to 900 NI/min (32 SCFM)

Option codes:

Wall mounting bars (system size) /WM (1); /WM (2); /WM (3)

Common Data

Intrinsically safe Electronic Timer, range 1-99 mins. battery powered.

PA option system outputs are volt-free contact closures terminated in Ex e Junction Box, with:

Power= 250 Vac 4 Amp (AC15) DPNO Ex d IIC T5

Alarm = 250 Vac 4 Amp (AC15) SPCO Ex d IIC T5

(Note this Ex e option is not approved for use in USA or Canada).

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

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

Certification/Approvals:

ATEX: Ex [pxb] ia IIC T5 Gb

IECEX: Ex [pxb] ia IIC T5 Gb

INMETRO: Ex [pxb] ia IIC T5 Gb

USA/CAN: Class I Div 1 Groups A, B, C, D

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

12/2020