



# TRYCLOPS

## X – Purge Controller SM Version



- Simple to install & use
- Highly reliable
- Can monitor & control up to three purged enclosures
- Exhaust vent(s) standard
- Local & remote status alarms
- Standard in 14 Ga. 316 stainless steel
- 115 VAC up to 25 Amps or 230 VAC up to 12.5 Amps
- All in One Unit

### OVERVIEW:

To prevent the possibility of fire or explosion inside the enclosures of energized electrical equipment, a protective gas supply is used to dilute potentially flammable vapors to an acceptable level, creating a safe area for the devices within the enclosure. Positive pressure prevents the ingress of flammable vapors in the surrounding atmosphere from entering into the enclosure as long as positive pressure is maintained. After the enclosure is purged, power may be automatically applied to the protected electrical equipment.

The Purge Solutions, Inc. TRYCLOPS X - Purge Controller provides objective evidence of positive enclosure pressure with both a visible indicator and supplied standard, dry-contact outputs for remote status monitoring. The TRYCLOPS X – Purge Controller was designed specifically with analyzers in mind. A purge exhaust vent is provided standard for each enclosure, one, two, or up to three, the TRYCLOPS X – Purge Controller will be monitoring.

### FEATURES:

- The TRYCLOPS X – Purge Controller can monitor and control power to one (1), two (2), or three (3) enclosures, which is customer specified.
- Enclosure purge exhaust vent is supplied standard for each enclosure the TRYCLOPS X – Purge Controller will be monitoring.
- Dry contact outputs for remote monitoring of enclosure purge pressure going below 0.30 inch H<sub>2</sub>O (0.75 mbar) for Gas Hazardous Area or 0.50 inch H<sub>2</sub>O (1.25 mbar) for Dust Hazardous Areas, loss of enclosure purge exhaust vent flow, and Controller in maintenance mode are supplied as standard. Alarm contacts normally open (Standard), normally closed (Optional). Order optional normally closed alarm contacts by adding an “X” at the end of Purge Solutions model number.
- For application were immediate disconnect of power to protected electrical equipment in purged enclosure would result in a more hazardous condition; a bypass switch is provided, which will allow power to the circuits to continue upon loss of purge pressure and / or exhaust flow.
- Rugged, distinctive visual LED indicator for local monitoring is supplied as standard.
- The TRYCLOPS X – Purge Controller, SM Version is certified to ATEX, IECEx and CE Marked for installation and use in Zone 1 and Zone 21 hazardous areas.

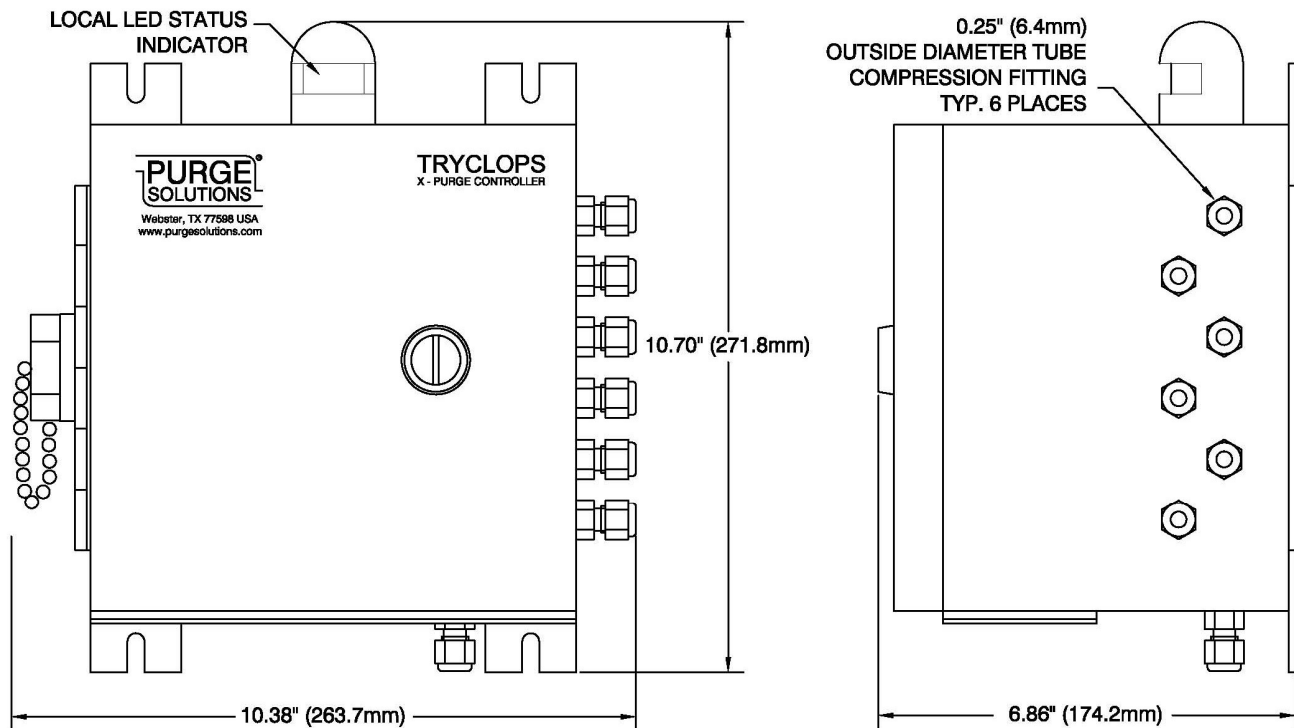


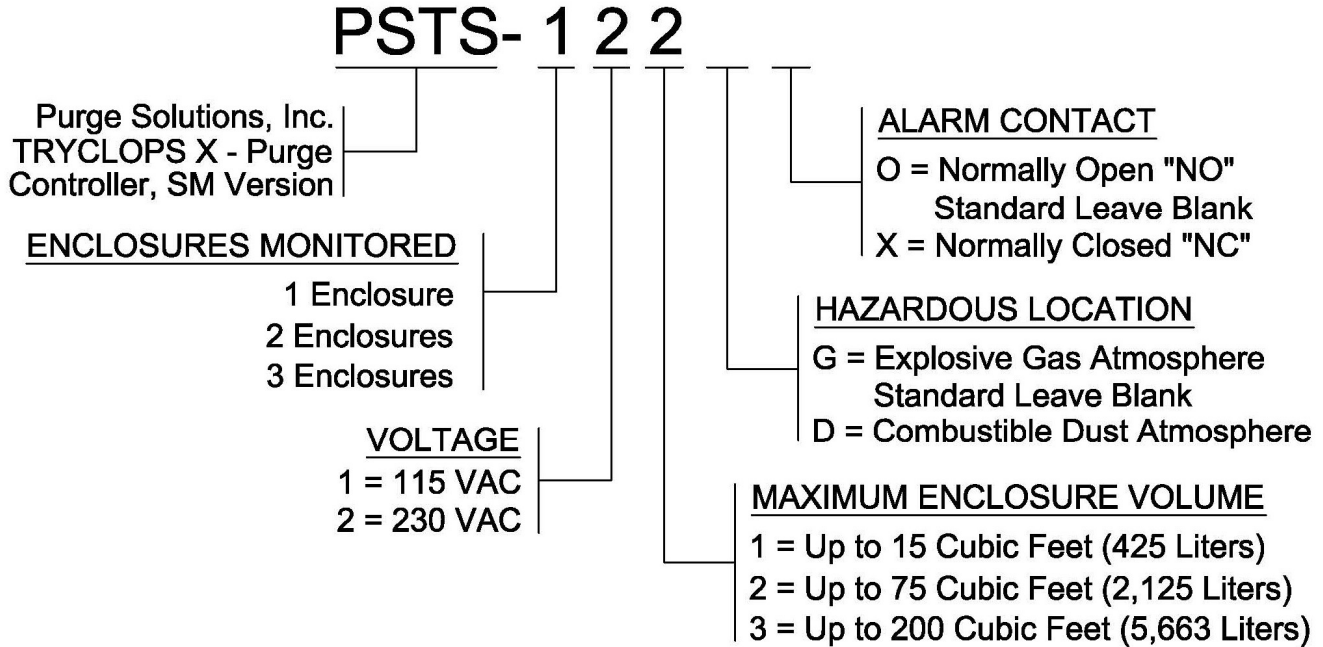
Figure 1



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## TRYCLOPS X-PURGE CONTROLLER, SM VERSION MODEL NUMBER MATRIX:



**NOTE:** Voltage, Material, Maximum Enclosure Volume, Hazardous Location and Alarm Contact; selections are made by end user to meet final purge and pressurization application requirements (MODEL NUMBER SHOWN ABOVE IS AN EXAMPLE).

**NOTE:** Selection of Protective Gas Inlet Kit and flow rate should be based on available protective gas volume at installation site; not on maximum volume of protective gas that selected Protective Gas Inlet Kit can supply.

## TRYCLOPS X-PURGE CONTROLLER SM VERSION PROTECTIVE GAS INLET KITS:

The TRYCLOPS X – Purge Controller, SM Version uses two different methods to purge the enclosure(s) and maintain a minimum overpressure of at least 0.30 inch H<sub>2</sub>O (0.75 mbar) for explosive gas atmospheres or 0.5 inch H<sub>2</sub>O (1.25 mbar) for combustible dust atmospheres; continuous dilution or leakage compensation.

- **Continuous Pressure Purge Gas Inlet Kit:** For interfacing and regulating pressure of protective gas supply to enclosure. Small Continuous Dilution Purge Gas Inlet Kit for enclosures with a volume up to 15 cubic feet (425 liters). Model number PSO-SCD-A is our small aluminum version and PSO-SCD-S is our small stainless version. Small Continuous Dilution Purge Gas Inlet Kit supply gas inlet to regulator is 1/4-18 FNPT. Medium Continuous Dilution Purge Gas Inlet Kit for enclosures with a volume up to 75 cubic feet (2,125 liters). Model number PSO-MCD-A is our medium aluminum version and PSO-MCD-S is our medium stainless version. Medium Continuous Dilution Purge Gas Inlet Kit supply gas inlet to regulator is 3/8-18 FNPT. Large Continuous Dilution Purge Gas Inlet Kit for enclosures with volumes up to 200 cubic feet (5,663 liters). Model number PSO-LCD-A is our large aluminum version and PSO-LCD-S is our large stainless version. Large Continuous Dilution Purge Gas Inlet Kit supply gas inlet to regulator is 1/2-14 FNPT. All kits include input fitting, regulator, gauge, bracket and mounting hardware.
- **Automatic Leakage Compensation Purge Gas Inlet Kit:** Having two outlets from manifold able to increase the amount of purge gas to enclosure during dilution may be automatically selected to speed up dilution of potentially flammable materials to an acceptable level, reducing dilution time and permitting a more rapid restoration of power to purge protected equipment. Small Automatic Leakage Compensation Purge Gas Inlet Kits are for enclosures with a volume up to 15 cubic feet (425 liters). Model number PSO-SALC-D1A is our small, Division, 115VAC, aluminum version, model number PSO-SALC-D2A is our small, Division, 230VAC, aluminum version, model number PSO-SALC-D1S is our small, Division, 115VAC, stainless steel version and model number PSO-SALC-D2S is our small, Division, 230VAC, stainless steel version. Model number PSO-SALC-Z1A is our small, Zone, 115VAC, aluminum version, model number PSO-SALC-Z2A is our small, Zone, 230VAC, aluminum version, model number PSO-SALC-Z1S is our small, Zone, 115VAC, stainless steel version and model number PSO-SALC-Z2S is our small, Zone, 230VAC, stainless steel version. Small Automatic Leakage Compensation Purge Gas Inlet Kit supply gas inlet to regulator is 1/4-18 FNPT. Medium Automatic Leakage Compensation Purge Gas Inlet Kits are for enclosures with a volume up to 75 cubic feet (2.125 liters). Model number PSO-MALC-D1A is our medium, Division, 115VAC, aluminum version, model number PSO-MALC-D2A is our medium, Division, 230VAC, aluminum version, model number PSO-MALC-D1S is our medium, Division, 115VAC, stainless steel version and model number PSO-MALC-D2S is our medium, Division, 230VAC, stainless steel version. Model number PSO-MALC-Z1A is our medium, Zone, 115VAC, aluminum version, model number PSO-MALC-Z2A is our medium, Zone, 230VAC, aluminum version, model number PSO-MALC-Z1S is our medium, Zone, 115VAC, stainless steel version and model number PSO-MALC-Z2S is our medium, Zone, 230VAC, stainless steel version. Medium Automatic Leakage Compensation Purge Gas Inlet Kit supply gas inlet to regulator is 3/8-18 FNPT. Large Automatic Leakage Compensation Purge Gas Inlet Kit for enclosures with volumes up to 200 cubic feet (5,663 liters). Model number PSO-LALC-D1A is our large, Division, 115VAC, aluminum version, model number PSO-LALC-D2A is our large, Division, 230VAC, aluminum version, model number PSO-LALC-D1S is our large, Division, 115VAC, stainless steel version and model number PSO-LALC-D2S is our large, Division, 230VAC, stainless steel version. Model number PSO-LALC-Z1A is our large, Zone, 115VAC, aluminum version, model number PSO-LALC-Z2A is our large, Zone, 230VAC, aluminum version, model number PSO-LALC-Z1S is our large, Zone, 115VAC, stainless steel version and model number PSO-LALC-Z2S is our large, Zone, 230VAC, stainless steel version. Large Automatic Leakage Compensation Purge Gas Inlet Kit supply gas inlet to regulator is 1/2-14 FNPT. All kits include input fittings, regulator, gauge, manifold block and solenoid valve.

**OPTIONS & ACCESSORIES AVAILABLE:**

- **Back-Up Vents:** To protect the enclosure from over pressure; Purge Solutions, Inc. offers two sizes of back-up vents. The first size is our Small Back-Up Vent for enclosures with a volume up to 15 cubic feet (425 liters). Model number PSO-SBUV-S is our small side mount version and model number PSO-SBUV-T is our small top mount version. The second size we offer is our Medium Back-Up Vent for enclosures with volumes up to 75 cubic feet (2,125 liters). Model number PSO-MBUV-S is our medium side mount version and model number PSO-MBUV-T is our medium top mount version. The third size we offer is our Large Back-Up Vent for enclosures with volumes up to 200 cubic feet (5,663 liters). Model number PSO-LBUV-S is our large side mount version and model number PSO-LBUV-T is our large top mount version. All Back-Up Vents are constructed of 316 stainless steel and come with all mounting hardware.
- **Vortex Cabinet Cooler Systems:** For applications where thermal management of electrical cabinets and control panels are required; Purge Solutions, Inc. offers Vortex Cabinet Cooler Systems, which provide cooling capacities for your application, maintain a NEMA 4X (IP66) rating and are constructed for installation and use in hazardous locations. These Vortex Cabinet Cooler Systems can be used in combination with our X – Purge Controllers. If a Continuous Vortex Cooler is used it can supply protective gas to the panel; taking the place of a Protective Gas Inlet Kit. The Thermostat Controlled Vortex Cooler uses a mechanical thermostat, which eliminates the need for a solenoid valve and electrical power to the thermostat and solenoid valve. Contact your local Purge Solutions representative or the factory for sizing of system and installation information.

***NOTE: There are special modifications and sizing requirements to be made before Vortex Cabinet Coolers are able to be installed and used in a hazardous location.***

- **Increased Safety Enclosures:** Purge Solutions, Inc. also offers ATEX, IECEx and NEMA rated increased safety enclosures in several standard enclosure sizes or we can custom built to the customer specifications, including all holes and cutouts for cable glands, widows, purge systems and any other component can be incorporated into fabrication. As long as the design stays within our conditions of certification no additional assessment and testing is required to maintain ATEX, IECEx and NEMA certification. Our proprietary hinge design allows clamping of door on all four sides for maximum ingress protection with incorporated fasteners that allows door to be removed as needed. Enclosures can be fabricated from 304 or 316 stainless steel, powder coated carbon steel or aluminum with all seams continuously welded and ground before finish is applied. Contact your local Purge Solutions, Inc. representative or the factory for sizing of system and installation information.
- **Increased Safety Window Kits:** For purged / pressurized or increased safety enclosures that require viewing of components mounted within the enclosure; Purge Solutions, Inc. offers both opening and non-opening Increased Safety Window Kits in several standard window viewing sizes, which can be mounted on the door, sides, top or bottom of an enclosure. If there is not a viewing opening listed in our standard sizes that meets your application requirements; we can custom build an opening or non-opening Increased Safety Window Kit for you. As long as the design stays within our conditions of certification no additional assessment and testing is required to maintain ATEX, IECEx and NEMA rated certification. Contact Purge Solutions, Inc. to discuss application needs.



# **TRYCLOPS**

## **X – Purge Controller SM Version**

### **OPTIONS & ACCESSORIES AVAILABLE CONTINUED:**

- **Back-Up Purge Gas Kit:** In the event that the initial protective purge gas supply is lost, this kit insures that a back-up source of protective gas may be automatically applied to the protected enclosure. Purge Solutions, Inc. model number is PSO-BUPG-K and has inlets and outlets of 3/8-18 FNPT.
- **Differential Pressure Gauge Kits:** Purge Solutions, Inc. also offers an all stainless steel differential pressure gauge kit, which can be mounted on left side model number PSO-DPG-L, right side model number PSO-DPG-R, top model number PSO-DPG-T or bottom model number PSO-DPG-B of enclosure.
- **Protective Gas Loss Indicator Kit:** An explosion-proof differential pressure switch may be installed to provide an alarm contact output signal to indicate the loss of the backup source of protective gas. A second can be installed to provide loss of back-up purge gas. Purge Solutions, Inc. model number is PSO-PGLI-K.

### **GENERAL SPECIFICATIONS:**

- **Overall Dimensions:**  
10.4" (263.7mm) wide x 10.7" (271.8mm) tall x 6.8" (173.2mm) deep.
- **Unit Weight:**  
TRYCLOPS X – Purge Controller, SM Version = 22.00 lbs. (9.98 kg)
- **Operating Temperature Range:**  
- 40°F to 150°F (-40°C to 65°C).
- **Minimum Overpressure Switch Settings:**  
0.30 inch H<sub>2</sub>O (0.75 mbar) for gas hazardous locations  
0.50 inch H<sub>2</sub>O (1.25 mbar) for dust hazardous locations
- **Power Control Capability:**  
115 VAC up to 25 Amps RMS continuous over specified voltage ranges.  
230 VAC up to 12.5 Amps RMS continuous over specified voltage ranges.
- **Power Input / Consumption:**  
2 Watts max.
- **Ingress Protection:**  
NEMA 4X (IP66)



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### **GENERAL SPECIFICATIONS CONTINUED:**

- **Voltage:**  
115 VAC model (85 VAC to 160 VAC), 47 to 63 Hz.  
230 VAC model (130 VAC to 265 VAC), 47 to 63 Hz.
- **Alarm Dry Contact Maximum Continuous Load Rating:**  
Contact open on alarm (NO)  
Contact closed on alarm (NC)  
150 mA rms AC  
150 mA DC
- **Standard Hardware:**  
Exhaust Vent for each enclosure the TRYCLOPS X – Purge Controller, SM Version will be monitoring and USB with documentation.
- **Hazardous Area Approvals:**  
ATEX and IECEx  
II 2 G Ex e mb ib [px] IIC T4 Gb for Zone 1 gas hazardous areas  
II 2 D Ex td IIIC T119°C Db IP66 for Zone 21 dust hazardous areas

Certified to an Ambient Temperature Range of - 40°F (- 40°C)  $\leq T_{amb} \leq$  + 149°F (+ 65°C)

CE Marked