



CYCLOPS

X – Purge Controller XP Version



- Simple to install & use
- Highly reliable
- Enclosure purge exhaust vent is part of casing
- Local & remote status alarms
- Casing available in anodized aluminum or 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. CYCLOPS X – Purge Controller, XP Version provides objective evidence of positive enclosure pressure with both a visible indicator and supplied standard, dry-contact outputs for remote status monitoring. The enclosure purge exhaust vent is an integrated part of the CYCLOPS X – Purge Controller, XP Version's casing, which mounts directly to the enclosure being purged. No additional holes, sheet metal, or plumbing is required.

FEATURES:

- The CYCLOPS X – Purge Controller, XP Version mounts directly to purged enclosure. No additional sheet metal enclosures or plumbing is required. (Refer to Figure 1)
- Enclosure purge vent is an integrated part of the CYCLOPS X – Purge Controller, XP Version casing. No additional holes or plumbing is required in purged enclosure. (Refer to Figure 1)
- Dry contact outputs for remote monitoring of enclosure purge pressure going below 0.50 inch H₂O (1.25 mbar) Standard, 0.30 inch H₂O (0.75 mbar), loss of enclosure purge exhaust vent flow, and CYCLOPS X – Purge Controller, XP Version in maintenance mode are supplied as standard. Contacts open on alarm (Standard). Contacts closed on alarm (Optional). Order optional contact closed on alarm by adding an “X” at the end of Purge Solutions model number.
- Rugged, distinctive visual LED indicator for local monitoring is supplied as standard.
- For applications where 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.
- The CYCLOPS X – Purge Controller, XP Version is certified to ATEX, CSA, IECEx, NEC, NFPA, UL and CE Marked for installation and use in Division 1 and Zone 1 hazardous areas.

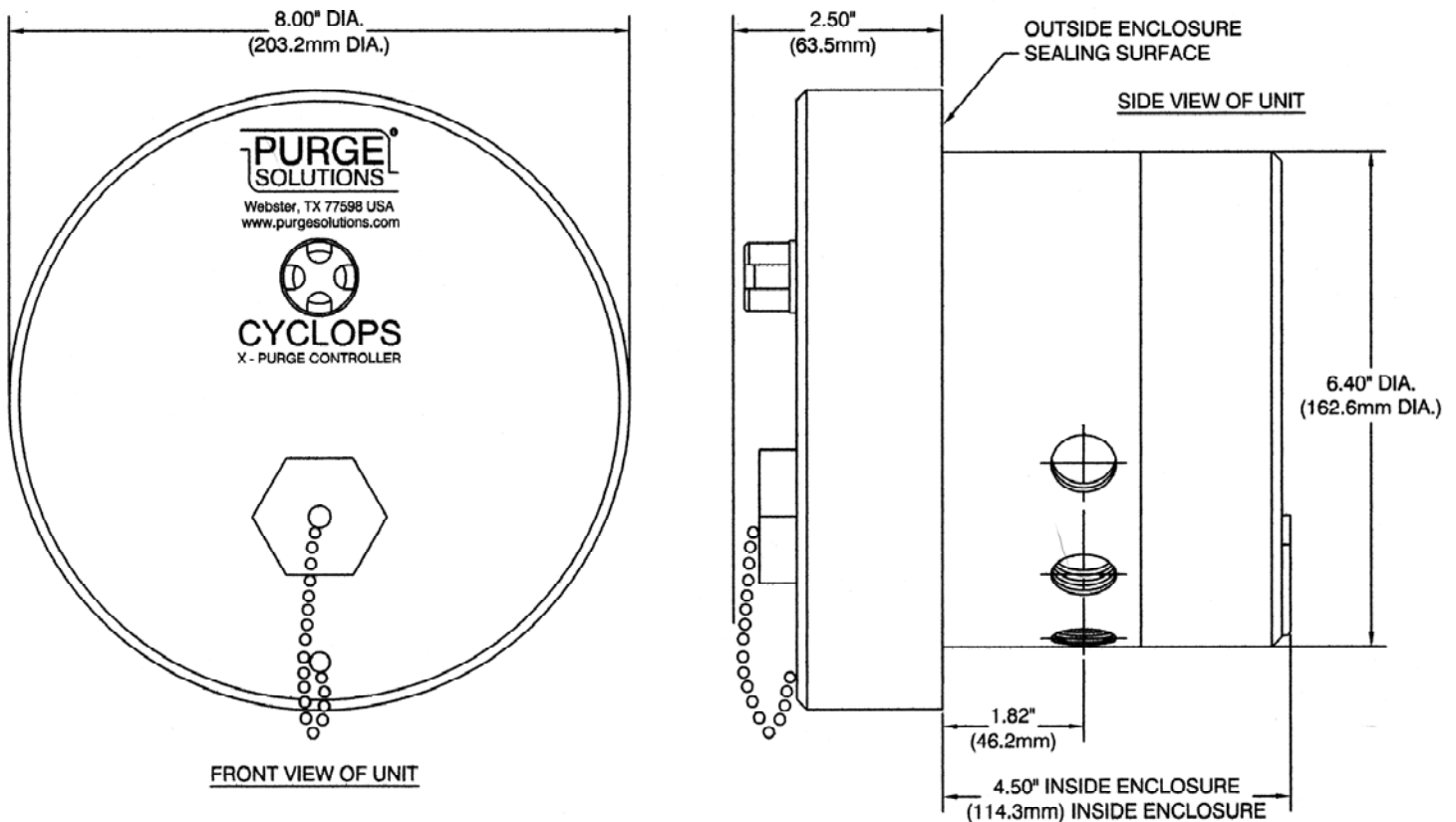


Figure 1



OPTIONS & ACCESSORIES AVAILABLE:

- **Purge Controller Casing:** Anodized aluminum (standard) 316 stainless steel (optional).
- **Input Voltages Available:** Either 115 VAC, or 230 VAC.
- **Purge Solutions, Inc. Available Models:**
 1. 115 VAC, Anodized aluminum, Gas hazardous areas: model number PSC1-1A
 2. 115 VAC, 316 stainless steel, Gas hazardous areas: model number PSC1-1S
 3. 230 VAC, Anodized aluminum, Gas hazardous areas: model number PSC1-2A
 4. 230 VAC, 316 stainless steel, Gas hazardous areas: model number PSC1-2S
 5. 115 VAC, Anodized aluminum, 0.30 Pressure Switch, Gas hazardous areas: model number PSC1-1A.3
 6. 115 VAC, 316 stainless steel, 0.30 Pressure Switch, Gas hazardous areas: model number PSC1-1S.3
 7. 230 VAC, Anodized aluminum, 0.30 Pressure Switch, Gas hazardous areas: model number PSC1-2A.3
 8. 230 VAC, 316 stainless steel, 0.30 Pressure Switch, Gas hazardous areas: model number PSC1-2S.3
 9. 115 VAC, Anodized aluminum, X Alarm, Gas hazardous areas: model number PSC1-1AX
 10. 115 VAC, 316 stainless steel, X Alarm, Gas hazardous areas: model number PSC1-1SX
 11. 230 VAC, Anodized aluminum, X Alarm, Gas hazardous areas: model number PSC1-2AX
 12. 230 VAC, 316 stainless steel, X Alarm, Gas hazardous areas: model number PSC1-2SX
 13. 115 VAC, Anodized aluminum, X Alarm, 0.30 Pressure Switch, Gas hazardous areas: model number PSC1-1AX.3
 14. 115 VAC, 316 stainless steel, X Alarm, 0.30 Pressure Switch, Gas hazardous areas: model number PSC1-1SX.3
 15. 230 VAC, Anodized aluminum, X Alarm, 0.30 Pressure Switch, Gas hazardous areas: model number PSC1-2AX.3
 16. 230 VAC, 316 stainless steel, X Alarm, 0.30 Pressure Switch, Gas hazardous areas: model number PSC1-2SX.3
 17. 115 VAC, Anodized aluminum, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-1A1
 18. 115 VAC, 316 stainless steel, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-1S1
 19. 230 VAC, Anodized aluminum, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-2A1
 20. 230 VAC, 316 stainless steel, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-2S1
 21. 115 VAC, Anodized aluminum, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-1A1.3
 22. 115 VAC, 316 stainless steel, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-1S1.3
 23. 230 VAC, Anodized aluminum, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-2A1.3
 24. 230 VAC, 316 stainless steel, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-2S1.3
 25. 115 VAC, Anodized aluminum, X Alarm, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-1AX1
 26. 115 VAC, 316 stainless steel, X Alarm, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-1SX1
 27. 230 VAC, Anodized aluminum, X Alarm, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-2AX1
 28. 230 VAC, 316 stainless steel, X Alarm, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-2SX1
 29. 115 VAC, Anodized aluminum, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-1AX1.3
 30. 115 VAC, 316 stainless steel, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-1SX1.3
 31. 230 VAC, Anodized aluminum, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot: model number PSC1-2AX1.3
 32. 230 VAC, 316 stainless steel, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 15 Cubic Foot : model number PSC1-2SX1.3
 33. 115 VAC, Anodized aluminum, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-1A1



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- **Purge Solutions, Inc. Available Models Continued:**

34. 115 VAC, 316 stainless steel, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-1S2
35. 230 VAC, Anodized aluminum, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-2A2
36. 230 VAC, 316 stainless steel, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-2S2
37. 115 VAC, Anodized aluminum, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-1A2.3
38. 115 VAC, 316 stainless steel, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-1S2.3
39. 230 VAC, Anodized aluminum, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-2A2.3
40. 230 VAC, 316 stainless steel, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-2S2.3
41. 115 VAC, Anodized aluminum, X Alarm, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-1AX2
42. 115 VAC, 316 stainless steel, X Alarm, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-1SX2
43. 230 VAC, Anodized aluminum, X Alarm, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-2AX2
44. 230 VAC, 316 stainless steel, X Alarm, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-2SX2
45. 115 VAC, Anodized aluminum, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-1AX2.3
46. 115 VAC, 316 stainless steel, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-1SX2.3
47. 230 VAC, Anodized aluminum, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot: model number PSC1-2AX2.3
48. 230 VAC, 316 stainless steel, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 75 Cubic Foot : model number PSC1-2SX2.3
49. 115 VAC, Anodized aluminum, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-1A3
50. 115 VAC, 316 stainless steel, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-1S3
51. 230 VAC, Anodized aluminum, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-2A3
52. 230 VAC, 316 stainless steel, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-2S3
53. 115 VAC, Anodized aluminum, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-1A3.3
54. 115 VAC, 316 stainless steel, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-1S3.3
55. 230 VAC, Anodized aluminum, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-2A3.3
56. 230 VAC, 316 stainless steel, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-2S3.3
57. 115 VAC, Anodized aluminum, X Alarm, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-1AX3
58. 115 VAC, 316 stainless steel, X Alarm, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-1SX3
59. 230 VAC, Anodized aluminum, X Alarm, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-2AX3
60. 230 VAC, 316 stainless steel, X Alarm, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-2SX3
61. 115 VAC, Anodized aluminum, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-1AX3.3



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- **Purge Solutions, Inc. Available Models:**

- 62. 115 VAC, 316 stainless steel, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-1SX3.3
- 63. 230 VAC, Anodized aluminum, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot: model number PSC1-2AX3.3
- 64. 230 VAC, 316 stainless steel, X Alarm, 0.30 Pressure Switch, Dust hazardous areas, Enclosure Volume Up to 200 Cubic Foot : model number PSC1-2SX3.3

- **Continuous Dilution Purge Gas Inlet Kits:** For interfacing and regulating pressure of protective gas supply to enclosure. Small Continuous Dilution Purge Gas Inlet Kits 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 Kits supply gas inlet to regulator is 1/4-18 FNPT. Medium Continuous Dilution Purge Gas Inlet Kits 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 Kits supply gas inlet to regulator is 3/8-18 FNPT. Large Continuous Dilution Purge Gas Inlet Kits 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 Kits supply gas inlet to regulator is 1/2-14 FNPT. All kits include input fitting, regulator, gauge, bracket and mounting hardware.

- **Back-Up Vents:** To protect the enclosure from over pressure; Purge Solutions, Inc. offers three 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 and maintain a NEMA 4 and 4X (IP66) rating for installation and use in hazardous area. Contact your local Purge Solutions representative or the factory for sizing of system and installation information.

- **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.



OPTIONS & ACCESSORIES AVAILABLE CONTINUED:

- **Automatic Leakage Compensation Purge Gas Inlet Kits:** 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.
- **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.



OPTIONS & ACCESSORIES AVAILABLE CONTINUED:

- **Increased Safety Window Kits:** Purge Solutions, Inc. also offers 5 different sizes of Increased Safety Window Kits with each size available in anodized aluminum or 316 stainless steel bezel material, which can be mounted on the side, top or bottom of an enclosure. Model number PSO-1/32DINW-A is our 1/32 Din size with anodized aluminum bezel, model number PSO-1/32DINW-S is our 1/32 Din size with 316 stainless steel bezel. Model number PSO-1/16DINW-A is our 1/16 Din size with anodized aluminum bezel, model number PSO-1/16DINW-S is our 1/16 Din size with 316 stainless steel bezel. Model number PSO-1/8DINW-A is our 1/8 Din size with anodized aluminum bezel, model number PSO-1/8DINW-S is our 1/8 Din size with 316 stainless steel bezel. Model number PSO-1/4DINW-A is our 1/4 Din size with anodized aluminum bezel, model number PSO-1/4DINW-S is our 1/4 Din size with 316 stainless steel bezel. Model number PSO-XLW-A is our X-Large size with anodized aluminum bezel, model number PSO-XLW-S is our X-Large size with 316 stainless steel bezel.
- **Increased Safety Enclosures:** Purge Solutions, Inc. also offers Increased Safety Enclosures that are available in powder coated carbon steel, 304 or 316 stainless steel in over 60 standard sizes or we can build a custom enclosure to your specifications. All have an IP66 / NEMA 4 ingress protection rating and an ambient temperature rating of - 40°F to 176°F (- 40°C to 80°C).

GENERAL SPECIFICATIONS:

- **Casing Dimensions:**
8.0" diameter x 1.9" tall (203.2mm diameter x 48.3mm tall), protrudes outside of purged enclosure.
6.5" diameter x 4.50" tall (165.1mm diameter x 114.0mm tall), protrudes inside of purged enclosure.
- **Operating Temperature Range:**
- 40°F to 150°F (- 40°C to 65°C).
- **Purge Pressure Lower Limit:**
0.50 inch H₂O (1.25 mbar) Standard, 0.30 inch H₂O (0.75 mbar) Optional Purge Controller will disconnect power to protected enclosure electronics.
- **Casing:**
Anodized aluminum, 16.09 lbs. (7.30 kg), NEMA 4 (IP66).
316 stainless steel, 37.98 lbs. (17.23 kg), NEMA 4X (IP66).
- **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.



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.

• **Dry Contact Outputs & Rating:**

1. Enclosure purge pressure is below 0.50 inch H₂O (1.25 mbar) Standard, 0.30 inch H₂O (0.75 mbar) Optional.

2. Enclosure exhaust flow has stopped.

3. Purge Controller is in maintenance mode.

Contacts open on alarm (standard).

Contacts closed on alarm (optional).

All rated to 265 Volts AC/DC, 150mA max.

• **Standard Hardware:**

Stainless steel mounting hardware, o-ring, 1/4" (6.4mm) diameter exhaust vent restrictor and all required 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 tb IIIC T119°C Db IP66 “for Zone 1 dust hazardous areas”

ANSI / ISA 12.4, CSA, NEC, NFPA 496 and UL

Class I, Division 1, Group B, C & D, T4 “for gas hazardous areas”

Class II, Division 1, Group E, F & G, T4 “for dust hazardous areas”

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

CE Marked.