



PCS-300-1B Stock number 1370080

**UL Listed, CSA Approved, and CE Marked**

**Listing/Approvals:** UL Standard 508 Guide (NKPZ) and CSA Standard C22.2 No. 14-M Class (321106) for Pressure Operated Industrial Control Equipment.

UL Standard 873 Guide (XAPX) for Temperature Indicating and Regulating Equipment.

CE Marked

**Ambient/Media Temperature Range:**

40°F to 140°F (4.5°C to 60°C)

**Construction:**

- NEMA Type 4X Enclosure for indoor or outdoor use. (To maintain 4X rating, use appropriate Type 4 conduit hub.)
- Forged Brass Pressure Connections
- Aluminum Diecast Base with Polymer Enclosure
- Beryllium Copper
- Nitrile Pressure Sealing O-ring

**Switch Contact:**

15 Amps @ 125 VAC Resitive  
1/2 HP @ 125 VAC

**General**

The model PCS is a Pump Control Switch with independent set and reset points which are adjustable throughout the entire operating range of the switch. The minimum deadband (minimum span between set and reset points) may be obtained at any point in the operating range of the switch. When the pressure drops below the setting, a snap action switch closes energizing the built in pump control relay and turns the pump on. When the pressure increases above the high setting, the snap action switch opens de-energizing the built in pump control relay and turns the pump off.

This control device is designed for use as an operating control in applications sensing air, water, or any fluid not harmful to the pressure connection, diaphragm or nitrile pressure-sealing o-ring. Where an operating control would result in personal injury and/or loss of property, it is the responsibility of the installer to add devices (safety, limit controls) that protect against, or systems (alarm, supervisory systems) that warn of control failure.

This device is not intended for applications in explosive environments or use with hazardous fluids.

| Adjustable Operating Range | Minimum Deadband | Proof Pressure | Factory Setting |
|----------------------------|------------------|----------------|-----------------|
| 25-300 PSIG                | 12 PSIG          | 400 PSIG       | 90/60 PSIG      |

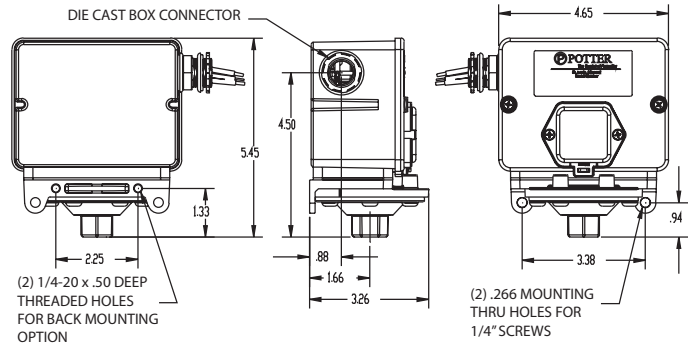
**CAUTION**

Direct control of motors with HP ratings greater than those shown could damage the PCS switch, resulting in sprinkler system damage and unintentional water flow. The installation of a pressure relief valve set at or below the system's maximum operating pressure is recommended.

**Mounting and Installation**

The Model PCS is typically mounted in an upright position on a flat surface by two 1/4" screws through the mounting flanges on the base or by two 1/4-20 screws into the back of the base. See Fig. 1 for mounting dimensions. Locate the switch where vibration, shock and ambient temperature fluctuations are minimal. To avoid damage to the switch, always hold a wrench on the pressure connection hex when tightening pressure connections. Never tighten the pressure connection by turning the switch housing into the fitting.

**Fig. 1**



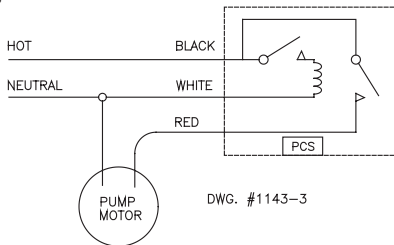
DWG #1143-4

**Wiring**

Use properly rated temperature supply wire for the anticipated service temperature. When applicable, make all electrical connections in accordance with the National Electrical Code and all local regulations in a junction box with a 2 inch maximum connector length between the PCS enclosure and junction wiring box.

**Note: Do not alter factory wiring on micro switch.**

**Fig. 2**



**Note:**

Do not loosen or remove the two (2) screws that secure the switch to the switch mounting bracket. The PCS requires 120V AC power to operate. It is not possible to test the switch with an ohm meter or continuity tester. When 120V AC is applied to the black and white wires, the 120V AC line voltage will be switched internally to the red wire when the pressure reaches the PCS low pressure setting. With 120V AC applied to the black, a wiring check may be performed by manually actuating the switch actuator on the side of the snap-action switch inside the enclosure. (See Fig. 3), and metering for 120V AC between the red and white wires.

**Adjustments**

The two thumb adjustment dials, accessible through the enclosure cover, are used to adjust the set point and reset point of the switch. The dial scales and pointer may be used to give an indication of the low and high set points. The high setting adjustment dial is calibrated for increasing pressure. The low setting adjustment dial is calibrated for decreasing pressure. For best accuracy, make the final adjustments with a pressure gauge at the actual working media pressure and temperature encountered in the application.

The minimum deadband (minimum span between set and reset points) may be obtained at any point in the operating range of the switch. When the desired settings are obtained, replace the adjustment cover. The adjustment cover and enclosure cover can be made tamper resistant by a single sealing wire inserted through the hole in the locking bar. The repeatability of the set and reset points is typically  $\pm 1\%$  of the operating range.

**Fig. 3**

