P658A, B, C, E, and F Pneumatic/Electric Switches

Installation Instructions

Before Installation

1. Choose mounting location so that wiring and piping connections are easily accessible.
2. P658A case has knockouts on both sides, top, and back. Knockout on one side of case is for 3/4-in. conduit. Remaining knockouts are for l/2-in. conduit.
3. P658B, C, and E are without case and are intended to be panel-mounted in an approved electrical enclosure or panel.
4. P658F is without case and must be mounted through a double-D hole in an approved electrical enclosure or panel. Threaded spud allows locating air connection outside enclosure (CCT2363 5/8-18 Hex Nut required).
5. P568A, B, and C have screw terminals which accept 10 to 14 AWG wire.
6. P658E and F have l/4-in. quick-connect male tab terminals.
7. P658 Switch ratings are as follows:

Model	Motor Load	Resistive Load	Pilot Duty
P658A, B	1 hp at 125V ac 2 hp at 250 or 277V ac	25A at 125, 250, or 480V ac	750 VA at 125, 250, or 277V ac
P658E, F	3/4- hp at 125, 250, or 277V ac	25A at 125, 250, or 277V ac; 10A at 480V ac	720 VA at 125, 250, or 277V ac

P658C: 5mA at 5V dc

8. Air connections are sharp-barb type for l/4-in. (6 mm) O.D. plastic tubing.
9. P658 Switches have the following terminal designations:
   P658A, B, C: R(C), W (NO.), B (N.C.)
   P658E, F: COM, NO, NC
10. Switch models are available with various factory set setpoints or adjustable ranges. See Table 1. These values are marked on the case for the P658A and the insulator for the P658B, C, E, and F. Make sure the Switch is the correct for the location per the job drawings.
11. Maximum Switch pressure rating is 30 psi (207 kPa).

Table 1. P658 Setpoints and Differentials.

Model	Switch Action	Setpoint		Differential (Fixed)
		Factory Set	Field Adjustable	
P658A	a	2, 4, 10, or 14 psi (14, 28, 69, or 97 kPa)	2 to 24 psi (14 to 165 kPa)	2 psi (14 kPa)
P658B	a	4, 7, 8, 10, 13, or 14 psi (28, 48, 55, 69, 90, or 97 kPa)		
P658C	a	10 psi (69 kPa)		1.5 psi (10 kPa)
P658E	b	7, 8, 10, 12, or 13 psi (48, 55, 69, 83, or 90 kPa)	2 to 17 psi (14 to 117 kPa)	1 psi (7 kPa)
		14 psi (97 kPa)	12 to 25 psi (83 to 172 kPa)	
		No	2 to 17 psi (14 to 117 kPa)	
		No	12 to 25 psi (83 to 172 kPa)	
	c	10 or 13 psi (69 or 90 kPa)	2 to 17 psi (14 to 117 kPa)	
P658F	b	6, 8, or 10 psi (41, 55, or 69 kPa)	2 to 17 psi (14 to 117 kPa)	
		No	2 to 17 psi (14 to 117 kPa)	
		No	7 to 21 psi (48 to 145 kPa)	
		No	12 to 25 psi (83 to 172 kPa)	

Makes R to B and breaks R to W on a pressure fall to the setpoint; makes R to W and breaks R to B on a pressure rise to the setpoint plus the differential.

b **Makes COM to NC and breaks COM to NO on a pressure fall to the setpoint; makes COM to NO and breaks COM to NC on a pressure rise to the setpoint plus the differential.**

c **Makes COM to NO and breaks COM to NC on a pressure rise to the setpoint; makes COM to NC! and breaks COM to NO on a pressure fall to the setpoint minus the differential,**

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Installation

Mounting

NOTE: Switches do not require leveling. They withstand limited vibrations.

1. Mount P658A to wall using two No. 10 screws through keyhole slots in bracket on 3-3/4 in. (95 mm) centers (Fig. 1).

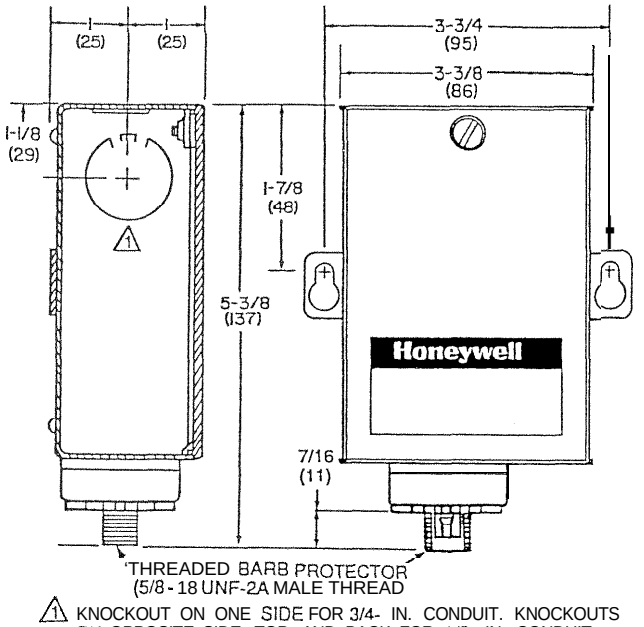


Fig. 1. P658A Switch Approximate Mounting Dimensions in Inches (Millimeters).

2. Mount P658B and C using two No. 8 screws through vertical mounting slots on 2-5/8 in. (67 mm) centers (Fig. 2).

   NOTE: P658B and C can be mounted with barb outside of electrical enclosure or panel similar to P658F. See Step 4.

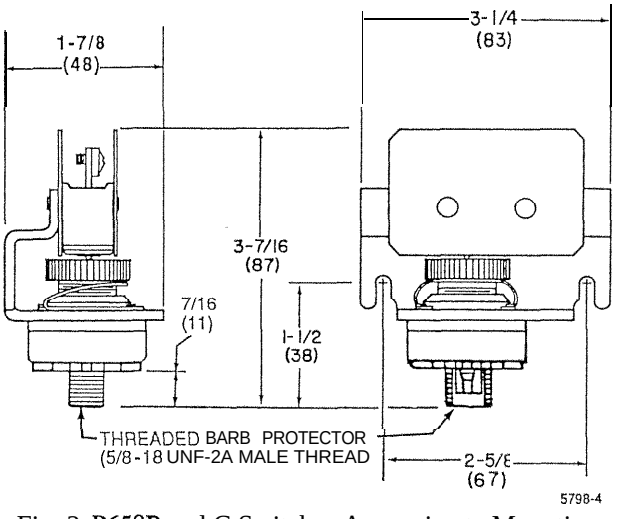


Fig. 2. P658B and C Switches Approximate Mounting Dimensions in Inches (Millimeters).

3. Mounts P658E using two No. 8 screws through 90-degree mounting slots on l-1/4 in. (32 mm) centers (Fig. 3).

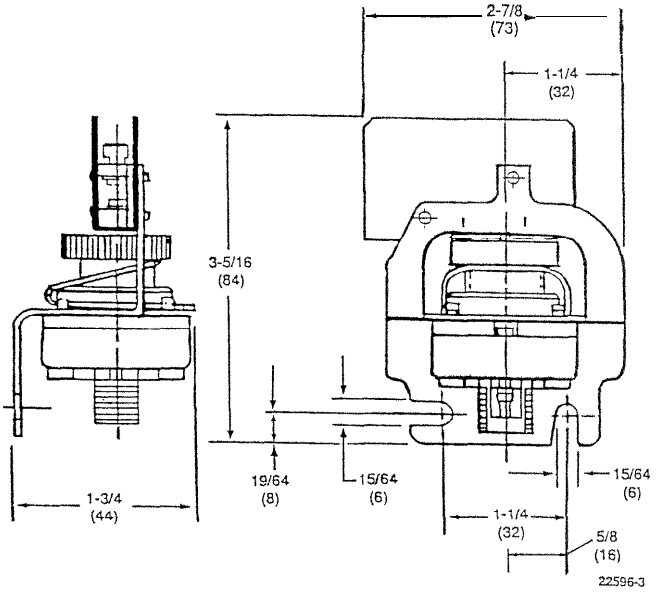
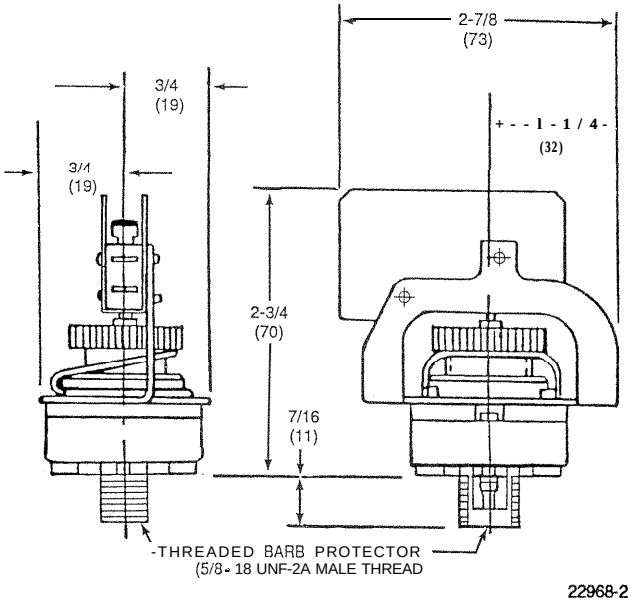


Fig. 3. P658E Switch Approximate Mounting Dimensions in Inches (Millimeters) .

4. Mount P658F (Fig. 4) with barb outside of electrical enclosure or panel. Insert barb protector through double-D 21/32-in. (16 mm) hole or 1/2-in. conduit knockout on side of enclosure. Tighten CCT2363 5/8-18 Hex Nut over threaded barb protector (Fig. 5).
   NOTE: This type of mounting requires adequate room in enclosure for wiring terminals since the Switch may not be on a convenient subpanel.



Fig, 4. P658F Switch Approximate Mounting Dimensions in Inches (Millimeters).

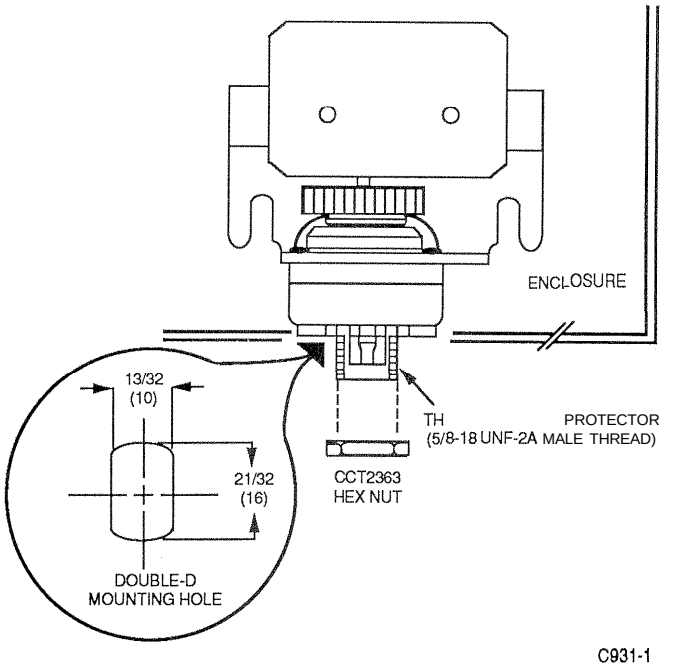


Fig. 5. Locating P658F Barb Outside of Enclosure.

Piping

1. Use 1/4-in. (6-mm) O.D. plastic tubing to connect Switch to the branchline air from controller (Fig.6).

2. Factory setpoint settings are marked on cover of P658A and on insulator of P658B, C, E, and F.

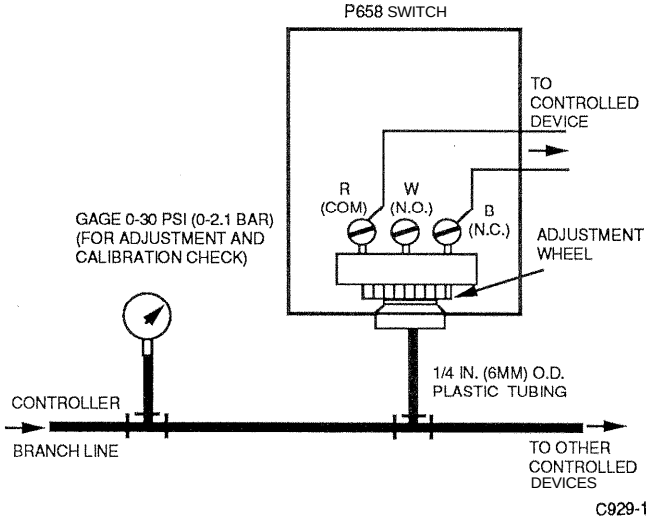


Fig. 6. P658 Piping.

Wiring

1. Refer to BEFORE INSTALLATION section for Switch ratings.
2. To expose switch on P658A, loosen captive screw on cover and remove.
3. Terminals are behind insulator on Switch. Terminals are front-facing, screw type for P658A, B, and C and accept 10 to 14 AWG wire. Terminals are 1/4-in. quick-connect male tab terminals for P658E and F; use insulated connectors.

Setpoint Adjustment (Optional)

1. Refer to description of factory settings in BEFORE INSTALLATION. To increase setpoint, turn adjustment wheel (Fig. 6) clockwise as viewed from top looking down. To decrease setpoint, turn adjustment wheel counterclockwise.
2. The P658 Switch provides space on insulator to mark new setpoint.

Final Installation

1. If the setpoint is changed, mark the new value on the Switch.
2. After system is fully operational, check to see that branchline air from controller causes the Switch to operate its connected device at the setting marked on Switch.

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