

# PS71 – General Purpose Mini Pressure Switches

▶ 10 to 5000 psi (0.7 to 344 bar)

These versatile general purpose switches with snap action microswitches can be used in a wide range of hydraulic and pneumatic applications. Their proven piston/diaphragm design offers outstanding accuracy over a very wide pressure range with an outstanding 6000 psi proof pressure. Their modular construction allows Gems to offer a large number of standard pressure fittings in two materials as well as numerous electrical ratings and terminations. Users can easily configure this model to meet their needs.

## Specifications

<b>Switch</b>	SPST; SPDT
<b>Repeatability</b>	See Table 1
<b>Wetted Parts</b>	
<b>Diaphragm</b>	Nitrile (optional EPDM, Viton® or Neoprene)
<b>Fitting</b>	Zinc-Plated Steel (Optional 316 SS)
<b>Electrical Termination</b>	DIN 43650A IP65; Spade Terminals IP00; Flying Leads IP65; Conduit with Flying Leads IP65; IP option IP66
<b>Proof Pressure</b>	6000 psi (414 bar)
<b>Burst Pressure</b>	9000 psi (621 bar)
<b>Approvals</b>	CE, UL Approved units available
<b>Weight, Approximate</b>	0.4 lbs. (0.15 kg)

## Recommended Operating Temperature Limits

Diaphragm Material	Options Selected		
	No option, -10A, -SP or -RD	-RD or -RD and -G	-SP or -10A
<b>Nitrile</b>	15°F to 185°F (-9°C to +85°C)	15°F to 250°F (-9°C to +121°C)	15°F to 212°F (-9°C to +100°C)
<b>Viton®</b>	0°F to 185°F (-18°C to +85°C)	0°F to 250°F (-18°C to +121°C)	0°F to 212°F (-18°C to +100°C)
<b>EPDM</b>	-10°F to +185°F (-23°C to +85°C)	-10°F to +250°F (-23°C to +121°C)	-10°F to +212°F (-23°C to +100°C)
<b>Neoprene</b>	-10°F to +185°F (-23°C to +85°C)	-10°F to +250°F (-23°C to +121°C)	-10°F to +212°F (-23°C to +100°C)

Note: Switches may function below the cold temperature limit but the set points and deadband will increase. Consult factory for details.

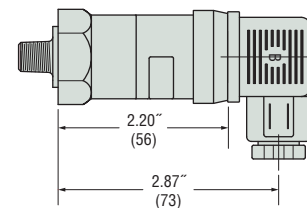
## Electrical Switch Ratings

Options Selected	AC	DC
No option or -RD	5 amps @ 125/250 Volts	5 amps resistive, 3 amps inductive @ 28 Volts
-G only or -RD with -G	1 amp @ 125 Volts	1 amp resistive, 0.5 amp inductive @ 28 Volts
-10A only or -SP without -G	10.1 amps @ 125/250 Volts	—
-SP with -G	2 amps @ 125/250 Volts	—

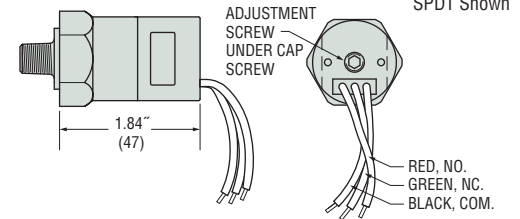


## Dimensions

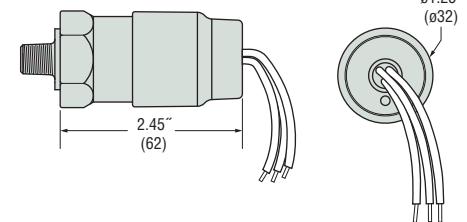
### DIN 43650A with Cable Clamp



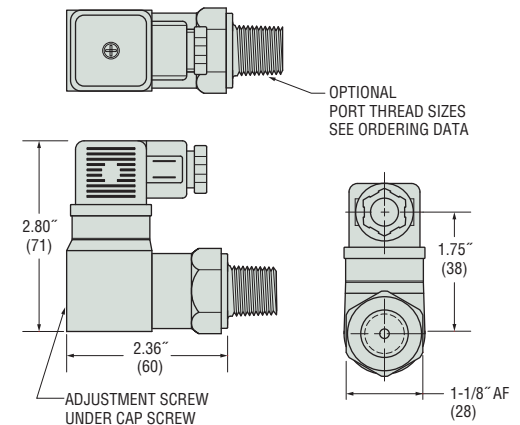
### Flying Lead



### IP66 Option



### Right Angle DIN 43650A with Cable Clamp



## How To Order

Use the **Bold** characters from the chart below to construct a product code. Please reference Notes.

**PS71**   **-10**   **-4MNZ**   **-C**   **-H**   **-XX**   **-XXXX**

1   
 2   
 3   
 4   
 5   
 6

### ① Pressure Range Code

Insert Pressure Range Code from Table 1, below.

### ② Pressure Fitting<sup>1</sup>

12L14 Zinc-Plated Steel

- 2MNZ = 1/8" NPTM
- 4MNZ = 1/4" NPTM
- 8MNZ = 1/2" NPTM
- 2MGZ = 1/8" BSPM (G type)
- 4MGZ = 1/4" BSPM (G type)
- 4MSZ = 7/16"-20 SAE Male
- 6MSZ = 9/16"-18 SAE Male
- M10Z = M10 x 1.0, Straight
- M12Z = M12 x 1.5, Straight
- M14Z = M14 x 1.5, Straight

316 Stainless Steel

- 2MNS = 1/8" NPTM
- 4MNS = 1/4" NPTM
- 2MGS = 1/8" BSPM (G type)
- 4MGS = 1/4" BSPM (G type)

### ③ Circuit

- A = SPST/N.O.
- B = SPST/N.C.
- C = SPDT

### ④ Electrical Termination

- SP = Spade Terminals<sup>2</sup>
- FLXX = Flying Leads<sup>3</sup>
- FLSXX = Flying Leads w/PVC Shrink Tubing<sup>3</sup>
- ELXX = 1/2" NPT Male Conduit w/Flying Leads<sup>4</sup>
- CABXX = 18 AWG PVC Cable<sup>5</sup>
  - H = DIN 43650A Male Half Only<sup>6</sup>
  - HR = Right Angle DIN 43650A Male Half Only<sup>6</sup>
  - HC = DIN 43650A 9mm Cable Clamp<sup>6</sup>
  - HCR = Right Angle DIN 43650A 9mm Cable Clamp<sup>6</sup>
  - HN = DIN 43650A with 1/2" Female NPT Conduit<sup>6</sup>
  - HNR = Right Angle DIN 43650A with 1/2" Female NPT Conduit<sup>6</sup>

### ⑤ Options<sup>7</sup>

- V = Viton<sup>®</sup> Diaphragm
- E = EPDM Diaphragm
- N = Neoprene Diaphragm
- 10A = 10A @ 125/250 VAC Max. Rating
- G = Gold Contacts  
(for loads less than 12 mA @ 12 VDC)
- RD = Reduced Differential  
(25% reduction typical)
- IP = Ingress Protection<sup>8</sup>
- OF = Oil Free Cleaned<sup>9</sup>
- R = Restrictor (low damping coefficient) Brass
- SR = Spiral Restrictor (high damping coefficient)  
300 Series Stainless Steel<sup>10</sup>
- WF = Weather Pack Connector, Female
- WM = Weather Pack Connector, Male
- DE = Deutsch Connector, Male, DT04 Series

### ⑥ Fixed Set Point (optional)

- A. Specify set point **-FS**  
(in PSI or BAR, see example)<sup>11</sup>
- B. Set Point Actuation  
**R** on Rising Pressure  
**F** on Falling Pressure  
Example: **-FS2BARF** for 2 BAR Falling  
or **-FS20PSIR** for 20 PSI Rising

Notes:

1. Other fittings available. Consult factory.
2. 20% increase in deadband typical.
3. 1/8" is standard. Specify lead length in inches (max. 48"). e.g. **-FL18** or **-FLS30**.
4. 1/8" is standard. Specify lead length in inches (max. 48"). e.g. **-EL18** or **-EL30**.
5. 36" is minimum. Specify cable length in inches. e.g. **-CAB36** or **-CAB120**.
6. DIN connectors require **-C** SPDT circuit.
7. Options **-10A**, **-G** or **-RD** cannot be combined.
8. Ingress Protection is available only with **-FL**, **-FLS** or **-CAB** Electrical Termination choices. Ingress Protection requires Fixed Set Point **-FS**.
9. Requires stainless steel housing.
10. **-SR** will result in wider deadbands and slower response time.
11. Set Point must be within Pressure Range selected in Step 1.

Table 1 — Pressure Range Codes

Pressure Range Code	Pressure Range	Accuracy*	Average Deadband**
<b>10</b>	10-30 psi (0.7-2.1 bar)	±1.5 psi (0.103 bar) +2% of setting	3.5 psi (0.28 bar) +11% of setting
<b>20</b>	25-75 psi (1.7-5.2 bar)	±2.5 psi (0.172 bar) +2% of setting	3.5 psi (0.28 bar) +11% of setting
<b>30</b>	65-300 psi (4.5-20.7 bar)	±5.0 psi (0.345 bar) +2% of setting	20 psig (1.38 bar) +11% of setting
<b>40</b>	250-1000 psi (17.2-69.0 bar)	±15 psi (1.03 bar) +2% of setting	45 psig (3.10 bar) +12% of setting
<b>50</b>	1000-3000 psi (69-206.8 bar)	±30 psi (2.06 bar) +3% of setting	70 psig (4.83 bar) +12% of setting
<b>60</b>	2500-5000 psi (172.4-344.7 bar)	±50 psi (3.45 bar) +4% of setting	140 psi (9.65 bar) +13% of setting

\* Accuracy and set point of units may change due to the effects of temperature.

\*\* These numbers are for the standard microswitch. With either the **-SP** or **-10A** option, the values are typically 20% greater than those listed. With the **-RD** option, the values will be typically 25% less than those listed. In certain applications deadband can be tailored and controlled to customer specifications. Consult factory for details.



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