

# PS41 – Economical Miniature Pressure Switches

► 4 to 100 psi (0.28 to 7 bar)

These miniature pressure switches are designed for demanding applications where space and/or price are strong concerns. The switches utilize a piston/diaphragm design, which incorporates the high proof pressure of piston technology with the sensitivity of diaphragm designs. Switches are field adjustable via an Allen head screw that is hidden to protect against unauthorized tampering.

## Specifications

|                               |   |
|-------------------------------|---|
| <b>Switch</b>                 | SPST; SPDT  |
| <b>Repeatability</b>          | See Table 1   |
| <b>Wetted Parts</b>           |   |
| <b>Diaphragm Material</b>     | Nitrile (optional EPDM, Viton® or Neoprene)   |
| <b>Fitting</b>                | Brass (optional 316 Stainless Steel)  |
| <b>Electrical Termination</b> | DIN 43650A IP65; Terminals IP00; Flying Leads IP65; Option IP: IP66; Conduit with Flying Leads IP65 |
| <b>Proof Pressure</b>         | 350 psi (24 bar)  |
| <b>Burst Pressure</b>         | 700 psi (48 bar)  |
| <b>Approvals</b>              | CE, UL Approved units available   |
| <b>Weight, Approximate</b>    | Brass: 0.3 lbs. (0.14 kg)   |

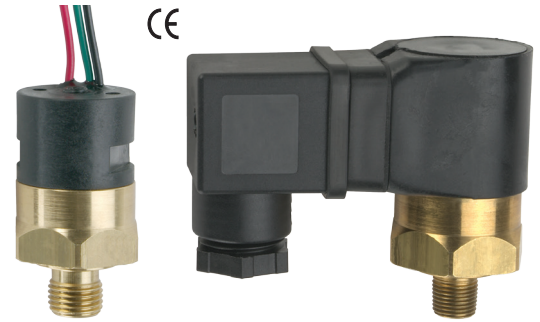
## Recommended Operating Temperature Limits

| 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<br>(-9°C to +85°C)    | 15°F to 250°F<br>(-9°C to +121°C)    | 15°F to 212°F<br>(-9°C to +100°C)    |
| <b>Viton®</b>      | 0°F to 185°F<br>(-18°C to +85°C)    | 0°F to 250°F<br>(-18°C to +121°C)    | 0°F to 212°F<br>(-18°C to +100°C)    |
| <b>EPDM</b>        | -10°F to +185°F<br>(-23°C to +85°C) | -10°F to +250°F<br>(-23°C to +121°C) | -10°F to +212°F<br>(-23°C to +100°C) |
| <b>Neoprene</b>    | -10°F to +185°F<br>(-23°C to +85°C) | -10°F to +250°F<br>(-23°C to +121°C) | -10°F to +212°F<br>(-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.

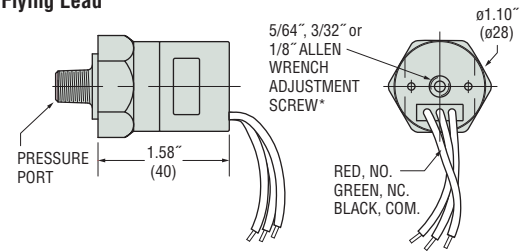
## Electrical Switch Ratings

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



## Dimensions

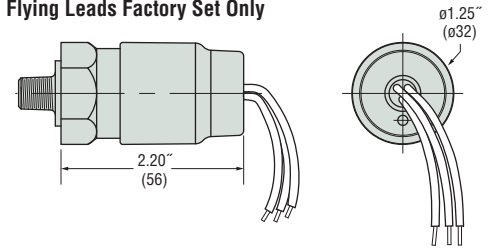
### Flying Lead



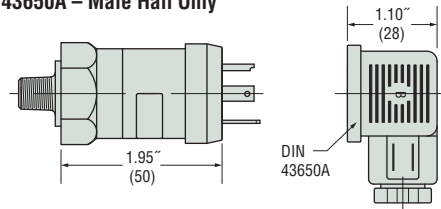
\* Adjustment screw is located under protective screw.

### Ingress Protection Option (IP66)

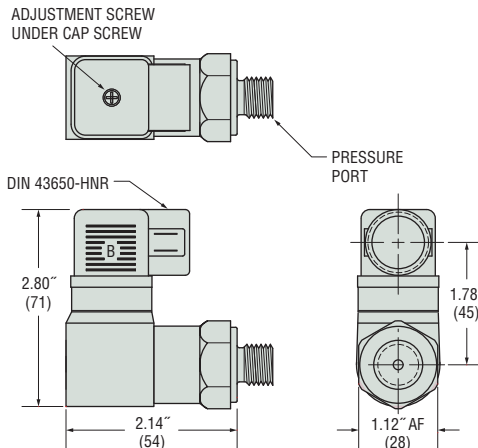
#### with Flying Leads Factory Set Only



### DIN 43650A – Male Half Only

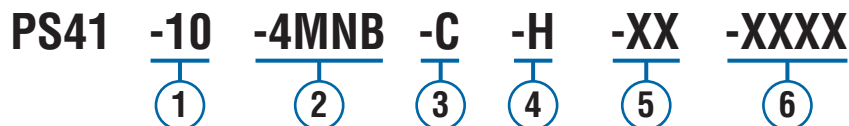


### Right Angle DIN (HNR)



## How To Order

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



### ① Pressure Range Code

Insert Pressure Range Code from Table 1, below.

### ② Pressure Fitting<sup>1</sup>

Brass

- 2MNB = 1/8" NPTM
- 4MNB = 1/4" NPTM
- 2MGB = 1/8" BSPM (G type)
- 4MGB = 1/4" BSPM (G type)
- 4MSB = 7/16"-20 SAE Male
- 6MSB = 9/16"-18 SAE Male

316 Stainless Steel

- 2MNS = 1/8" NPTM
- 4MNS = 1/4" NPTM
- 4MGS = 1/4" BSPM (G type)
- 4MSS = 7/16"-20 SAE Male

### 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® Diaphragm
- N = Neoprene Diaphragm
- E = EPDM 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
- 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>9</sup>
- B. Set Point Actuation  
**R** on Rising Pressure  
**F** on Falling Pressure  
Example: **-FS0.5BARF** for 0.5 BAR Falling  
or **-FS5PSIR** for 5 PSI Rising

Notes:

1. Other fittings available. Consult factory.
2. Requires **-10A** or **-G** option. (20% increase in deadband typical)
3. 18" is standard. Specify lead length in inches (max. 48"). e.g. **-FL18** or **-FLS30**.
4. 18" 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. 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>           | 4-8 psi (0.28-0.55 bar)  | ±0.35 psi (0.024 bar) +2% of setting | 1.50 psi (0.10 bar) +7% of setting |
| <b>20</b>           | 7-30 psi (0.48-2.07 bar) | ±0.8 psi (0.055 bar) +2% of setting  | 3 psi (0.21 bar) +8% of setting    |
| <b>30</b>           | 25-100 psi (1.7-6.9 bar) | ±2.0 psi (0.138 bar) +2% of setting  | 5 psig (0.28 bar) +10% 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.