

PS81 – Ultra-Long Life Vacuum Switches

- ▶ 1.5" to 15" Hg (51 to 508 mbar)
- ▶ Sensitive Diaphragm for Lower Set Points
- ▶ Factory Fixed or Adjustable Set Points

For low vacuum applications, the longevity of our PS81 Series is hard to beat. A life expectancy of 1 million cycles means long-term reliability. Their brass housing and choice of four diaphragm materials ensures chemical compatibility with your system. PS81 series switches have a field adjustable set point or can be factory set.

Specifications

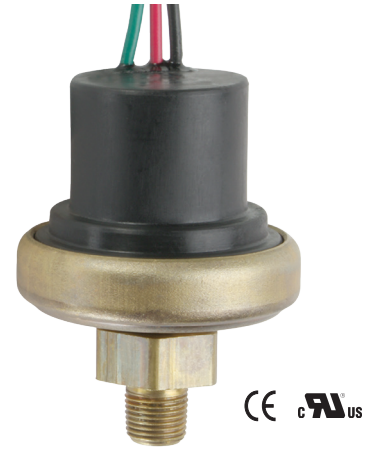
Switch*	5A @ 125/250 VAC, 3 Amp inductive @ 24 VDC (Std)
Repeatability	See Table 1
Wetted Parts	
Diaphragm and O-Ring	Nitrile standard (optional EPDM, Viton® or Kapton® with o-ring)
Fitting	Brass
Housing	Brass
Spring	300 Series SS
Spring Guide	Delrin®
Ingress Protection**	DIN 43650A IP00; Terminals IP00; Flying Leads IP00
Proof Pressure	0 psia to 150 psig (-1 bar to 10.3 bar)
Burst Pressure	500 psi (34.5 bar)
Approvals	CE, UL Approved units available
Weight, Approximate	0.31 lbs. (0.14 kg)

* Gold contacts (option G) may be required for less than 12 VDC and 20 mA.
** Plastic housing is vented to atmosphere. Consult factory for sealed versions.

Recommended Operating Temperature Limits

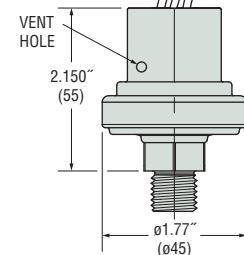
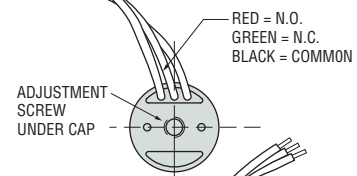
Diaphragm Material	Range
Nitrile	15°F to 250°F (-9°C to +121°C)
Viton®	0°F to 250°F (-18°C to +121°C)
EPDM	-20°F to +250°F (-29°C to +121°C)
Kapton®	-40°F to +250°F (-40°C to +121°C)

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

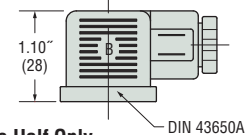


Dimensions

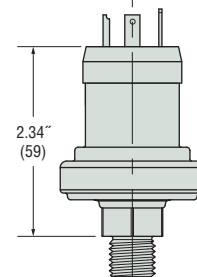
Flying Lead SPDT Shown



DIN 43650A with Calbe Clamp



DIN 43650A Male Half Only



How To Order

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

PS81 **-10** **-4MNB** **-C** **-H** **-XX** **-XXXX**

1
2
3
4
5
6

1 Pressure Range Code

Insert Pressure Range Code from Table 1, below.

2 Pressure Fitting¹

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

3 Circuit

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

4 Electrical Termination

- FLXX = Flying Leads²
- ELXX = 1/2" NPT Male Conduit w/Flying Leads³
- H = DIN 43650A Male Half Only⁴
- HC = DIN 43650A 9mm Cable Clamp⁴
- HN = DIN 43650A with 1/2" Female NPT Conduit⁴

5 Options

- V = Viton® Diaphragm
- E = EPDM Diaphragm
- K = Kapton® Diaphragm (Nitrile O-ring)
- G = Gold Contacts
(for loads less than 12 mA @ 12 VDC)
- OF = Oil Free Cleaned

6 Fixed Set Point (optional)

- A. Specify set point **-FS**
(in Inches Hg or mBAR, see example)⁵
- B. Set Point Actuation
R on Rising Vacuum
F on Falling Vacuum
Example: **-FS100MBARF** for 100 mBAR Falling
or **-FS2INHGR** for 2" Hg Rising

Notes:

1. Other fittings available. Consult factory.
2. 18" is standard. Specify lead length in inches (max. 48"). e.g. **-FL18** or **-FL30**.
3. 18" is standard. Specify lead length in inches (max. 48"). e.g. **-EL18** or **-EL30**.
4. DIN connectors require **-C** SPDT circuit.
5. Set Point must be within Pressure Range selected in Step 1.

Table 1 — Pressure Range Codes

Pressure Range Code	Pressure Range	Accuracy*	Average Deadband**
10	1.5-5" Hg (51-169 mbar)	±0.2" Hg (7 mbar) +3% of setting	0.3" Hg (10 mbar) +9% of setting
20	4-15" Hg (136-508 mbar)	±0.35" Hg (12 mbar) +4% of setting	0.6" Hg (20 mbar) +11% of setting

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

** In certain applications deadband can be tailored and controlled to customer specifications. Consult factory for details.