

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

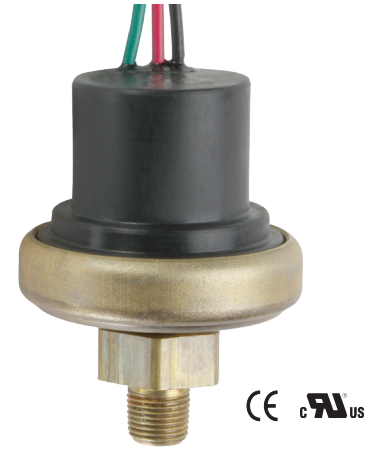
Switch*	5A @ 125/250 VAC, 3 Amp inductive @ 24 VDC (Std)
Repeatability	See Table 1
Wetted Parts	
Diaphragm and O-Ring	Nitrile standard (optional EPDM, Viton® or Kapton® with o-ring)
Fitting	Brass
Housing	Brass
Spring	300 Series SS
Spring Guide	Delrin®
Electrical Termination**	DIN 43650A IP00; Terminals IP00; Flying Leads IP00; IP option 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.

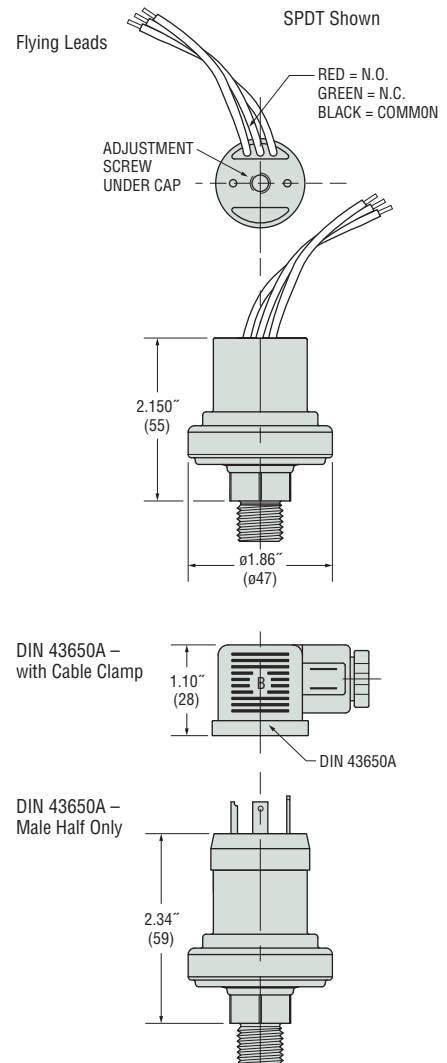
Recommended Operating Temperature Limits

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	-40°F to +250°F (-40°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.

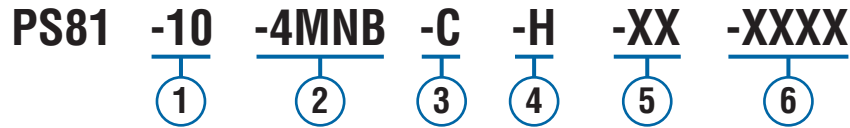


Dimensions



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

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

3 Circuit

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

4 Electrical Termination

- FLXX**= Flying Leads¹
- ELXX**= 1/2" NPT Male Conduit w/Flying Leads²
- H**= DIN 43650A Male Half Only³
- HC**= DIN 43650A 9mm Cable Clamp³
- HN**= DIN 43650A with 1/2" Female NPT Conduit³

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)
- OXY**= Oxygen Cleaned
- IP**= Ingress Protection⁴

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. 18" is standard. Specify lead length in inches (max. 48"). e.g. **-FL18** or **-FL30**.
2. 18" is standard. Specify lead length in inches (max. 48"). e.g. **-EL18** or **-EL30**.
3. DIN connectors require **-C** SPDT circuit.
4. Ingress Protection is available only with **-FL** or **-EL** Electrical Termination and requires Fixed Set Point **-FS**.
5. Set Point must be within Pressure Range selected in Step 1.

Table 1 — Pressure Range Codes

Pressure Range Code	Pressure Range	Repeatability*	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

* Repeatability 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.