

PS82 – Economical Miniature Vacuum Switches

► 5" to 28" Hg (169 to 948 mbar)

These miniature vacuum switches, based on our proven PS41 series, are designed for demanding applications where space and/or price are strong concerns.

Specifications

| | |
|-------------------------------|---|
| Switch | SPST; SPDT |
| Repeatability | See Table 1 |
| Wetted Parts | |
| Diaphragm Material | Nitrile standard (optional EPDM, Viton® and Neoprene) |
| Fitting | Brass (optional 316 Stainless Steel) |
| Spring | 316 Stainless Steel |
| Electrical Termination | DIN 43650A IP65; Male Conduit with Flying Leads IP65; Flying Leads IP00; IP option IP66 |
| Proof Pressure | 0 psia to 350 psig (-1 bar to 24 bar) |
| Burst Pressure | 700 psi (48 bar) |
| Approvals | CE |
| Weight, Approximate | Brass: 0.4 lbs. (0.18 kg) |

Recommended Operating Temperature Limits

| Diaphragm Material | Options Selected | | |
|--------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| | No option, -10A, -SP or -RD | -RD or -RD and -G | -SP or -10A |
| Nitrile | 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) |
| Viton® | 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) |
| EPDM | -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) |
| Neoprene | -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

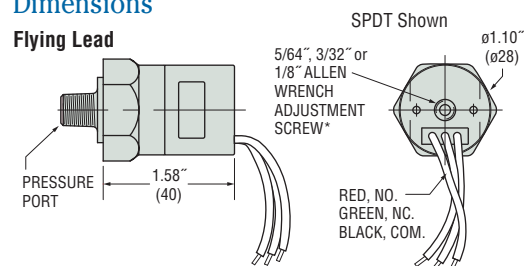
| Options Selected | AC | DC |
|-----------------------------|---------------------------|--|
| No option or -RD | 5 amps @ 125/250 Volts | 5 amps resistive, 3 amps inductive @ 28 Volts |
| -G only or -RD with -G | 1 amp @ 125 Volts | 1 amp resistive, 0.5 amp inductive @ 28 Volts |
| -10A only or -SP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



CE

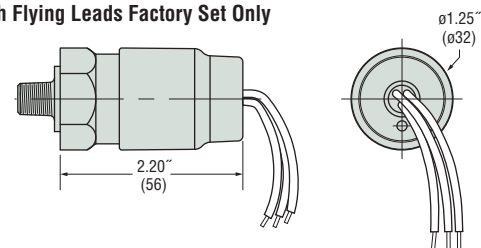
Dimensions

Flying Lead

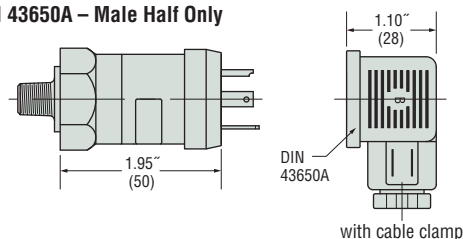


* Adjustment screw is located under protective screw.

Ingress Protection Option (IP66) with Flying Leads Factory Set Only



DIN 43650A – Male Half Only



How To Order

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

PS82 **-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

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)

③ Circuit

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

④ Electrical Termination

- FLXX = Flying Leads²
- FLSXX = Flying Leads w/PVC Shrink Tubing²
- ELXX = 1/2" NPT Male Conduit w/Flying Leads³
- CABXX = 18 AWG PVC Cable⁴
 - H = DIN 43650A Male Half Only⁵
 - HR = Right Angle DIN 43650A Male Half Only⁵
 - HC = DIN 43650A 9mm Cable Clamp⁵
 - HCR = Right Angle DIN 43650A 9mm Cable Clamp⁵
 - HN = DIN 43650A with 1/2" Female NPT Conduit⁵
 - HNR = Right Angle DIN 43650A with 1/2" Female NPT Conduit⁵
 - HM = Micro (9.4mm Spacing) DIN Style Male Half Only⁵
 - SP = Spade Terminals⁶

⑤ Options

- 10A = 10A @ 125/250 VAC Max. Rating⁷
- V = Viton® Diaphragm
- N = Neoprene Diaphragm
- E = EPDM Diaphragm
- G = Gold Contacts
(for loads less than 12 mA @ 12 VDC)
- RD = Reduced Differential
(25% reduction typical)
- IP = Ingress Protection⁸
- 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 Inches Hg or mBAR, see example)⁹
- B. Set Point Actuation
R on Rising Vacuum
F on Falling Vacuum
Example: **-FS300MBARF** for 300 mBAR Falling
or **-FS10INHGR** for 10" Hg Rising

Notes:

1. Other fittings available. Consult factory.
2. 18" is standard. Specify lead length in inches (max. 48"). e.g. **-FL18** or **-FLS30**.
3. 18" is standard. Specify lead length in inches (max. 48"). e.g. **-EL18** or **-EL30**.
4. 36" is minimum. Specify cable length in inches. e.g. **-CAB36** or **-CAB120**.
5. DIN connectors require **-C** SPDT circuit.
6. Requires **-10A**, **-G** options (50% increase in deadband typical).
7. Options **-10A**, **-G** or **-RD** cannot be combined.
8. Ingress Protection is available only with **-FL**, **-FLS**, **-ELS** 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 — Vacuum Range Codes

The deadband values tabulated are for the standard microswitch. With either the **-SP** of **-10A** option, the deadband values are typically 50% 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.

| Vacuum Range Code | Vacuum Range | Accuracy | Average Deadband* |
|-------------------|-------------------------|------------------------------------|------------------------------------|
| 10 | 5-15" Hg (169-508 mbar) | ±0.71" Hg (24 mbar) +2% of setting | 3.05" Hg (103 mbar) +7% of setting |
| 20 | 12-28" Hg (406-948mbar) | ±1.63" Hg (55 mbar) +2% of setting | 6.1" Hg (207 mbar) +8% of setting |

* **-IP** and **-EL** options are approximate gauge switches. Altitude and temperature changes will result in set point shifts.