

PS31/PS51 – Kapton® Diaphragm OEM Subminiature Pressure Switch

- ▶ 5 to 300 psi (0.345 to 20 bar)
- ▶ Ideal for Low Temperature Pneumatic Applications
- ▶ Adjustable or Factory Set

These compact pressure switches are designed for OEM applications. Made economical with metal blade contacts in lieu of microswitches, these switches feature Kapton® diaphragms. Kapton® polyimide maintains excellent physical properties over a wide temperature range. It also offers superb chemical resistance and has no known organic solvents.

The PS31 and PS51 share identical construction and envelope dimensions, with the PS51 Series providing higher pressure ranges.

Specifications

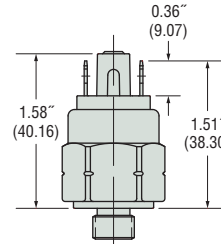
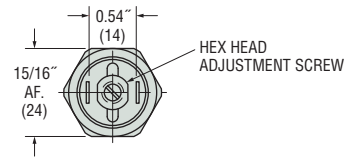
Operating Temperature	-40°F to +230°F (-40°C to +110°C)
Switch*	100 VA Max.
Repeatability	See Table 1
Wetted Parts	
Diaphragm	Teflon® Coated Kapton® (Solid Teflon® Available)
O-Ring	Nitrile (Std.) Consult factory for other materials
Fitting	Brass (optional 316 Stainless Steel)
Electrical Termination	Exposed Terminals IP00; IP option IP66
Deadband	See Table 1
Proof Pressure	500 psi (35 bar)
Burst Pressure	1000 psi (69 bar)
Approvals	CE (limits switch voltage to 42 VDC)
Weight, Approximate	Brass: 0.14 lbs. (0.06 kg)

* Gold contacts (option G) may be required for less than 12 VDC and 20 mA.

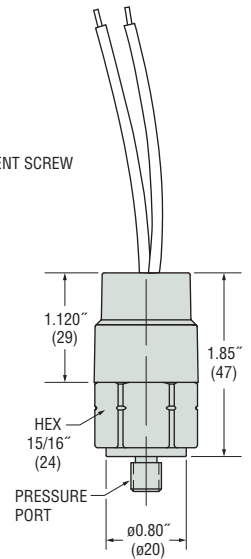


Dimensions

1/4" Spades



Flying Leads with IP Option



How To Order

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



1 Series

PS31 or **PS51**

2 Pressure Range Code

Insert Pressure Range Code from Table 1, below.

3 Pressure Fitting¹

Brass

- 2MNB** = 1/8" NPTM
- 4MNB** = 1/4" NPTM
- 2MGB** = 1/8" BSPM (G type)
- 4MGB** = 1/4" BSPM (G type)
- 8MGB** = 1/2" BSPM (G type)
- M10B** = M10 x 1.0, Straight
- M12B** = M12 x 1.5, Straight
- 4MSB** = 7/16"-20 SAE Male
- 6MSB** = 9/16"-18 SAE Male

316 Stainless Steel

- 2MNS** = 1/8" NPTM
- 4MNS** = 1/4" NPTM
- 2MGS** = 1/8" BSPM (G type)
- 4MGS** = 1/4" BSPM (G type)
- 4MSS** = 7/16"-20 SAE Male
- 6MSS** = 9/16"-18 SAE Male

4 Circuit

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

5 Electrical Termination

- SP** = Spade Terminals (standard)
- TS** = Terminal Screws
- FLXX** = Flying Leads²
- FLSXX** = Flying Leads w/PVC Shrink Tubing²
- CABXX** = 18 AWG PVC Cable³

6 Options

- G** = Gold Contacts
(for loads less than 12 mA @ 12 VDC)
- IP** = Ingress Protection⁴
- IPA** = Removable Silicone Seal for Set Point Adjustment⁵
- OF** = Oil Free Cleaned
- RB** = Rubber Boot (shipped loose)
- WF** = Weather Pack Connector, Female
- WM** = Weather Pack Connector, Male
- DE** = Deutsch Connector, Male, DT04 Series

7 Fixed Set Point (optional)

- A. Specify set point **-FS**
(in PSI or BAR, see example)⁶
- B. Set Point Actuation
R on Rising Pressure
F on Falling Pressure
Example: **-FS0.6BARF** for 0.6 BAR Falling
or **-FS10PSIR** for 10 PSI 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. 36" is minimum. Specify cable length in inches. e.g. **-CAB36** or **-CAB120**.
4. Ingress Protection is available only with **-FL**, **-FLS** or **-CAB** Electrical Termination choices.
5. IPA protection is available only with **-FL** or **-FLS**.
6. Set Point must be within Pressure Range selected in Step 2.

Table 1 — Pressure Range Codes

PS31

Pressure Range Code	Pressure Range	Accuracy*	Average Deadband**
20	5-25 psi (0.3-1.7 bar)	±1 psi (0.07 bar) +3% of setting	2 psi (0.14 bar) +4% of setting
30	20-60 psi (1.4-4.1 bar)	±1.5 psi (0.10 bar) +3% of setting	3 psi (0.21 bar) +4% of setting
40	50-150 psi (3.4-10.3 bar)	±2.5 psi (0.17 bar) +3% of setting	4 psi (0.28 bar) +4% of setting

PS51

Pressure Range Code	Pressure Range	Accuracy*	Average Deadband**
15	50-150 psi (3.4-10.3 bar)	±3.0 psi (0.21 bar) +4% of setting	5 psi (0.14 bar) +5% of setting
20	150-300 psi (10.3-20.7 bar)	±4 psi (0.28 bar) +4% of setting	8 psi (0.21 bar) +5% 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.