PSW03 Adjustable Pressure Switch

Factory-set mechanical pressure switching for OEM fluid and air systems



FACTORY SET & LOCKED IP65 WITH COVER

FEATURES

- Factory-set switch point from 5 to 300 PSI
- Four adjustment ranges, ±2 to ±10 PSI set-point tolerance
- Normally open or normally closed contacts
- One-piece SS316L body; brass and steel options
- Teflon-coated Kapton diaphragm, silver-alloy contacts
- Rated for more than 1,000,000 switching cycles
- 500 PSI proof pressure
- 1/4″ or 1/8″ NPT ports · 0.25″ spade terminals
- -20 to 90 °C operation · IP65 with optional cover

DESCRIPTION

The PSW03 is a compact mechanical pressure switch for low- to medium-pressure industrial and commercial applications. A Teflon-coated Kapton diaphragm drives silver-alloy contacts that open or close at a set pressure, with no signal conditioning required.

We set each switch point at our facility, verify it by pressure cycling, and lock the adjustment before shipment. Custom ranges, fittings, and configurations are available for OEM programs.

APPLICATIONS

- Pumps & water circulation systems
- Compressors
- Hydraulic & pneumatic lines
- Engine controls
- HVAC chillers & hydronic systems
- Expansion tank monitoring
- Commercial food service equipment

MAXIMUM ENVIRONMENTAL RATINGS

Operating Temperature	**-20 to 90 °C · -4–194 °F**	Proof Pressure	**500 PSI**
Storage Temperature	**-20 to 90 °C · -4–194 °F**	Burst Pressure	**750 PSI**
Ingress Protection	**IP65 (with cover)**	Switch-Point Range	**5 to 300 PSI**

Electrical & performance specifications

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS
Switching voltage	V	—	—	250	V
Switching current — 120 VAC	I	—	—	1	A
Switching current — 24 VDC	I	—	—	4	A
Response time	tR	—	25	100	ms
Switching differential (Note 1)	±%FS	-5	—	+5	%FS
Set-point tolerance	±PSI	2	—	10	PSI
Rated cycle life	—	1,000,000	—	—	cycles
Switch-point range	—	5	—	300	PSI
Pressure reference	—	—	Gauge	—	—
Proof pressure	—	—	—	500	PSI
Burst pressure	—	—	—	750	PSI
Operating temperature	—	-20	—	90	°C
Storage temperature	—	-20	—	90	°C

Note 1 — Measured at room temperature (25 °C). Set-point tolerance depends on the pressure range; see page 4.

Electrical connections

ITEM	DETAIL
Terminals	2 × 0.25″ spade
Contact type	Normally open or closed
Contact material	Silver alloy
Terminal protection	IP65 with optional cover

WIRING NOTES
Connect the two 0.25″ spade terminals in series with the controller input or load. Keep the load within the contact ratings above. Fit the optional cover for IP65 protection of the terminal end.

Terminal configuration



Fig. 1 — Two 0.25″ spade terminals with the set-point adjustment screw between them.

Package, media & installation

Package
The one-piece body is stainless steel (SS316L) as standard, for easy manufacturability and long-term stability. Brass and steel bodies are also available.

Pressure port
1/4″-18 NPT and 1/8″-27 NPT male threads are standard. 7/16-20 UNF and 1/4″ BSP fittings are available for OEM customers.

Wetted parts
The pressure port and housing (SS316L standard; brass or steel optional) and the Teflon-coated Kapton diaphragm.

Set-point adjustment
We set each switch to your set point at our facility, confirm it by cycling pressure on and off, and lock the adjustment screw before shipment.

Diaphragm & contacts
A Teflon-coated Kapton diaphragm and silver-alloy contacts provide long-term reliability, with a rated life of more than 1,000,000 switching cycles.

Media
Compatible with a wide range of media, including oil, air, gas, water, and salt water. Verify compatibility with corrosive media against the wetted materials.

Pressure ranges
Four gauge adjustment ranges cover set points from 5 to 300 PSI. Custom pressure ranges are available for OEM customers.

Operating principle
System pressure acts on the diaphragm. At the set point the contacts change state, and they return once pressure falls below the set point by the switching differential.

5–300	>1M	500	IP65
Switch-point range PSI	Rated switching cycles	Proof pressure PSI	With optional cover

Switch-point details

RANGE CODE	ADJUSTMENT RANGE	SET-POINT TOLERANCE	SET-POINT CODE	REFERENCE
01	5–25 PSI	±2 PSI	5 to 25	Gauge
02	20–60 PSI	±3 PSI	20 to 60	Gauge
03	50–150 PSI	±5 PSI	50 to 150	Gauge
04	150–300 PSI	±10 PSI	150 to 300	Gauge

The set-point code is the switch point in PSI, for example 10 = 10 PSI.

Set point vs. switching differential

The **set point** is the pressure at which the contacts change state. We set it to your requirement within the selected range and lock the adjustment before shipment.

The **switching differential** is the drop below the set point at which the contacts return to their resting state. Adjusting the set point moves the switch point; it does not change the switching differential.

APPLICATION NOTES
Keep maximum system pressure, including spikes, below the 500 PSI proof pressure · The set point is locked at the factory; contact us to change it.

Contact action

CONTACT TYPE	BELOW SET POINT	AT SET POINT
Normally open (O)	Open	Closed
Normally closed (C)	Closed	Open

Contacts return to their resting state when pressure falls below the set point by the switching differential.

SELECTING A RANGE
Choose the lowest range that covers your set point for the tightest tolerance. A 20 PSI set point fits range 01 (±2 PSI) or range 02 (±3 PSI).

Normally open (O) circuit

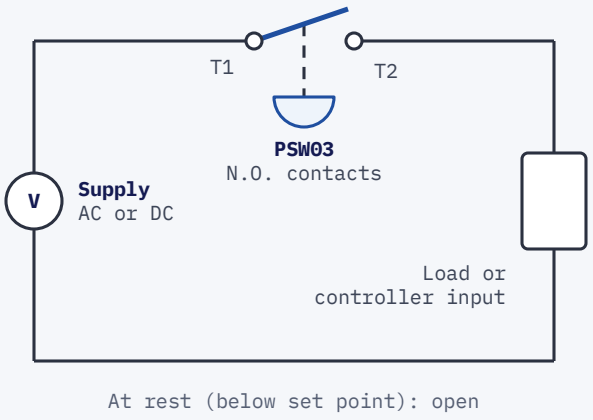


Fig. 2 — Normally open: contacts close at the set point.

Normally closed (C) circuit

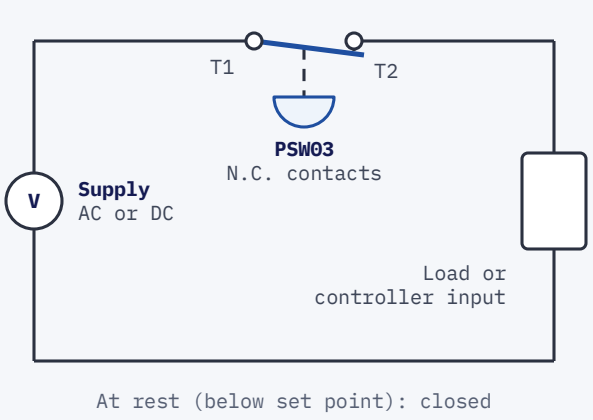


Fig. 3 — Normally closed: contacts open at the set point.

Mechanical dimensions — inches [mm]



No cover



With cover

Fig. 4 — Outline for reference, not to scale. Consult the PSW03 drawing for tolerances.

FEATURE	DETAIL
Height, no cover	1.98″ [50.3 mm]
Height, with cover	3.35″ [85.1 mm]
Cover diameter	1.26″ [32.0 mm]
Pressure port	1/4″-18 NPT or 1/8″-27 NPT
Electrical	2 × 0.25″ spade terminals
Housing	SS316L, brass, or steel
Diaphragm	Teflon-coated Kapton
Contacts	Silver alloy

NOTES

1) Dimensions are for reference; consult the PSW03 drawing for tolerances.
2) IP65 applies with the optional cover fitted.
3) The set-point adjustment screw is locked at the factory; do not adjust in the field.
4) 7/16-20 UNF and 1/4″ BSP fittings are available for OEM customers.

Ordering information — part-number configuration

PSW03	-	01	-	10	G	1	O	-	SS	C
MODEL		RANGE		SET POINT	TYPE	PORT	CONTROL		MATERIAL	COVER

MODEL	PRESSURE RANGE	SET POINT	TYPE	PORT	CONTROL	MATERIAL	COVER
PSW03	01 = 5–25 PSI (±2) 02 = 20–60 PSI (±3) 03 = 50–150 PSI (±5) 04 = 150–300 PSI (±10)	PSI within range 10 = 10 PSI 65 = 65 PSI	G = Gauge	1 = 1/4″ NPT 2 = 1/8″ NPT	O = Normally open C = Normally closed	SS = Stainless steel B = Brass S = Steel	(blank) = No cover C = With cover

SPECIFY WITH YOUR ORDER

Custom set point or pressure range · Alternate fittings (7/16-20 UNF, 1/4″ BSP) · Contact action · Housing material · Protective cover for IP65.

EXAMPLE PART NUMBERS

PSW03-01-10G1O-SSC → 5–25 PSI range · 10 PSI set point · gauge · 1/4″ NPT · normally open · stainless steel · with cover

PSW03-03-65G1O-BC → 50–150 PSI range · 65 PSI set point · gauge · 1/4″ NPT · normally open · brass · with cover

Configure your PSW03 pressure switch

Custom set points, ranges, fittings, and materials are available for OEM volumes. Talk to an engineer to spec your part.

REQUEST A QUOTE
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(480) 462-1810

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