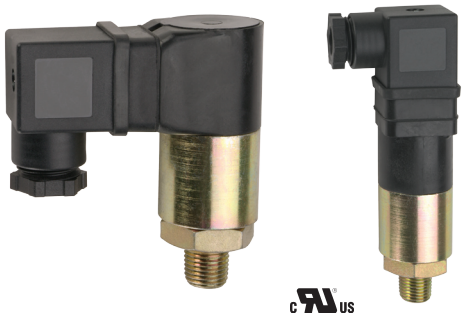
PS75 – Rugged Cylindrical Pressure Switch

- Side Mounted DIN Connection
- Top Mounted Electrical Connection
- 5 to 6000 psi (0.35 to 414 bar)
- Wear Disc Design for Longer Life
- DPDT Models Available

Gems PS75 Series have all metal surfaces for overload stops and deliver reliable operation under extremely high pressure surges. They are designed with a wear disc and cushioning ring for increased life. The switches use a piston/diaphragm design, which combine the high proof pressure of piston technology with the sensitivity of a diaphragm design. They can be field or factory adjusted.



Specifications

Switch	SPST; SPDT; DPST; DPDT
Repeatability	See Table 1
Wetted Parts	
Diaphragm	Nitrile (optional Viton®, Neoprene or EPDM)
Fitting	Zinc-Plated Steel (optional 316 Stainless Steel)
Housing	Brass or Zinc-Plated Steel (optional 316 Stainless Steel)
Electrical Termination	DIN 43650A IP65; Conduit with Flying Leads IP65; Flying Leads IP65
Proof Pressure	7500 psi (517 bar) except range 10: 500 psi (35 bar)
Burst Pressure	9000 psi (600 bar)
Approvals	CE, UL Approved units available
Weight, Approximate	Steel: 0.6 lbs. (0.27 kg)

Recommended Operating Temperature Limits

	Circuit Codes	
Diaphragm Material	**-A, -B, -C**	**-AA, -BB, -CC (or -A, -B, -C with -RD option)**
Nitrile (Std)	15°F to 185°F (-9°C to +85°C)	15°F to 250°F (-9°C to +121°C)
Viton®	0°F to 185°F (-18°C to +85°C)	0°F to 250°F (-18°C to +121°C)
EPDM	-10°F to +185°F (-23°C to +85°C)	-10°F to +250°F (-23°C to +121°C)
Neoprene	-10°F to +185°F (-23°C to +85°C)	-10°F to +250°F (-23°C to +121°C)

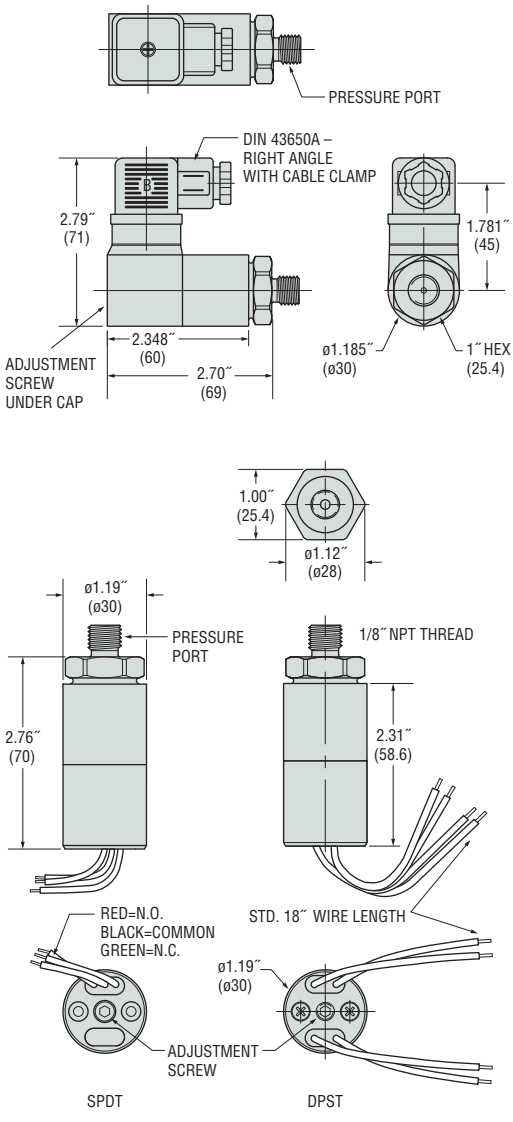
Note: Switches may function below the cold temperature limit but the set points and deadband will increase. Consult factory for details.

Electrical Switch Ratings

Circuit Code	AC	DC
-A, -B, -C[1]	5 amps @ 125/250 Volts	5 amps resistive, 3 amps inductive @ 28 Volts
-A, -B, -C[2]	1 amp @ 125 Volts	1 amp resistive, 0.5 amp inductive @ 28 Volts
-AA, -BB, -CC[1]	2 switches rated 5 amps @ 125/250 Volts	2 switches rated 5 amps resistive, 3 amps inductive @ 28 Volts
-AA, -BB, -CC[2]	2 switches rated 1 amp @ 125/250 Volts	2 switches rated 1 amp resistive, 0.5 amp inductive @ 28 Volts

Notes:
1. Without Gold Contacts Option (-G).
2. With Gold Contacts Option (-G).

Dimensions



How To Order

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

PS75 -10 -4MNZ -C -H -XX -XXXX

(1) (2) (3) (4) (5) (6)

(1) Pressure Range Code
Insert Pressure Range Code from Table 1, below.

(2) Pressure Fitting[1]

12L14 Zinc-Plated Steel
- **-2MNZ** = 1/8˝ NPTM
- **-4MNZ** = 1/4˝ NPTM
- **-4FNZ** = 1/4˝ NPTF
- **-4MGZ** = 1/4˝ BSPM (G type)
- **-4FGZ** = 1/4˝ BSPF (G type)
- **-4MSZ** = 7/16˝-20 SAE Male
- **-6MSZ** = 9/16˝-18 SAE Male
- **-4SSZ** = 7/16˝-20 SAE Male Swivel

316 Stainless Steel
- **-4MNS** = 1/4˝ NPTM
- **-4MGS** = 1/4˝ BSPM (G type)
- **-4FGS** = 1/4˝ BSPF (G type)
- **-6MSS** = 9/16˝-18 SAE Male

(3) Circuit
- **-A** = SPST/N.O.
- **-B** = SPST/N.C.
- **-C** = SPDT
- **-AA** = DPST/N.O.[2]
- **-BB** = DPST/N.C.[2]
- **-CC** = DPDT[2]

(4) Electrical Termination
- **-FLXX** = Flying Leads[3]
- **-ELXX** = 1/2˝ NPT Male Conduit w/Flying Leads[4]
- **-H** = DIN 43650A Male Half Only[5]
- **-HR** = Right Angle DIN 43650A Male Half Only[5]
- **-HC** = DIN 43650A 9mm Cable Clamp[5]
- **-HCR** = Right Angle DIN 43650A 9mm Cable Clamp[5]
- **-HN** = DIN 43650A with 1/2˝ Female NPT Conduit[5]
- **-HNR** = Right Angle DIN 43650A with 1/2˝ Female NPT Conduit[5]

(5) Options
- **-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)
- **-OXY** = Oxygen Cleaned[6]
- **-R** = Restrictor (low damping coefficient) Brass
- **-SR** = Spiral Restrictor (high damping coefficient) 300 Series Stainless Steel[7]
- **-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 PSI or BAR, see example)[8]
B. Set Point Actuation
R on Rising Pressure
F on Falling Pressure
Example: **-FS1BARF** for 1 BAR Falling
or **-FS20PSIR** for 20 PSI Rising

Notes:
1. Manifold mounts available. Consult factory.
2. Requires **-FL** or **-EL** electrical termination.
3. 18˝ is standard. Specify lead length in inches (max. 48˝). e.g. **-FL18** or **-FL30**.
4. 18˝ is standard. Specify lead length in inches (max. 48˝). e.g. **-EL18** or **-EL30**.
5. DIN connectors require **-C** SPDT circuit.
6. Requires stainless steel pressure fitting.
7. **-SR** will result in wider deadbands and slower response times.
8. Set Point must be within Pressure Range selected in Step 1.

Table 1 — Pressure Range Codes

For Circuit Codes -A, -B and -C

Pressure Range Code	Pressure Range	Repeatability*	Average Deadband**
10	5-25 psi (0.35-1.7 bar)	±1.0 psi (0.07 bar) +2% of setting	3 psi (0.21 bar) +5% of setting
20	15-75 psi (1.0-5.2 bar)	±2.5 psi (0.17 bar) +2% of setting	5 psig (0.34 bar) +10% of setting
30	50-150 psi (3.5-10.3 bar)	±6 psi (0.41 bar) +2% of setting	15 psig (1.03 bar) +13% of setting
40	150-650 psi (10.3-44.8 bar)	±15 psi (1.03 bar) +2% of setting	25 psi (1.72 bar) +14% of setting
50	500-1750 psi (34.5-121 bar)	±25 psi (1.72 bar) +2% of setting	55 psi (3.79 bar) +15% of setting
60	1000-3500 psi (69-241 bar)	±45 psi (3.10 bar) +3% of setting	100 psi (6.89 bar) +16% of setting
70	2500-6000 psi (172-414 bar)	±80 psi (5.51 bar) +4% of setting	200 psi (13.8 bar) +17% of setting

For Circuit Codes -AA, -BB and -CC***

Pressure Range Code	Pressure Range	Repeatability*	Average Deadband**
10	5-25 psi (0.35-1.7 bar)	±1.5 psi (0.10 bar) +3% of setting	2 psi (0.14 bar) +5% of setting
20	15-75 psi (1.0-5.2 bar)	±3.5 psi (0.24 bar) +3% of setting	4 psig (0.28 bar) +8% of setting
30	50-150 psi (3.5-10.3 bar)	±9 psi (0.62 bar) +3% of setting	13 psig (0.90 bar) +10% of setting
40	150-650 psi (10.3-44.8 bar)	±22 psi (1.51 bar) +3% of setting	21 psi (1.45 bar) +11% of setting
50	500-1750 psi (34.5-121 bar)	±35 psi (2.41 bar) +3% of setting	45 psi (3.10 bar) +12% of setting
60	1000-3500 psi (69-241 bar)	±60 psi (4.14 bar) +4% of setting	80 psi (5.52 bar) +13% of setting
70	2500-6000 psi (172-414 bar)	±100 psi (6.89 bar) +5% of setting	160 psi (11.0 bar) +14% 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.
*** Operation of both switches in most cases will not be simultaneous but will occur within the specifications listed. Deadband figures already reflect the improvement from the -RD option which is automatically included in the -AA, -BB and -CC circuits.