



PS-05

Electronic Pressure Switch with Stainless Steel Sensor

Features

/ Display and housing turnable

/ Accuracy up to 0,25%

/ Up to 4 switching outputs

/ Many different process connections

/ 2- or 3-wire

/ 4 digit LED-display

Description:

The PS-05 pressure switch and sensor combines a display with a pressure sensor. Four PNP switching outputs can be used, as well as a current and a voltage output. The switching points can be adjusted easily and completely boundless within the menu, because the display can be rotated in two directions, so virtually any orientation of the display is possible. Further adding to its versatility, a whole lot of different dimensions can be chosen for the PS-05, such as bar, mbar, mWC and so on. While being used in a difficult application, the PS-05 will be protected from the medium by a front-flush-diaphragm. This way, a clogging of the measuring unit will be avoided.

Application:

The PS-05 pressure switch can be used for liquids and gases alike. The pressure connection made from stainless steel makes it compatible with a variety of media. Should the media be very aggressive, thick or have a very high temperature and therefore require different configurations, the transmitters can be outfitted with isolating diaphragms. Especially the flexible display makes the PS-05 useful and versatile device for many areas e.g. for pneumatic, process engineering, environment technology and in general measurement technology.



Technical Specifications:

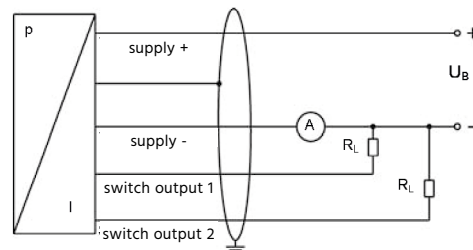
Switching output /	1 x PNP-output
Optional outputs /	2 x independent PNP-outputs 4 x independent PNP-outputs
Accuracy /	Standard: $P_N < 0,4 \text{ bar}$: $\leq \pm 0,5 \%$, or rather $P_N \geq 0,4 \text{ bar}$: $\leq \pm 0,35 \%$ option for $P_N \geq 0,4 \text{ bar}$: $\leq \pm 0,25 \%$
Repeatability /	$\leq \pm 0.1\% \text{ FSO}$
Switch frequency /	max. 10 Hz
Switching cycles /	$> 100 \times 10^6 \text{ cycles}$
Delay /	0...100 s
Media temp. /	-40...125°C
Ambient temp. /	-40...85°C
Storage temp. /	-40...100°C
Material /	
Pressure connection:	SS 1.4404
Housing:	SS 1.4404
Display housing:	PA 6.6, Polycarbon
Seals:	FKM, weld-on version optional
Membrane:	SS 1.4435
Installation position /	any
Weight /	at least 160g
Mechanical strength /	
Vibration:	10g RMS (25...2000 Hz) from DIN EN 60068-2-6
Shock:	500g / 1 ms from DIN EN 60068-2-27
Temperature errors /	
Nominal pressure P_N [bar]	-1...0 < 0.40 ≥ 0.40
Error string [% FSO]	$\leq \pm 0.75$ $\leq \pm 1$ $\leq \pm 0.75$
in compensated areas [°C]	-20...85 0...70 -20...85
Vacuum protection /	$P_N \geq 1 \text{ bar}$: infinite $P_N < 1 \text{ bar}$: on request

Inlet sizes:

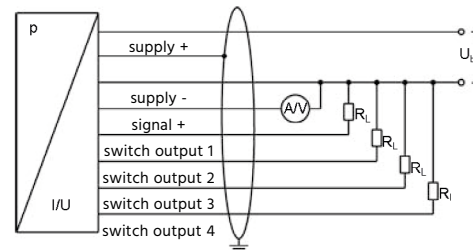
PN gauge	PN abs.	Overload	Burst pressure \approx
-1...0	-	5	7.5
0.10	-	0.5	1.5
0.16	-	1	1.5
0.25	-	1	1.5
0.40	0.40	2	3
0.60	0.60	5	7.5
1	1	5	7.5
1.6	1.6	10	15
2.5	2.5	10	15
4	4	20	25
6	6	40	50
10	10	40	50
16	16	80	120
25	25	80	120
40	40	105	210
60	60	210	420
100	100	210	420
160	160	600	1000
250	250	1000	1250
400	400	1000	1250
600	600	1000	1250

Connections:

2-wire-system (current)



3-wire-system (current / voltage)



Electrical connection	M12x1 plastic (5-pin)	M12x1 metal (5-pin)	M12x1 plastic (8-pin)	ISO 4400	Binder Series 723 (5-pin)	Kabelfarben (IEC 60757)
Supply +	1	1	1	1	1	wh (white)
Supply -	3	3	3	2	3	bn (brown)
Signal + (only for 3-wire)	2	2	2	3	2	gn (green)
Switch output 1	4	4	4	3	4	gy (grey)
Switch output 2	5	5	5	-	5	pk (pink)
Switch output 3	-	-	6	-	-	-
Switch output 4	-	-	7	-	-	-
Shield	over pressure connection	plug housing / pressure connection	over pressure connection	mass contact	plug housing / pressure connection	gnye (green-yellow)



Electrical Specifications:

Analogue output /

- 2-wire current signal 4...20 mA / $U_B = 13...36 V_{DC}$
 max. load: $R_{max} = [(U_B - U_{B min}) / 0.02A] \Omega$
 setting time: < 10 ms
- 3-wire current signal 4...20 mA / $U_B = 19...30 V_{DC}$ adjustable
 (Turn-Down of range to 1:5)
 max. load: $R_{max} = 500 \Omega$
 setting time: < 3 s
- 3-wire voltage signal 0...10 V / $U_B = 15...36 V_{DC}$
 max. load: $R_{min} = 10 k\Omega$
 setting time: < 3 ms
- without output $U_B = 15...36 V_{DC}$

max. Current /

- 4...20 mA / 125 mA loadable, short circuit proof;
 2- and 3-wire: $U_{Switch} = U_B - 2V$
- 0...10 V / 3-wire: 125 mA loadable, short circuit proof

max. Current (unloaded outputs) /

- 2-wire current: max. 25 mA
- 3-wire current: ca. 45 mA + signal stream
- 3-wire voltage: ca. 45 mA

Display /

4-digit, red 7-segment-LED-display,
 digit height 7mm, display range
 -1999...+9999; Accuracy 0.1% ± 1 Digit;
 digital damping 0.3...30 s (adjustable);
 refreshrate 0.0...10 s (adjustable)

CE-Conformity /

EMV-guideline: 2014/30/EU
 Pressure Equipment directive: 2014/68/
 EU (module A) for devices with max.
 over-pressure > 200 bar

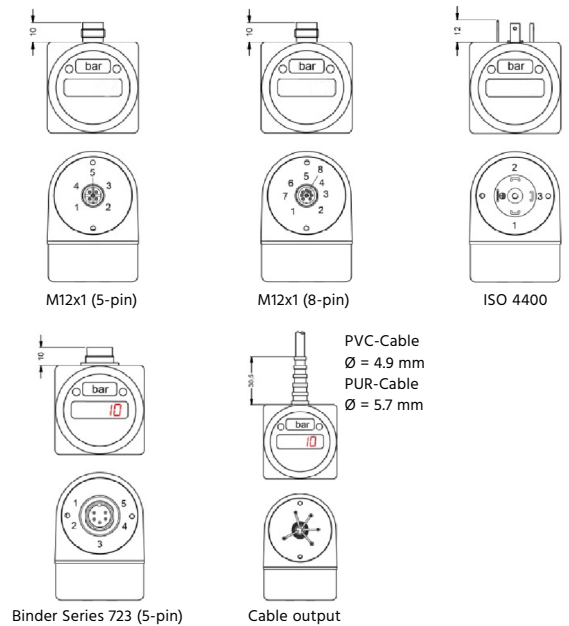
Protection /

- Short circuit proof: permanent
- Pole reversion: no damage, but also no functionality
 while reversing poles
- Electromagnetic compatibility: emitted interference and interference
 immunity according to EN 61326

Protection class /

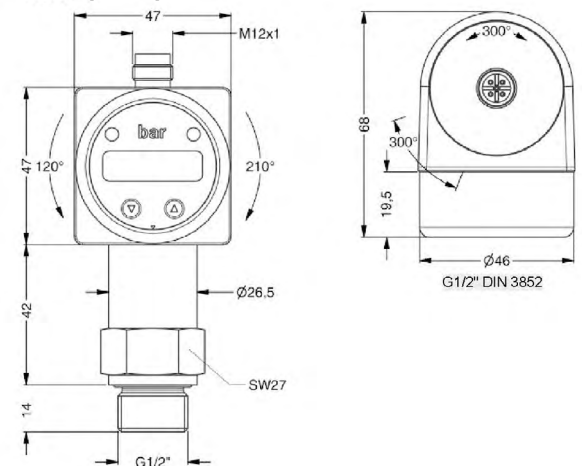
IP 65

Electr. Connections:

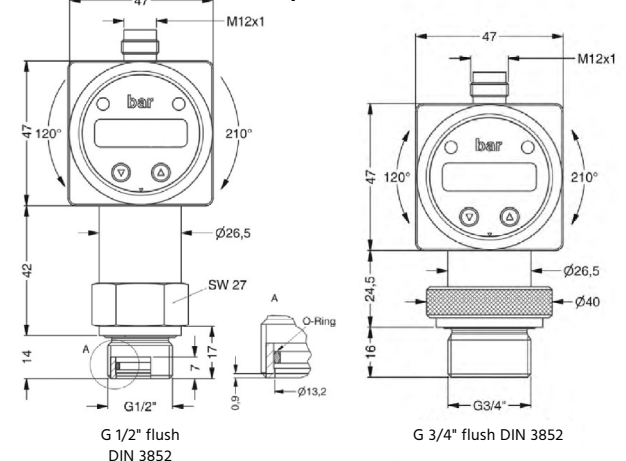


Mech. Connections:

Standard (in mm)

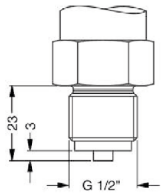


Optional for P_N from 0.1 to 40 bar

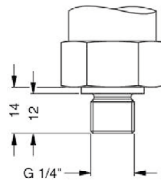




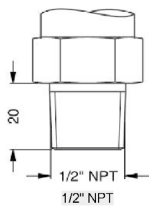
Mech. Connections:



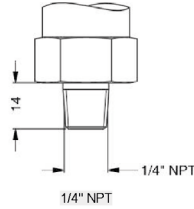
G1/2" EN 837



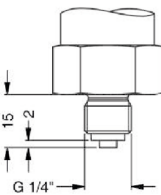
G1/4" DIN 3852



1/2" NPT



1/4" NPT



G1/4" EN 837

Ordering Codes:

Order number

PS-05.

1.

12.

1.

B.

1.

5.

3.

0

Electronic Pressure Switch with Stainless Steel Sensor

Measuring unit /

1 = gauge in bar

2 = absolute in bar

Measuring range /

1 = 0...0.10 bar

2 = 0...0.16 bar

3 = 0...0.25 bar

4 = 0...0.40 bar

5 = 0...0.60 bar

6 = 0...1.0 bar

7 = 0...1.6 bar

8 = 0...2.5 bar

9 = 0...4.0 bar

10 = 0...6.0 bar

11 = 0...10 bar

12 = 0...16 bar

13 = 0...25 bar

14 = 0...40 bar

15 = 0...60 bar

16 = 0...100 bar

17 = 0...160 bar

18 = 0...250 bar

19 = 0...400 bar

20 = 0...600 bar

21 = -1...0 bar

Analogue output /

1 = none

2 = 4...20 mA / 2-wire

3 = 0...10 V / 3-wire

4 = 4...20 mA / 3-wire, adjustable

Switching output / ¹

A = 1 switching output

B = 2 switching outputs

C = 4 switching outputs

Accuracy /

1 = standard: $P_N < 0,4 \text{ bar}$: $\pm 0,5\%$ or rather $P_N \geq 0,4 \text{ bar}$: $\pm 0,35\%$

9 = option for $P_N \geq 0,4 \text{ bar}$: $\pm 0,25\%$ instead of $\pm 0,35\%$

Electrical connection /

1 = plug M12x1 (5-pin) - plastic

2 = plug M12x1 (8-pin) - plastic

3 = plug M12x1 (5-pin) - metal

4 = plug and cablebox ISO 4400

5 = plug Binder Series 723 (5-pin)

6 = cable output with PVC-Cable

Mechanical connection /

1 = G 1/2" DIN 3852

2 = G 1/2" EN 837 ²

3 = G 1/4" DIN 3852

4 = G 1/4" EN 837 ²

5 = G 1/2" DIN 3852 with front flush measuring cell

6 = G 3/4" DIN 3852 with front flush measuring cell

7 = 1/2" NPT

8 = 1/4" NPT

Sealing /

0 = standard FKM

9 = none (weld version)

¹ max. 1 switching output for 2-wire current signal and ISO-4400-plug as well as for 2-wire current signal with Ex-protection.

No switching output possible for 3-wire with ISO 4400-plug

² Welded version only with pressure ports according to EN 837; possible for nominal pressure ranges $P_N \leq 40 \text{ bar}$