

Electronic Pressure Switch optional programmable

DS5

Main features

- Measuring ranges -1...0 bar; 0...1 bar and to 0...5000 bar
- Output signals npn or pnp (max. 1 A DC)
- Media temperature range -40°C to 125°C
- Accuracy 0.5 % at RT
- setpoint can be set on 10000 discrete counts of the selected nominal pressure range
- Compact and robust stainless steel design also in silicon and titanium
- Degree of protection IP65 to IP69K

Applications

- General industrial applications
- Automotive engineering
- Hydraulics and Pneumatics
- Plant and Mechanical engineering
- Automation technology
- Refrigeration and Environmental technology
- special configuration for rail way (see AppNote – www.adz.de)

Description

The pressure switch DS5 is electronical controlled. It provided flexible programming options – factory set or programming interface for the customer. The hardware needed for programming can be requested from ADZ. There is no real hysteresis on the electronical switch as there is on a mechanical switch – at least the reset point can be programmed as needed and independent from the nominal pressure range. The robustness is identical to our SLM product family and the DS5 provides the same range of options and flexibility. This qualifies the DS5 for any applications that our other products can serve.

Choice of the switching functions

- Normally open (NO)
- Normally closed (NC)
- Window modus, as NO and NC

These switching functions serve to define the contact behaviour of the switch.



Specifications

PRESSURE RANGE

Measuring range*	p [bar]	0,2	0,6	1,0	1,6	2,5	4,0	6,0	10,0
Overload pressure	p [bar]	0,5	6	6	6	6	10	20	20
Burst pressure	p [bar]	1,0	9	9	9	9	15	30	30
Measuring range*	p [bar]	16	20	25	40	60	100	160	200
Overload pressure	p [bar]	40	40	100	100	200	200	400	400
Burst pressure	p [bar]	60	60	150	150	300	300	600	600
Measuring range*	p [bar]	250	400	600	1000	1600	2000	4000	5000
Overload pressure	p [bar]	750	750	840	1200	2400	2400	5000	6000
Burst pressure	p [bar]	1000	1000	1050	1500	3000	3000	6000	7000

(> 1000 bar with thread M18x1,5)

ELECTRICAL PARAMETER

Electrical connections		3-wire	4-wire	5-wire
Number of switching outputs		1 (npn oder pnp)	2xPNP / 1xPNP+programming**	2xPNP+programming**
Function		opener / closer / window mode*** – applies to all variants		
Switching-/supply voltage	U [V _{dc}]	10...32	10...32	10...32
Switching current max.	I [A]	1	1	1
Resolution	steps	~ 10000	~ 10000	~ 10000
Time lag - ON	t [s]	programming, max. 2 sec; factory set: 0 ms		** for programming a ServiceBox and
Time lag - OFF	t [s]	programming, max. 2 sec; factory set: 0 ms		PC-Software are needed
Withstand voltage	U [V _{dc}]	50		*** in window-mode only switch #1 is active

ACCURACY

for pressure ranges ≤ 2000 bar

for pressure ranges <1bar and >2000 bar

Accuracy @ RT	% of the range ≤ 0,50**** option ≤ 0,25	≤ 1,00****
Stabilität/Jahr	% of the range ≤ 0,15	**** incl. nonlinearity, hysteresis, repeatability, zero-offset- and final-offset (acc. to IEC 61298-2)

ACCEPTABLE TEMPERATURE RANGES

Media	T [°C]	-40...125
Ambience	T [°C]	-40...105
Storage	T [°C]	-40...125
Compensated range*****	T [°C]	-20...85
Mean TC offset	% of the range ≤ 0,15 / 10K	***** The mean TC are relevant for the compensated range only, outside the compensated range the total error statements apply.
Mean TC range	% of the range ≤ 0,15 / 10K	
Total error	% of the range -40°C	2,00%
	% of the range 105°C	2,00%

MECHANICAL PARAMETER

Parts in contact with the measuring medium*	stainless steel, silicon and titanium	
Housing*	stainless steel, silicon and titanium	
Weight	m [g]	80-120 depending on design
Shock resistance/drop	g	1000 acc. to DIN EN 60068-2-32 – free fall
Vibration resistance	g	20 acc. to DIN EN 60068-2-6 – vibration (sinusoidal)
Shock resistance/constant	g	50 acc. to DIN EN 60068-2-27 – shock resistance
Approvals	CE Declarations of conformity 2014/30/EU, 2014/68/EU	

Configurations -examples-

DS5 with M12x1 (S763)



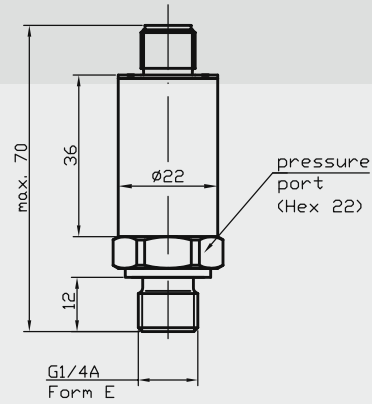
MVS/A



MVS/C

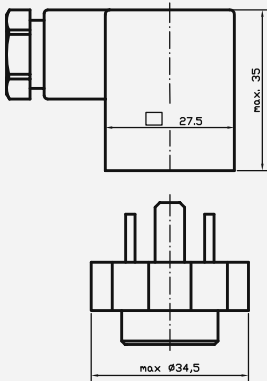


M12x1
(S 763)

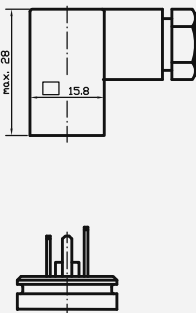


Connectors* -examples-

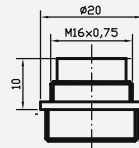
MVS/A
DIN EN 175301-803
(IP65)



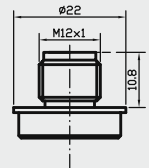
MVS/C
DIN EN 175301-803
(IP65)



male socket
M16x0,75 (S 723)
(IP67)

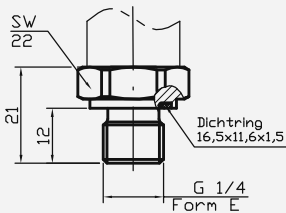


male socket
M12x1 (S 763)
(IP67)

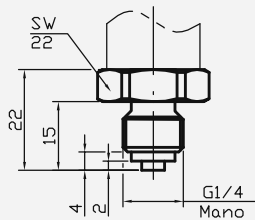


Pressure Connections* -examples-

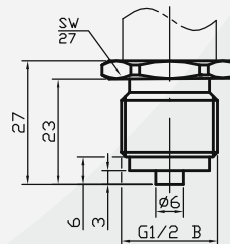
G 1/4 A; DIN 3852; Form E



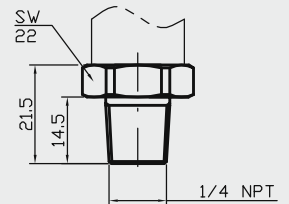
G 1/4 B



G 1/2 B



1/4 NPT

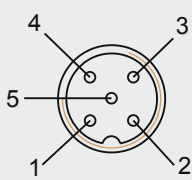
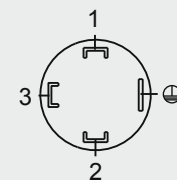
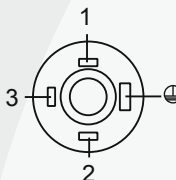


* customer specific configurations available

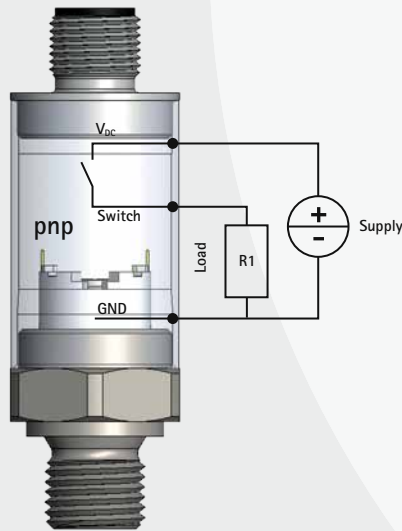
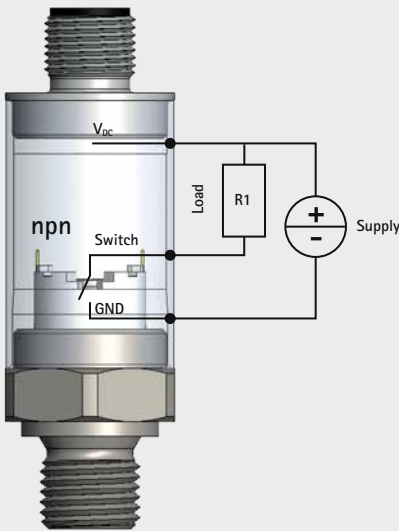
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Electrical Configuration*

Plug M12x1 (S 763)	Cable port	DIN EN 175301-803-A	DIN EN 175301-803-C
			
1: UB+ 2: SW1 3: UB- 4: SW2 5: prog	red: UB+ black: UB- white: SW1	1: UB+ 2: UB- 3: SW1	1: UB+ 2: UB- 3: SW1

nc =
not connected



* custom-made adjustments are possible

