

Datasheet

RS Pro Pneumatic Pressure Switch 18D

RS Pro: 136-6270, 136-6271, 136-6273, 136-6274



Specifications

Medium: For neutral, gaseous and liquid fluids, non-combustible
(Special versions for water application.)

Operation: Diaphragm

Port Size: G1/4, 1/4 NPT, Flange

Operating Pressure Range: -1 to 30bar

Temperature at Switching Element: +80°C

Operating Viscosity: Up to 1000 mm²/s

Repeatability: ±3%, for vacuum ±4% of final value (depending on regulating pressure)

Switching Element: Microsoft with gold plated contacts

Degree of Protection: IP65 for DIN EN 175301-803, IP67 (M12x1)

Mounting Position: Optional

Electrical Connection: Acc. to DIN EN 175301-803, form A; Acc. to IEC 947-5-2 (M12x1)

Materials:

Housing: Aluminium or Brass

Sealing: NBR/FKM

General information
Electrical connection acc. to DIN EN 175301-803, form A

Type	Pressure range *1) (bar)	Switching pressure difference		Max. over pressure*2) (bar)	Switching cycles (1/min)	Materials pressure sensor		Port size	Weight (kg)	Dimension No.	Page
		Lower range (bar)	Upper range (bar)			Housing	Sealing				
0880100	-1 to 0	0,15	0,18	80	100	AL	FKM *3)	G1/4	0,2	1	4
0880110	-1 to +1	0,25	0,35	80	100	AL	FKM *3)	G1/4	0,2	1	4
0880120	-1 to 0	0,15	0,18	80	100	AL	FKM *3)	1/4 NPT	0,2	1	4
0880126 *4) *6)	-1 to 0	0,15	0,18	80	100	AL	FKM *3)	G1/4	0,2	1	4
0881100	-1 to 0	0,15	0,18	80	100	AL	FKM *3)	Flange	0,2	3	4
0880200	0,2 to 2	0,20	0,35	80	100	AL	FKM *3)	G1/4	0,2	1	4
0880220	0,2 to 2	0,20	0,35	80	100	AL	FKM	1/4 NPT	0,2	1	4
0880226 *4) *6)	0,2 to 4	0,20	0,35	80	100	AL	FKM	G1/4	0,2	1	4
0881200	0,2 to 2	0,20	0,35	80	100	AL	NBR	Flange	0,2	3	4
0880300	0,5 to 8	0,35	0,85	80	100	AL	NBR	G1/4	0,2	2	4
0880320	0,5 to 8	0,35	0,85	80	100	AL	NBR	1/4 NPT	0,2	2	4
0880326 *4) *6)	0,5 to 8	0,35	0,85	80	100	AL	FKM	G1/4	0,2	2	4
0881300	0,5 to 8	0,35	0,85	80	100	AL	NBR	Flange	0,2	3	4
0880400	1 to 16	0,40	1,20	80	100	AL	NBR	G1/4	0,2	2	4
0880420	1 to 16	0,40	1,20	80	100	AL	NBR	1/4 NPT	0,2	2	4
0880426 *4) *6)	1 to 16	0,40	1,20	80	100	AL	FKM	G1/4	0,2	2	4
0881400	1 to 16	0,40	1,20	80	100	AL	NBR	Flange	0,2	3	4
0880600	1 to 30	1,0	5,00	80	100	AL	NBR	G1/4	0,2	2	4
0880620	1 to 30	1,0	5,00	80	100	AL	NBR	1/4 NPT	0,2	2	4

Connector is included

**Electrical connection M12 x 1 acc. to IEC 947-5-2
max. allowable voltage 30 V, M 12 plug not included**

Type	Pressure range *1) (bar)	Switching pressure difference		Max. over pressure*2) (bar)	Switching cycles (1/min)	Materials pressure sensor		Port size	Weight (kg)	Dimension No.	Page
		Lower range (bar)	Upper range (bar)			Housing	Sealing				
0880149 *4)*5)	-1 to 0	0,15	0,18	80	100	AL	FKM	G1/4	0,2	1	4
0880160 *4)	-1 to 0	0,15	0,18	80	100	AL	FKM	G1/4	0,2	1	4
0880260 *4)	0,2 to 2	0,20	0,35	80	100	AL	FKM	G1/4	0,2	1	4
0880360 *4)	0,5 to 8	0,35	0,85	80	100	AL	FKM	G1/4	0,2	2	4
0880460 *4)	1 to 16	0,40	1,20	80	100	AL	FKM	G1/4	0,2	2	4
0880660 *4)	1 to 30	1,00	5,00	80	100	AL	FKM	G1/4	0,3	2	4
0881160 *4)	-1 to 0	0,15	0,18	80	100	AL	FKM	Flange	0,2	3	4
0881260 *4)	0,2 to 2	0,20	0,35	80	100	AL	FKM	Flange	0,2	3	4
0881360 *4)	0,5 to 8	0,35	0,85	80	100	AL	FKM	Flange	0,2	3	4
0881460 *4)	1 to 16	0,40	1,20	80	100	AL	FKM	Flange	0,2	3	4

**Electrical connection acc. to DIN EN 175301-803, form A
(Versions for water applications)**

Type	Pressure range *1) (bar)	Switching pressure difference		Max. over pressure*2) (bar)	Switching cycles (1/min)	Materials pressure sensor		Port size	Weight (kg)	Dimension No.	Page
		Lower range (bar)	Upper range (bar)			Housing	Sealing				
0880219	0,2 to 2	0,20	0,35	80	100	brass	FKM	G1/4	0,2	1	4
0880240	0,2 to 2	0,20	0,35	80	100	brass	FKM	1/4 NPT	0,2	1	4
0880323	0,5 to 8	0,35	0,85	80	100	brass	FKM	G1/4	0,2	2	4
0880340	0,5 to 8	0,35	0,85	80	100	brass	FKM	1/4 NPT	0,2	2	4

*1) Setpoints should be ideally in the middle of the switching pressure range. Reference pressure = atmospheric pressure. Switching pressure must not exceed the indicated values.

*2) Max. values

*3) Static seal: O-ring (NBR)

*4) LABS free

*5) Switching function reversed

*6) Plug 0570110 not included, please order separately.

AL: aluminium

NBR: Perbunan

FKM: Viton

Switching capacity Commutator with gold plated contacts

Load level	Current type	Load type	Umin [V]	Max. permanent current I _{max} [A] at U [V]					Contact life
				30 M 12x1	48	60	125	250	
Standard *3) (z.B. contractors, solenoids)	AC	ohmic	12	5	5	5	5	5	≥ 10 ⁷ switching cycles
	AC	inductive, cos φ = 0,7	12	3	3	3	3	3	
	DC	ohmic	12	5	1,2	0,8	0,4	–	
	DC	inductive, L/R = 10 ms	12	3	0,5	0,35	0,05	–	
Minor *4) (z.B. electronic circuits)	AC	ohmic	5 *6)	0,34	0,2	0,17	0,08	0,04	≥ 10 ⁷ switching cycles
	DC	inductive, L/R = 10 ms	5 *6)	0,1	0,01	–	–	–	

Reference number: 30/min, Reference temperature: +30°C

Spark quenching with diode with DC and inductive load:

I_{max} = 1,5 x I_{max} of table

I_{min} = 1 (mA)

Creepage and air paths correspond to insulation group B according to VDE Reg. 0110 (except contact clearance of microswitch).

*3) Gold-plating not required as it would decay.

Max. perm. in-rush current (appr. 30 ms) I_{AC} = max. 15 A

*4) Gold-plating required (will not decay).

*6) Lower value of critical voltage guarantees sufficient contact safety. Lower voltages permissible under favourable conditions.

Spark quenching with DC voltage

1. Diode D in parallel to inductive load.
Observance of correct polarity (positive pole to cathode).

Dimensioning specifications for quenching diode:

Rated voltage at diode: U_D ≥ 1,4 x U_s

Rated current at diode: I_N ≥ I_{Last}

Selection of a quick switching diode (recovery time t_{rr} ≤ 200 [ms]).

2. RC link in parallel to load in parallel to switching contact.
Suited for DC and AC voltage.

Dimensioning principles:

R in Ω ≈ 0,2 x R_{Load} in Ω

C in [μF] ≈ I_{Load} in [A]

