

8D

Electro-mechanical pneumatic pressure switch

- 0,1 ... 30 bar
Port size: G1/4 or flange
- Robust design
- Preferred for pressure monitoring
- High accuracy



Technical features

Medium:
For neutral, gaseous fluids

Operation:
Diaphragm

Operating pressure:
0,1 ... 30 bar (1.45 ... 435 psi)

Maximum over pressure:
50 bar (725 psi)

Repeatability:
±2% of final value
(depending on regulating pressure)

Port size:
G1/4 or flange

Media viscosity:
Up to 1000 mm²/s

Switching pressure difference/hysteresis:
Fixed

Switching cycles:
60 1/min

Switching element:
Microswitch with silver plated contacts

Mounting position:
Optional

Degree of protection:
IP64 for DIN EN 175301-803
(DIN 43650) form A and cable gland

Electrical connection:
DIN EN 175301-803 (DIN 43650)
form A or cable

Weight:
0,4 kg (0.88 lbs)


Ambient/Media temperature:
Ambient:
-10 ... +80°C (14 ... +176°F)
Media:
0 ... +80°C (0 ... +176°F)
Air supply must be dry enough
to avoid ice formation at
temperatures below +2°C (+35°F)

Materials:
Body: Aluminium
Sealing: NBR/FPM

Technical data



Electrical connection acc. to DIN EN 175301-803, form A - Connectors are not scope of delivery

Electrical connection with cable gland (Pg 13,5) - Cable glands are scope of delivery

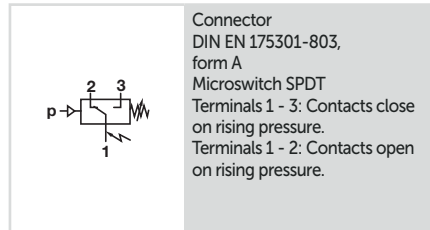
Symbol	Port size	Pressure range *1)		Switching pressure difference				Electrical connection	Materials press sensor		Drawing No.	Model
		(bar)	(psi)	Lower range (bar)	(psi)	Upper range (bar)	(psi)		Body	Seal		
	G1/4	0,2 ... 12	2.9 ... 174	1,1	16	1,5	21,8	Cable gland	AL	NBR	1	0820150
	Flange	0,2 ... 12	2.9 ... 174	1,1	16	1,5	21,8	Cable gland	AL	NBR	3	0820250
	G1/4	0,5 ... 30	7.2 ... 435	1,2	17,4	2,2	31,9	Cable gland	AL	NBR	1	0820750
	Flange	0,5 ... 30	7.2 ... 435	1,2	17,4	2,2	31,9	Cable gland	AL	NBR	3	0820850
	G1/4	0,02 ... 2	0.29 ... 29	0,12	1.74	0,14	2.03	Form A	AL	NBR	2	0820149
	G1/4	0,1 ... 6	1.45 ... 87	0,11	1.59	0,13	1.88	Form A	AL	NBR	2	0820148
	G1/4	0,2 ... 12	2.9 ... 174	1,1	16	1,5	21,8	Form A	AL	NBR	2	0820155
	G1/4	0,5 ... 30	7.2 ... 435	1,2	17,4	2,2	31,9	Form A	AL	NBR	2	0820755

*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.

Accessories

Pressure port reducing nipple	Surge damper	Connector DIN EN 175301-803
		
Page 3	Page 3	
0574767 (brass)	0574773 (brass)	0570110 (Form A)
0550083 (stainless steel)	0553258 (stainless steel)	

Switching function



Switching capacity

Commutator with silver plated contacts

Current type	Load type	Max. permissible persistent current I _{max} [A] at U *1)				Electrical life-time *1)
		24 V	60 V	110 V	230 V	
a.c.	Resistive load	5	5	5	5	~ 1 x 10 ⁶ Switching cycles
a.c.	Inductive load, cos φ 0,7	4	2,5	1,5	0,9	
d.c.	Resistive load	2	0,9	0,45	0,2	
d.c.	Inductive load, L/R ≈ 10 ms	1	0,3	0,09	0,02	

Reference number: 60/min, Reference temperature + 30 °C (with a reference temperature of + 70 °C, I_{max} corresponds to 50% of the tabulated values only).

*1) At maximum current (at 50% of max. current, contact life is appr. 3 times as long).

Recommended circuit

Spark quenching and EMV intrinsically safe

1. Diode in parallel to inductive load.

Make sure polarity is correct when making connections.

Dimensioning of quenching diode (rectifier):

Rated voltage of diode $U_D \geq 1,4 \times U_S$.

Rated current of diode $I_N \geq I_{Load}$

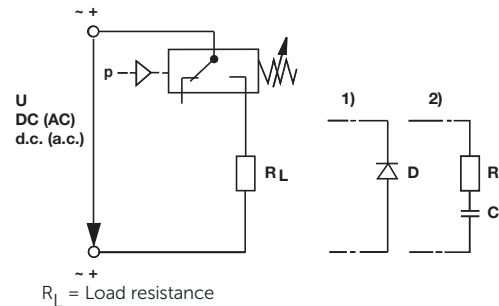
Quick diode (D) with $t_v \leq 200$ ns, parallel to inductive load.

2. RC link in parallel to load in parallel to switching contact.

Dimensioning principles:

R_L in $\Omega \approx 0,2 \times R_{Load}$ in Ω

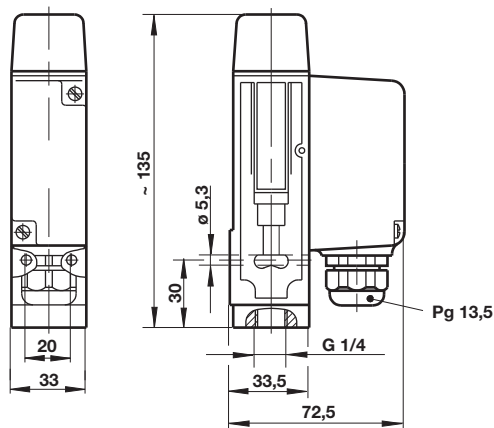
C in $[\mu F] \approx I_{Load}$ in [A]



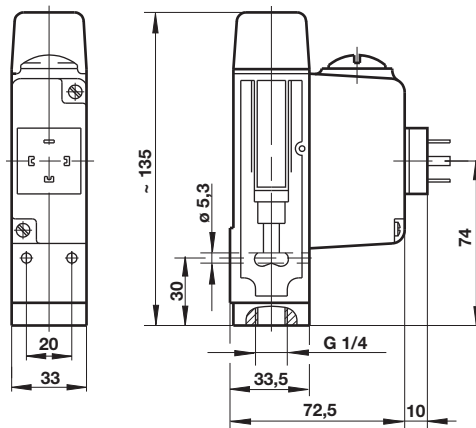
Drawings

Dimensions in mm
Projection/First angle

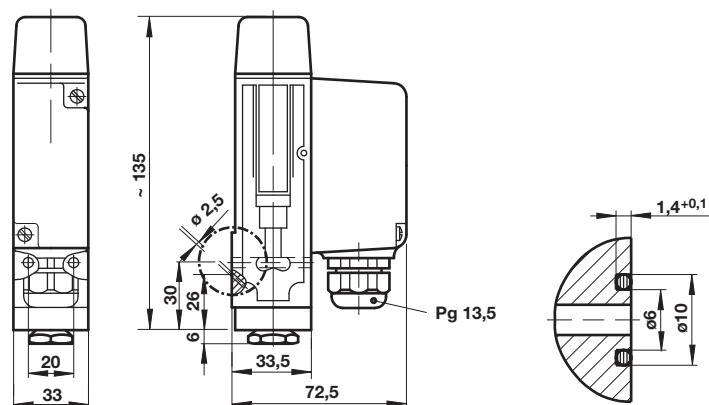
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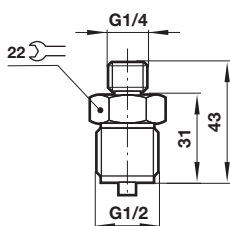


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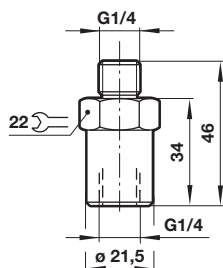
Pressure port reducing nipple

Model: 0574767 (brass)
0550083 (stainless steel)



Surge damper

Model: 0574773 (brass)
0553258 (stainless steel)



Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/ data**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult Norgren.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.