

Pressure switches 30 A/F

Changeover with silver contacts



- Attachment options for wall fitting and block style enable clearly structured, accessible, easy-maintenance installation
- Switching pressure can be adjusted easily by user
- High overpressure safety
- Socket devices enable simple installation on the machine

Pressure switches 30 A/F

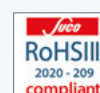
Technical details

M.7
30 A/F

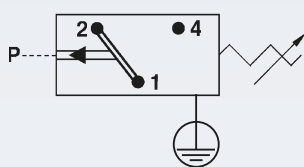
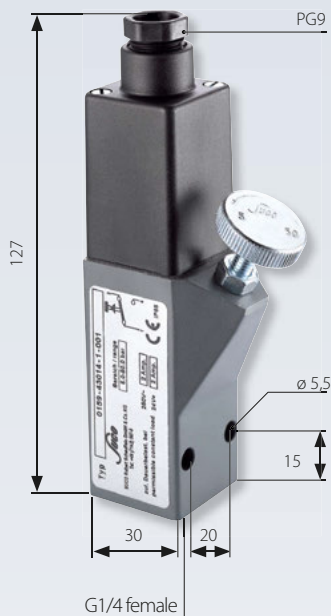


Temperature resistance of sealing materials:	NBR (diaphragm pressure switch)	-40 °C ... +100 °C
	NBR (piston pressure switch)	-30 °C ... +100 °C
	EPDM	-30 °C ... +120 °C
	FKM (diaphragm pressure switch)	-5 °C ... +120 °C
	FKM (piston pressure switch)	-15 °C ... +120 °C
Switching frequency:	200 / min	
Mechanical life expectancy:	1,000,000 cycles (for diaphragm pressure switches, life expectancy value only applies for switching pressures up to 50 bar)	
Pressure rise rate:	≤ 1,000 bar / s	
Hysteresis:	Type 0159:	approx. 10 ... 30 % (not adjustable)
	Types 0161, 0162, 0175:	approx. 10 ... 30 % (factory adjustable)
Vibration resistance:	10 g; 5 ... 200 Hz sine wave; DIN EN 60068-2-6	
Shock resistance:	294 m/s ² ; 14 ms half sine wave; DIN EN 60068-2-27	
Housing material:	Aluminium	
Protection class:	IP65 with Socket device fitted, otherwise IP00	
Weight	Types 0159, 0161, 0162:	approx. 240 g
	Type 0175:	approx. 310 g

Electrical values	0159	0161 / 0162 / 0175
Rated working voltage U_e :	Rated working current I_g :	
250 V AC 50 / 60 Hz, AC 12	2.5 A	5 A
250 V AC 50 / 60 Hz, AC 14	1 A	1 A
24 V DC, DC 12 / DC 13	2 / 2 A	3.5 / 3.5 A
50 V DC, DC 12 / DC 13	1 / 0.5 A	2 / 1 A
75 V DC, DC 12 / DC 13	0.75 / 0.4 A	1 / 0.5 A
125 V DC, DC 12 / DC 13	0.3 / 0.2 A	0.3 / 0.2 A
250 V DC, DC 12 / DC 13	0.3 / 0.2 A	0.25 / 0.2 A
Rated insulation voltage U_i :	300 V	
Rated impulse withstand voltage U_{imp} :	2.5 kV	
Conventional thermal current I_{the} :	6 A	
Switching overvoltage:	< 2.5 kV	
Rated frequency:	DC and 50 / 60 Hz	
Nominal current of short-circuit mechanism:	to 2.5 A	to 6.3 A
Conditional short-circuit current:	< 350 A	
Tightening torque of terminal screws:	< 0.35 Nm	
Connector cross-section:	0.5 - 1.5 mm ²	



M



0159

Diaphragm / piston pressure switch up to 250 V

- Aluminium housing
- Changeover with silver contacts
- Overpressure safety up to 200 / 600 bar¹⁾
- Switching point continuously adjustable by turning knurled screw whilst system in operation

p_{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Thread	Article number
---------------------	----------------------------	---	--------	----------------

With female G 1/4 thread

0159 Diaphragm pressure switches

p_{max}	Adjustment range in bar	Tolerance at room temperature in bar	Thread	Article number
200 ¹⁾	0.2 – 2	± 0.2 – 0.3	G 1/4 female	0159 - 426 14 - X - 001
	0.5 – 5	± 0.2 – 0.5		0159 - 427 14 - X - 001
	1 – 10	± 0.5		0159 - 428 14 - X - 001
	2 – 20	± 1.0		0159 - 429 14 - X - 001
	5 – 50	± 3.0		0159 - 430 14 - X - 001
	10 – 100	± 3.0 – 5.0		0159 - 431 14 - X - 001

0159 Piston pressure switches

p_{max}	Adjustment range in bar	Tolerance at room temperature in bar	Thread	Article number
600 ¹⁾	10 – 100	± 3.0 – 5.0	G 1/4 female	0159 - 432 14 - X - 001
	25 – 250	± 5.0 – 7.0		0159 - 433 14 - X - 001
	40 – 400	± 5.0 – 9.0		0159 - 434 14 - X - 001

Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, etc.	1
EPDM	Brake fluid, water, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3

Refer to page 75 for the temperature range and application thresholds of sealing materials.



Article number: **0159 - XXX 14 - X - 001**

¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.

0161 / 0162

Diaphragm / piston pressure switch up to 250 V

- Aluminium housing
- Changeover with silver contacts
- Overpressure safety up to 200 / 600 bar¹⁾
- Socket device similar to DIN EN 175301 (DIN 43650)
- Hysteresis adjustable at factory

P_{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Dimension A in mm	Article number
---------------------	----------------------------	---	----------------------	----------------

With female G 1/4 thread

0161 Diaphragm pressure switches

200 ¹⁾	0.5 – 1	± 0.2	15	0161 - 436 14 - X - 001
	0.5 – 5	± 0.2 – 0.5		0161 - 437 14 - X - 001
	1 – 10	± 0.5		0161 - 438 14 - X - 001
	10 – 50	± 1.0		0161 - 439 14 - X - 001
	50 – 100	± 3.0 - 5.0		0161 - 440 14 - X - 001

0161 Piston pressure switches

600 ¹⁾	100 - 400	± 5.0 - 9.0	19.5	0161 - 441 14 - X - 001
-------------------	-----------	-------------	------	-------------------------

Block style (with O-ring NBR 5 x 1.5 mm)

0162 Diaphragm pressure switches

200 ¹⁾	0.5 – 1	± 0.2	15	0162 - 436 14 - X - 001
	0.5 – 5	± 0.2 – 0.5		0162 - 437 14 - X - 001
	1 – 10	± 0.5		0162 - 438 14 - X - 001
	10 – 50	± 3.0		0162 - 439 14 - X - 001
	50 – 100	± 3.0 – 5.0		0162 - 440 14 - X - 001

0162 Piston pressure switches

600 ¹⁾	100 - 400	± 5.0 - 9.0	19.5	0162 - 441 14 - X - 001
-------------------	-----------	-------------	------	-------------------------

Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, etc.	1
EPDM	Brake fluid, water, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3

Refer to page 75 for the temperature range and application thresholds of sealing materials.

Article number: **016X - XXX 14 - X - 001**

1 Adjusting the set point

To adjust the set point, undo the locknut and adjust the set screw M16 using a screwdriver. Clockwise screwing increases the switching pressure. After adjusting, tighten the locknut again.

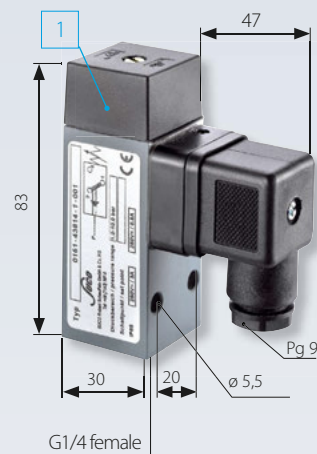
¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.

M.7

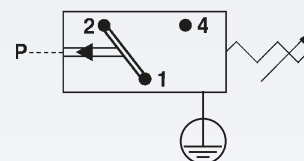
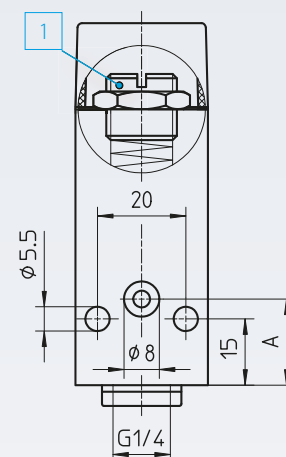
30 A/F



0161 with female thread



0162 Block style



0175

Diaphragm pressure switches up to 250 V

- For low pressure, high accuracy
- Aluminium housing
- Changeover with silver contacts
- Overpressure safety up to 25 bar¹⁾
- Socket device similar to DIN EN 175301 (DIN 43650)
- Hysteresis adjustable at factory



p_{max} in bar	Adjustment range in bar	Tolerance at room temperature in bar	Thread	Article number
---------------------	----------------------------	---	--------	----------------

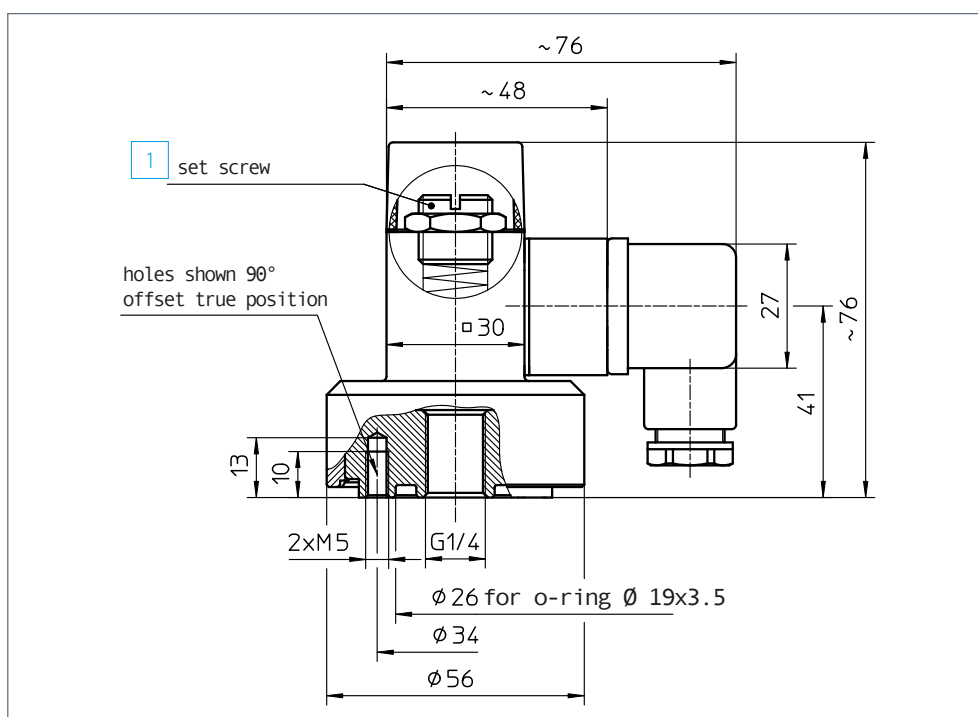
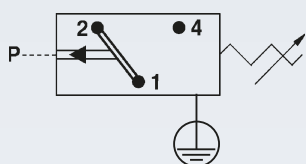
With female thread
0175 Diaphragm pressure switches

25 ¹⁾	0.1 – 1	± 0.1 – 0.2	G 1/4 female	0175 - 435 14 - 1 - 001
------------------	---------	-------------	--------------	--------------------------------

Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, etc. Temperature resistance: -30 °C ... +100 °C
-----	--

Article number: 0175 - 435 14 - **1** - 001



- 1 Adjusting the set point**
To adjust the set point, undo the locknut and adjust the set screw M16 using a screwdriver. Clockwise screwing increases the switching pressure. After adjusting, tighten the locknut again.

¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.