

Explosion-protected pressure switches

To ATEX standard

www.suco.de



■ **ATEX-certified for use in potentially explosive areas.**

■ **Changeover switch for reliable operation.**

■ **Switching point can be easily adjusted by the user while in operation.**

■ **Compact design.**

■ **Outstanding price / performance ratio.**

Technical data

	0165	0340	0341
ATEX protection zone:	1 and 2	22	22
Contact rating:	max. 1 A / 250 VAC max. 0.25 A / 250 VDC	max. 2 A / 250 VAC	
Temperature range:	NBR: -20 °C – +80 °C EPDM: -20 °C – +80 °C FKM: -5 °C – +80 °C		
Switching frequency:	200 / min.		
Mechanical life expectancy:	10 ⁶ cycles		
Pressure rise rate:	≤ 1 bar/ms		
Hysteresis:	10 – 30 % (depending on type, non-adjustable)		
Vibration resistance:	10 g / 5 – 200 Hz sine-wave		
Shock resistance:	294 m/s ² ; 14 ms half-sine-wave		
Cable length:	standard length 2 m with wire end sleeves, also available with lengths up to 5 m		
Conductor cross-section:	3 x 0.75 mm ²	3 x 0.5 mm ²	
Body material:	aluminium	zinc-plated steel (CrVI-free) anodised aluminium	
Degree of protection:	IP65		
Weight in grams:	approx. 380 g	approx. 230 g	approx. 230 g



Technical explanations

Explosion-protected pressure switches are classified by ATEX and approved according to the type of combustible material that may be expected where they are to be used. The sub-divisions are:

Gases and Vapours	Dusts	Methane dust
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Our pressure switches are suitable for gases and vapours, or for dust according to the type chosen. **They are not suitable for use in methane dust (mining applications).**

The table provides an overview of the sub-division into zones, equipment groups and equipment categories.

Conditions in locations with potentially explosive atmosphere

Com-bustible material	Occurrence of combustible material in location	Designation of location with specified hazard	Marking required on equipment to be used in the specified zone	
			Equipment group	Equipment category
Gases Vapours	Continuously present, for long periods or frequently	Zone 0	II	1G
	Occurs occasionally	Zone 1	II	2G or 1G
	Unlikely to occur, and then only seldom or for short periods	Zone 2	II	3G or 2G or 1G
Dusts	Continuously present, for long periods or frequently	Zone 20	II	1D
	Occurs occasionally	Zone 21	II	2D or 1D
	Occurs if accumulated dust is whirled up, and then only seldom or for short periods	Zone 22	II	3D or 2D or 1D
Methane dust	-	Mining industry	I	M1
	-	Mining industry	I	M1 or M2

CE marking

SUCO pressure switches meet ATEX Standards which refer to Explosive Safety Directive 94/9/EC.

An EC Declaration of Conformity has been issued for these series of pressure switches and is on file at our offices. The corresponding switches bear the CE mark in our catalogue.

Degree of protection IP65

The type approval does not apply without restriction to all environmental conditions. It is the responsibility of the user to check whether the electrical connection complies with regulations other than those stated and whether it can be used for special applications which could not be foreseen by us.

Oxygen warning!

When using oxygen, the relevant safety regulations must be observed. In addition, we recommend that a maximum operating pressure of 10 bar must not be exceeded.





ATEX 0102 CE

II 2G Ex d II C T6 / T5 X (gas-protected zone 1 and 2)

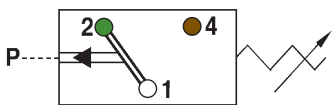
- Aluminium body
- With changeover switch
- Max. voltage 250 V
- Overpressure safe up to 200 / 600 bar¹⁾

With female thread



Contact assignment:

- 1 = white
- 2 = green
- 4 = brown



■ Our pressure switches are also available with factory preset switching points.

■ For further technical data see page 46.

$p_{max.}$ in bar	Adjustment range in bar	Tolerance at room temperature	Thread	Order number:
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0165 Diaphragm pressure switches

$p_{max.}$	Adjustment range	Tolerance	Thread	Order number			
	200 ¹⁾	1 – 6		± 0.5	G 1/4 female	0165	448
	5 – 50	± 3.0		0165	449	14	X 001

0165 Piston pressure switches

$p_{max.}$	Adjustment range	Tolerance	Thread	Order number			
	600 ¹⁾	20 – 100		± 3.0 – 5.0	G 1/4 female	0165	450
	100 – 400	± 5.0 – 9.0		0165	451	14	X 001

Diaphragm / seal material – areas of application

Material	Application	Order number
NBR	Hydraulic / machine oil, heating oil, air, nitrogen etc.	1
EPDM	Brake fluid, ozone, acetylene, hydrogen etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline etc.	3

See page 46 for temperature ranges of diaphragm / seal materials

Order number:	0165 - XXX 14 - X - 001
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Piston pressure switches are only to a limited extent suitable for use with gases. See explanation on page 9.

¹⁾ Static pressure, dynamic pressures should be 30 to 50% lower. These values refer to the hydraulic or pneumatic part of the pressure switch.

ATEX CE

II 3D IP65 T90°C (dust-protected zone 22)

- Zinc-plated steel body (CrVI-free), protective cover anodised aluminium
- With changeover switch
- Max. voltage 250 V, protection class 2, protective insulation □
- Overpressure safe up to 300 / 600 bar¹⁾



p _{max.} in bar	Adjustment range in bar	Tolerance at room temperature	Thread	Order number:
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0340 Diaphragm pressure switches

300 ¹⁾	0.3 – 1.5	± 0.2	G 1/4	0340	457 03	X	003
	1 – 10	± 0.5 – 1.0		0340	458 03	X	006
	10 – 20	± 1.0		0340	459 03	X	009
	20 – 50	± 2.0		0340	461 03	X	012

0341 Piston pressure switches

600 ¹⁾	50 – 150	± 5.0	G 1/4	0341	460 03	X	003
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Diaphragm / seal material – areas of application

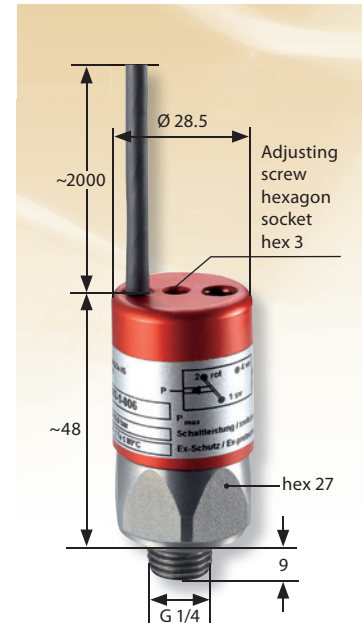
NBR	Hydraulic / machine oil, heating oil, air, nitrogen etc.	1
EPDM	Brake fluid, ozone, acetylene, hydrogen etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD). petrol/gasoline etc.	3

See page 46 for temperature ranges of diaphragm / seal materials

Order number:	034X – XXX 03 – X – XXX
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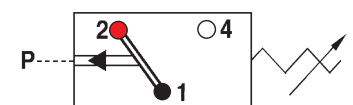
Piston pressure switches are only to a limited extent suitable for use with gases.
See explanation on page 9.

With male thread



Contact assignment:

- 1 = black
- 2 = red
- 4 = white



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■ For further technical data see page 46.

¹⁾ Static pressure, dynamic pressures should be 30 to 50% lower. These values refer to the hydraulic or pneumatic part of the pressure switch.