

# 0342 / 0343

Diaphragm / piston pressure switches up to 250 V acc. to IECEx scheme

ATEX  $\text{CE}$   $\text{II}$  2G Ex db IIC T6 / T5 Gb (Gases and vapours, zones 1 + 2)

ATEX  $\text{CE}$   $\text{II}$  2D Ex tb IIIC T80°C / T100°C Db (Dusts, zones 21 + 22)

ATEX  $\text{CE}$   $\text{I}$  M2 Ex db I Mb (Mining)

- Operation voltage up to 250 V, protection class 2, protective insulation
- Overpressure safety up to 4,350 / 8,700 psi (300 / 600 bar)
- Certification according to IECEx scheme

$P_{\max}$ in psi (bar)	Adjustment range in psi (bar)	Tolerance at room temperature in bar	Thread	Article number
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## 0342 Diaphragm pressure switch

4,350 psi (300 bar) <sup>1)</sup>	4.35 - 21.75 psi (0.3 - 1.5 bar)	$\pm 2.90$ psi ( $\pm 0.2$ bar)	1/4" BSPP	0342 - 457 60 - X - 020
	14.5 - 145 psi (1-10 bar)	$\pm 7.25 - 14.5$ psi ( $\pm 0.5 - 1.0$ bar)		0342 - 458 60 - X - 020
	145 - 290 psi (10-20 bar)	$\pm 14.5$ psi ( $\pm 1.0$ bar)		0342 - 459 60 - X - 020
	290 - 725 psi (20-50 bar)	$\pm 29$ psi ( $\pm 2.0$ bar)		0342 - 461 60 - X - 020
8,700 psi (600 bar) <sup>1)</sup>	4.35 - 21.75 psi (0.3 - 1.5 bar)	$\pm 2.90$ psi ( $\pm 0.2$ bar)	1/4" NPT <sup>2)</sup>	0342 - 457 09 - X - 020
	14.5 - 145 psi (1-10 bar)	$\pm 7.25 - 14.5$ psi ( $\pm 0.5 - 1.0$ bar)		0342 - 458 09 - X - 020
	145 - 290 psi (10-20 bar)	$\pm 14.5$ psi ( $\pm 1.0$ bar)		0342 - 459 09 - X - 020
	290 - 725 psi (20-50 bar)	$\pm 29$ psi ( $\pm 2.0$ bar)		0342 - 461 09 - X - 020

## 0343 Piston pressure switch

8,700 psi (600 bar) <sup>1)</sup>	725 - 2,175 psi (50 - 150 bar)	$\pm 72.5$ psi ( $\pm 5.0$ bar)	1/4" BSPP	0343 - 460 60 - X - 020
8,700 psi (600 bar) <sup>1)</sup>	725 - 2,175 psi (50 - 150 bar)	$\pm 72.5$ psi ( $\pm 5.0$ bar)	1/4" NPT	0343 - 460 09 - X - 020

## 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
FFKM <sup>3)</sup>	Chemical acids, diluted alkalis, ketones, ester's, alcohols	6
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 82 for the temperature range and application thresholds of sealing materials.

Article number: 034X - XXX XX - X - 020<sup>4)</sup>

Piston pressure switches only have limited suitability for use with gases (refer to Page 17 for explanations).

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

<sup>2)</sup> Minimum quantity required. Please consult SUCO for further information.

<sup>3)</sup> Only suitable for diaphragm pressure switches (Type 0342).

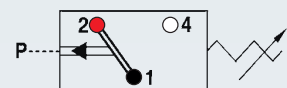
<sup>4)</sup> Article end number -020 corresponds to the standard cable length of ~2 m. For a cable length of ~5 m, please specify the end number -050.

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## Contact assignment

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



# Explosion-protected pressure switches

## Technical details

Type	0165	0340 / 0341	0342 / 0343		
Ex zones:	1 + 2	22	1 + 2	21 + 22	Mining
Flammable materials:	Gases + vapurs	Dusts	Gases + vapurs	Dusts	Methan / coal dust
Temperature resistance:	NBR		-4 °F...+176 °F (-20 °C ... +80 °C)		
	EPDM		-4 °F...+176 °F (-20 °C ... +80 °C)		
	FKM (Diaphragm pressure switch)		-23 °F...+176 °F (-5 °C ... +80 °C)		
	FKM (Piston pressure switch)		+5 °F...+176 °F (-15 °C ... +80 °C)		
	FFKM (0340 + 0342 only)		-4 °F...+176 °F (-20 °C ... +80 °C)		
	HNBR		-4 °F...+176 °F (-20 °C ... +80 °C)		
Switching frequency:	200 / min				
Mechanical life expectancy:	1.000.000 cycles				
Pressure rise rate:	≤ 14.5 psi/ms (≤ 1 bar/ms)				
Hysteresis:	10 ... 30 % (depending on type, non-adjustable)				
Vibration resistance:	10 g; 5 ... 200 Hz sine wave; DIN EN 60068-2-6				
Shock resistance:	294 m/s <sup>2</sup> ; 14 ms half sine wave; DIN EN 60068-2-27 				
Cable length:	Standard length approx. 2m with wire end sleeve, also available in lengths of approx. 5m as well as customer-specific lengths				
Protection class:	IP65				
Cable cross-section:	3 x 0,75 mm <sup>2</sup>	3 x 0,5 mm <sup>2</sup>			
Housing material:	Aluminium	Zinc-plated steel (CrVI-free), anodised aluminium			
Weight:	approx. 380 g	approx. 230 g			

### Elektrische Werte

Rated working voltage $U_e$ (usage category)	Rated working current $I_e$	
250 VAC 50 / 60 Hz, AC 12	2 A	5 A
250 VAC 50 / 60 Hz, AC 14	1 A	1 A
24 VDC, DC 12 / DC 13	2 / 1 A	3,5 / 3,5 A
50 VDC, DC 12 / DC 13	1 / 0,5 A	2 / 1 A
75 VDC, DC 12 / DC 13	0,5 / 0,25 A	1 / 0,5 A
125 VDC, DC 12 / DC 13	0,2 / 0,1 A	0,3 / 0,2 A
250 VDC, DC 12 / DC 13	0,15 / 0,1 A	0,25 / 0,2 A
Rated insulation voltage $U_i$ :	300 V	
Rated impulse withstand voltage $U_{imp}$ :	4 kV	
Conventional thermal current $I_{the}$ :	5 A	
Switching overvoltage:	< 2,5 kV	
Rated frequency:	DC und 50 / 60 Hz	
Nominal current of short-circuit mechanism:	bis 3,5 A	
Conditional short-circuit current:	< 350 A	

# Explosion-protected pressure switches

## Technical details

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### Technical explanations

Explosion-protected pressure switches are classified according to the respective combustible material-type. This division is:

<b>Gases and vapours</b> 0165, 0342 / 0343	<b>Dusts</b> 0340 / 0341, 0342 / 0343	<b>Methane dust</b> 0342 / 0343
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### ATEX/IECEx marking for pressure switches

Our pressure switches are designed for gases and vapours (G), dust (D) and methane / coal dust (M) in mining:

Series	Flammable materials	Ex zones	Ex marking (acc. 2014/34/EU)
0165	Gases and vapours	1 + 2	Ex II 2G Ex d II C T6/T5 X
0340 / 0341	Dusts	22	Ex II 3D Ex tc IIIC T90°C Dc
0342 / 0343	Gases and vapours	1 + 2	Ex II 2G Ex db IIC T6 / T5 Gb
	Dusts	21 + 22	Ex II 2D Ex tb IIIC T80°C / T100°C Db
	Methane / coal dust	M2 (Mining)	Ex I M2 Ex db I Mb

The following table shows an overview of the explosion protection zones, device groups and categories. The applications covered by our pressure switches (according to Ex zones) are highlighted in colour.

### Conditions in potentially explosive atmosphere

Com-bustible materials	Temporary behaviour of com-bustible materials in potentially explosive area	Categori-sation of potentially explosive areas	Marking required on equipment to be used	
			Equipment group	Equipment category
Gases Vapours	are present continually, frequently or for long periods	Zone 0	II	1G
	occur occasionally	Zone 1	II	2G
	are unlikely to occur, and if so, are then only seldom or for short periods	Zone 2	II	2G
Dusts	are present continually, frequently or for long periods	Zone 20	III	1D
	occur occasionally	Zone 21	III	2D
	occur if accumulated dust is whirled up, and then only seldom or for short periods	Zone 22	III	3D or 2D
Methane dust	operation where there is a risk of explosions	-	I	M1
	disconnection where there is a risk of explosion	-	I	M2 or M1

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# Explosion-protected pressure switches

according to ATEX directive 2014/34/EU and IECEx scheme



- ATEX certification for the Ex-protected zones:
  - 1 + 2 (Gases and vapours)
  - 21 + 22 (Dust)
  - M2 Mining (Methane /coal dust)
- Types 0342/0343 are certified according to IECEx scheme
- Switching point can be easily adjusted by the user while system in operation
- Compact design
- Excellent price-performance ratio