

# Vacuum switches

for negative pressure from 950 mbar to 100 mbar



- Switching point can be adjusted when fitted on site<sup>1)</sup>
- High overpressure resistance
- Long service life even under harsh conditions
- 0150 series available as changeover contacts up to 250 V
- 0151 series available as NC or NO up to 42 V

<sup>1)</sup> Pressure switches can also be supplied preset at factory.  
Our preset switches are sealed with lacquer paint, set points are embossed on the housing.

# Vacuum switches

## Technical details

M.9

Vacuum



Type:	<b>0150</b>	<b>0151</b>
Operating voltage:	10 ... 250 VAC/DC	10 ... 42 VAC/DC
Rated current (resistive load):	Refer to electrical values below	10 mA ... 4 A
Switching power:	Refer to electrical values below	100 VA
Temperature resistance of sealing materials:	-20 °C ... +100 °C	-15 °C ... +120 °C
Switching frequency:	200 / min	
Mechanical life expectancy:	1,000,000 cycles	
Pressure rise rate:	≤ 1,000 bar / s	
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	
Housing material:	Aluminium	Brass
Protection class:	IP65 with socket device	IP65, terminals IP00
Weight:	approx. 270 g	approx. 140 g

### **0150 Electrical values** (also refer to page 14 for technical explanations)

Rated working voltage $U_e$	Rated working current $I_e$ (usage category)
250 VAC 50 / 60 Hz	5 A (AC 12)
250 VAC 50 / 60 Hz	1 A (AC 14)
24 VDC	3,5 / 3,5 A (DC 12 / DC 13)
50 VDC	2 / 1 A (DC 12 / DC 13)
75 VDC	1 / 0,5 A (DC 12 / DC 13)
125 VDC	0,3 / 0,2 A (DC 12 / DC 13)
250 VDC	0,25 / 0,2 A (DC 12 / DC 13)
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:	up 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 <sup>2</sup>

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# 0150

Vacuum switch up to 250 V with changeover contact

- Aluminium housing
- Operating voltage up to 250 V
- Changeover with silver contacts
- Overpressure safety up to 20 bar<sup>1)</sup>
- Socket device similar to DIN EN 175301 (DIN 43650)
- Hysteresis approx. 50 – 150 mbar (cannot be changed)



$p_{\max}$ in bar	Adjustment range in mbar (relative)	Tolerance at room temperature in mbar	Thread	Article number
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## 0150 Vacuum switch

20 <sup>1)</sup>	100 – 950	$\pm 50$	G 1/8 female	0150 - 456 15 - 4 - 001
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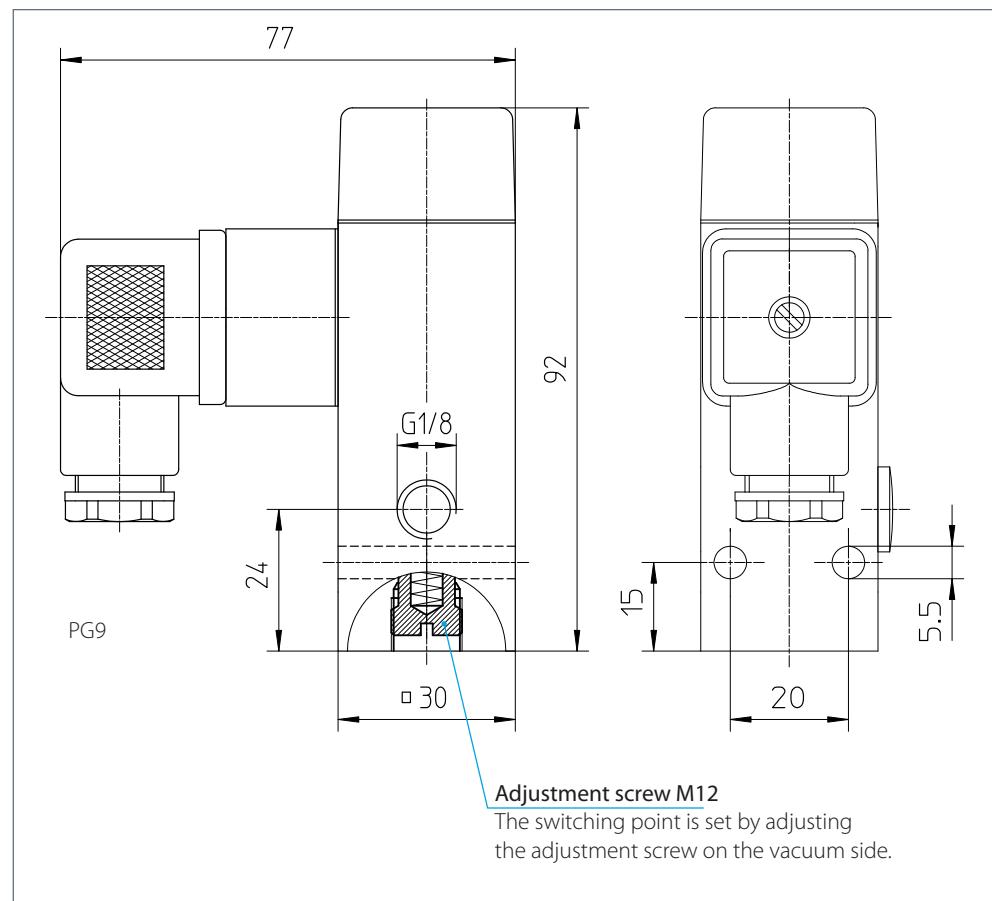
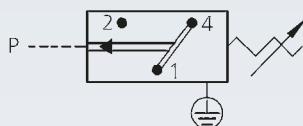
## Seal material – Application areas

ECO	Air, oils, greases, fuel/gasoline	4
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Temperature resistance: -20 °C ... +100 °C

Article number:

0150 - 456 15 - 4 - 001



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



# 0151

Vacuum switch up to 42 V, NO or NC

- Brass housing
- Spade or M3 screw terminal
- Operating voltage up to 42 V
- Overpressure safety up to 35 bar<sup>1)</sup>

M.9  
Vacuum



$p_{\max}$ in bar	Adjustment range in mbar (relative)	Tolerance at room temperature in mbar	Thread	Article number
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## 0151 Vacuum switches with M3 screw terminal

35 <sup>1)</sup>	200 – 950	$\pm 100$	G 1/8 female	NO →  : 0151 - 452 15 - <b>3</b> - 001
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NC → |:

0151 - 453 15 - **3** - 001

## 0151 Vacuum switches with spade terminal

35 <sup>1)</sup>	200 – 950	$\pm 100$	G 1/8 female	NO →  : 0151 - 454 15 - <b>3</b> - 001
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NC → |:

0151 - 455 15 - **3** - 001



## Seal material – Application areas

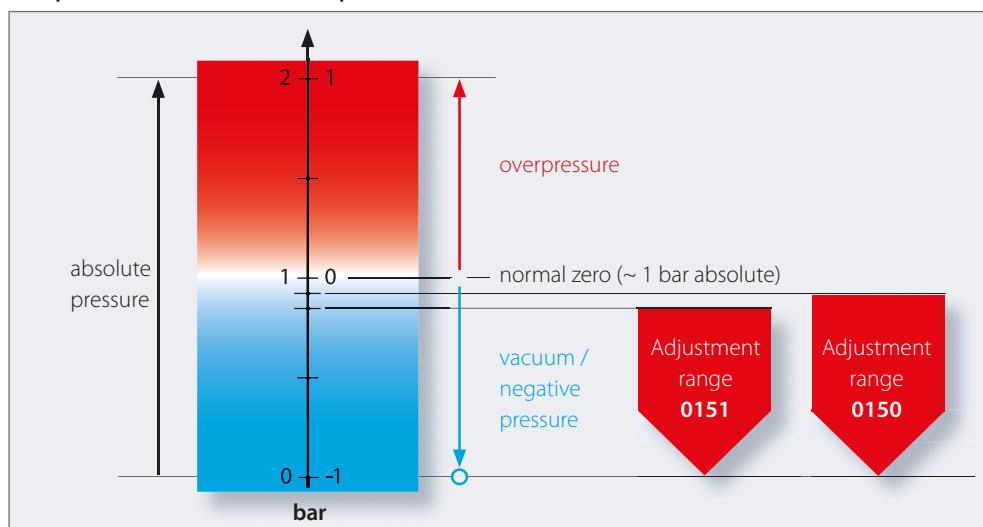
FKM	Air, oils, greases, fuel/gasoline	3
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Temperature resistance: -15 °C ... +120 °C

Article number: 0151 – 45X 15 – **3** – 001



## Comparison of absolute/relative pressures



**Note:** Required set points in the vacuum range must be specified relative to atmospheric pressure (normal pressure) in the ordering process.

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

Switches are also available on request with outer thread or integrated connector.

