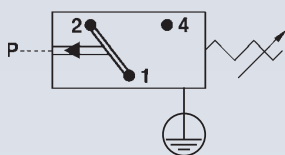


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Thread similar to ISO 6149-3
(including O-ring for sealing)



0183

Piston pressure switches up to 250 V

- Zinc-plated steel (CrVI-free)
- Snap action with silver contacts
- Overpressure safety up to 8,700 psi (600 bar)¹⁾, Differential adjustable at factory
- Adjustment range: 1,450 - 5,800 psi (100 – 400 bar)
- Height only 51 mm

P _{max.} in psi (bar)	Adjustment range in psi (bar)	Tolerance in psi (bar) at room temperature	Male thread	Order number
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0183 Piston pressure switches with spade terminal

8,700 psi ¹⁾ (600 bar) ¹⁾	1,450 - 4,350 psi (100 - 300 bar)	± 145 psi (±10.0 bar)	M 14x1.5	0183 - 462 45 - X - 051
	2,900 - 5,800 psi (200 - 400 bar)			0183 - 463 45 - X - 061

Seal material – Application areas

NBR (BunaN)	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM (Viton®)	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
HNBR	Hydraulic/machine oil, ester-based bio-oils	9



Your order number: 0183 - 46X 45 - X - XXX

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

Accessory ▶

Not included in the delivery.
Please order separately.

Order number ▶

Thread adapters

from M 14 x 1.5		
to 1/4 BSPP	to M12 x 1.5	to NPT 1/8
1-1-83-420-006	1-1-83-420-007	1-1-83-420-008

Pressure switches hex 27

Technical details

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Temperature resistance of sealing materials	NBR - diaphragm pressure switches, $p_{max} = 4,352 / 5,800$ psi (300 / 400 bar)	-40 °F ... +212 °F (-40 °C ... +100 °C)
	NBR - diaphragm pressure switch, $p_{max} = 1,450$ psi (100 bar)	-22 °F ... +212 °F (-30 °C ... +100 °C)
	EPDM	-22 °F ... +248 °F (-30 °C ... +120 °C)
	EPDM-TW (in diaphragm pressure switch)	-4 °F ... +212 °F (-20 °C ... +100 °C)
	FKM (in diaphragm pressure switch)	+23 °F ... +248 °F (-5 °C ... +120 °C)
	FKM (in piston pressure switch)	+5 °F ... +248 °F (-15 °C ... +120 °C)
	FFKM	-4 °F ... +248 °F (-20 °C ... +120 °C)
	Silicone (in diaphragm pressure switch)	-40 °F ... +248 °F (-40 °C ... +120 °C)
	HNBR	-22 °F ... +248 °F (-30 °C ... +120 °C)
Burst pressure (diaphragm pressure switch, overpressure resistance 100 bar)	2,900 psi (200 bar)	
Burst pressure (diaphragm pressure switch, overpressure resistance 400 bar)	10,152 psi (700 bar) for threads M10, G 1/8, R 1/8, NPT 1/8 and type 0140 up to max. 600 bar)	
Burst pressure (Piston pressure switch)	14,500 psi (1,000 bar) for threads M10, G 1/8, R 1/8, NPT 1/8 and type 0140 up to max. 600 bar)	
Switching frequency	200/min	
Mechanical life expectancy	1,000,000 cycles (for diaphragm pressure switches, life expectancy value only applies for switching pressures to max. 50 bar)	
Pressure rise rate	≤ 14,500 psi/ms (≤ 1,000 bar/s)	
Hysteresis (only adjustable at factory)	Adjustable average value 10 ... 30 % depending on type Types 0140 and 0141 cannot be adjusted	
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 60068-2-6, DIN EN 60068-2-29	
Protection class	IP65 with socket device, terminals IP00	
Weight	approx. 100 g	

Switching performance and materials overview

Type	0140	0141	0170	0171	0180	0181	0183	0186	0187	0190	0191	0196	0197
5 ... 24 V DC										●	●	●	●
10 ... 42 V AC/DC			●	●									
10 ... 250 V AC/DC	●	●			●	●	●	●	●				
3 ... 50 mA										●	●	●	●
10 mA ... 2 A	●	●											
10 mA ... 4 A			●	●	●	●	●	●	●				
Gold contacts										●	●	●	●
Silver contacts	●	●	●	●	●	●	●	●	●				
Adjustable hysteresis			●	●	●	●	●	●	●	●	●	●	●
Zinc-plated steel (CrVI-free)	●	●	●	●	●	●	●			●	●		
Stainless steel 1.4305								●	●			●	●

M

Pressure switches hex 27

Electrical values

0140 / 0141		
Rated working voltage U_e :	Rated working current I_e	Usage category ¹⁾
250 VAC 50 / 60 Hz	2 A	AC12
24 VDC	2 / 1 A	DC12 / DC13
50 VDC	1 / 0.5 A	DC12 / DC13
75 VDC	0.5 / 0.25 A	DC12 / DC13
125 VDC	0.2 / 0.1 A	DC12 / DC13
250 VDC	0.15 / 0.1 A	DC12 / DC13
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 and 50 / 60 Hz	
Nominal current of short-circuit mechanism:	to 3.5 A	
Rated short-circuit current:	< 350 A	
IP class of protection according to DIN EN 60529:1991+A1:1999:	IP65 with socket device, terminals IP00	
Tightening torque of terminal screws:	< 0.35 Nm	
Connector cross-section:	0.5 - 1.5 mm ²	

0170 / 0171 / 0180 / 0181 / 0183 / 0186 / 0187 / 0190 / 0191 / 0196 / 0197		
Rated working voltage U_e :	Rated working current I_e	Usage category ¹⁾
250 VAC 50 / 60 Hz	4 A	AC12
250 VAC 50 / 60 Hz	1 A	AC14
24 VDC	4 / 2 A	DC12 / DC13
50 VDC	2 / 1 A	DC12 / DC13
75 VDC	1 / 0.5 A	DC12 / DC13
125 VDC	0.3 / 0.2 A	DC12 / DC13
250 VDC	0.25 / 0.2 A	DC12 / DC13
Rated insulation voltage U_i :	300 V	
Rated impulse withstand voltage U_{imp} :	2.5 kV	
Conventional thermal current I_{the} :	5 A	
Switching overvoltage:	< 2.5 kV	
Rated frequency:	DC and 50 / 60 Hz	
Nominal current of short-circuit mechanism:	to 5 A	
Rated short-circuit current:	< 350 A	
IP class of protection according to DIN EN 60529:1991+A1:1999:	IP65 with socket device, terminals IP00	

Socket devices and protective caps

- IP65 socket devices or IP54 rubber protective caps for increased protection
- Simple installation with plug-in socket devices

<p>Rubber protective cap</p> <p>With central cable feed-through for 1.5 - 5 mm cable diameter</p> <p>With rubber protective cap fitted: IP54</p> <p>Suitable for voltages up to 42 V</p>	<p>Rubber protective cap</p> <p>With two cable feed-throughs for 1.7 - 2,2 mm cable diameter</p> <p>With rubber protective cap fitted: IP54</p> <p>Suitable for voltages up to 42 V</p>	<p>Rubber protective cap</p> <p>With two cable feed-throughs for 1.7 - 2,3 mm cable diameter</p> <p>With rubber protective cap fitted: IP54</p> <p>Suitable for voltages up to 42 V</p>	<p>Socket device</p> <p>cCSAus approval Housing: Polyamide PG9 screw fitting (tightening range 6 - 9 mm)</p> <p>With socket device fitted: IP65</p> <p>Suitable for voltages up to 250 V</p>
<p>suitable for series 0151 / 0163 / 0164 / 0166 0167 / 0168 / 0169</p>	<p>suitable for series 0151 / 0163 / 0164 / 0166 0167 / 0168 / 0169</p>	<p>suitable for series 0170 / 0171 / 0180* / 0181* / 0183* / 0186* / 0187* 0190 / 0191 / 0196 / 0197 (*up to 42 V)</p>	<p>suitable for series 0170 / 0171 / 0180 / 0181 0183 / 0186 / 0187 0190 / 0191 / 0196 / 0197</p>
<p>Article number: 1-1-66-621-010</p>	<p>Article number: 1-1-66-621-003</p>	<p>Article number: 1-1-70-621-007</p>	<p>Article number: 1-1-80-652-002</p>

Pressure switches hex 27

Changeover with silver or gold contacts



- Switching point can be adjusted when fitted on site¹⁾
- Factory adjustable hysteresis (except types 0140 and 0141)
- High overpressure safety and long service life under harsh conditions
- Operating voltage up to 250 V
- Series 0140 / 0141 with protective insulation
- For ready-wired customized versions refer to chapter M.5, starting at page 62
- For pressure switches with integrated connectors refer to chapter M.2, starting at page 32

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