

# 0169

Piston pressure switches up to 42 V

- Made of zinc-plated steel (CrVI-free)
- Spade or M3 screw terminal
- Overpressure safety up to 8,700 psi (600 bar)<sup>1)</sup>

Adjustment range tolerance at room temperature	Male thread	Order number NO →  :	Order number NC → :
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## 0169 Piston pressure switches with M3 screw terminal

725 - 2,175 ± 72.5 psi (50 - 150 ± 5 bar)	M 10x1 taper	0169 - 417 01 - X - 001	0169 - 418 01 - X - 005
	M 12x1.5	0169 - 417 02 - X - 002	0169 - 418 02 - X - 006
	1/4" BSPP	0169 - 417 03 - X - 003	0169 - 418 03 - X - 007
	1/8" NPT	0169 - 417 04 - X - 004	0169 - 418 04 - X - 008
	1/4" NPT	0169 - 417 09 - X - 309	0169 - 418 09 - X - 310
	7/16-20 UNF	0169 - 417 20 - X - 301	0169 - 418 20 - X - 303
	9/16-18 UNF	0169 - 417 21 - X - 302	0169 - 418 21 - X - 304

## 0169 Piston pressure switches with spade terminal

725 - 2,175 ± 72.5 psi (50 - 150 ± 5 bar)	M 10x1 taper	0169 - 419 01 - X - 009	0169 - 420 01 - X - 013
	M 12x1.5	0169 - 419 02 - X - 010	0169 - 420 02 - X - 014
	1/4" BSPP	0169 - 419 03 - X - 011	0169 - 420 03 - X - 015
	1/8" NPT	0169 - 419 04 - X - 012	0169 - 420 04 - X - 016
	1/4" NPT	0169 - 419 09 - X - 311	0169 - 420 09 - X - 312
	7/16-20 UNF	0169 - 419 20 - X - 305	0169 - 420 20 - X - 307
	9/16-18 UNF	0169 - 419 21 - X - 306	0169 - 420 21 - X - 308

## Seal material – Application areas

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

Refer to page 41 for the temperature range and application thresholds of sealing materials.

**Your order number:** 0169 - XXX XX - X - XXX

# M.3

hex 24



M

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



# Pressure switches hex 24

## Technical data

M.3

hex 24



Rated working voltage:	10 ... 42 VAC/DC	
Rated current range (resistive load, DC12 and AC12):	10 mA ... 4 A	
Switching power DC12 / AC12:	100 W / 100 VA	
Temperature resistance of sealing materials:	NBR (BunaN)	-40 °F ... +212 °F (-40 °C ... +100 °C)
	EPDM	-22 °F ... +248 °F (-30 °C ... +120 °C)
	EPDM-W270, diaphragm	-4 °F ... +212 °F (-20 °C ... +100 °C)
	FKM (Viton®) (in diaphragm pressure switch)	+23 °F ... +248 °F (-5 °C ... +120 °C)
	FKM (Viton®) (in piston pressure switch)	+14 °F ... +248 °F (-10 °C ... +120 °C)
	Silicone, diaphragm	-40 °F ... +248 °F (-40 °C ... +120 °C)
	HNBR	-22 °F ... +248 °F (-30 °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 to max. 725 psi / 50 bar)	
Pressure rise rate:	≤ 14.5 psi/ms (1 bar/ms)	
Differential:	Average value 5 – 30 % depending on type, not 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	
Protection class:	IP65 Terminals IP00	
Weight:	approx. 3.17 oz (90 g)	

Type:		0163	0164	0166	0167	0168	0169
Material:	Zinc-plated steel (CrVI-free)	●		●		●	●
	Stainless steel		●				
	Brass				●		
Overpressure safety up to:	35 bar				●		
	300 bar			●		●	
	600 bar	●	●				●



# Socket devices and protective caps

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

 <p>60 Ø 28</p>	 <p>46 Ø 28</p>	 <p>55 Ø 31</p>	 <p>~ 54 45 Ø 34</p>
<p><b>Rubber protective cap</b></p> <p>With central cable feed-through for 1.5 – 5 mm cable diameter</p> <p><b>With rubber protective cap fitted: IP54</b></p> <p>Suitable for voltages up to 42 V</p>	<p><b>Rubber protective cap</b></p> <p>With two cable feed-throughs for 1.7 – 2.2 mm cable diameter</p> <p><b>With rubber protective cap fitted: IP54</b></p> <p>Suitable for voltages up to 42 V</p>	<p><b>Rubber protective cap</b></p> <p>With two cable feed-throughs for 1.7 – 2.3 mm cable diameter</p> <p><b>With rubber protective cap fitted: IP54</b></p> <p>Suitable for voltages up to 42 V</p>	<p><b>Socket device</b></p> <p>PG9 screw fitting (tightening range 6 – 9 mm)</p>  <p><b>With socket device fitted: IP65</b></p> <p>Suitable for voltages up to 250 V</p>
<p>suitable for series</p> <p><b>0151 / 0163 / 0164 / 0166 0167 / 0168 / 0169</b></p>	<p>suitable for series</p> <p><b>0151 / 0163 / 0164 / 0166 0167 / 0168 / 0169</b></p>	<p>suitable for series</p> <p><b>0170 / 0171 / 0180* / 0181* 0183* / 0186* / 0187* 0190 / 0191 / 0196 / 0197</b></p> <p>(*up to 42 V)</p>	<p>suitable for series</p> <p><b>0170 / 0171 / 0180 / 0181 0183 / 0186 / 0187 0190 / 0191 / 0196 / 0197</b></p>
<p>Order number: <b>1-1-66-621-010</b></p>	<p>Order number: <b>1-1-66-621-003</b></p>	<p>Order number: <b>1-1-70-621-007</b></p>	<p>Order number: <b>1-1-80-652-002</b></p>

## Pressure switches hex 24

NC or NO, maximum voltage 42 V



- Most cost-effective solution for mechanical pressure monitoring
- Stable switching point even after long use and high load
- Switching point can be adjusted when fitted on site <sup>1)</sup>
- High pressure resistance, compact, small switches, available as normally closed (NC) or normally open (NO)
- For solutions with integrated connectors please refer to chapter M.1, starting at page 22

<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.