

**JUMO GmbH & Co. KG**  
Adresse de livraison :  
Mackenrodtstraße 14,  
36039 Fulda, Allemagne  
Adresse postale :  
36035 Fulda, Allemagne  
Tél. : +49 661 6003-0  
Fax : +49 661 6003-607  
E-Mail : mail@jumo.net  
Internet : www.jumo.net

**JUMO Régulation SAS**  
Actipôle Borny  
7 rue des Drapiers  
B.P. 45200  
57075 Metz - Cedex 3, France  
Tél. : +33 3 87 37 53 00  
E-Mail : info.fr@jumo.net  
Internet : www.jumo.fr

**JUMO AUTOMATION**  
S.P.R.L. / P.G.M.B.H. / B.V.B.A  
Industriestraße 18  
4700 Eupen, Belgique  
Tél. : +32 87 59 53 00  
Fax : +32 87 74 02 03  
E-Mail : info@jumo.be  
Internet : www.jumo.be

**JUMO**  
Mess- und Regeltechnik AG  
Laubisrütistrasse 70  
8712 Stäfa, Suisse  
Tél. : +41 44 928 24 44  
Fax : +41 44 928 24 48  
E-Mail : info@jumo.ch  
Internet : www.jumo.ch



# Pressure switch with membrane or valve, simple or double

## Serie HNSPX

Protection type EN 60 529-IP65

Type Approval Certificate: 32251/C0 BV



## General application

The pressure switches type HNSPX are used in order to regulate and control the pressure process. These pressure switches operate according to a deformable sensor (membrane or valve). The variation of pressure leads to a deviation of the membrane (or valve) which acts on a micro switch.

One or two independant changeover contact could be supplied on this device. These pressure switches could be used with chemical seals if the fluids are agresives, viscous or sealing.

Moreover the diaphragm seals could be used for high temperature applications

The pressure switches HNSPX-1 and HNSPX-2 are available in ATEX version Ex "i" and "t", see DS 405071.

## Option Type Approval Certificate

Type HNSPX/BV (405070/.../BV) with one or two changeover contacts independant



These devices shall not be used for pressure measurement on diesel engine.

Type Approval Certificate 32251/C0 BV

## Main applications

- K Pressure monitoring for machines and machines tools
- K Shipbuilding
- K Vehicles on railways
- K Chemical industry and petrochemistry
- K Food and farm-produce industry
- K Paper industry
- K Operating and treatment of water



Type HNSPX-2



Type HNSPX-1 with separator

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## Technical data

### Switching function

### Pressure monitor DW

If the pressure exceeds the setpoint value, the membran (or valve) acts on the microswitch which opens or closes the electrical circuit. If the pressure falls below the selected setpoint (by the amount of the switching difference), the microswitch is reset to its initial position.

### Control ranges / accuracy of the contact point at ambient temperature 20°C

K +0,3 to +1,5 bar	±0,2
K +1 to +10 bar	±0,5
K +10 to +50 bar	±3,0

### Switching difference of the setpoint

Factory-set-value

### Permissible overpressure

Static pressure +100 bar

Dynamic pressure less than or equal to 1 bar/ms

### Membran

NBR for standard execution

EPDM ; FKM ; silicone or HNBR : on request

### Permissible temperature of medium

the permissible temperature range depends on the seal material:

NBR	-40 to +100 °C
EPDM	-30 to +120 °C
FKM	- 5 to + 120 °C
Silicone	-40 to +120 °C
HNBR	-30 to +120 °C

If the temperature of medium is over these values, it's necessary to use a cooling element

### Ambient temperature

-40 to +100 °C

-40 to +70 °C for execution with type approval certificate BV (HNSPX/BV)

### Switching frequency

200 / min

### Lifetime

10<sup>6</sup> cycles (up to 50 bar)

### Mechanical vibration

10g /5 ... 200Hz sinus

### %Mechanical shock

294 m/s<sup>2</sup>

14 ms half-sinus

### Electrical data

#### Max. contact rating

250 V - 4 A max (resistives charges or semi-conductor)

250 V - 1 A max (electromagnetics charges to 72 VA)

#### Use frequency

50 / 60 Hz

#### Isolated nominal voltage

300 V

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**Electrical connection**

On screw type terminal block(s) is directly accessible after the cover is removed, towards the top of the casing.  
 Terminal spotted:

- k C (common)
- k NC (normally closed)
- k NO (normally opened)

Screw type earth connection is top right (interior or exterior connection possible). Connection to the ground is by female faston lug.

**Casing**

<b>Material</b>		Case and cover in aluminium cast-iron, blue Ral 5003
<b>Setpoint value setting</b>	HNSPX-1	1 Switching point adjustable with a screwdriver after removing the case
	HNSPX-2	2 Switching point adjustable with a screwdriver after removing the case
<b>Protection type</b>	EN 60 529-IP 65	
<b>Cable inlet</b>	Cable screw connection M20x1,5 on the top or side of the casing	
<b>Casing fixation</b>	With 4 screws once the cover is removed (in option 1 mounting plate with 2 screws)	
<b>Weight</b>	Pressure switch with 1 limit value	
	Pressure switch with 2 limits values	

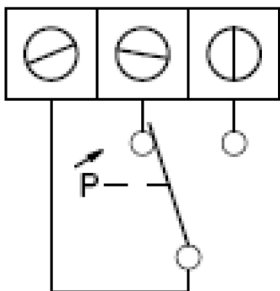
**Process connection**

Connection 1/4"NPT F - 1/2"G M  
 Material: stainless steel 316L  
 Key opening: 17 mm

**Connection diagrams**

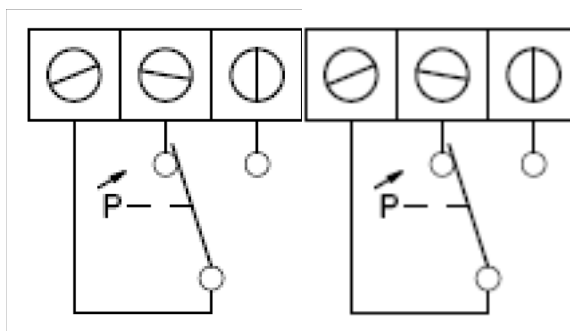
**simple pressure switch**

1 changeover contact



**Double pressure switch**

2 independent changeover contacts





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**Order details:**

		<b>Order code (1) Basic type</b>	
		405070	Pressure switch with membrane or valve, serie HNSPX
		/BV = Authorized execution with option type Approval Certificate - Type HNSPX/.../BV	
BV		<b>(2) Basic type extension (function)</b>	
	X	1	HNSPX-1 Pressure monitor <b>Simple pressure switch</b>
	X	2	HNSPX-2 Pressure monitor <b>Double pressure switch</b>
BV	X	X	<b>(3) Control / limit 1 value ranges in bar</b>
		519	+0,3 to +1,5
		521	+1,0 to +10
		524	+10 to + 50
		525	+20 to +100
BV	X		<b>(4) Control / limit 2 value ranges in bar</b>
		519	+0,3 to + 1,5
		521	+1,0 to + 10
		524	+10 to +50
		525	+20 to +100
BV			<b>(5) Function of the switch</b>
		06	Changeover contact
			<b>(6) Membrane / Temperature range</b>
		55	<b>NBR -40 to +100 °C</b> <b>Standard execution</b>
		58	EPDM -30 to +120 °C
		57	FKM -5 to +120 °C
		59	SILICONE -40 to +120 °C
		56	HNBR -30 to +120 °C
BV	X	X	<b>(7) Process connection</b>
		629	1/2"G mâle - 1/4"NPT female
		998	Mounting on separator
		999	Others on request
BV	X	X	<b>(8) Material process connection</b>
		20	CrNi stainless steel AISI 316L
		99	Others on request
BV	X	X	<b>(9) Options</b>
		000	Without option
		247	Mounting plate
		911	Cable screw added
		624	Screw-in-pocket degreased O2
		BV	Execution with Type Approval Certificate

**Order code**

(1) (2) (3) (4) (5) (6) (7) (8) (9)  
 405070 / [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] / [ ]

**Example order**

405070 / [ 2 ] - [ 519 ] - [ 519 ] - [ 000 ] - [ 55 ] - [ 629 ] - [ 20 ] / [ 000 ]

Example of order with type Approval Certificate

405070 / [ 2 ] - [ 519 ] - [ 519 ] - [ 000 ] - [ 55 ] - [ 629 ] - [ 20 ] / [ BV ]