

Relative pressure switch type 521

Pressure range
0 ... 2.5 – 600 bar



The compact type 521 pressure switch is based upon the Huba Control developed thick film technology where the pressure measuring cell is fully welded.

Switching points set in factory are available both N/C and N/O function. Various electrical and pressure connections are available to suit given applications.

- Compact, rugged construction
- Welded without sealing parts
- Saving time by quick cable mounting by the customer with swift connector
- Large selection of connections available.

Technical overview

Pressure range

Relative 0 ... 2.5 – 600 bar

Operating conditions

Medium	Liquids, gases and refrigerants (incl. ammonia)	
Temperature	Medium	-40 ... +135 °C
	Ambient	-30 ... +85 °C
	Storage	-50 ... +100 °C
Tolerable overload	≤ 6 bar	5 x FS
	> 6 bar	3 x FS (max. 1500 bar)
Rupture pressure	≤ 6 bar	10 x FS
	> 6 bar	6 x FS (max. 2500 bar)

Materials

Pressure Connection	Stainless steel 1.4404 / AISI 316L	
Plug accommodation	Polyarylamide 50% GF VO	
Materials in contact with medium	Pressure connection	Stainless steel 1.4404 / AISI 316L
	Sensor	Stainless steel

Electrical overview

Output	High-Side Switch (PNP)	Semiconductor (open collector)
Switching contact	High-Side Switch (PNP)	N/C contact or N/O contact
Switch last	High-Side Switch (PNP)	max. 200 mA
Power supply		7 ... 33 VDC
Current consumption		< 4 mA
Insulation voltage		500 VDC

Protection class

Protection class III

Dynamic response

Response time	< 2 ms, 1 ms typ.
Load cycle	< 100 Hz

Adjustment of switching points (factory set)

Upper switching point	8 ... 100% fs
Lower switching point	5 ... 97% fs
Hysteresis	≥ 3 % fs

Protection standard

IP 67

Electrical connection

Swift connector without or with cable 1.5 m
Connector M12x1

Pressure connection

Inside thread	7/16 - 20 UNF	Schrader
	G 1/4	with O-Ring seal FPM spec. (-30 ... +135 °C)
	1/2 - 14 NPT	≤ 60 bar
Outside thread	7/16 - 20 UNF	
	1/4 - 18 NPT	
	G 1/4	sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)
	R 1/4	DIN 2999
	G 1/2	sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)
	G 1/2	sealed at front
	M20x1.5	

Installation arrangement

Unrestricted

Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
Shock acc. IEC IEC 68-2-27	100 g, 11 ms half sine wave, all 6 directions, free fall from 1 m on concrete (6x)
Constant shock acc. IEC 68-2-29	40 g for 6 ms, 1000x all 3 directions
Vibration acc. IEC 68-2-6	20 g, 15 ... 2000 Hz, 15 ... 25 Hz with amplitude ± 15 mm, 1 Octave/min. all 3 directions, 50 constant load

Weight

~ 90 g

Packaging (Please state on order)

Single packaging in cardboard	accessories integrated
Multiple packaging in cardboard (25 pcs)	

Order code selection table in psi		521.9	X	X	X	X	X	X	X	X	X	X	X	X	
Pressure range ¹⁾	0 ... + 30 psi	B	4												
	0 ... + 60 psi	B	5												
	0 ... + 100 psi	B	7												
	0 ... + 200 psi	C	1												
	0 ... + 300 psi	C	2												
	0 ... + 500 psi	C	3												
	0 ... + 750 psi	D	0												
	0 ... + 1000 psi	D	1												
	0 ... + 2000 psi	D	2												
	0 ... + 3000 psi	D	3												
	0 ... + 5000 psi	E	4												
	0 ... + 7500 psi	E	5												
	Version	Not free of oil and grease, (cell welded)			S	0									
Free of oil and grease, (cell welded without sealing parts)				S	1										
Switching contact	Contact N/O High-Side-Switch PNP								1						
	Contact N/C High-Side-Switch PNP								2						
Electrical connection	Swift connector									0					
	Connector M12x1 ^{4),5)}									3					
	Swift connector with cable 1.5 m									L					
Pressure connection ⁶⁾	Inside thread $\frac{7}{16}$ -20 UNF Schrader										0	0			
	Inside thread G $\frac{1}{4}$ with O-Ring seal FPM spec. (-30 ... +135 °C)										1	0			
	Inside thread $\frac{1}{2}$ -14 NPT (\leq 750 psi)										D	0			
	Outside thread M20x1.5										E	0			
	Outside thread $\frac{7}{16}$ -20 UNF										2	0			
	Outside thread $\frac{1}{4}$ -18 NPT										3	0			
	Outside thread G $\frac{1}{4}$ sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)											4	0		
	Outside thread R $\frac{1}{4}$ acc. to DIN 2999											7	0		
	Outside thread G $\frac{1}{2}$ sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)											8	0		
	Outside thread G $\frac{1}{2}$ sealed at front											9	0		
Material	Stainless steel 1.4404 / AISI 316L												1		
Switching points	Indicate W and state switching points on order (e.g.: W1000/400psi)													W	

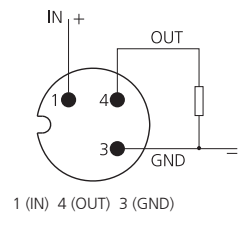
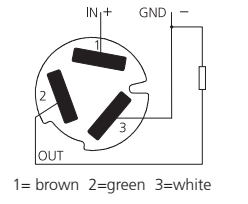
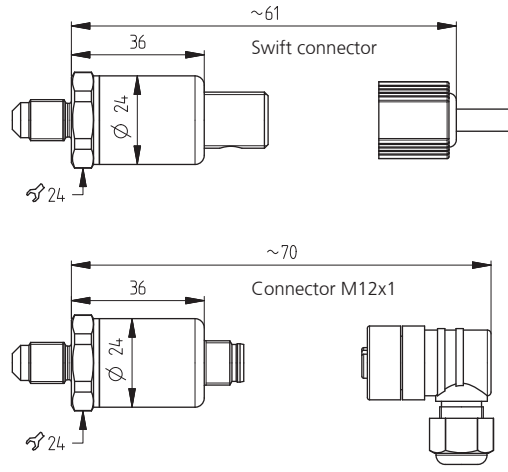
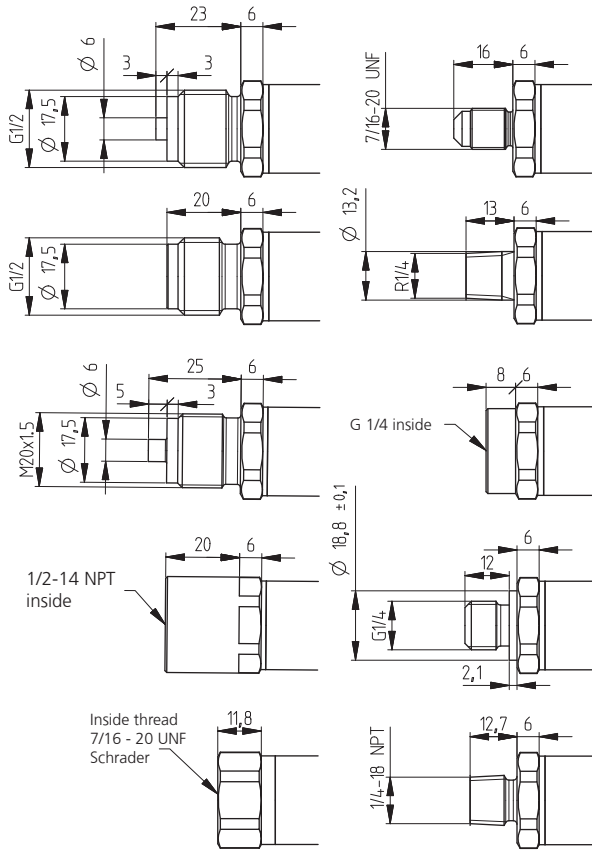
Order code selection table in MPa		521.9	X	X	X	X	X	X	X	X	X	X	X	X	
Pressure range ¹⁾	0 ... + 0.25 MPa	G	4												
	0 ... + 0.4 MPa	G	5												
	0 ... + 0.6 MPa	G	7												
	0 ... + 1 MPa	H	0												
	0 ... + 1.6 MPa	H	1												
	0 ... + 2.5 MPa	H	2												
	0 ... + 4 MPa	H	3												
	0 ... + 6 MPa	K	0												
	0 ... + 10 MPa	K	1												
	0 ... + 16 MPa	K	2												
	0 ... + 25 MPa	K	3												
	0 ... + 40 MPa	L	4												
	0 ... + 60 MPa	L	5												
Version	Not free of oil and grease, (cell welded)			S	0										
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Switching contact	Contact N/O High-Side-Switch PNP								1						
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Electrical connection	Swift connector									0					
	Connector M12x1 ^{4),5)}									3					
	Swift connector with cable 1.5 m									L					
Pressure connection ⁶⁾	Inside thread $\frac{7}{16}$ -20 UNF Schrader										0	0			
	Inside thread G $\frac{1}{4}$ with O-Ring seal FPM spec. (-30 ... +135 °C)										1	0			
	Inside thread $\frac{1}{2}$ -14 NPT (\leq 6 MPa)										D	0			
	Outside thread M20x1.5										E	0			
	Outside thread $\frac{7}{16}$ -20 UNF										2	0			
	Outside thread $\frac{1}{4}$ -18 NPT										3	0			
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Material	Stainless steel 1.4404 / AISI 316L												1		
Switching points	Indicate W and state switching points on order (e.g.: W10/5MPa)													W	

¹⁾ Other pressure ranges on request

³⁾ For pressure ranges \leq 200 psi (\leq 1.6 MPa) only possible if deaeration through the cable is assured

²⁾ Delivery without female connector

⁴⁾ Other pressure connections on request



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