

Relative and absolute pressure switch type 529

Pressure range
-1 ... 0 – 60 bar



The compact type 529 pressure switch is based upon the Huba Control developed unique ceramic technology used for the last 20 years in millions of applications.

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
- Negligible temperature influence on accuracy
- Saving time by quick cable mounting by the customer with swift connector
- Large selection of connections available.

Technical overview

Pressure range

Relative	-1 ... 0 – 60 bar
Absolute	0 ... 1 – 16 bar

Operating conditions

Medium		Liquids and gases
Temperature	Medium	FPM -15 ... +125 °C
		EPDM -40 ... +125 °C
		NBR -20 ... +100 °C
		MVQ -40 ... +125 °C
		Ambient -30 ... +85 °C
	Storage	-50 ... +100 °C
Tolerable overload / Rupture pressure	≤ 4 bar	3.0 x fs
	> 4 bar	2.5 x fs

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	Ceramic Al ₂ O ₃ (96%)
	Sealing material	FPM, EPDM, NBR, MVQ

Electrical overview

Output		Semiconductor (open collector)
Switching contact	High-Side Switch (PNP)	N/C contact or N/O contact
Switch load	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	
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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	
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Electrical connection

Swift connector without or with cable 1.5 m	
Connector M12x1	

Pressure connection

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

Installation arrangement

Unrestricted	
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Tests / Admissions

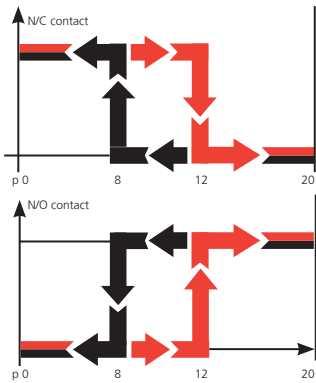
Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
Shock acc. IEC IEC 68-2-27	100 g, 11 ms half sine wave, all 6 directions, free fall from 1 m on concrete (6x)
Constant shock acc. IEC 68-2-29	40 g for 6 ms, 1000x all 3 directions
Vibration acc. IEC 68-2-6	20 g, 15 ... 2000 Hz, 15 ... 25 Hz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

Weight

~ 90 g	
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Packaging (Please state on order)

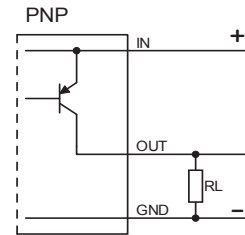
Single packaging in cardboard	accessories integrated
Multiple packaging in cardboard (25 pcs)	



N/C contact: When pressure is applied ($p_0 \rightarrow p_{max}$) the switch will disconnect the applied load as soon as the upper switching point is reached. As the pressure falls ($p_{max} \rightarrow p_0$) the switch will connect the load as soon as the lower switching point is reached.

N/O contact: When pressure is applied ($p_0 \rightarrow p_{max}$) the switch will connect the applied load as soon as the upper switching point is reached. With a fall in pressure ($p_{max} \rightarrow p_0$) the switch will disconnect the load as soon as the lower switching point is reached.

Example: p_0 20 bar
Upper switching point 12 bar
Lower switching point 8 bar
max. switching load 100 mA



Order code selection table in psi

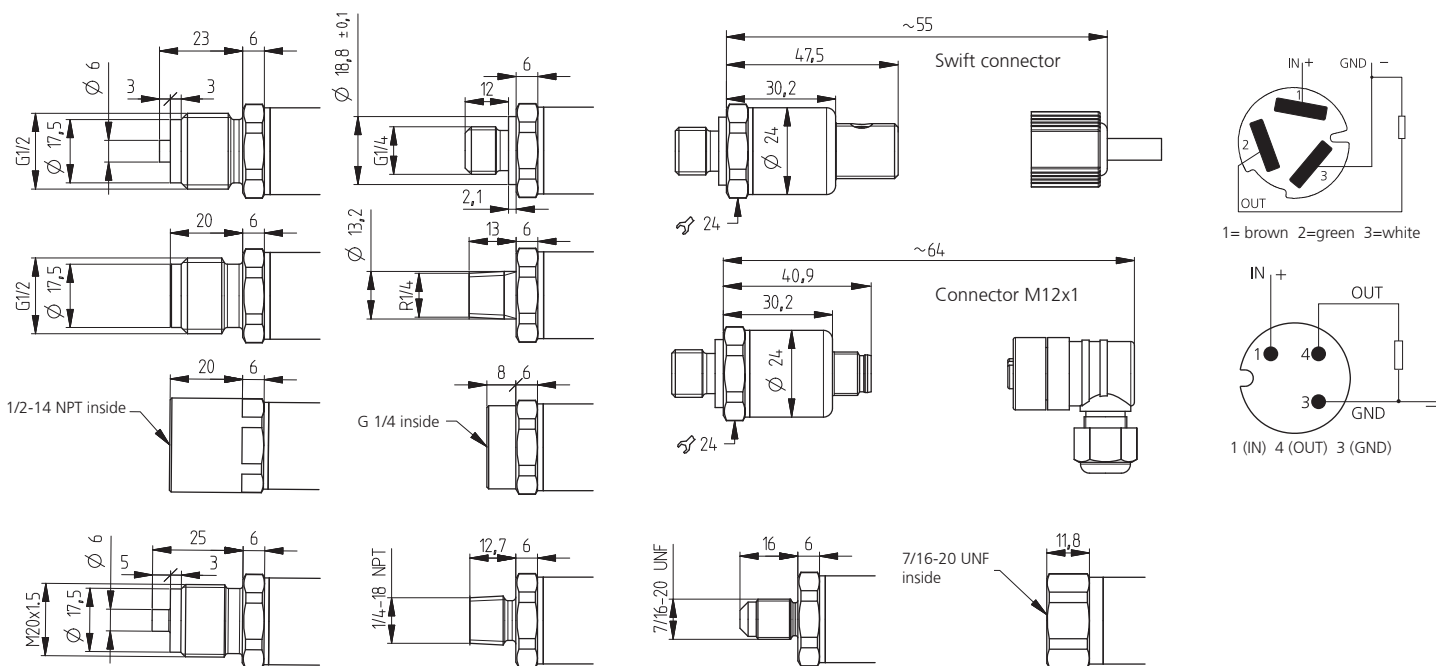
529. X X X X X X X X X X X

Pressure range (relative) ¹⁾	-30 ... 0" hg	9	B	0															
	0 ... 15 psi	9	B	1															
	0 ... 20 psi	9	B	2															
	0 ... 30 psi	9	B	4	0														
	0 ... 60 psi	9	B	5	0														
	0 ... 100 psi	9	B	7	0														
	0 ... 150 psi	9	C	0	0														
	0 ... 200 psi	9	C	1	0														
	0 ... 300 psi	9	C	2	0														
	0 ... 500 psi	9	C	3	0														
	0 ... 750 psi	9	D	0	0														
Pressure range (absolute) ¹⁾	0 ... 15 psi	8	B	1															
	0 ... 20 psi	8	B	2															
	0 ... 30 psi	8	B	4															
	0 ... 60 psi	8	B	5															
	0 ... 100 psi	8	B	7															
	0 ... 150 psi	8	C	0															
	0 ... 200 psi	8	C	1															
Sealing material	FPM	Fluoro elastomer						0											
	EPDM	Ethylene propylene						1											
	NBR	Butadiene Acrylonitrile						2											
	MVQ	Silicone polymer						3											
Application	standard								0										
	for oxygen applications								0	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 ²⁾																		3
	Swift connector with cable 1.5 m																		L
Pressure connection ³⁾	Inside thread	G 1/4 with O-Ring seal FPM spec. (-30 ... +135 °C)																	1
	Inside thread	7/16-20 UNF																	K
	Inside thread	1/2-14 NPT																	D
	Outside thread	7/16-20 UNF																	2
	Outside thread	1/4-18 NPT																	3
	Outside thread	G 1/4 sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)																	4
	Outside thread	R 1/4 acc. to DIN 2999																	7
	Outside thread	G 1/2 sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)																	8
	Outside thread	G 1/2 sealed at front																	9
	Outside thread	M20x1.5 ²⁾																	E
Version	without pressure tip orifice																		1
	with pressure tip orifice																		2
Switching points	Indicate W and state switching points on order (e.g.: W30/16psi)																		
																			W

¹⁾ Other pressure ranges on request²⁾ Delivery without female connector³⁾ Other pressure connections on request

Order code selection table in MPa		529	X	X	X	X	X	X	X	X	X	X	X	X
Pressure range (relative) ¹⁾	-0.1 ... 0 MPa	9	G	0										
	0 ... 0.1 MPa	9	G	1										
	0 ... 0.16 MPa	9	G	2										
	0 ... 0.25 MPa	9	G	4	0									
	0 ... 0.4 MPa	9	G	5	0									
	0 ... 0.6 MPa	9	G	7	0									
	0 ... 1 MPa	9	H	0	0									
	0 ... 1.6 MPa	9	H	1	0									
	0 ... 2.5 MPa	9	H	2	0									
	0 ... 4 MPa	9	H	3	0									
0 ... 6 MPa	9	K	0	0										
Pressure range (absolute) ¹⁾	0 ... 0.1 MPa	8	G	1										
	0 ... 0.16 MPa	8	G	2										
	0 ... 0.25 MPa	8	G	4										
	0 ... 0.4 MPa	8	G	5										
	0 ... 0.6 MPa	8	G	7										
	0 ... 1 MPa	8	H	0										
	0 ... 1.6 MPa	8	H	1										
Sealing material	FPM Fluoro elastomer				0									
	EPDM Ethylene propylene				1									
	NBR Butadiene Acylonitrile				2									
	MVQ Silicone polymer				3									
Application	standard								0					
	for oxygen applications								0	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 ²⁾											3		
	Swift connector with cable 1.5 m											L		
Pressure connection ³⁾	Inside thread G 1/4 with O-Ring seal FPM spec. (-30 ... +135 °C)												1	
	Inside thread 7/16-20 UNF												K	
	Inside thread 1/2-14 NPT												D	
	Outside thread 7/16-20 UNF												2	
	Outside thread 1/4-18 NPT												3	
	Outside thread G 1/4 sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)												4	
	Outside thread R 1/4 acc. to DIN 2999												7	
	Outside thread G 1/2 sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)												8	
	Outside thread G 1/2 sealed at front												9	
	Outside thread M20x1.5 ²⁾												E	
Version	without pressure tip orifice												1	1
	with pressure tip orifice												2	1
Switching points	Indicate W and state switching points on order (e.g.: W4/1.2MPa)													W

Dimensions in mm / Electrical connections



¹⁾ Other pressure ranges on request. ²⁾ Delivery without female connector. ³⁾ Other pressure connections on request.

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FOR FINE PRESSURE AND FLOW MEASUREMENT

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