

# Compact Pressure Switches

## Series 8000

Series 8000 - mechanical pressure switches in diaphragm or piston design. The successors of the product lines XTM, XTK, X1T and 96200 have the additional advantage of very low and precise switching point settings.

### Features

- ▶ Modular construction
- ▶ Versatile
- ▶ High-quality materials
- ▶ 100% functional test
- ▶ Long pressure spring
- ▶ Approvals: Ex ia, cULus, marine, SIL2 (IEC 61508)

### Adjustment ranges

0.6...600 bar

### Applications

OEM applications,  
Mobile- and industrial-hydraulics and pneumatics,  
Test bed and apparatus engineering,  
Heavy industry



### Technical Data

<b>Wetted parts:</b> standard:	NBR, PTFE with bronze and stainless steel 1.4301; pistons: steel
optional:	FKM, EPDM, CR instead of NBR
<b>Repeatability:</b>	±1% type, piston pressure switch ±2% type, diaphragm pressure switch
<b>Switching rate:</b>	max. 60/min piston pressure switch max. 30/min diaphragm pressure switch
<b>Temperature range:</b> Piston switch: Diaphragm switch:	-40 °C ... +80 °C (-40 °F ... +176 °F) -20 °C ... +80 °C (-4 °F ... +176 °F)
<b>Protection class:</b> standard:	IP65 (plug connector), IP68 (cable) UL
optional:	Intrinsically safe • II 1G Ex ia IIB T6 (DIN plug) - EXI Ex ia IIC T6 (cable version) - EXI • II 1GD Ex ia D 20 T100 UL, Type 4, for indoor and outdoor use

<b>Housing:</b> standard: optional:	Aluminium Stainless steel 1.4305 / AISI 303, Version - VA
<b>Process connection:</b>	CETOP flange Ø40x40 mm, (order code "1") see dimensions
<b>Electrical connection:</b>	see dimensions
<b>Weight:</b> CETOP flange version:	350 g (0.77 lbs)
<b>Micro switch:</b>	Change-over contact (SPDT)
<b>Set screw:</b> standard optional	Aluminium Stainless steel 1.4305 / AISI 303 (SW5), captive
<b>Approvals:</b>	GL, Ex ia, cULus, further approvals on request

### Pressure Ranges and Proof Pressures

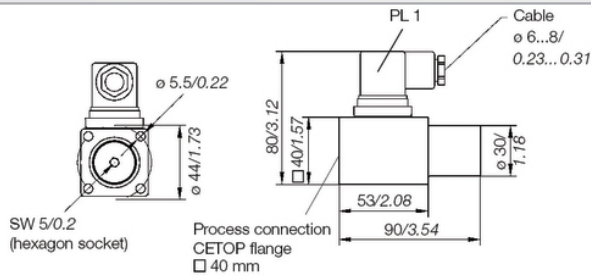
Pressure range code		Adjustment range (pressure increasing)		Adjustment range (pressure decreasing)		Max. operating pressure		Proof pressure		Max. hysteresis (end of range)
[bar]	[psi]	[bar]	[psi]	[bar]	[psi]	[bar]	[psi]	[bar]	[psi]	
		Diaphragm		Diaphragm						≤15%
1	A	0.6 ... 6.0	(8.7...87)	0.4... 5.7	(5.8...82)	50	725	80 *	(1,200)	
2	B	3.0... 20.0	(45.0...290)	2.0... 17.0	(29...246)	50	725	80 *	(1,200)	
3	C	4.0... 45.0	(60.0...650)	3.0... 41.0	(43...600)	50	725	80 *	(1,200)	
		Piston		Piston						≤15%
4	D	5.0... 180	(75...2,600)	3.0... 160	(43...2,320)	250	3600	600	(8,700)	
5	E	50.0... 350	(750...5,000)	30.0... 300	(430...4,300)	450	6500	600	(8,700)	
6	F	80.0... 600	(1,200...8,700)	55.0... 520	(800...7,550)	600	8700	900	(15,000)	

\* Test pressure 200 bar (2,900 psi) upon request, results in less lifetime of the switch.

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### Dimensions (mm / inch)

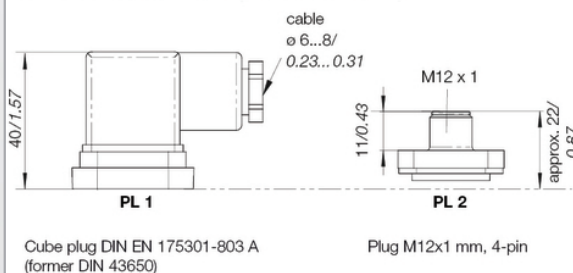


### Switching- and connection diagram (pressureless)

	PL1	PL2
C	1	1
NC	2	2
NO	3	4
PE	---	3

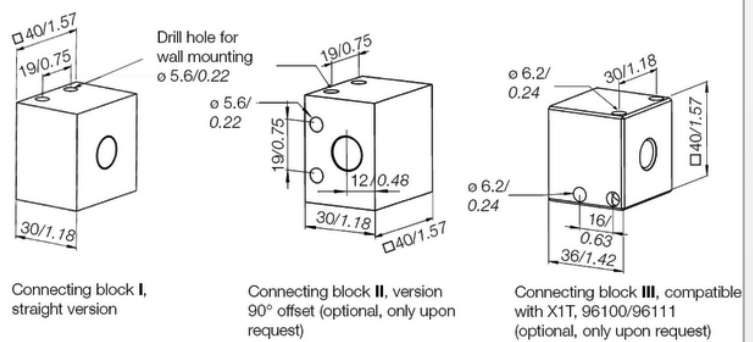
Up to pressure stage 5 or E every pressure switch is supplied with two fastening screws M5x60 mm according to DIN 912 (10.9, galvanized).  
The pressure switches of pressure stage 6 or F are supplied with four screws.

### Electrical connection (PL1 = standard)



### Process connections

Complete assembly with pressure switch only upon request



### Electrical Ratings

Micro switch	Special features	Volt AC 50/60 Hz	Ind. Load A	Res. Load A	Volt DC	Ind. Load A	Res. Load A	Minimum capacitance	Intrinsic safety Ex ia
1	Silver contacts	250 V ~ 125 V ~	2.0 2.0	5.0 5.0	30 V= 250 V=	2.0 0.03	5.0 0.2	10 mA at 12 VDC	U <sub>max</sub> = 28 V I <sub>max</sub> = 50 mA
2	Gold contacts*	U x I = max. 0.12 VA			≤ 300 mV = ≤ 30 V =	--- ---	≤ 400 mA ≤ 4 mA	0 mA / 0 VDC	

\* e.g. suitable for PLC and/or Ex ia

### Seal

Code	Seal
B	NBR
N	CR
E	EPDM
V	FKM

### Options

Code	Version
VA	Housing 1.4305
D	damping bore in the process connection (only at pressure range code 4, 5, 6)

### Approvals

EXI	Ex ia
GL	Germanischer Lloyd
UL	cULus approval

### Order Code

Example for order number

Type	Process connection	Pressure range	Micro switch Contact	Electrical connection	Seal	Options	Approvals
8	1	2	1	PL1	B	VA	GL

Your order number

8	1						
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### Accessories

Connecting block no.	Order No.	Process connection	Designation	Material
I	906-0953	1/4" NPT female	straight	St passivated
I	906-0954	G 1/4" female	straight	St passivated
I	906-0946	1/4" NPT female	straight	1.4301
I	906-0947	G 1/4" female	straight	1.4301
II	906-0926	G 1/4" female	90° offset	1.4301
II	906-0927	1/4" NPT female	90° offset	1.4301
III	906-0919	G 1/4" female	straight	AlMg4,5Mn0,7