

# Compact Pressure Switches

## Type 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% assays,  
Long pressure spring

### 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:	Inherent safety $\text{Ex}$ II 1G Ex ia IIB T6 (DIN plug) - EXI Ex ia IIC T6 (cable version) - EXI $\text{Ex}$ II 1GD Ex ia D 20 T100 UL, Type 4, for indoor and outdoor use

<b>Housing:</b> standard: optional:	Aluminium diecast 230 Stainless steel 1.4305/SS 304, Version - VA
<b>Process connection:</b>	CETOP flange □40x40 mm, see dimensions
<b>Electrical connection:</b>	see dimensions
<b>Weight:</b> Total: CETOP flange version: Adapter version straight: Adapter version 90° offset: Adapter version X1T compatible:	400 g (0.88 lbs) 350 g (0.77 lbs) 620 g (1.36 lbs) 675 g (1.48 lbs) 730 g (1.61 lbs)
<b>Micro switch:</b>	Change-over contact (SPDT)
<b>Set screw:</b>	Stainless steel 1.4305/SS304 (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 range end
[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...250)	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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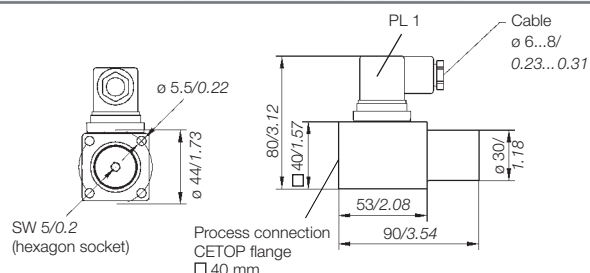
Specifications are subject to changes without notice.

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### Dimensions (in mm / inch)

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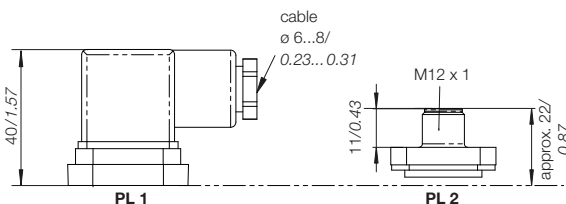


Up to pressure stage 5 or E every pressure switch is supplied with two fastening screws M5x60 mm according to DIN 912 (10.9, galvanized).  
The pressure switches of pressure stage 6 or F are supplied with four screws.

### Switching- and connection diagram (pressureless)

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

### Electrical connection (PL1 = standard)

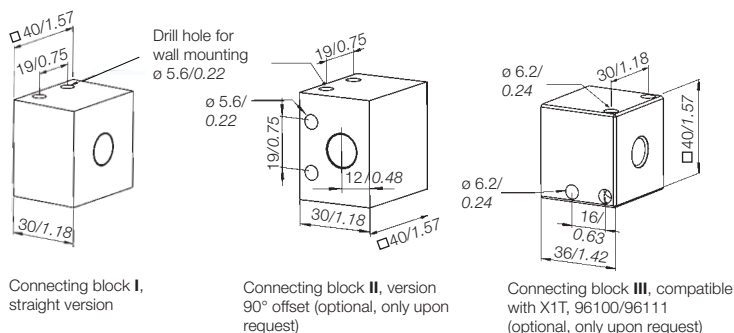


Cube plug DIN EN 175301-803 A  
(former DIN 43650)

Plug M12x1 mm, 4-pin

### Process connections

Complete assembly with pressure switch only upon request



Connecting block I,  
straight version

Connecting block II, version  
90° offset (optional, only upon  
request)

Connecting block III, compatible  
with X1T, 96100/96111  
(optional, 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 3.0	3.0 5.0	30 V= 250 V=	3.0 0.2	4.0 0.2	160 mA at 5 VDC	Umax = 28 V Imax = 50 mA
2	Gold contacts*	125 V ~	---	0.1	30 V=	---	0.1	0.1 mA at 5 VDC	

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

### Seal

	Seal
B	NBR
N	CR
E	EPDM
V	FKM

### Options

	Housing
VA	1.4305

### Approvals

EXI	Ex ia
GL	Germanischer Lloyd
UL	cULus approval

### Ordering

#### 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 (To be listed separately in case of order. Blocks are slackly arranged.)

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	1.4305
I	906-0947	G 1/4" female	straight	1.4305
II	906-0926	G 1/4" female	90° offset	1.4305
II	906-0927	1/4" NPT female	90° offset	1.4305
III	906-0919	G 1/4" female	straight	AlMg4,5Mn0,7