Compact Pressure Switches
Series 8000

Series 8000 - mechanical pressure switches in diaphragm or piston design. The switch has 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
- Suitable for SIL2/3 (IEC 61508) acceptance

Adjustment ranges

- 0.6 ... 600 bar

Applications

- OEM applications
- Mobile- and industrial-hydraulics and pneumatics,
- Prüfstand- und Apparatebau
- Test bed and apparatus engineering,
- Heavy industry
- Marine
- Offshore

Technical Data

Wetted parts[1)] Standard: Optional:	NBR, PTFE with bronze and stainless steel 1.4301; pistons: steel FKM, EPDM, CR instead of NBR
Repeatability:	±1% type, piston pressure switch ±2% type, diaphragm pressure switch
Switching rate:	max. 60/min piston pressure switch max. 30/min diaphragm pressure switch
Temperature range: Piston switch: Diaphragm switch: ATEX version:	 -40 °C ... +80 °C (-40 °F ... +176 °F)[2)] -20 °C ... +80 °C (-4 °F ... +176 °F) -40 °C ... +75 °C (-40 °F ... +167 °F)[2)]
Protection class:	IP65 (plug connector), IP68 (cable)
Housing: standard: optional:	 Aluminium Stainless steel 1.4305 / AISI 303, Version - VA
Process connection:	flange connection as per ISO 16873-01-01-0-11
Electrical connection:	see dimensions
Weight CETOP flange version:	350 g (0.77 lbs)
Micro switch:	Change-over contact (SPDT)

Set screw:	Aluminium or Stainless steel 1.4305 / AISI 303 (SW5), captive
Approvals:	BV, DNV, LR, RINA, cULus Nr. E42816, other on request
Intrinsically safe:	Cert-No: TÜV 20 ATEX 248753 X, IECEx TUN 21.0002X Series 8000 with PL1: (Ex) II 1 G Ex ia IIB T6 Ga or II 1 D Ex ia IIIC T_{200} 100°C Da -40 °C < Ta < +75 °C Ui = 28 V Ii = 50 mA Pi = 0.84 W Ci, Li = negligibly small Series 8000 with PL2, CA: (Ex) II 1 G Ex ia IIC T6 Ga or II 1 D Ex ia IIIC T_{200} 100°C Da -40 °C < Ta < +75 °C Ui = 28 V Ii = 50 mA Pi = 0.84 W Ci, Li = negligibly small

[1)] Suitable media: All common hydraulic oils and fluid greases, and, with restrictions, aqueous media or gases. For more information, see operation manual.
[2)] see order code "sealing"

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						
1	A	0.6 ... 6.0	(8.7...87)	0.4... 5.7	(5.8...82)	50	725	80	(1,200)	≤15%
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						
4	D	5.0... 180	(75...2,600)	3.0... 160	(43...2,320)	250	3600	600	(8,700)	≤15%
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	(13,050)	

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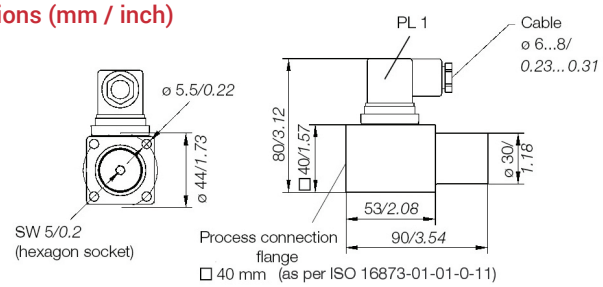
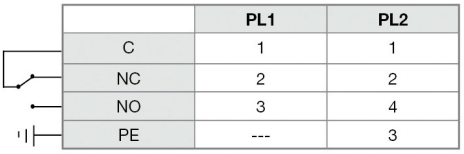
Dimensions (mm / inch)



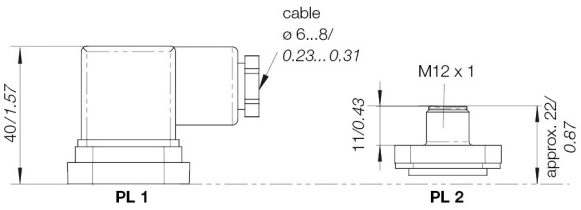
Up to pressure stage 5 or E every pressure switch is supplied with two fastening screws M5×60 mm according to DIN 912 (10.9, galvanized).
The pressure switches of pressure stage 6 or F are supplied with four screws.

Switching- and connection diagram (pressureless)



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

Electrical connection (PL1 = standard)

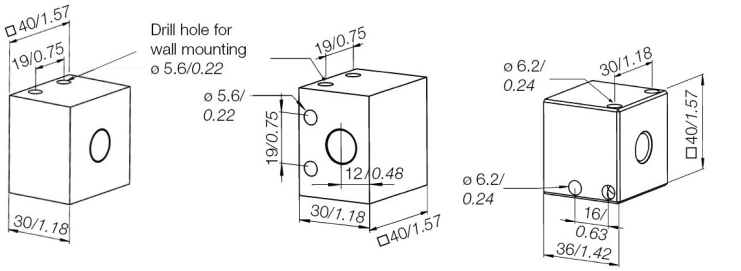


Cube plug DIN EN 175301-803 A (former DIN 43650)

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. Last A	Res. Last A	Volt DC	Ind. Last A	Res. Last 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	Umax = 28 V Imax = 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
LH	Small hysteresis, only for pressure range code 4, 5, 6
HP	Test pressure 200 bar [3], only for pressure range code 1, 2, 3

Approvals

EXI	Ex ia
GL	BV, DNV, LR, RINA
UL	cULus approval

Accessories

Process connection	Designation	Material	Connecting block no.	Order No.
G 1/4" female	straight	St passiviert	I	906-0954
G 1/4" female	straight	1.4305	I	906-0947
G 1/4" female	90° offset	1.4305	II	906-0926
G 1/4" female	straight	AlMg4,5 Mn0,7	III	906-0919
1/4" NPT female	straight	St passiviert	I	906-0953
1/4" NPT female	straight	1.4305	I	906-0946
1/4" NPT female	90° offset	1.4305	II	906-0927
Flange connector 23x40 mm	90° offset	1.4301	-	906-1221
Protection cap	black	Vinyl	-	924-0241

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

Barksdale® CONTROL PRODUCTS

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Order Code

Base Model	Process connection	bar (for psi)		Micro switch contact	Electrical connection	Sealing	Options	Approvals [4]
8								
	1				Flange 40x40 mm (as per ISO 16873-01-01-0-11)			
	2				G 1/4" female (straight version) zinc plated **)			
		bar (for psi)			Adjustment range, bar (psi)			
		1	A		0.6 … 6.0 (8.7...87)			
		2	B		3.0... 20.0 (45.0...290)			
		3	C		4.0... 45.0 (60.0...650)			
		4	D		5.0... 180 (75...2,600)			
		5	E		50.0... 350 (750...5,000)			
		6	F		80.0... 600 (1,200...8,700)			
				Micro switch contact				
				1	Silver contacts			
				2	Gold contacts			
					Electrical connection			
					PL1	Cube plug DIN EN 175301-803A (IP65)		
					PL2	Plug M12x1, 4-pol. (IP65)		
					CA1	Cable gland with 0.7 m silicon cable (IP68)		
					CA3	Cable gland with 0.7 m neopren cable (IP68)		
						Sealing		
						B	NBR (fluid temp. range -25°...+80°C)	
						N	CR (fluid temp. range -20°...+80°C)	
						E	EPDM (fluid temp. range -40°...+80°C)	
						V	FKM (fluid temp. range -20°...+80°C)	
							Options	
							VA	Housing 1.4305
							D	Damping bore in the process connection (only at pressure ranges code 4, 5, 6)
							LH	Low hysteresis (only at pressure ranges code 4, 5, 6
							HP	Test pressure 200 bar (only at pressure ranges code 1, 2, 3)
								Approvals [4]
								Exi Ex ia
								GL Marine approvals
								UL cULus
Beispiel								
8	1	5		2	PL2	B	VA	Exi

**) For VA housing, the terminal block is also made of VA.
4) Possible combination:
GL + Exi = yes
UL + Exi = no
GL + UL = no