

# DS 6

## Electronic OEM Pressure Switch

### Applications:

- ▶ mechanical engineering / hydraulics
- ▶ measuring, control and process technology

### Characteristics:

- ▶ nominal pressure ranges from 0 ... 2 bar up to 0 ... 400 bar
- ▶ 1 or 2 contacts
- ▶ configurable via PC or programming device P6
- ▶ optional:
  - oil- and fat free version
  - oxygen application



### Technical Data



Input pressure range									
Nominal pressure gauge [bar]	2	5	10	20	50	100	200	400	
Nominal pressure abs. [bar]	2	5	10	20	50	100	200	400	
Overpressure [bar]	7	12	25	50	120	250	400	600	
Supply									
Supply voltage V <sub>s</sub>	12 ... 30 V <sub>DC</sub>								
Current consumption	max. 14 mA (without contacts)								
Contacts									
Number	standard: 1				optional: 2				
Type	PNP								
Switching performance	max. 300 mA, short-circuit proof								
Accuracy of contacts	IEC 60770: ≤ ±1 % span								
Repeatability	≤ ± 0.2 % span								
Minimum hysteresis of contacts	≤ ± 0.5 % span								
Status indication	SP 1: green				SP 2: yellow				
Switching function <sup>1</sup>	standard: n/o				optional: n/c				
Switching mode <sup>1</sup>	standard: hysteresis mode				optional: window mode				
Switch on point <sup>1</sup>	standard: factory setting 80 % span others: specify on order; adjustable range 5 ... 100 % span								
Switch off point <sup>1</sup>	standard: factory setting 75 % span others: specify on order; adjustable range 5 ... 100 % span								
Switch on / switch off delay <sup>1</sup>	standard: off others: specify on order, adjustable range from 10 msec up to 90 sec (step 10 msec)								
Switching frequency	200 Hz (without switching delay)								
Switching cycles	> 100 x 10 <sup>6</sup>								
<sup>1</sup> Parameters can be programmed by customer either with the programming kit CIS 685 / CIS 686 or with the programming device P6 (available as accessories).									
Thermal effects (Offset and Span) / Permissible temperatures									
Thermal error	≤ ± 0.3 % span / 10 K				in compensated range -25 ... 85 °C				
Permissible temperatures	medium / electronics / environment:				-25 ... 85 °C		storage: -40 ... 85 °C		

<b>Electrical protection</b>				
Short-circuit protection	permanent			
Reverse polarity protection	no damage, but also no function			
Electromagnetic compatibility	emission and immunity according to EN 61326			
<b>Mechanical stability</b>				
Vibration	10 g RMS (20 ... 2000 Hz)			
Shock	100 g / 11 msec			
<b>Materials</b>				
Pressure port	stainless steel 1.4305			
Housing	stainless steel 1.4305, POM black			
Seals (media wetted)	$P_N < 100$ bar: FKM, EPDM $P_N \geq 100$ bar: NBR      other on request			
Diaphragm	ceramic $Al_2O_3$ 96 %			
Media wetted parts	pressure port, seals, diaphragm			
<b>Miscellaneous</b>				
Option oxygen application	for $P_N \leq 15$ bar: O-ring in 70 EPDM 281 (with BAM-approval); permissible maximum values are 15 bar / 60° C and 10 bar / 90° C for $P_N \leq 25$ bar: O-ring in FKM Vi 567 (with BAM-approval); permissible maximum values are 25 bar / 150° C			
Weight	approx. 90 g			
Installation position	any			
Ingress protection	IP 67			
CE-conformity	EMC Directive: 2014/30/EU      Pressure Equipment Directive: 2014/68/EU (module A) <sup>2</sup>			
<sup>2</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar				
<b>Wiring diagrams</b>				
<p>1 contact</p>	<p>2 contacts</p>			
<b>Pin configuration</b>				
Electrical connection	M12x1 (4-pin)		M8x1 (4-pin), metal	
Supply +	1		1	
Supply -	3		3	
Contact 1	4		4	
Contact 2	2		2	
Shield	plug housing		plug housing	
<b>Dimensions (in mm)</b>				
G1/4" DIN 3852 with male plug M12x1		G1/4" DIN 3852 with male plug M8x1		

This data sheet contains product specification. Properties are not guaranteed. Subject to change without notice.

## Ordering code DS 6

27.4.2022

DS 6

□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

<b>Pressure</b>																
Gauge	6	8	5													
Absolute	6	8	6													
<b>Input [bar]</b>																
0...2				2	0	0	1									
0...5				5	0	0	1									
0...10				1	0	0	2									
0...20				2	0	0	2									
0...50				5	0	0	2									
0...100				1	0	0	3									
0...200				2	0	0	3									
0...400				4	0	0	3									
Customer				9	9	9	9									
Customer - underpressure				X	X	X	X									
<b>Number of switching output</b>																
1 switching output															1	
2 switching output															2	
<b>Analogue output</b>																
Without analogue output															0	
<b>Electrical connection</b>																
Connector M 12 x 1 (4-pin) - metal plug										M	1	3				
Connector M 8 x 1 (4-pin) - metal plug										Q	0	0				
Customer										9	9	9				
<b>Mechanical connection</b>																
G 1/4" DIN 3852													3	0	0	
Customer													9	9	9	
<b>Seals</b>																
Viton																1
EPDM																3
Customer																9
<b>Setting code</b>																
BD SENSORS setting - standard <sup>1</sup>																0 0 0
Customer <sup>1</sup>																9 9 9
<b>Special version</b>																
Standard																0 0 0
Oil and grease free																0 0 8
Customer																9 9 9
<b>Software for the pressure switch DS 6</b>																
CIS_685-USB-000+ SW for DS 6 and incl. Cable																

0,-...without additional charge  
 On request...in accordance with the producer

Attention: a discount for DS 6 - according to agreement. No standard customers discount.  
 Surcharges for calibration are not subject to any discounts. Subject to change.☐

This document contains the specification for ordering the product;  
 detailed technical parameters of the product and its possible variants are given in the data sheet.  
 BD SENSORS reserves the right to change sensor specifications without further notice.

<sup>1</sup> Parameters can be programmed by customer either with the programming kit CIS 680 / CIS 681 or with the programming device P6 (available as accessories).



BD SENSORS s.r.o.  
 Hradištská 817  
 CZ – 687 08 Buchlovice

Tel.: +420 572 411 011  
 Fax: +420 572 411 497

www.bdsensors.cz  
 info@bdsensors.cz

The company BD SENSORS s.r.o. is certified by TÜV SÜD Czech according to the standard ISO 9001.

