



# DS 6

## Electronic OEM Pressure Switch Fluid

### 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 $V_s$	12 ... 30 $V_{DC}$								
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: $\leq \pm 1\%$ FSO				BFSL: $\leq \pm 0.5\%$ FSO				
Repeatability	$\leq \pm 0.2\%$ FSO								
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 % FSO others: specify on order; adjustable range 0 ... 100 % FSO								
Switch off point <sup>1</sup>	standard: factory setting 75 % FSO others: specify on order; adjustable range 0 ... 100 % FSO								
Switch on / switch off delay <sup>1</sup>	standard: off others: specify on order, adjustable range from 10 msec to 90 sec (step 10 msec)								
Switching frequency	200 Hz (without switching delay)								
Switching cycles	$> 100 \times 10^6$								
<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	$\leq \pm 0.3\%$ FSO / 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 (303)
Housing	stainless steel 1.4305 (303), POM black
Seals (media wetted)	$P_N < 100$ bar: FKM <span style="margin-left: 100px;"><math>P_N \geq 100</math> bar: NBR</span> <span style="margin-left: 100px;">others on request</span>
Diaphragm	ceramic $Al_2O_3$ 96 %
Media wetted parts	pressure port, seals, diaphragm
<b>Miscellaneous</b>	
Option oxygen application	for $P_N \leq 50$ bar: O-ring in V747-75 (with BAM-approval); permissible maximum values are 40 bar / 130° C and 50 bar / 100° C for $P_N > 50$ bar: O-ring in FKM 90 (approved by the scientific coal research institute in Ostrava – CZ) up to max. 215 bar / 95 °C
Weight	approx. 90 g
Installation position	any
Ingress protection	IP 67
CE-conformity	EMC Directive: 2004/108/EC <span style="margin-left: 100px;">Pressure Equipment Directive: 97/23/EC (module A) <sup>2</sup></span>
<sup>2</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar	
<b>Wiring diagrams</b>	
<p><b>1 contact</b></p>	<p><b>2 contacts</b></p>
<b>Pin configuration</b>	
Electrical connection	M12x1 (5-pin)
Supply +	1
Supply -	3
Contact 1	4
Contact 2	5
Shield	plug housing
<b>Dimensions (in mm)</b>	
<p style="text-align: center;">G1/4" DIN 3852</p>	

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

**Ordering code DS 6**

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<b>Pressure</b>											
gauge	6	8	5								
absolute	6	8	6								
<b>Input [bar]</b>											
2	2	0	0	1							
5	5	0	0	1							
10	1	0	0	2							
20	2	0	0	2							
50	5	0	0	2							
100	1	0	0	3							
200	2	0	0	3							
400	4	0	0	3							
customer	9	9	9	9						consult	
<b>Number of contacts</b>											
1 contact									1		
2 contacts									2		
<b>Analogue output</b>											
without analogue output									0		
<b>Electrical connection</b>											
M12x1 (5-pin)						N	1	0			
customer						9	9	9		consult	
<b>Mechanical connection</b>											
G1/4" DIN 3852						3	0	0			
customer						9	9	9		consult	
<b>Seals</b>											
for P <sub>N</sub> < 100 bar									1		
for P <sub>N</sub> ≥ 100 bar									5		
customer									9	consult	
<b>Setting code</b>											
BD SENSORS standard									0	0	0
setting according to customer									9	9	9
<b>Special version</b>											
standard									0	0	0
oxygen application									0	0	7
oil and grease free									0	0	8
customer									9	9	9
											consult

<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).

<sup>2</sup> oxygen application possible up to 200 bar

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