

## DS 4

### Electronic OEM Pressure Switch Pneumatics

#### Applications:

- ▶ Pneumatics
- ▶ Vacuum technology

#### Characteristics:

- ▶ nominal pressure ranges from 0 ... 1 bar up to 0 ... 10 bar also -1 ... 0 bar
- ▶ 1 or 2 contacts
- ▶ compact design
- ▶ configurable via PC or programming device P6



#### Technical Data

Input pressure range					
Nominal pressure gauge [bar]		-1 ... 0	1	3.5	10
Overpressure [bar]		2	2	7	13
Supply					
Supply voltage		$V_S = 12 \dots 30 V_{DC}$			
Current consumption		max. 14 mA (without contacts)			
Output signal					
Contact <sup>1</sup>					
Number		standard: 1	option: 2		
Type		PNP			
Switching performance		max. 300 mA, short-circuit proof			
Accuracy of contacts <sup>2</sup>		$\pm 1 \% FSO$			
Repeatability		$\leq \pm 0.2 \% FSO$			
Status indication		SP 1: green	SP 2: yellow		
Switching function <sup>3</sup>		standard: n/o	option: n/c		
Switching mode <sup>3</sup>		standard: hysteresis mode	option: window mode		
Switch on point <sup>3</sup>		standard: factory setting 80 % FSO others: specify on order; adjustable range 0 ... 100 % FSO			
Switch off point <sup>3</sup>		standard: factory setting 75 % FSO others: specify on order; adjustable range 0 ... 100 % FSO			
Switch on / switch off delay <sup>3</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		$> 100 \times 10^6$			
Analogue output <sup>1</sup> (optionally)					
Analogue output		1 ... 5 V / 3-wire			
Accuracy		IEC 60770 <sup>3</sup> : $\leq \pm 2 \% FSO$			
Permissible load		$R_{min} = 10 \text{ k}\Omega$			
<sup>1</sup> with optional analogue output max. 1 contact possible					
<sup>2</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)					
<sup>3</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).					

<b>Thermal effects (Offset and Span) / Permissible temperatures</b>			
Tolerance band	$\leq \pm 2\%$ FSO	in compensated range 0 ... 50 °C	
TC, average	$\leq \pm 0.4\%$ FSO / 10 K	in compensated range 0 ... 50 °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)	according to DIN EN 60068-2-6	
Shock	100 g / 11 msec	according to DIN EN 60068-2-27	
<b>Materials</b>			
Pressure port	aluminium		
Housing	PA 6.6 black		
Seal (media wetted)	NBR		
Sensor	silicon, RTV		
Media wetted parts	pressure port, seal, sensor		
<b>Miscellaneous</b>			
Media	compressed air, non-aggressive gases		
Weight	approx. 50 g		
Installation position	any		
Operational life	100 million load cycles		
Ingress protection	IP 54		
CE-conformity	EMC Directive: 2014/30/EU		
<b>Wiring diagrams</b>			
<b>Pin configuration</b>			
Electrical connection	M8x1 / metal (4-pin) 1 contact	M8x1 / metal (4-pin) 2 contacts	M8x1 / metal (4-pin) 1 contact, 1 analogue output
Supply +	1	1	1
Supply -	3	3	3
Signal +	-	-	2
Contact 1	4	4	4
Contact 2	-	2	-
Shield	housing	housing	housing
<b>Dimensions (in mm)</b>			
<b>Mechanical connections (view X)</b>			

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