

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 0 ... -1 bar
- ▶ 1 or 2 contacts
- ▶ compact design
- ▶ configurable via PC or programming device P6



Technical Data

Input pressure range					
Nominal pressure gauge	[bar]	0 ... -1	1	3.5	10
Overpressure	[bar]	2	2	7	13

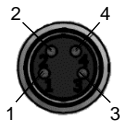
Supply	
Supply voltage	$V_S = 12 \dots 30 V_{DC}$
Current consumption	max. 14 mA (without contacts)
Output signal / Contact ¹	
Number	standard: 1 option: 2
Type	PNP
Switching performance	max. 300 mA, short-circuit proof
Accuracy of contacts ²	$\leq \pm 1 \% FSO$
Repeatability	$\leq \pm 0.2 \% FSO$
Status indication	SP 1: green SP 2: yellow
Switching function ³	standard: n/o option: n/c
Switching mode ³	standard: hysteresis mode option: window mode
Switch on point ³	standard: factory setting 80 % FSO others: specify on order; adjustable range 0 ... 100 % FSO
Switch off point ³	standard: factory setting 75 % FSO others: specify on order; adjustable range 0 ... 100 % FSO
Switch on / switch off delay ³	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	$> 100 \times 10^6$

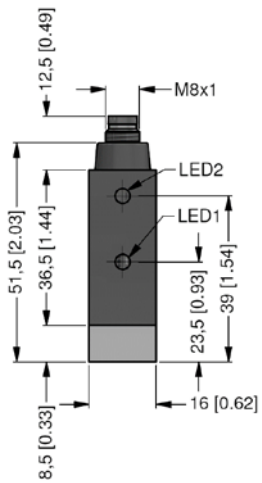
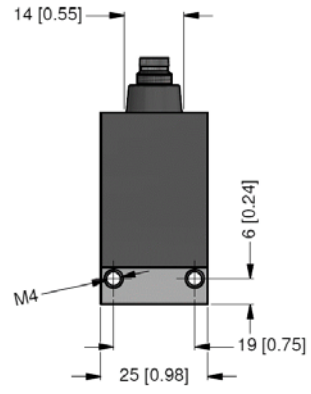
¹ with optional analogue output max. 1 contact possible

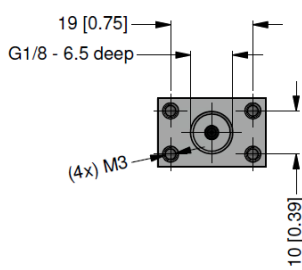
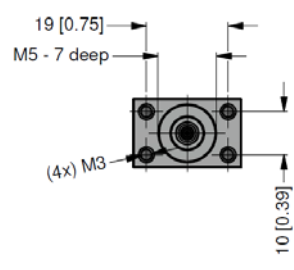
² accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

³ Parameters can be programmed by customer either with the programming kit CIS680/CIS681 or with the programming device P6 (available as accessories).

Output signal / Analogue output ¹ (optionally)		
Analogue output	1 ... 5 V / 3-wire	
Accuracy ²	≤ ± 2 % FSO	
Permissible load	R _{min} = 10 kΩ	
¹ with optional analogue output max. 1 contact possible		
² accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)		
Thermal effects (offset and span)		
Tolerance band	≤ ± 2 % FSO	in compensated range 0 ... 50 °C
TC, average	≤ ± 0.4 % FSO / 10 K	in compensated range 0 ... 50 °C
Permissible temperatures		
Medium	-25 ... 85 °C	
Electronics / environment	-25 ... 85 °C	
Storage	-40 ... 85 °C	
Electrical protection		
Short-circuit protection	permanent	
Reverse polarity protection	no damage, but also no function	
Electromagnetic compatibility	emission and immunity according to EN 61326	
Mechanical stability		
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
Materials		
Pressure port	aluminium	
Housing	PA 6.6 black	
Seal (media wetted)	NBR	
Sensor	silicon, RTV	
Media wetted parts	pressure port, seal, sensor	
Miscellaneous		
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	
Wiring diagrams		
1 contact, without analogue output		
2 contacts, without analogue output		
1 contact, with analogue output		

Pin configuration				
Electrical connection	M8x1 / metal (4-pin)			
	1 contact	2 contacts	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	

Dimensions (mm / in)	
	

Mechanical connections (dimensions mm / in)	
 <p>G1/8" internal thread</p>	 <p>M5 internal thread</p>

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Ordering code DS 4

DS 4

[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
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Pressure										
gauge	6	8	0							
Input										
[bar]										
1.0			1	0	0	1				
3.5			3	5	0	1				
10			1	0	0	2				
0 ... -1			Z	1	0	2				
customer			9	9	9	9				consult
Number of contacts										
1 contact									1	
2 contacts ¹									2	
Analogue output										
without analogue output									0	
1 ... 5 V / 3-wire ¹									C	
Electrical connection										
M8x1 (4-pin) / metal									Q 0 0	
customer									9 9 9	consult
Mechanical connection										
G1/8" internal thread									Q 0 0	
M5 internal thread with slot for O-ring ²									R 0 0	
customer									9 9 9	consult
Seal										
NBR									5	
customer									9	consult
Setting code										
BD SENSORS standard ³									0 0 0	
setting according to customer ³									9 9 9	consult
Special version										
standard									0 0 0	
customer									9 9 9	consult

¹ with optional analogue output max. 1 contact possible

² suitable for flange installation

³ Parameters can be programmed by customer either with the programming kit CIS 680 / CIS 681 or with the programming device P6 (available as accessories).