

DS 4

Electronic OEM Pressure Switch Pneumatics



Applications:

- ▶ Pneumatics
- ▶ Vacuum technology

Characteristics:

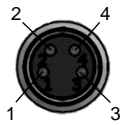
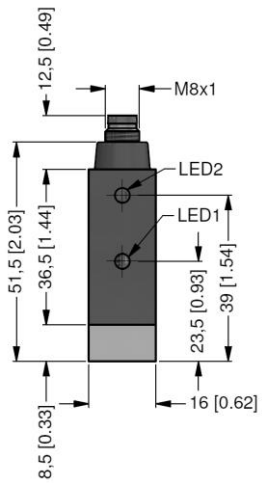
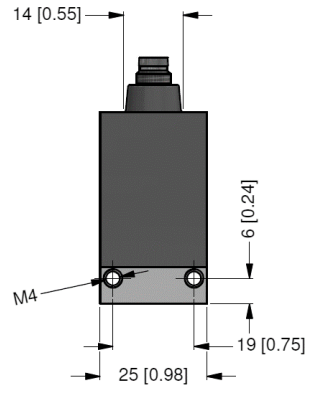
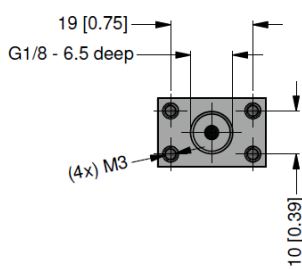
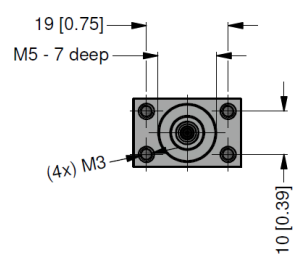
- ▶ nominal pressure ranges from 0 ... 1 bar up to 0 ... 10 bar also -1 ... 0 bar
- ▶ 1 or 2 contacts
- ▶ compact design
- ▶ configurable via PC or programming device P6



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 ¹					
Number	standard: 1 option: 2				
Type	PNP				
Switching performance	max. 300 mA, short-circuit proof				
Accuracy of contacts ²	$\leq \pm 1 \% \text{ FSO}$				
Repeatability	$\leq \pm 0.2 \% \text{ FSO}$				
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)							
							
G1/8" internal thread				M5 internal thread			

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Ordering code 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														
	-1 ... 0		X	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
Seals																				
	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).