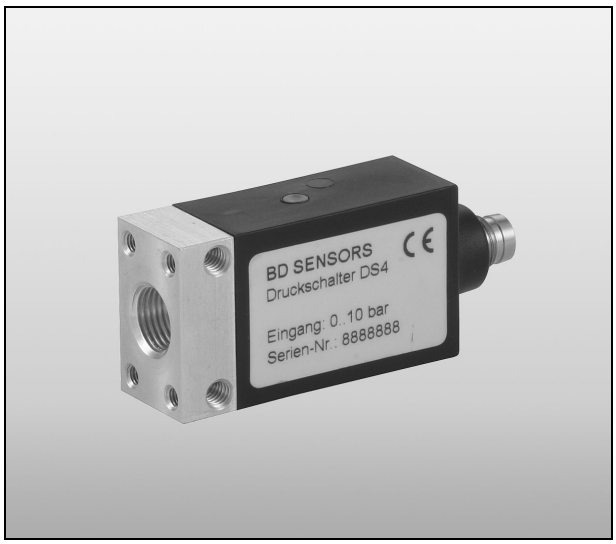

DS 4

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

CE

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 ... 30 V_{DC}			
Current consumption		max. 14 mA (without contacts)			
Output signal					
Contact [1]					
Number		standard: 1		optional: 2	
Type		PNP			
Switching performance		max. 300 mA, short-circuit proof			
Accuracy of contacts		IEC 60770: ≤ ± 1 % FSO		BFSL: ≤ ± 0.5 % FSO	
Repeatability		≤ ± 0.2 % FSO			
Status indication		SP 1: green		SP 2: yellow	
Switching function [2]		standard: n/o		optional: n/c	
Switching mode [2]		standard: hysteresis mode		optional: window mode	
Switch on point [2]		standard: factory setting 80 % FSO others: specify on order; adjustable range 0 ... 100 % FSO			
Switch off point [2]		standard: factory setting 75 % FSO others: specify on order; adjustable range 0 ... 100 % FSO			
Switch on / switch off delay [2]		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 x 10^6			
Analogue output [1] **(optionally)**					
Analogue output		1 ... 5 V / 3-wire			
Accuracy		IEC 60770 [3]: ≤ ± 2 % FSO		BFSL: ≤ ± 1 % FSO	
Permissible load		R_{min} = 10 kΩ			

[1] *with optional analogue output max. 1 contact possible*
[2] *Parameters can be programmed by customer either with the programming kit CIS 680 / CIS 681 or with the programming device P6 (available as accessories).*
[3] *accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)*

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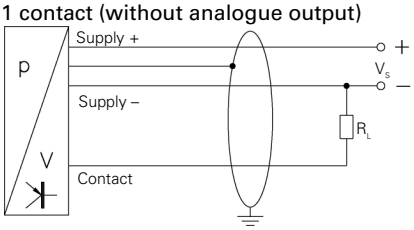
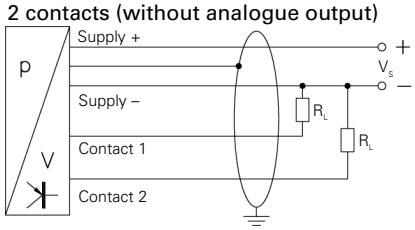
Thermal effects (Offset and Span) / Permissible temperatures	
Tolerance band	≤ ± 2 % FSO in compensated range 0 ... 50 °C
TC, average	≤ ± 0.4 % FSO / 10 K in compensated range 0 ... 50 °C
Permissible temperatures	medium / electronics / environment: -25 ... 85 °C storage: -40 ... 85 °C
Electrical protection	
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)
Shock	100 g / 11 msec.
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. 25 bis 35 g
Installation position	any
Ingress protection	IP 54
CE-conformity	EMC Directive: 2004/108/EC

Wiring diagrams

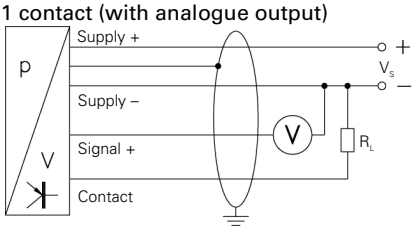
1 contact (without analogue output)



2 contacts (without analogue output)



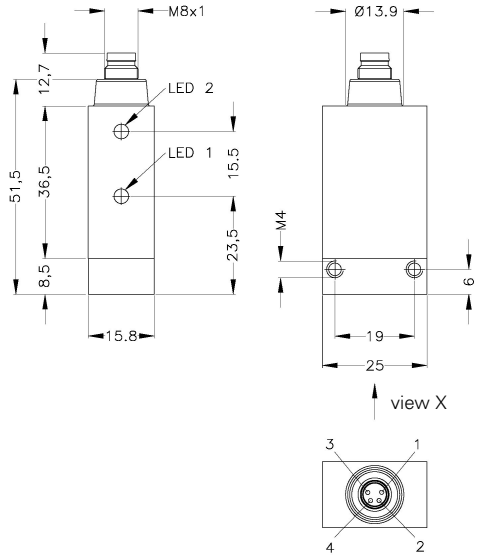
1 contact (with analogue output)



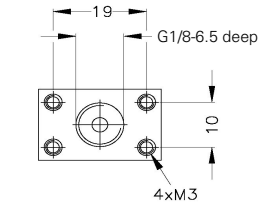
Pin configuration

Electrical connection	M8x1 (4-pin) 1 contact	M8x1 (4-pin) 2 contacts	M8x1 (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	-

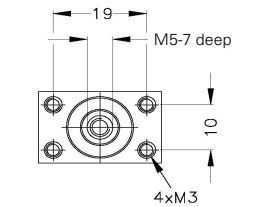
Dimensions (in mm)



Mechanical connections (view X)



G1/8" internal thread



M5 internal thread

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BD|SENSORS® pressure measurement

Ordering Code DS 4

DS 4 □□□-□□□□-□-□-□□□-□□□-□-□□□-□□□

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																		consult
customer				9	9	9	9																		consult
Number of contacts																									
1 contact								1																	
2 contacts								2																	
Analogue output																									
without analogue output									0																
1 ... 5 V / 3-wire									C																
Electrical connection																									
M8x1 (4-pin)										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													R	0	0										
customer													9	9	9										consult
Seals																									
NBR																5									
customer																9									consult
Setting code																									
BD SENSORS standard																	0	0	0						
setting according to customer																	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] possible with flange

[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).

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