



DS 230

Electronic OEM Pressure Switch

Applications:

- ▶ pneumatics
- ▶ pumps and hydraulic machines

Characteristics:

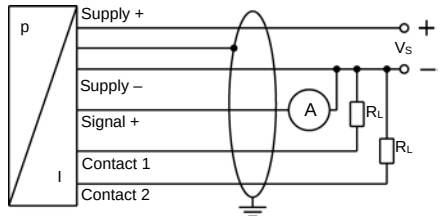
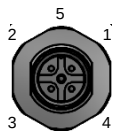
- ▶ nominal pressure ranges from 0 ... 2 bar up to 0 ... 400 bar
- ▶ display and housing rotatable
- ▶ up to 2 contacts
- ▶ configurable via display
- ▶ optional: analogue output



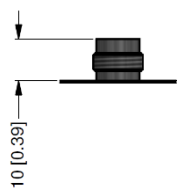
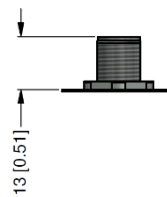
Technical Data



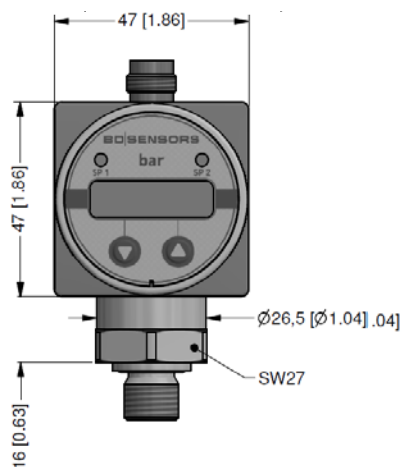
Input pressure range									
Nominal pressure gauge	[bar]	2	5	10	20	50	100	250	400
Overpressure	[bar]	4	10	20	40	100	200	400	600
Burst pressure ≥	[bar]	7	15	35	70	150	250	450	650
Supply									
Supply voltage V _s	24 V _{DC} ±10 %								
Current consumption	< 40 mA (without analogue output and without contacts)								
Output signal									
Number, type	standard: 1 PNP contact optional: max. 2 independent PNP contacts; 1 analogue output								
Contact (standard)									
Switching current	standard: contact rating max. 125 mA, short-circuit resistant								
Accuracy of contacts ¹	≤ ± 1.5 % FSO BFSL								
Repeatability ¹	≤ ± 0.5 % FSO BFSL								
Switching frequency	max. 100 Hz								
Switching cycles	> 100 x 10 ⁶								
Functions	hysteresis- / compare mode n/o / n/c								
Delay time	0 ... 99.99 sec								
¹ depending on nominal pressure range									
Analogue output (optionally)									
Signal output	4 ... 20 mA (3-wire)								
Linearity, hysteresis, repeatability	≤ ± 0.5 % FSO BFSL								
Calibration accuracy	≤ ± 1 % FSO BFSL (2 % FSO)								
Permissible load	R _{max} = 500 Ω								
Response time	< 10 msec								

Thermal effects (offset and span)		
Thermal error	≤ ± 0.5 % FSO / 10 K	
In compensated range	0 ... 85 °C	
Permissible temperatures		
Medium	-25 ... 125 °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	20 g RMS / 10 ... 2000 Hz	according to DIN EN 60068-2-6
Shock	500 g / 1 msec half sine	according to DIN EN 60068-2-27
Materials		
Pressure port / housing	stainless steel 1.4301 (304)	
Display housing	PA 6.6, Polycarbonate	
Seals (media wetted)	FKM	others on request
Diaphragm	ceramic Al ₂ O ₃ 96 %	
Touchpad	polyester	
Media wetted parts	pressure port, seals, diaphragm	
Miscellaneous		
Display	4-digit, red LED display, digit size 7 mm, digit width 4.85 mm (angle 10 °) range of indication -1999 ... +9999 accuracy 0.3 % ±1 digit digital damping 0.3 ... 30 sec (programmable) measured value update 0.0 ... 10 sec (programmable)	
Weight	approx. 180 g	
Installation position	any	
Ingress protection	IP 65	
Operational life	100 million load cycles	
CE-conformity	EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A) ²	
² This directive is only valid for devices with maximum permissible overpressure > 200 bar.		
Wiring diagram		
		
Pin configuration		
Electrical connection	M12x1 (5-pin), plastic	M12x1 (5-pin), metal
		
Supply +	1	1
Supply –	3	3
Signal +	2	2
Contact 1	4	4
Contact 2	5	5
Shield	via pressure port	plug housing/pressure port

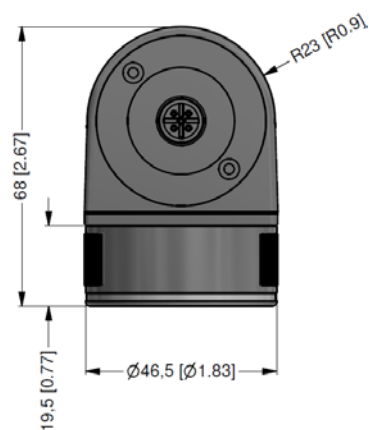
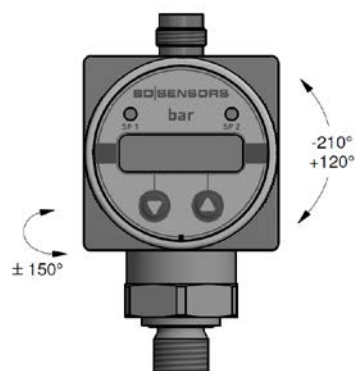
Electrical connections (dimensions mm / in)

M12x1 plastic
(5-pin)M12x1 metal
(5-pin)

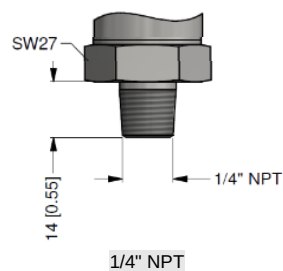
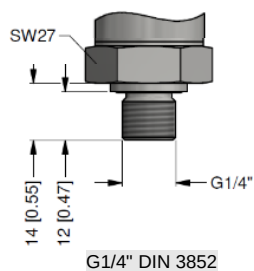
Dimensions (mm / in)



rotatability of display module



Mechanical connections (dimensions mm / in)



The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

Ordering code DS 230

DS 230

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[illegible]