



DS 230

Electronic OEM Pressure Switch

Applications:

- ▶ pneumatics
- ▶ pumps and hydraulic machines

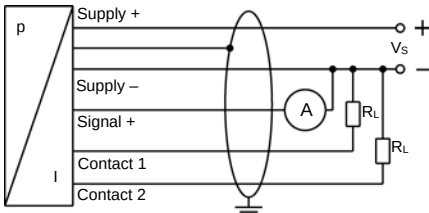
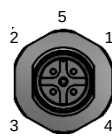
Characteristics:

- ▶ 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

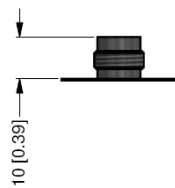
Technical Data



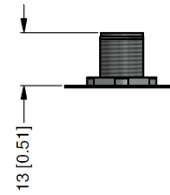
Input pressure range									
Nominal pressure gauge	[bar]	2	5	10	20	50	100	250	400
Overpressure	[bar]	4	10	20	40	100	200	400	600
Burst pressure ≥	[bar]	7	15	35	70	150	250	450	650
Supply									
Supply voltage V _S	24 V _{DC} ±10 %								
Current consumption	< 40 mA (without analogue output and without 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)

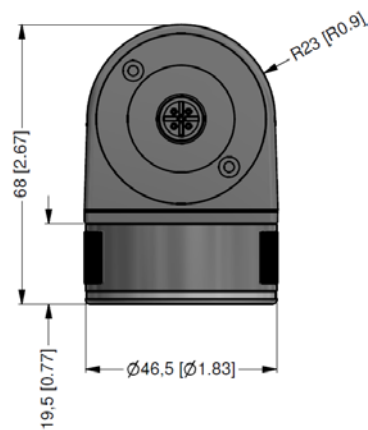
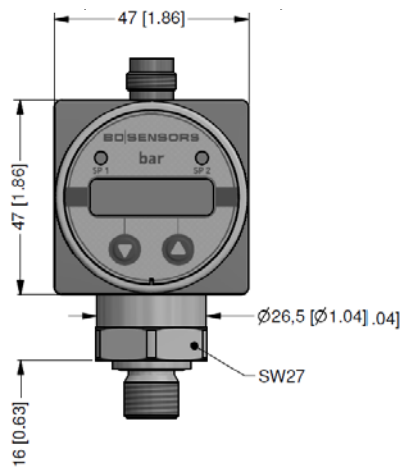


M12x1 plastic
(5-pin)

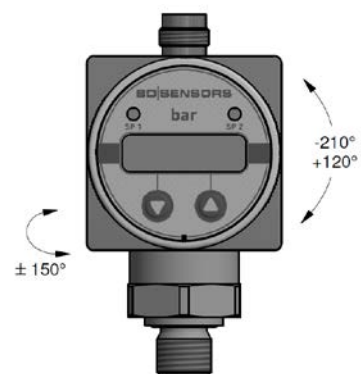


M12x1 metal
(5-pin)

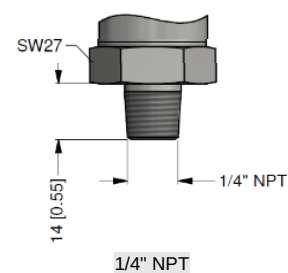
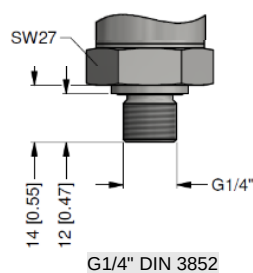
Dimensions (mm / in)



rotatability of display module



Mechanical connections (dimensions mm / in)



Ordering code DS 230

DS 230

□	□	□	-	□	□	□	-	□	-	□	-	□	□	□	-	□	□	□	-	□	□	□
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

[illegible]

© 2024 BDI SENSORS GmbH - 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.