



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



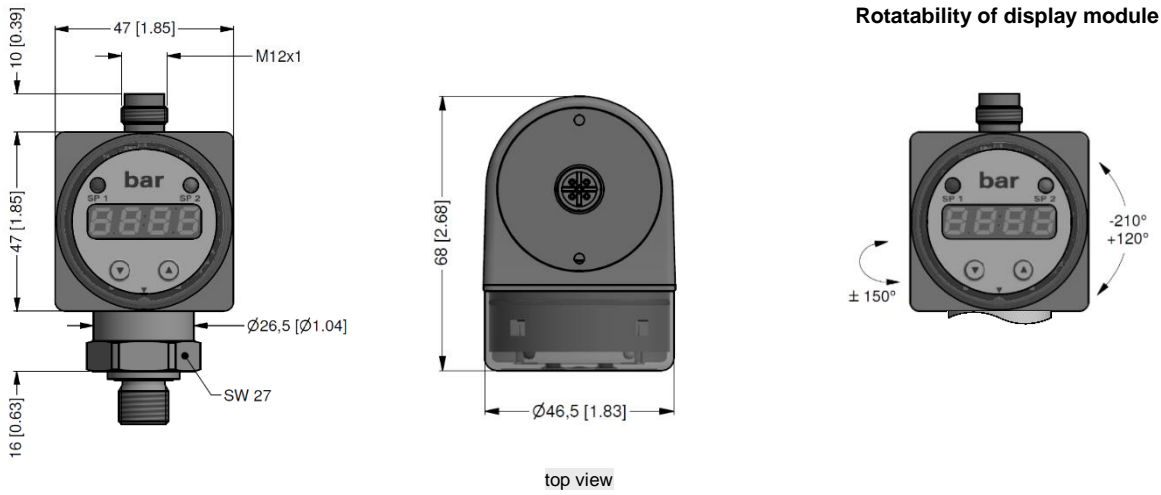
Input pressure range		2	5	10	20	50	100	250	400
Nominal pressure gauge	[bar]	2	5	10	20	50	100	250	400
Overpressure	[bar]	4	10	20	40	100	200	400	600
Burst pressure	[bar]	7	15	35	70	150	250	450	650
Supply									
Supply voltage V_s		24 V _{DC} ±10 %							
Current consumption		< 40 mA (without analogue 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							
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							
¹ depending on nominal pressure range									
Thermal effects (offset and span)									
Thermal error for offset		≤ ± 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	10 g RMS (25 ... 2000 Hz) according to DIN EN 60068-2-6
Shock	500 g / 1 msec 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 connections	M12x1, plastic (5-pin)	
	Supply +	1	
	Supply -	3	
	Signal + (only 3-wire)	2	
	Contact 1	4	
Contact 2	5		
Shield	via pressure port		

Dimensions (mm / in)



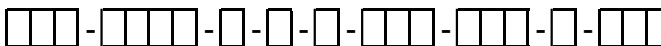
Mechanical connection (dimensions mm / in)



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Ordering code DS 230

DS 230



		7	8	R																				
Pressure	gauge																							
Input	[bar]																							
	2				2	0	0	1																
	5				5	0	0	1																
	10				1	0	0	2																
	20				2	0	0	2																
	50				5	0	0	2																
	100				1	0	0	3																
	250				2	5	0	3																
	400				4	0	0	3																
	customer				9	9	9	9																consult
Analogue output	without analogue output								0															
	4 ... 20 mA / 3-wire								7															
	customer								9															consult
Contact	1 contact									1														
	2 contacts									2														
Calibration accuracy	2 % FSO										G													
	customer										9													consult
Electrical connection	male plug M12x1 (5-pin) / plastic version										N	0	1											
	customer										9	9	9											consult
Mechanical connection	G1/4" DIN 3852										3	0	0											
	1/4" NPT										N	4	0											
	customer										9	9	9											consult
Seals	FKM													1										
	customer													9										consult
Special version	standard																			0	0	0		
	customer																			9	9	9		consult

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