



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 $V_{DC} \pm 10\%$							
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. 500 mA, short-circuit resistant							
Accuracy of contacts ¹		$\leq \pm 1.5\%$ FSO BFSL							
Repeatability ¹		$\leq \pm 0.5\%$ 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		$\leq \pm 0.5\%$ FSO BFSL							
Calibration accuracy		$\leq \pm 1\%$ FSO BFSL							
Permissible load		$R_{max} = 500 \Omega$							
Response time		< 10 msec							
¹ depending on nominal pressure range									
Thermal effects (Offset and Span) / Permissible temperatures									
Thermal error for offset		$\leq \pm 0.5\%$ FSO / 10 K		in compensated range -25 ... 85 °C					
Permissible temperatures		medium: -25 ... 125 °C		electronics / environment: -25 ... 85 °C		storage: -40 ... 85 °C			

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Technical Data

Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326
Materials	
Pressure port	stainless steel 1.4301
Housing	stainless steel 1.4301
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
CE-conformity	EMC Directive: 2004/108/EC Pressure Equipment Directive: 97/23/EC (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
Supply +	1
Supply -	3
Signal +	2
Contact 1	4
Contact 2	5
Shield	via pressure port
Dimensions (in mm)	

Ordering code DS 230

DS 230

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