

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



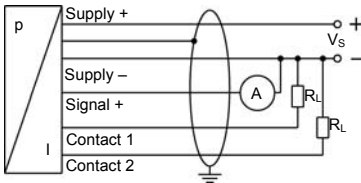
Technical Data

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							
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		$R_{max} = 500 \Omega$							
Response time		< 10 msec							
¹ depending on nominal pressure range									
Thermal effects (Offset and Span) / Permissible temperatures									
Thermal error for offset		≤ ± 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	

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

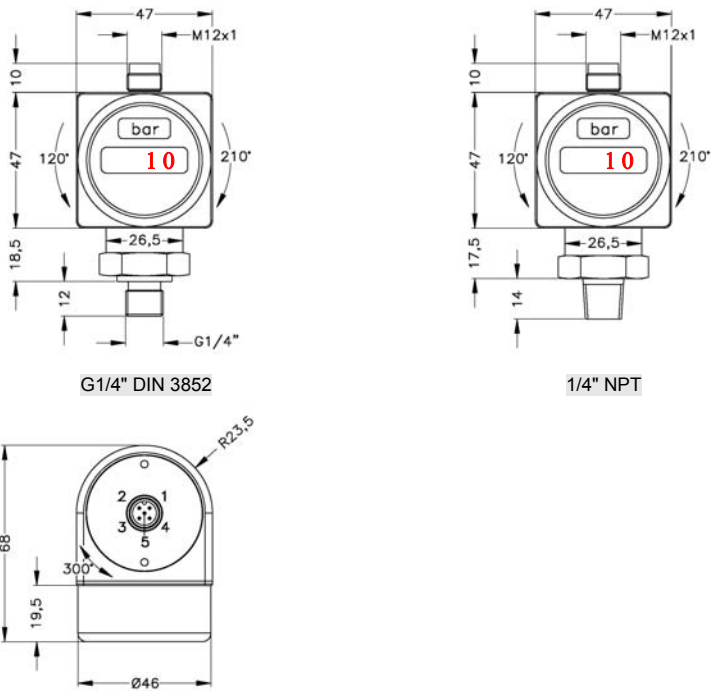
Wiring diagram



Pin configuration

Electrical connection	M12x1 (5-pin), plastic
Supply +	1
Supply -	3
Signal +	2
Contact 1	4
Contact 2	5
Shield	via pressure port

Dimensions (in mm)



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Ordering code DS 230

DS 230

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Pressure									
	gauge	7	8	R					
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 %							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
Special version									
	standard								0 0 0
	customer								9 9 9
									consult

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