

# DS 217



## Pressure Switch with welded Stainless Steel Sensor

### Characteristics:

- ▶ accuracy according to IEC 60770:  
0.5 % FSO
- ▶ nominal pressure ranges  
from 0 ... 6 bar up to 0 ... 600 bar
- ▶ 1 analogue output and up to  
2 contacts
- ▶ display and housing rotatable
- ▶ suitable for oxygen applications



### Technical Data

Input pressure range												
Nominal pressure gauge [bar]	6	10	16	25	40	60	100	160	250	400	600	
Overpressure (static) [bar]	12	20	32	50	80	120	200	320	500	800	1 200	
Burst pressure $\geq$ [bar]	30	50	80	125	200	300	500	800	1 400	2 000	3 000	
Vacuum resistance	unlimited											
Contact												
Number / type	standard: 1 PNP contact optionally: max. 2 independent PNP contact; 1 analogue output											
Switching current	standard: contact rating max. 125 mA, short-circuit resistant											
Accuracy of switching points <sup>1</sup>	$\leq \pm 1.5$ % FSO											
Repeatability	$\leq \pm 0.5$ % FSO											
Switching frequency	max. 10 Hz											
Switching cycles	$> 100 \times 10^6$											
Delay time	0 ... 100 sec											
Analogue output (optionally) / Supply												
3-wire current signal	4 ... 20 mA / $V_S = 24 V_{DC} \pm 10$ %											
Accuracy <sup>1</sup>	$\leq \pm 0.5$ % FSO											
Permissible load	3-wire: $R_{max} = 500 \Omega$											
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / $k\Omega$											
Measuring rate	10 Hz											
<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)												
Thermal effects (Offset and Span) / Permissible temperatures												
Thermal error	$\leq \pm 0.5$ % FSO / 10 K in compensated range -25 ... 85 °C											
Permissible temperatures	medium: -25 ... 125 °C electronics / environment: -25 ... 85 °C storage: -40 ... 85 °C											
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 (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 1.4571 (316 Ti) / stainless steel 1.4301 (304)	
Display housing	PA 6.6, polycarbonate	
Seal sensor	none (welded)	
Diaphragm	stainless steel 1.4542 (17-4PH)	
Media wetted parts	pressure port, seal pressure port, diaphragm	
Miscellaneous		
Weight	approx. 160 g	
Display	4-digit, red LED display, digit height 7 mm, digit width 4.85 mm (angle 10°); range of indication -1999 ... +9999; accuracy 0.1% ± 1 digit; digital damping 0.3 ... 30 sec (programmable); measured value update 0.0 ... 10 sec (programmable)	
Long term stability	≤ ± 0.3 % FSO / year at reference conditions	
Operational life	100 million load cycles	
CE-conformity	EMC Directive: 2014/30/EU	Pressure Equipment Directive: 2014/68/EU (module A) <sup>2</sup>
<sup>2</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar.		
Wiring diagrams		
3-wire-system (current)		
Pin configuration		
Electrical connections	M12x1 (5-pin) plastic	
supply +	1	
supply -	3	
signal + (only for 3-wire)	2	
contact 1	4	
contact 2	5	
shield	via pressure port	
Connections (dimensions in mm)		
	<b>Mechanical connections - optional</b> 	<b>Electronical connections</b> 

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