

- 1: 7-segment LED display  
2: Programming button



Product characteristics

Combined pressure sensor

Quick disconnect

no dead space

Clamp 1.5"

Freely rotatable housing 350°

Zero and span adjustable

Function programmable

2 outputs

OUT1 = switching output

OUT2 = switching output or analog output

7-segment LED display

Measuring range: -0.5...10 bar / -7...145 psi / -50...1000 kPa

Application

Application

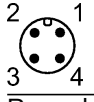
Type of pressure: relative pressure  
Hygienic systems, viscous media and liquids with suspended particles  
Liquids and gases

Pressure rating	50 bar	725 psi	5000 kPa
Bursting pressure min.	150 bar	2175 psi	15000 kPa
Medium temperature [°C]	-25...80		
Electrical data	DC PNP/NPN		
Electrical design	20...30 DC		
Operating voltage [V]	20...30 DC		
Current consumption [mA]	< 60		
Insulation resistance [MΩ]	> 100 (500 V DC)		
Protection class	III		
Reverse polarity protection	yes		
Outputs	2 outputs		
Output	OUT1 = switching output OUT2 = switching output or analog output		
Output function	2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x analog (4...20 mA / 0...10 V; programmable 1:4)		
Current rating [mA]	2 x 250		
Voltage drop [V]	< 2		

**PH0104 - Combined pressure sensor - eclass: 27201302 / 27-20-13-02**

Short-circuit protection	yes (non-latching)		
Overload protection	yes		
Switching frequency [Hz]	≤ 170		
Analog output	4...20 mA / 0...10 V		
Max. load [Ω]	4...20 mA: max. (U <sub>b</sub> - 10 V) x 50 / 0...10 V: min. 2000		
Measuring / setting range			
Display unit	bar, psi, kPa		
Measuring range	-0.5...10 bar	-7...145 psi	-50...1000 kPa
Setting range			
Set point, SP	-0.45...9.99 bar	-7 ...145 psi	-45...999 kPa
Reset point, rP	-0.50...9.94 bar	-7 ...144 psi	-50...994 kPa
Analog start point, ASP	-0.50...7.49 bar	-7 ...109 psi	-50...749 kPa
Analog end point, AEP	2.00...9.99 bar	29 ...145 psi	200...999 kPa
in steps of	0.01 bar	1 psi	1 kPa
Accuracy / deviations			
Accuracy / deviations (in % of the span) Turn down 1:1			
Characteristics deviation *)	< ± 0.6		
Linearity	< ± 0.5		
Hysteresis	< ± 0.1		
Repeatability **)	< ± 0.1		
Long-term stability ***)	< ± 0.1		
Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K)			
Greatest TEMPCO of the zero point	< ± 0.1		
Greatest TEMPCO of the span	< ± 0.2		
Reaction times			
Power-on delay time [s]	0.2		
Min. response time switching output [ms]	3		
Damping for the switching output (dAP) [s]	0...4		
Damping for the analog output (dAA) [s]	0 - 0.1 - 0.5 - 2		
Response time analog output [ms]	3		
Integrated watchdog	yes		
Software / programming			
Programming options	hysteresis / window function; N.O. / N.C.; output polarity; current / voltage outputs; damping; calibration of displayed values; display can be rotated / deactivated; display unit		
Environment			
Ambient temperature [°C]	-25...80		
Storage temperature [°C]	-40...100		
Protection	IP 67		
Tests / approvals			
EMC	EN 61000-4-2 ESD:	4 kV CD / 8 kV AD	
	EN 61000-4-3 HF radiated:	10 V/m	
	EN 61000-4-4 Burst:	2 kV	
	EN 61000-4-6 HF conducted:	10 V	
Shock resistance	DIN IEC 68-2-27:	50 g (11 ms)	
Vibration resistance	DIN IEC 68-2-6:	20 g (10...2000 Hz)	
Mechanical data			
Materials (wetted parts)	stainless steel 316L / 1.4404; ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); PTFE		
Housing materials	stainless steel 316L / 1.4404; PBT (Pocan); PC (Makrolon); PEI; EPDM/X (Santoprene); FPM (Viton)		
Switching cycles min.	100 million		
Weight [kg]	0.361		
Displays / operating elements			
Display	Switching status	2 x LED red	
	Function display	7-segment LED display	

**PH0104 - Combined pressure sensor - eclass: 27201302 / 27-20-13-02**

Electrical connection	Measured values 7-segment LED display
Connection	M12 connector; gold-plated contacts
<p><b>Wiring</b></p> <p>Programming of the output function (OUT1 / OUT2):          Hno = hysteresis / normally open          Hnc = hysteresis / normally closed          Fno = window function / normally open          Fnc = window function / normally closed          Complementary outputs:          output 1: = Hno, output 2: = Hnc          (with the same SP / rP)</p> <p>Programming of the analog output (OUT2):          I = current output (4...20 mA)          U = voltage output (0...10 V)</p> 	
Remarks	<p>*) linearity, incl. hysteresis and repeatability;          (limit value setting to DIN 16086)          **) with temperature fluctuations &lt; 10 K          ***) in % of the span per year</p>
Pack quantity	[piece] 1