



SPM 402

Piezoresistive Silicon Pressure Sensor for medium pressure ranges

- Calibrated and compensated
- With media separation
- Excellent chemical resistance
- O- ring mounting
- Pressure ranges: 5 to 500 psi

Applications

- Industrial
- Pneumatic and hydraulic components (e.g. valves, pumps)
- Level measuring (e.g. environmental technology)
- Process industry

Specifications

All parameters are measured at supply current 1 mA at reference conditions unless otherwise specified.

Standard Pressure Ranges													
PSI ¹⁾	bar	Output signal (Offset) [mV]			Output signal (Span) [mV]			Proof pressure [PSI ¹⁾ /bar]		Negative pressure [PSI ¹⁾ /bar]		Burst pressure [PSI ¹⁾ /bar]	
		min.	typ.	max.	min.	typ.	max.						
5	0.35 ²⁾	-2	0	2	50	75	100	30	2	--	--	45	≥ 3
15	1				100	145	210	75	5	--	--	112	≥ 7.5
30	2				95	150	200	150	10	--	--	225	≥ 15
50	3.5				80	125	180	250	17.5	--	--	375	≥ 25
100	7				100	150	210	500	35	-15	-1	750	≥ 50
300	20				95	150	200	1200	80	-15	-1	1800	≥ 120
500	35				120	175	240	1500	105	-15	-1	3150	≥ 210
Supply / Performance													
					min.			typ.			max.		
Supply current [mA]					-			1			3		
Supply voltage [V]					-			-			10		
Linearity [% FSO BFSL]					- 0.25			± 0.1			0.25		
Hysteresis [%FSO]					- 0.05			± 0.03			0.05		
Input impedance [kΩ]					4.0 to 6.0								
Output impedance [kΩ]					4.0 to 6.0								
Insulation resistance [MΩ]					50 (between housing and sensor chip) @ 50 V _{DC}								

¹⁾ PSI values around rounded and for reference only

²⁾ 5 psi / 350 mbar only gauge

SPM-402

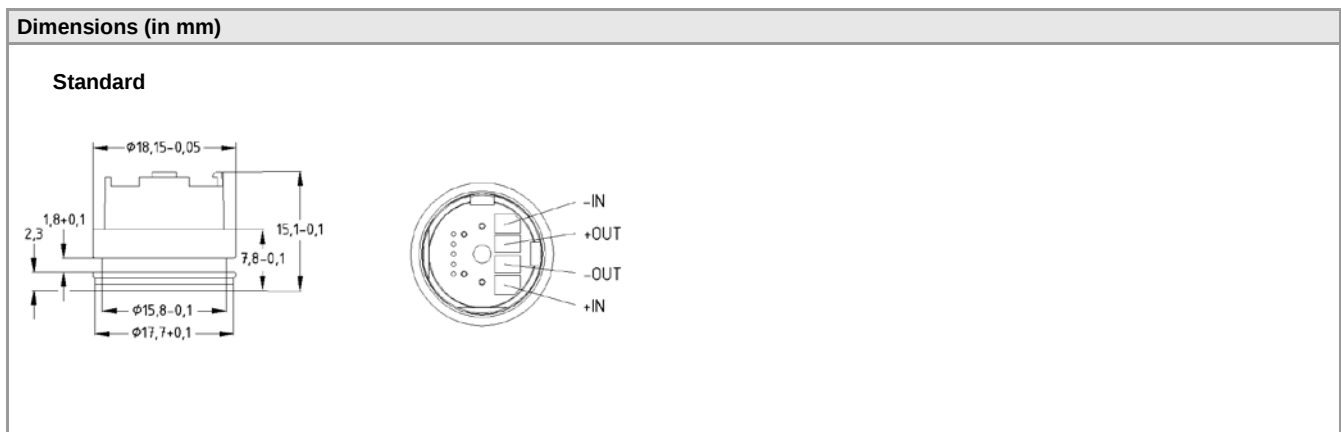
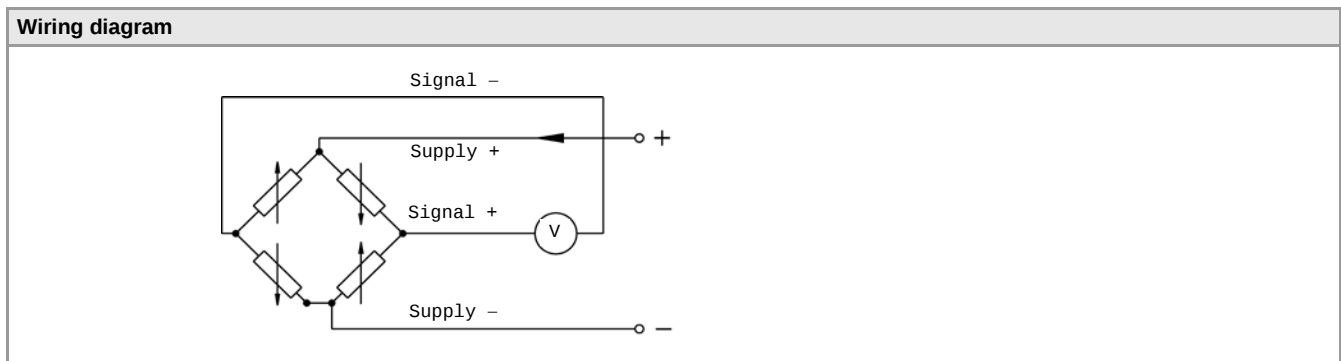
Stainless steel pressure sensor

Specifications

Thermal errors				
		min.	typ.	max.
TC Offset	[% FS0/10K]	-0.7	-0.1	0.7
TC Span	[% FS0/10K]	- 2.4	-1.9	-1.6
TC resistance	[%/10K]	2.4	2.75	3.3
All parameteres are measured in the temperature range of 0 to 70 °C (32 to 158 °F)				
Operating temperature ranges				
Media		-40 to 125 °C (-40 to 257 °F)		
Storage		-40 to 125 °C (-40 to 257 °F)		

Mechanical stability	
Vibration	10 g RMS (20 to 2000 Hz)
Schock	100 g / 11 ms

Electrical conditions	
Standard	4 solder pads pitch 2.54
Materials	
Housing	Stainless steel 316L (1.4404)
Diaphragm	Stainless steel 316L (1.4435)
Media wetted parts	Housing, diaphragm
Miscellaneous	
Installation position	any ³⁾
Protection class	IP 00
Weight	Standard: approx. 10 g
Sealing	O-Ring 15.5 x 1.5 (material: FKM)



³⁾ The sensors are calibrated with the face down diaphragm. By changing the mounting position the offset can shift a little for pressure ranges $p_n \leq 15$ psi.

Specifications

Ordering Codes

SPM402		-																	
Type of pressure																			
gauge		G																	
absolute		A																	
Pressure range																			
5 psi / 350 mbar		G	P	0	0	5													
15 psi / 1 bar			P	0	1	5													
30 psi / 2 bar			P	0	3	0													
50 psi / 3.5 bar			P	0	5	0													
100 psi / 7 bar			P	1	0	0													
300 psi / 20 bar			P	3	0	0													
500 psi / 35 bar			P	5	0	0													
Special pressure ranges			9	9	9	9													
Electrical connection																			
Solder pads						0	P	0											
others						9	9	9											
Housing material																			
Stainless steel 316L (1.4404)								8											
others								9											
Diaphragm material																			
Stainless steel 316L (1.4435)								1											
others								9											
Sealing																			
FKM										1									
others										9									
Transfer media																			
Silicone oil										1									
others										9									
Design																			
Standard												0	1						
venting tube												0	5						
others												9	9						
Specail versions																			
Standard															0	0	0		
others															9	9	9		

Subject to change without advance notice