

SPA 402

Piezoresistive Silicon Pressure Sensor Module for medium pressure ranges



- Amplified
- Calibrated and compensated
- With media separation
- Excellent media 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 voltage 5V at reference conditions unless otherwise specified

Standard Pressure Ranges / Output Signal ratiometric											
PSI ¹⁾	bar	Output signal (Offset)		Outputsignal (FSO)		Proof pressure [PSI ¹⁾ /bar]		Negative pressure [PSI ¹⁾ /bar]		Burst pressure [PSI ¹⁾ /bar]	
			@ Vs = 5V		@ Vs = 5V						
5 ²⁾	0,35 ²⁾	10 % Vs	0.5 V	90% Vs	4.5 V	30	2	--	--	45	≥ 3
15	1					75	5	--	--	112	≥ 7.5
30	2					150	10	--	--	225	≥ 15
50	3,5					250	17.5	--	--	375	≥ 25
100	7					500	35	-15	-1	750	≥ 50
300	20					1200	80	-15	-1	1800	≥ 120
500	35					1500	105	-15	-1	3150	≥ 210
Supply / Performance											
		min.		typ.				max.			
Supply voltage Vs [V]		2.7		5.0				5.5			
Current consumption [mA]		2.5 max.									
Linearity [% FSO BFUL]		-0.25		± 0.1				0.25			
Hysteresis [%FSO]		- 0.05		± 0.02				0.05			
Output load resistance [kΩ]		≥ 5									
Insulation resistance		50 MΩ (between housing and sensor chip) @ 50 V _{DC}									

¹⁾ PSI values around rounded and for reference only

²⁾ 5 psi / 350 mbar only gauge

SPA-402

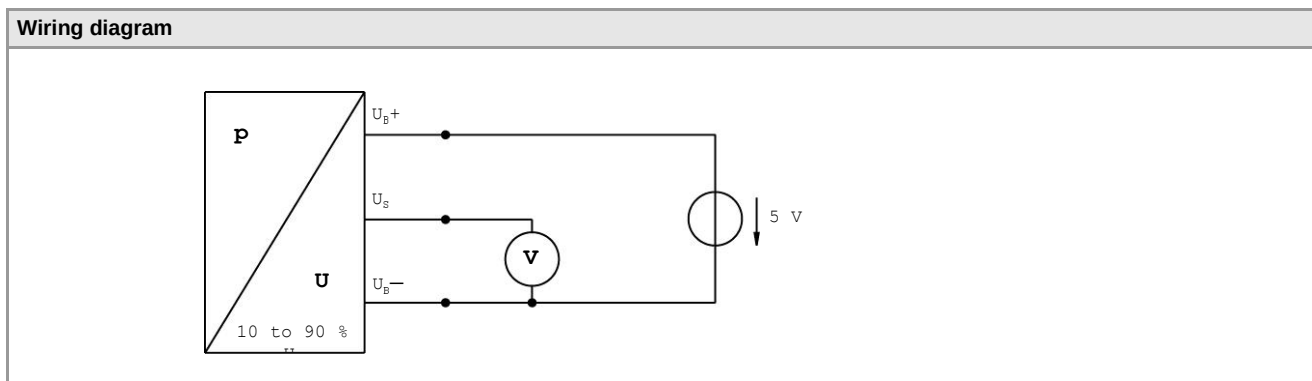
Stainless steel pressure sensor

Specifications

Thermal errors		
	$p_n \leq 5 \text{ psi}$	$p_n > 5 \text{ psi}$
Thermal error offset ³⁾ [% FSO]	$\leq \pm 1.0$	$\leq \pm 0.75$
Thermal error span ³⁾ [% FSO]	$\leq \pm 1.0$	error band ≤ 1.4
	0 to 70 °C (32 to 158 °F)	0 to 85 °C (32 to 185 °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	JST connector
Materials	
Housing	Stainless steel 316L (1.4404)
Diaphragm	Stainless steel 316L (1.4435)
Media wetted parts	Housing, diaphragm
Miscellaneous	
Installation position	any ⁴⁾
Protection class	IP 00
Weight	Standard: approx. 10 g
Sealing	O-Ring 15.5 x 1.5 (material: FKM)



Dimensions (in mm)	
Standard	

³⁾ within the temperature range (related to 25°C)

⁴⁾ The sensors are calibrated with the face down diaphragm. By changing the mounting position the offset can shift a little for pressure ranges $p_n \leq 15 \text{ psi}$.

