

PSD18-411-O

Piezoresistive Silicon Pressure Sensor

Data Sheet



PSD18-411-O

Piezoresistive Silicon Pressure Sensor for medium pressure

- ▶ Not compensated
- ▶ With media separation
- ▶ For o- ring mounting (welding version on request)
- ▶ Nominal pressure ranges from 0...350 mbar to 0...35 bar gauge and absolute

Applications

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

Specifications according DIN 16086

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

Input / Output signal								
Nominal pressure ranges gauge / absolute	Output signal (Offset) [mV]			Output signal (Span) [mV]			Overload / negative pressure [bar]	Burst pressure [bar]
	min.	typ.	max.	min.	typ.	max.		
350 mbar ¹⁾	-40	0	40	50	75	100	2	≥ 3
1 bar				100	145	210	5	≥ 7,5
2 bar				95	150	200	10	≥ 15
3,5 bar				80	125	180	17,5	≥ 25
7 bar				100	150	210	35	≥ 50
20 bar				95	150	200	80	≥ 120
35 bar				120	175	240	105	≥ 210
¹⁾ 350 mbar only gauge								
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 ... 6,0						
Output impedance	[kΩ]	4,0 ... 6,0						
Insulation resistance	[MΩ]	50 (between housing and sensor chip) @ 50 VDC						

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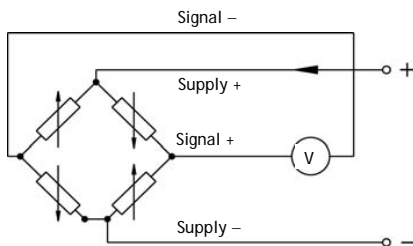
Piezoresistive Silicon Pressure Sensor

Specifications

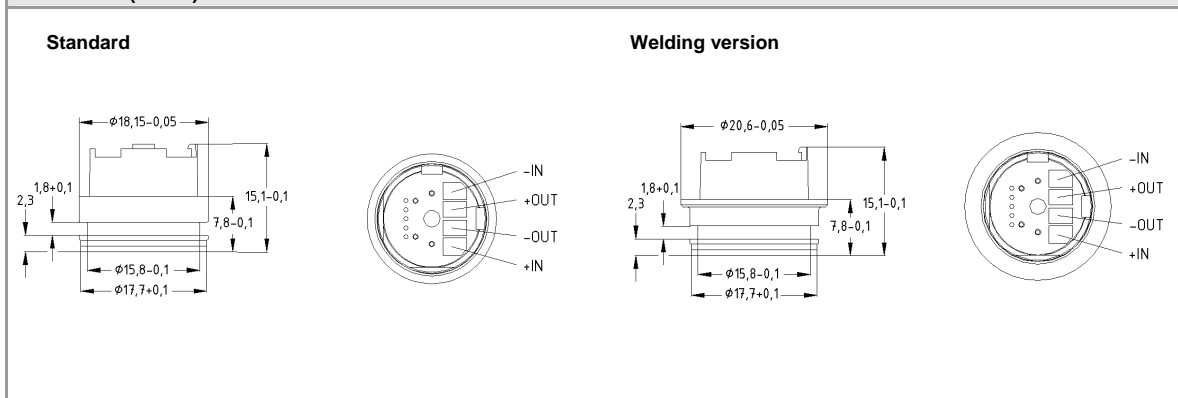
Thermal errors				
		min.	typ.	max.
TC Offset	[% FS0/10K]	-0,7	-0,1	0,7
TC Span	[% FS0/10K]	-2,4	-1,9	-1,6
TC resistance	[%/10K]	2,4	2,75	3,3
All parameteres are measured in the temperature range of 0 ... 70 °C				
Permissible temperature ranges				
Media	-40 ... 125 °C (food compliant oil: -10 ... 125 °C)			
Storage	-40 ... 125 °C (food compliant oil: -10 ... 125 °C)			
Mechanical stability				
Vibration	10 g RMS (20 ... 2000 Hz)			
Schock	100 g / 11 ms			
Electrical conditions				
Standard	4 solder pads			
Materials / Filling fluids				
Housing	Stainless steel 1.4404			
Diaphragm	Stainless steel 1.4435			
Media wetted parts	Housing, diaphragm			
Filling liquid	Standard: Silicone oil Optional: Food compliant oil (FDA approval); others on request			
Miscellaneous				
Installation position	any ¹⁾			
Protection class	IP 00			
Weight	Standard: approx. 10 g Welding version : approx. 15 g			
Available accesories	O-Ring 15,5 x 1,5 (material: FKM; others on request)			

¹⁾ The sensors are calibrated with the face down diaphragm. By changing the mounting position the offset can shift a little for pressure ranges $p_r \leq 1$ bar.

Wiring diagram



Dimensions (in mm)



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Ordering Code

Ordering Code											
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Type of pressure											
	gauge	G									
	absolute	A									
Pressure range											
	350 mbar	G	3	5	0	0					
	1 bar		1	0	0	1					
	2 bar		2	0	0	1					
	3.5 bar		3	5	0	1					
	7 bar		7	0	0	1					
	20 bar		2	0	0	2					
	35 bar		3	5	0	2					
	Special pressure ranges		9	9	9	9					
Electrical connection											
	Solder pads						0	P	0		
	Wires 60 mm						0	1	5		
	others						9	9	9		
Housing material											
	Stainless steel 1.4404								8		
	others								9		
Separating diaphragm											
	Stainless steel 1.4435								1		
	others								9		
Sealing											
Standard:	without sealing								0		
Option:	FKM								1		
	EPDM								3		
	FFKM								7		
	others								9		
Filling liquid											
	Silicone oil								1		
	Food compliant oil								2		
	others								9		
Design											
	Standard								0	1	
	Standard with venting tube								0	5	
	others								9	9	
Special versions											
	Standard								0	0	0
	others								9	9	9

Subject to change without advance notice

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