

DSP 411Z

Piezoresistive Silicon Pressure Sensor Module for medium pressure



- ▶ Active compensated
- ▶ With media separation
- ▶ For o-ring mounting (welding version optional)
- ▶ Nominal pressure ranges from 0 ... 350 mbar to 0 ... 100 bar

Applications

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

Specifications according DIN 16086

Input / Outputsignal						
Nominal pressure ranges gauge / absolute	Outputsignal (Offset) [mV]		Outputsignal (Span) [mV]		Overload / negative pressure	Burst pressure
	min. / max.	typ.	min. / max..	typ.		
350 mbar ¹⁾	10 % V _{DD}	0.5	80% V _{DD}	4,0	3 x	5 x
1 bar						
2 bar						
3,5 bar (on request)						
7 bar						
20 bar						
35 bar						
100 bar						
¹⁾ 350 mbar only gauge						
Supply / Performance						
	min.		typ.		max.	
Supply voltage [V]	2,7		5,0		5,5	
Current consumption [mA]	2,5 max.					
Linearity [% FSO BFSL]						
P _N ≤ 20 bar	-0,2 (optional: - 0,1)		± 0,05		0,2 (optional: 0,1)	
P _N > 20 bar	- 0,25 (optional: - 0,1)		± 0,10		0,25 (optional: - 0,1)	
Hysteresis [%FSO]	- 0,1		± 0,05		0,1	
Output load resistance [kΩ]	≥ 5					
Insulation resistance	50 MΩ (between housing and sensor chip) @ 50 VDC					

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Specifications

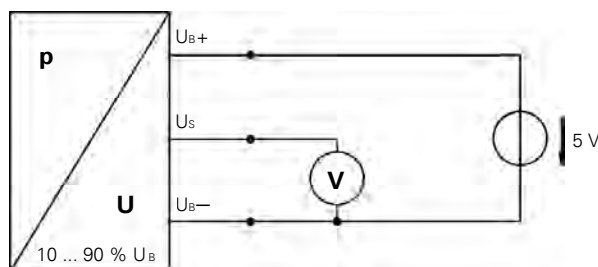
Thermal errors		
	$P_N \leq 350 \text{ mbar}$	$P_N > 350 \text{ mbar}$
TC offset [% FSO]	$\leq \pm 1,0$	$\leq \pm 0,75$
TC span [% FSO]	$\leq \pm 1,0$	$\leq \pm 0,50$
Compensated temperature range	0 ... 50 °C	-20 ... 85 °C
Permissible temperature ranges		
Media	-25... 125 °C	
Storage	-40 ... 100 °C	

All parameters are measured at supply voltage 5V at reference conditions unless otherwise specified.

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 (others on request)
Miscellaneous	
Installation position	any ²⁾
Protection class	IP 00
Weight	Standard: approx. 10 g Welding version : approx. 15 g
Available accessories	O-Ring 15,6 x 1,78 (material: FKM; others on request)
2) The sensors are calibrated with the face down diaphragm. By changing the mounting position the offset can shift a little for pressure ranges $p_i \leq 1 \text{ bar}$.	

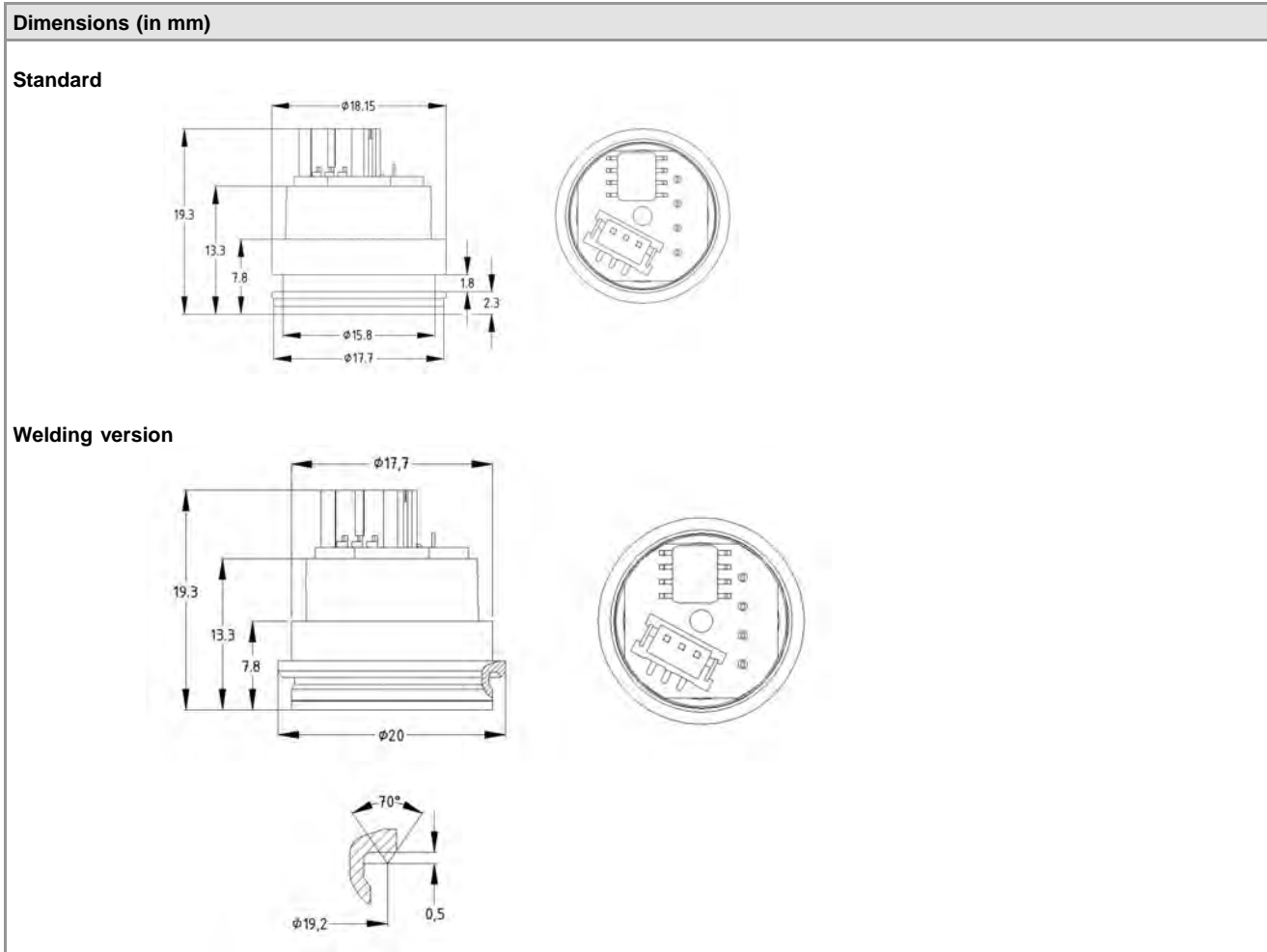
Wiring diagram



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Specifications



Ordering code

DSP 411Z		□	- □ □ □	- □ □	- □ □
Type of pressure					
	gauge	G			
	absolute	A			
Pressure range					
	350 mbar	3	5	0	
	1 bar	1	0	1	
	2 bar	2	0	1	
	(3,5 bar)	3	5	1	
	7 bar	7	0	1	
	20 bar	2	0	2	
	35 bar	3	5	2	
	70 bar	7	0	2	
Electrical connection					
	Solder pads pretinned			1	1
	Silicone wires 50,8 mm			2	1
	Others on request			9	9
Options					
	O-ring version			0	1
	Welding version			1	1
	Reduced linearity error			3	1
	Others on request			9	9

Visit the website: www.impress-sensors.co.uk