

Ceramic Pressure Sensor with flush mounted membrane

CPS 2184 Z



Features

- ratiometric output signal (0,5... 4,5V)
- absolute pressure, gauge pressure and sealed gauge versions
- excellent chemical resistivity
- easy to assemble
- temperature compensated

Applications

- pneumatic
- hydraulic
- electronic pressure switches
- electronic pressure transmitters

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General data

Sensor type	Pressure sensor with flush mounted membrane
Pressure type	0,5 ... 50 bar: gauge, absolute, and sealed gauge pressure 100 ... 600 bar: sealed gauge
Reference conditions	Temperature T_{ref} 25°C Supply voltage U_{ref} 5 Vdc

Electrical data

Supply voltage stabilised	$5 \pm 0,5$ Vdc
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Pressure ranges

Pressure range p_{Nom} [bar]	Overload pressure P_s (max. 1min) [bar]	Burst pressure p_B [bar]	Acceptable minimum pressure [bar]	Sensor thickness [mm]
0 ... 0,5 *)	1	2	- 0,15	6,13
0 ... 1	2	4	- 0,20	6,20
0 ... 2	4	5	- 0,40	6,25
0 ... 5	10	12	- 0,80	6,30
0 ... 10	20	25		6,35
0 ... 20	40	50		6,55
0 ... 50	100	120		6,70
0 ... 100 **)	200	250	vacuum	6,70
0 ... 200 **)	400	500		7,05
0 ... 400 **)	600	650		7,35
0 ... 600 **)	800	880		7,55

*) only gauge pressure

***) only sealed gauge pressure

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Output data

Output voltage range	0,5 ... 4,5 V *) 3 wire, ratiometric
Offset voltage	0,5 V @ $U_s = 5V$ *)
Offset tolerance	$\pm 1,5$ % FS
Span	4,0 V @ $U_s = 5V$ *)
Span tolerance	$\pm 1,5$ % FS
Measuring error by clamping **)	$< 0,5$ % FS (typ.)
Total error **)	$\leq \pm 0,4$ % FS
Sum of non-linearity, hysteresis and non-repeatability ***)	$\leq \pm 0,3$ % FS
Offset change after 1000h @ 125°C	$\leq \pm 0,3$ % FS
Temperature influence	$\leq \pm 0,02$ % FS/K gauge ; $\leq \pm 0,03$ % FS/K absolute, sealed gauge
TC-Offset (0 ... 85°C)	$\leq -0,013$ % FS/K
TC-Span (0 ... 85°C)	
Current consumption	$\leq 2,5$ mA
Response time (10 ... 90%)	< 2 msec
Output load resistance	1 ... 5 k Ω
Load capacitance	$< 0,05$ μ F

*) other data on request, minimum order quantity 150 pieces

***) depending on housing geometry and assembly conditions

***) terminal based according to DIN 16086:2006...01

Environmental conditions

Nominal temperature range	- 40 ... 125°C *)
Working temperature range	- 40 ... 125°C *)
Storage temperature range	- 50 ... 125°C *)
Material of parts in contact with the pressure medium	Al ₂ O ₃ - 96 %**)

*) sensor without cable

***) Aluminium oxide shows highest chemical resistivity against liquid and gaseous media. It is recommended, especially in the case of new and not tested applications, to do own tests.

Electrical connection

Standard	Soldering pads
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Dimensions

Diameter	see drawing
Height	see drawing
Weight	ca. 10 g
Other dimensions	see drawing

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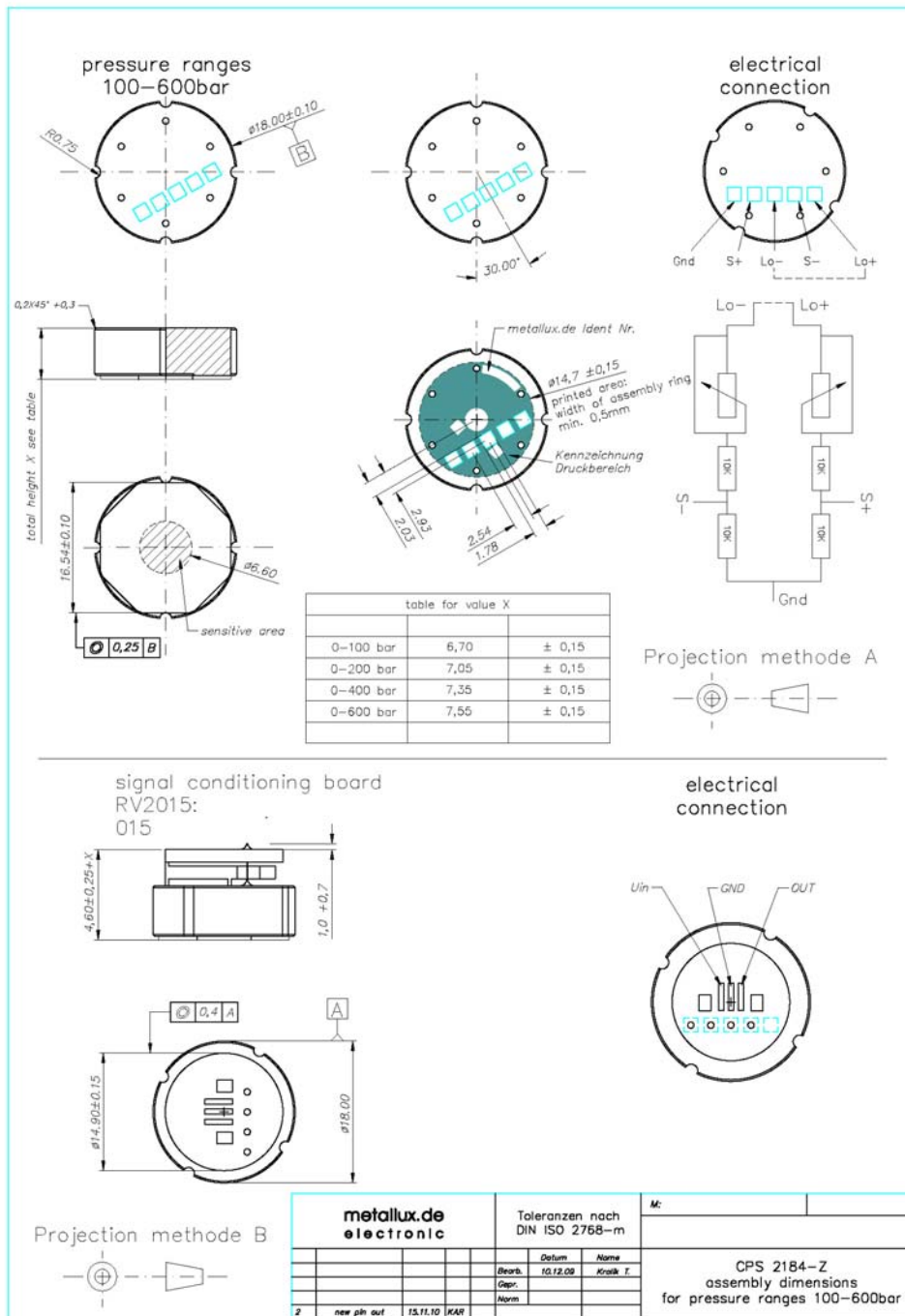
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Drawing



Ceramic Pressure Sensor with flush mounted membrane

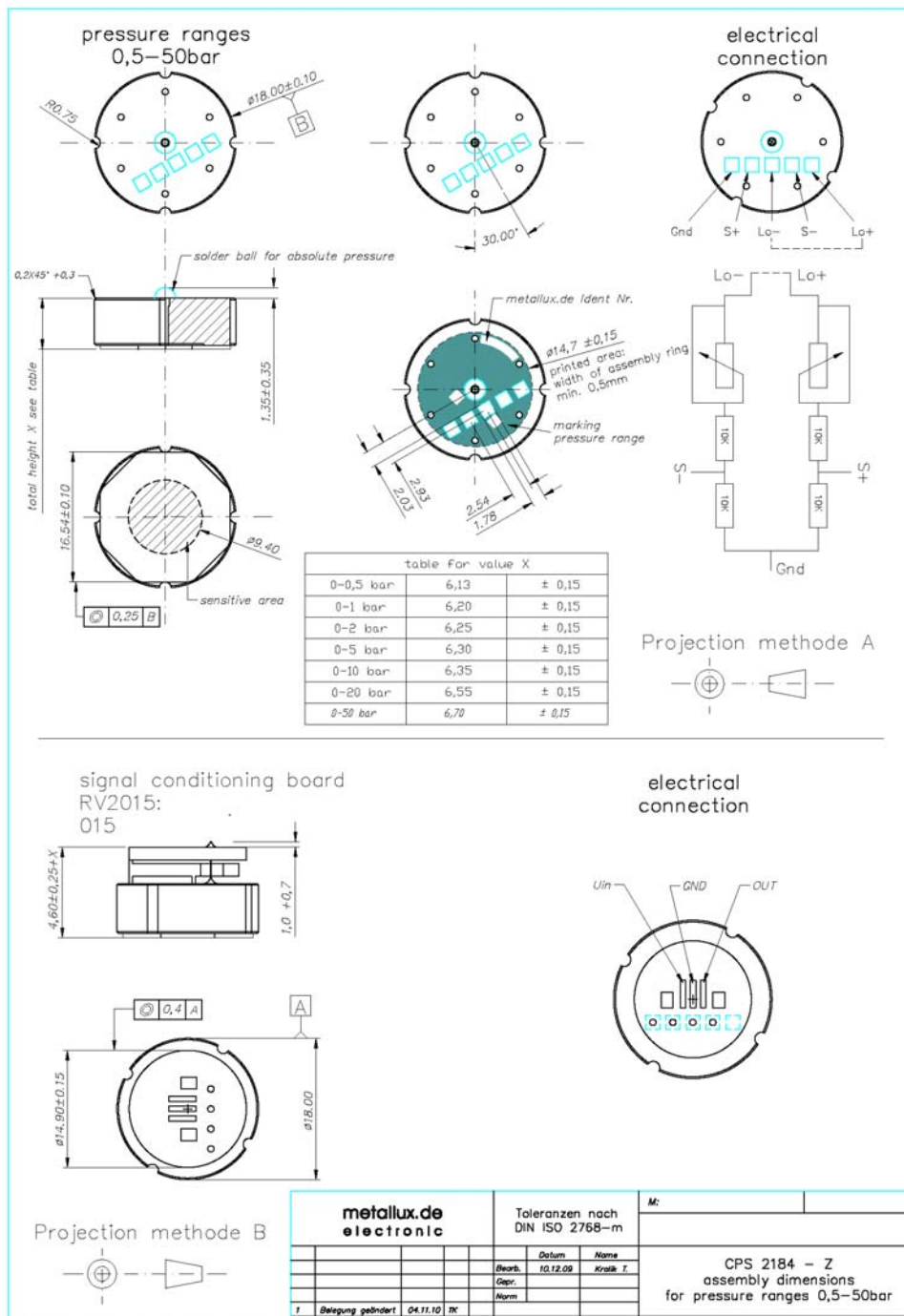
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Drawing



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How to order

Type	Pressure range	Pressure type	Electr. connection
CPS 2184 Z	2 bar	A (absolute) R (gauge) S (sealed gauge)	Pads