

STAINLESS STEEL STANDARD PRESSURE SENSOR SPS 3003 Z

with output amplifier



The SPS 3003 Z series unites a stainless steel pressure sensor with an integrated pressure connection and an amplifier circuit. The 0.5V...4.5V output is proportional to the applied pressure. No seal is required between the sensor and pressure connection, which makes the sensor particularly resistant to aggressive media. Its high burst pressure rating also makes it ideal for hydraulic applications.



TECHNICAL SPECIFICATIONS

Supply voltage	5 V ± 0.5 VDC
Power consumption	< 10 mA typ. Rload > 2 k) < 50 mA max.
Output signal	0.5 ... 4.5 V ratiometric
Calibration error	± 1 %/FS
Therm. offset shift	0 ± 0.08 % FS/K (0 ... 80 °C not compensated)
Therm. span shift	0 ... -0.05 % FS/K (20 ... 80 °C)

Sample rate	1 kHz typ. / 0.5 kHz min.
Insulating resistor	>100 MΩ @ 500 VDC, RT, 70 % rH
Body material	Stainless steel
Operating temperature	-40 ... +125 °C
Storage temperature	-40 ... +125 °C

Mechanical and electrical characteristics are customisable. Specifications are subject to change without notice.

PRESSURE RANGE (BAR)	LONG THERM STABILITY *	LINEARITY / HYSTERESIS (TYP./MAX.) (% FS) **	BURST PRESSURE (BAR)	OVER-PRESSURE (BAR) ***	VACUUM CAPABILITY (BAR)
10	± 0.6	± 0.25 / 0.6	≥ 10	≤ 15	-1
25	± 0.5	± 0.25 / 0.6	≥ 10	≤ 35	-1
40	± 0.5	± 0.25 / 0.6	≥ 10	≤ 60	-1
100	± 0.5	± 0.2 / 0.5	≥ 10	≤ 150	-1
200	± 0.5	± 0.2 / 0.5	≥ 10	≤ 300	-1
300	± 0.4	± 0.2 / 0.5	≥ 10	≤ 450	-1
400	± 0.4	± 0.2 / 0.5	≥ 10	≤ 600	-1
600	± 0.4	± 0.3 / 0.5	≥ 10	≤ 900	-1
1000	± 0.4	± 0.3 / 0.5	≥ 10	≤ 1350	-1

* 1000 hours @ 125 °C | 50 million pressure cycles @ 25 °C, 10 - 90 % FS @ 2.5 Hz | 50 thermal cycles +125 °C / -40 °C, 2 K/min.

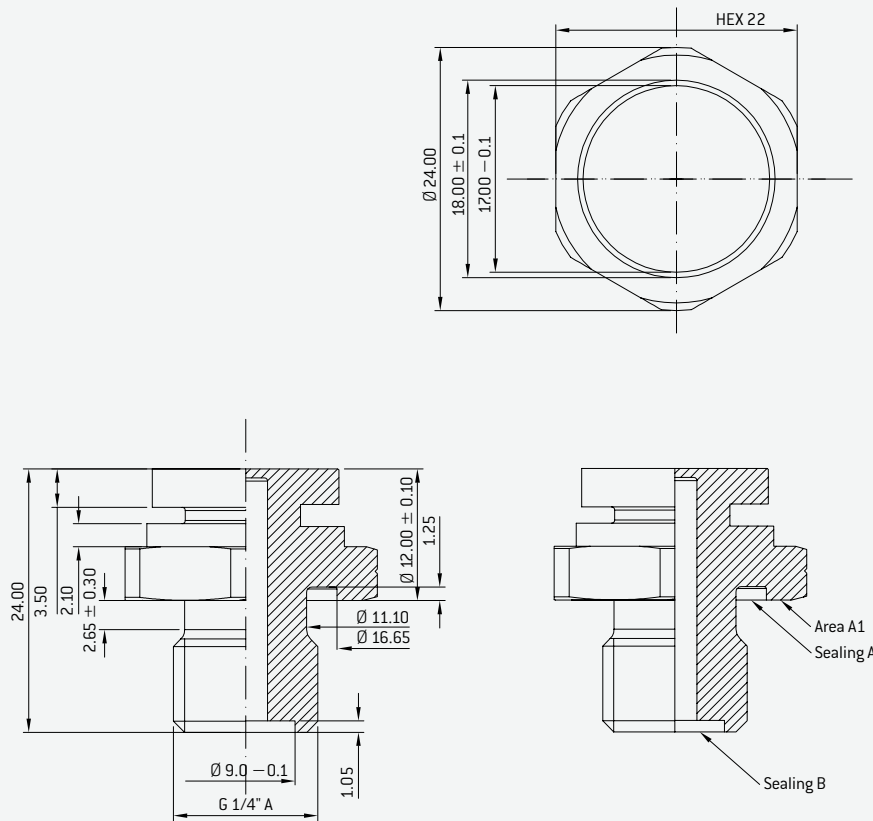
** For independent linearity 10 points are measured and compared to an ideal straight line. | For all measurements, DUT's are mounted in Metallux standard Housing according to "mounting proposal SPS 1000".

*** Over-Pressure indicates the maximum (short time < 1 s) operating pressure within no irreversible damage to the printed circuit are expected.

SAMPLE ORDER

Type	Pressure range (bar)	Electrical connection (acc. to drawing)
SPS 3003 Z	100 bar	Solder pads
Other dimensions and electrical specifications on request.		

DIMENSIONAL DRAWINGS / CONNECTOR SCHEMATIC / ELECTRICAL CONNECTORS

**Mounting procedure:**

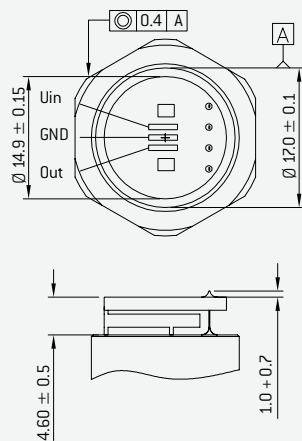
Sealing version A:

- O-ring: $\varnothing 11.5 \times 2.5$ (NBR)
- Tightening torque < 34 Nm
- Foreseeable offset displacement when surface A1 lies on the receptor approx 1 ... 4 % FS.

Sealing Version B:

- O-ring: $\varnothing 6 \times 1.5$ (NBR)
- Tightening torque < 20 Nm
- No offset displacement

Applified Output:
RV1015 [ZSC31015]



Applified Output:
RV1150 [ZSC31150]

