

SCP 04

Hydrogen Pressure Sensor



Designed to meet the challenges in hydrogen applications:

The SCP04 pressure sensor is designed to meet the chemical and physical requirements in various hydrogen applications such as production, fueling, or transportation of hydrogen.

The digitally calibrated piezoresistive measuring cell detects pressures from 4 bar up to 1,000 bar in all kinds of hydrogen applications. The special-bonded connection withstands low temperatures, shocks or vibrations.

A monolithic design eliminates the need for internal seals and leakage due to material fatigue. The SCP04 has no pressure transfer fluid, no large pressurized areas, is vacuum-tight and elastomer-free.

The robust construction out of 316L stainless-steel and the low permeability result in a wide media resistance and prevent embrittlement of the metal by ionized hydrogen.

The process connections have been designed to be gasket-free for hydrogen applications.



Product Features:

High Pressure Resistance:

- Up to 1,000 bar
- Vacuum proofed

Robust construction:

- 316L Stainless Steel
- Low permeability
- No moving parts
- Laser printed labeling

High Connectivity:

- Different connectors available
- Various output signals

Monolithic Design:

- No internal seals
- No material mix
- Minimizing embrittlement
- Gasket-free process connections for hydrogen applications
- EC79/2009 approved (up to 600 bar)



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Technical Data

SCP04-	004	025	400	500	600	1000
Pressure range P _n relative 0 ... bar / (psi)	4 (58)	25 (363)	400 (5800)	500 (7300)	600 (8702)	1000 (14,504)
Overload pressure P _{max} DIN EN 60770-1 (bar) relative	2 x P _n					1,4 x P _n
Burst pressure P _{burst} DIN EN 60770-1 (bar) relative	3 x P _n					

General

Response time	≤1 ms
Load change	> 100 million
Material Housing	EN/DIN 1.4301
Weight	Approx. 120 g

Accuracy parameter

Non-linearity + Hysteresis + Repeatability	≤0.3 %FS
Long-term stability	≤1.0 %FS / year

Overall Accuracy

	< 10 bar (145 psi)	≥ 10 bar (145 psi)
@ 25°C	≤ 0.5 %FS	≤ 0.5 %FS
@ 0°C...+80°C	≤ 2 %FS	≤ 1 %FS

Ambient conditions

Media temperature	-40...+125 °C / (-40...257°F)
Operation / Ambient temperature	-40...+105 °C / (-40...221°F)
Storage temperature	-40...+125 °C / (-40...257°F)
Vibration resistance	IEC 60068-2-6: 20 g
Shock resistance	IEC 60068-2-27: 1000 g

Conformity

CE	EN 61326-1 EN61326-3-1
RoHs	Yes
MTTFd	> 100 years

Process connection	Wetted parts
7/16"-20 UNF	316L; EN/DIN 1.4404
G1/4 B (EN 837)	316L; EN/DIN 1.4404
1/4 NPT	316L; EN/DIN 1.4404