

SCP01 pressure sensors

Device features

- Small design
- Stainless steel measuring cell
- Stainless steel housing
- Shock and vibration proof
- Wide range of compatible substances
- High linearity
- Long-term stability
- Substance temperature -40 to 125 °C
- Up to 1000 bar
- High burst pressure
- 1 ms
- Eroding milling
- Encapsulated electronics



The SCP01 pressure sensor was designed to meet industrial requirements and is used in control, regulating and monitoring systems.

The SCP01 is characterised by its compact design, high linearity and excellent interference immunity. It is suitable for quick control solutions because of its fast response speed. The compact stainless steel housing is good for harsh environmental conditions. All components which come into contact with the substance are made from stainless steel. This feature, combined with the welded, thin-layer measuring cell, ensure optimal compatibility with the substance. The electronics are encapsulated for protection against vibration damage and moisture.

In order to ensure an exact pressure measurement and to avoid disturbances, an EDM hole is integrated. This minimises the cavitation of air and dirt, thus preventing the measuring cell from being influenced by pressure surges and pressure peaks.

This product is ideal for permanent series usage in hydraulic applications because of its long lifespan, high accuracy, high reliability and sturdy stainless steel construction.

Typical application range

- General machine construction
- Injection-mould machines
- Die-casting machines
- Press construction
- Test benches
- Tool-making machines

SCP01 pressure sensors

Technical data

SCP01-xxx-x4-0x (bar / G1/4" BSPP)

SCP01-	010	016	025	040	060	100	160	250	400	600	1000
Pressure range P_n relative 0... (bar)	10	16	25	40	60	100	160	250	400	600	1000
Overload pressure* P_{max} relative (bar)	$2 \times P_n$										$1.5 \times P_n$
Burst pressure** P_{burst} relative (bar)	$4 \times P_n$										$2.5 \times P_n$

SCP01-xxxxP-x5-0x (psi / 1/4 NPT) & SCP01-xxxxP-x7-0x (psi / 7/16-20 UNF)

SCP01-	0150P	0250P	1000P	3000P	5000P	9000P***
Pressure range P_n relative 0... (psi)	150	250	1000	3000	5000	9000
Overload pressure* P_{max} relative (psi)	$2 \times P_n$					
Bursting pressure** P_{burst} relative (psi)	$4 \times P_n$					

* DIN EN 60770-1 / ** DIN 16086 / *** only 1/4 NPT

General	
Response time	≤ 1 ms
Long-term stability	< 0.2 % FS / a
Load change	> 20 million
Weight	Approx. 80 g
MTTfd	> 100 years
Accuracy	
Non-linearity	BFSL according to IEC 61298-2 $\leq \pm 0.25$ %FS
Accuracy	Type $\leq \pm 0.25$ %FS Max. $\leq \pm 0.5$ %FS
Total error at 0 to 85 °C	$\leq \pm 1$ %FS
Temperature coefficient	
Zero point	Max. $\leq \pm 0.2$ %FS/10 K
Output range	Max. $\leq \pm 0.2$ %FS/10 K
Material	
Housing	Stainless steel 1.4404

Ambient conditions	
Ambient temperature range	-40...+85 °C
Fluid temperature range	-40 to +125 °C
Compensated range	0 to +85 °C
Storage temperature	-40 to +125 °C
Vibration resistance	IEC 60068-2-6: 20 g
Shock resistance	IEC 60068-2-27: 500 g
Electrical protection	
Short-circuit, signal to GND, reverse polarity protection	
EM compatibility	
Disturbance emissions	EN 61000-6-3
Resistance to interference	EN 61000-6-2
Process connection	
Eroding milling	0.6 mm
Tightening torque	Max. 35 Nm

Process connection	G1/4A BSPP; DIN 3852 T11, Form E	SAE 7/16 UNF Male O ring	1/4 NPT
Seal	Sealing ring DIN 3869-14-FKM	O ring 8,12x1,83 FKM	
Parts in contact with substances	FKM Stainless steel 1.4404 Stainless steel 1.4548	FKM Stainless steel 1.4404 Stainless steel 1.4548	FKM Stainless steel 1.4404 Stainless steel 1.4548

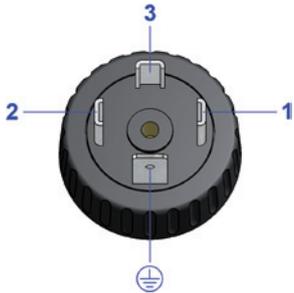
Output signal	0 to 20 mA	4 to 20 mA (3-wire)	4 to 20 mA (2-wire)	0 to 10 V
Auxiliary power V_+	+9 to 36 VDC	+9 to 36 VDC	+9 to 36 VDC	+14 to 36 VDC
Max. load	≥ 50 to ≤ 500 Ω ($V_+ - 9$ V) / 28 mA	≥ 50 to ≤ 500 Ω ($V_+ - 9$ V) / 28 mA	≥ 50 to ≤ 500 Ω ($V_+ - 9$ V) / 20 mA	≥ 10 k Ω

SCP01 pressure sensors

Pin assignment

Device plug DIN EN 175301-803 Form A 4-pole (old 43650)

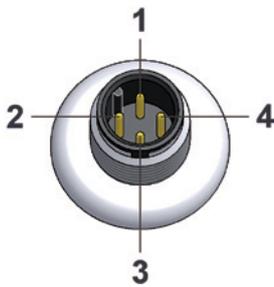
SCP01-xxx-xx-06



PIN	0 to 20 mA	4 to 20 mA (3-wire)	4 to 20 mA (2-wire)	0 to 10 V
1	P signal	P signal	P signal	P signal
2	0 V / GND	0 V / GND	n.c.*	0 V / GND
3	V ₊	V ₊	V ₊	V ₊
⊕	n.c.*			
Protection class	IP65			

Circular connector M12x1 4-pole

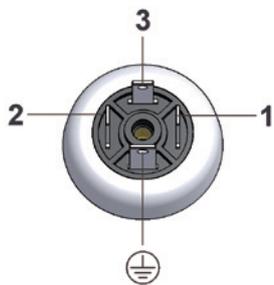
SCP01-xxx-xx-07



PIN	0 to 20 mA	4 to 20 mA (3-wire)	4 to 20 mA (2-wire)	0 to 10 V
1	V ₊	V ₊	V ₊	V ₊
2	P signal	P signal	P signal	P signal
3	0 V / GND	0 V / GND	n.c.*	0 V / GND
4	n.c.*			
Material	Plastic PBT-GF30 Ultradur B4300 G6 black			
Protection class	IP67			

Device plug Industrial Micro DIN 9.4 mm

SCP01-xxx-xx-0C



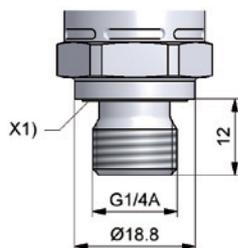
PIN	0 to 20 mA	4 to 20 mA (3-wire)	4 to 20 mA (2-wire)	0 to 10 V
1	P signal	P signal	P signal	P signal
2	V ₊	V ₊	V ₊	V ₊
3	n.c.*			
⊕	0 V / GND	0 V / GND	n.c.*	0 V / GND
Protection class	IP65			

*) n.c. = not connected

Dimensioned drawings

SCP01-xxx-x4-0x

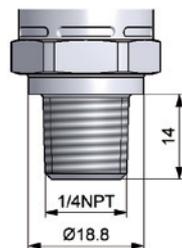
G1/4 BSPP ED



X1) = ED-seal

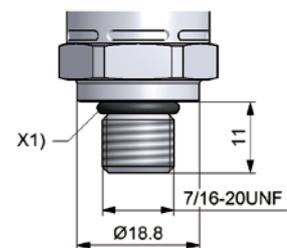
SCP01-xxxP-x5-0x

1/4 NPT



SCP01-xxxP-x7-0x

SAE 7/16-20UNF

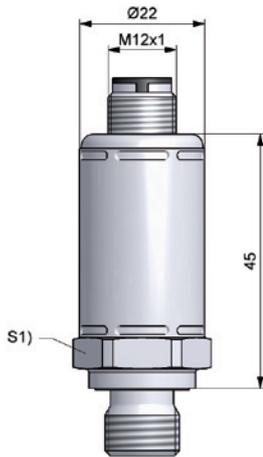


X1) = O ring 8.92 x 1.83

SCP01 pressure sensors

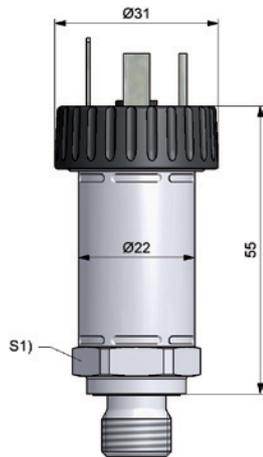
Dimensioned drawings

SCP01-xxx-xx-07



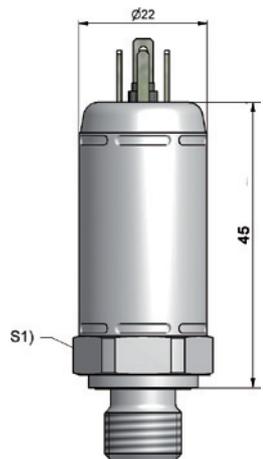
S1) = SW22

SCP01-xxx-xx-06



S1) = SW22

SCP01-xxx-xx-0C



S1) = SW22

Order code

Pressure sensor SCP01 (bar)

SCP01-xxx-x4-0x

Pressure range (bar)

0...10 bar	010
0...16 bar	016
0...25 bar	025
0...40 bar	040
0...60 bar	060
0...100 bar	100
0...160 bar	160
0...250 bar	250
0...400 bar	400
0...600 bar	600
0...1000 bar	1000

Output signal

0 to 20 mA	1
4 to 20 mA (3-wire)	2
4 to 20 mA (2-wire)	3
0 to 10 V	4

Connecting plug

Circular connector M12x1 4-pole	7
Device connector DIN EN 175301-803 Form A 4-pole	6
Device plug industrial micro DIN 9.4mm	C

Pressure sensor SCP01 (psi)

SCP01-xxxxx-xx-0x

Pressure range (psi)

0 to 150 psi	0150P
0 to 250 psi	0250P
0 to 1000 psi	1000P
0 to 3000 psi	3000P
0 to 5000 psi	5000P
0 to 9000 psi	9000P

Output signal

0 to 20 mA	1
4 to 20 mA (3-wire)	2
4 to 20 mA (2-wire)	3
0 to 10 V	4

Process connection

SAE 7/16 UNF Male O ring (P _n max. = 400 bar)	7
1/4 NPT (P _n max. = 600 bar)	5

Connecting plug

Circular connector M12x1 4-pole	7
Device connector DIN EN 175301-803 Form A 4-pole	6