

# SCP01 pressure sensor

## 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...125 °C (-40...257°F)
- Pressure range up to 1000 bar (14,504 psi)
- High burst pressure
- Response time 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.

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
- Machine tool

# SCP01 pressure sensor

## 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 <sub>n</sub> relative 0...bar / (psi)	10 (145)	16 (232)	25 (363)	40 (580)	60 (870)	100 (1450)	160 (2321)	250 (3626)	400 (5802)	600 (8702)	1000 (14,504)
Overload pressure* P <sub>max</sub>	2 x P <sub>n</sub>										
Burst pressure** P <sub>burst</sub>	4 x P <sub>n</sub>										
	1.5 x P <sub>n</sub>										
	2.5 x P <sub>n</sub>										

**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 <sub>n</sub> relative 0... (psi)	150	250	1000	3000	5000	9000
Overload pressure* P <sub>max</sub>	2 x P <sub>n</sub>					
Burst pressure** P <sub>burst</sub>	4 x P <sub>n</sub>					

\* 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 acc. to IEC 61298-2 ≤± 0.25 %FS
Accuracy	Type ≤± 0.25 %FS Max. ≤± 0.5 %FS
Total error at 0 to 85 °C	≤±1 %FS
Temperature coefficient	
Zero point	Max. ≤± 0.2 %FS/10 K
Output range	Max. ≤± 0.2 %FS/10 K
Material	
Housing	Stainless steel 1.4404

Ambient conditions	
Ambient temperature range	-40...+85 °C / (-40...185°F)
Fluid temperature range	-40...+125 °C / (-40...257°F)
Compensated range	0...+85 °C / (+32...185°F)
Storage temperature	-40...+125 °C / (-40...257°F)
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

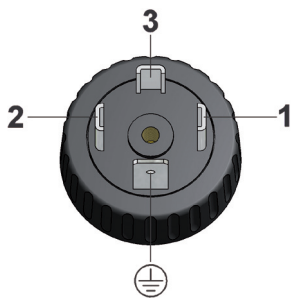
Process connection	Seal	Parts in contact with substances
G1/4A BSPP; DIN 3852 T11, Form E	Sealing ring DIN 3869-14-FKM	FKM Stainless steel 1.4404, Stainless steel 1.4548
SAE 7/16 UNF Male O-ring	O-ring 8,12x1,83 FKM	FKM Stainless steel 1.4404, Stainless steel 1.4548
1/4 NPT		Stainless steel 1.4404, Stainless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

Output signal	0...20 mA	2-wire 4...20 mA	4...20 mA	0.5...4.5 V (nom); 0...5 V; 1...6 V; 0...10 V
Auxiliary power V <sub>+</sub>	+9...36 VDC	+9...36 VDC	+9...36 VDC	+14...36 VDC
Max. load	≥50...≤500 Ω (V <sub>+</sub> - 9 V) / 20 mA	≥50...≤500 Ω (V <sub>+</sub> - 9 V) / 20 mA	≥50...≤500 Ω (V <sub>+</sub> - 9 V) / 20 mA	≥10 kΩ

# SCP01 pressure sensor

## Pin assignment

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



SCP01-...-06

SCP01-...-06-MA

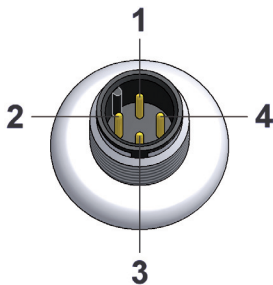
PIN	2-wire 4...20 mA	3-wire 0/4...20 mA; 0.5...4.5 V (nom); 0...5 V; 0...10 V; 1...6 V	2-wire 4...20 mA	3-wire 0/4...20 mA; 0...10 V
1	P-signal	P-signal	V <sub>+</sub>	V <sub>+</sub>
2	n.c.*	0 V / GND	n.c.*	0 V / GND
3	V <sub>+</sub>	V <sub>+</sub>	P-signal	P-signal
⊕	n.c.*			

Protection class

IP65

Circular connector M12x1 4-pole

SCP01-...-07



PIN	2-wire 4...20 mA	3-wire 0/4...20 mA; 0.5...4.5 (nom); 0...5 V; 0...10 V; 1...6 V
1	V <sub>+</sub>	V <sub>+</sub>
2	P-signal	P-signal
3	n.c.*	0 V / GND
4	n.c.**	

Material

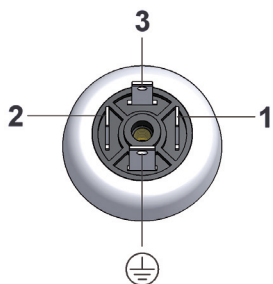
Metal plug

Protection class

IP67

Device plug (L-Industrial 9.4 mm)

SCP01-...-0C



PIN	2-wire 4...20 mA	3-wire 0/4...20 mA; 0.5...4.5 (nom); 0...5 V; 0...10 V; 1...6 V
1	P-signal	P-signal
2	V <sub>+</sub>	V <sub>+</sub>
3	n.c.*	
⊕	n.c.*	0 V / GND

Protection class

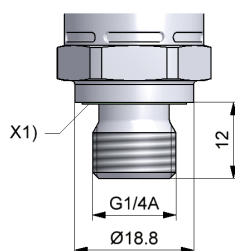
IP65

\*n.c. = do not connect

\*\*n.c. = do not connect / When flying leads are used on PIN 4, the PIN 4 has to be connected to GND.

SCP01-...-x4-0x

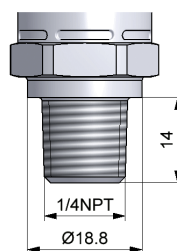
G1/4 BSPP ED



X1) = ED-seal

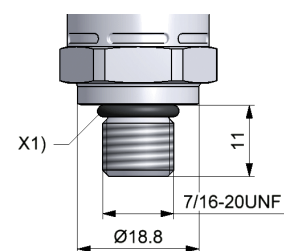
SCP01-...-x5-0x

1/4 NPT



SCP01-...-x7-0x

SAE 7/16-20UNF

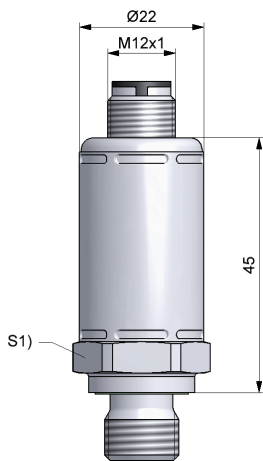


X1) = O ring 8.92 x 1.83



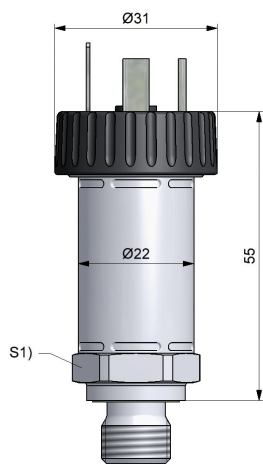
# SCP01 pressure sensor

## SCP01-xxx-xx-07



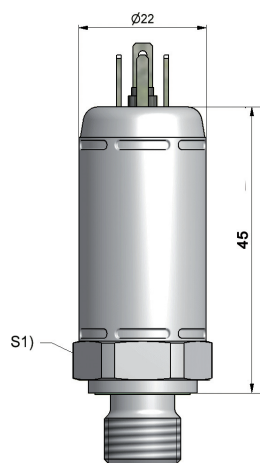
S1) = SW22

## SCP01-xxx-xx-06



S1) = SW22

## SCP01-xxx-xx-0C



S1) = SW22

## Order code

Pressure sensor SCP01 (bar) SCP01-xxx-xx-0x  
 Pressure sensor SCP01 (bar) Marine SCP01-xxx-xx-0x-MA  
 (approved by DNV/GL/ABS)

### 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...20 mA	1
4...20 mA (3-wire)	2
4...20 mA (2-wire)	3
0...5 V*	A
0,5...4,5 V (nom)*	S
1...6 V*	B
0...10 V	4

\*Not approved for marine applications

### Process connection

G 1/4" BSPP	4
-------------	---

### Connection plug

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

## Pressure sensor SCP01 (psi)

SCP01-xxxxP-xx-0xQ8

### Pressure range (psi)

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

### Output signal

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

### Process connection

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

### Connecting plug

Circular connector M12x1 4-pole	7
---------------------------------	---

### Order quantity

15 Q8: Multiple of 50 pcs.

Catalogue 4083/UK

