SCPSDi PressureController

Device features

- IO LINK
- VDMA menu
- ECO mode
- > 360° pivot function
- 180° reversible display
- Analogue output V/mA
- Operator safety improved with LOCK
- Compact size
- Rugged
- MPa, bar, PSI
- Metal housing
- Installation width 35 mm
- Installation height 78 mm



The SCPSDi is an electronic pressure switch with:

- Pressure display
- Two programmable switching outputs
- Optional analogue output signal
- IO-Link interface
- VDMA menu navigation

The key features of the SCPSDi are the innovative design and the resulting installation options combined with the diverse connection possibilities.

These unique functions make the SCPSDi ideal for permanent series use in industrial applications.

Innovative construction design

The external-thread pressure port is stop-free and can be turned independently of the housing. So you can install the pressure connection without turning the housing. The small size means that it can easily be installed in cramped quarters. After the installation, the housing can be fully rotated over 360° with no stop. It also locks into position while under pressure.

For the internal-thread pressure port, all components that come into contact with the pressurized substance are made from stainless steel. It does not have any seals so it can be used with a wide range of substances including corrosive and aggressive media.

The display is readable from large distances and can be rotated through 180° for overhead installation. A horizontally-mounted display is optionally available.

Reliable / safe / sturdy

The pressure is recorded with a long-term stable and maintenance-free measuring cell. A functional error is signalled and can be processed further according to DESINA. The metal housing is void of moving seals and is resistant to moisture, shock and vibrations.

Easy to use

The terminology and symbols used, as well as the menu structure used for setting parameters can be easily browsed using the buttons in accordance with the VDMA standard journal (VDMA 24574-1) or automatically using IO Link.

Universal

Each switching output can be adjusted individually:

- NO/NC contact
- On/off switching pressures
- Delay times
- Hysteresis / window function

The optional analogue output is switchable between 0/4 to 20 mA and 0 to 10 V. An unintentional parameter change is prevented with use of the LOCK function (button lock).

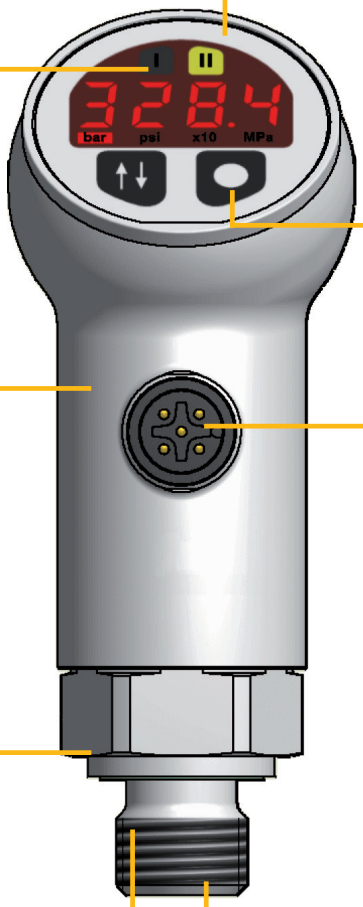
Numerous versions are available for the many different applications.

- Diverse pressures ranges up to 600 bar
- Diverse inner and outer threads
- With or without analogue outputt

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SCPSDi PressureController

Device features



Housing

- Metal housing
- No movable elements, therefore wear-free
- Not sensitive to external environment
- Waterproof IP67
- Rugged

Display

- Active-lit LED display
- Pressure display
- Units are displayed
- Bar / PSI / MPa
- Switch status is shown
- 180° rotation for top mount
- ECO mode*

Adjustments and settings

- VDMA menu navigation
- Two large buttons
- LOCK function**

Design

- No moveable seals
- Few housing elements
- No mixing of materials
- Ergonomic
- Minimal surface area for dirt
- Compact size
- Plug in the front
- Compact installation dimensions
- Sloped display

M12

- Threaded metal connection
- The plug cannot be over-rotated or broken off
- VDMA-compliant assignment of pins
- IO link
- DESINA
- 2 switching outputs
- Switchable analogue output
  - 0...20 mA
  - 4...20 mA
  - 0...10 V
- Excellent interference immunity

Measuring component

- Hermetically sealed and welded stainless steel membrane
- Zero-point stability
- Long-term stability
- No wear and tear
- Excellent pressure resistance
- Up to a nominal pressure of 600 bar

Inner thread

- All components that come into contact with the substance being measured are made from stainless steel
- No internal sealing components
- Wide range of compatible substances
- Resistant against corrosive and aggressive substances

Innovative construction of external threads

- The external-thread pressure port is stop-free and can be turned independently of the housing. So you can install the pressure connection without turning the housing.
- The housing can be set in any direction for optimal cable routing and locks under pressure.
- Self-contained housing
- No force is exerted on the measuring component during installation
- Stainless steel
- BSPP/UNF/NPT
- NBR sealing

* ECO mode (activated via menu): pressure switch is run with minimum power in this mode

** LOCK function (button lock): Prevents accidental changing of the pressure switch parameters

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SCPSDi PressureController

Technical data

SCPSDi-	010	016	025	060	100	250	400	600
Pressure range P_n, relative (bar) Adjusting range RSP...SP (Lowest reset switch point ... highest switch point)	-1...10	-1...16	-1...25	0...60	0...100	0...250	0...400	0...600
Overload pressure * P_{max} relative (bar)	2 x P_n							
Burst pressure ** P_{burst} relative (bar)	3 x P_n							
Display resolution Increment size (bar)	0.01	0.01	0.01	0.1	0.1	1	1	1
Smallest adjustable difference between SP and RSP (SP-RSP)	0.01	0.01	0.01	0.1	0.1	1	1	1

* DIN EN 60770-1
** DIN 16086

Input values	
Switching cycles	≥ 100 million
Scanning rate	≤ 10 ms
Process connection Inner/outer thread	G1/4 BSPP, 7/16 UNF, NPT
Tightening torque	35 Nm
Parts in contact with substances	Inner thread Stainless steel 1.4301; 1.4404
	Outer thread Stainless steel 1.4301; 1.4404; 1.0718 CF; NBR
Temperature range of substance	-20...+105 °C
MTTFd	> 100 years
Output values	
Accuracy*	± 0.5% FS typ.; +/- 1% FS max.
Temperature drift	± 0.03% FS/K
Long-term stability	± 0.2% FS/a
Repeat accuracy	± 0.25% FS
Switch point accuracy	± 0.5% FS typ.; +/- 1% FS max.
Display accuracy	± 0.5% FS +/- 1 digit typ. ± 1% FS +/- 1 digit max.
Max. display value	110% Pn
Analogue output	+/- 0.5% FS typ.; +/- 1% FS max.

* Including non-linearity, hysteresis, zero-point and full-scale deviations (corresponds to measurement deviations according to IEC 61298-2)

Response speed	
Switching output	≤ 10 ms
Analogue output	≤ 10 ms

Electrical connection	
Supply voltage V_+	Nominal 24 VDC; 12...30 VDC
Electrical connection	M12x1; 4-pole according to DIN EN 61076-2-101
Short circuit protection	Yes
Reverse polarity protection	Yes
Overload protection	Yes
Current consumption	< 50 mA; in ECO mode < 40 mA
Switch-on current	< 100 mA
Outputs	
Switching output 1	High-side/low-side switch (PNP/NPN)
	Switching current: max. 200 mA
	Short-circuit current: 400 mA (short-term), Short-circuit resistance
	Switching voltage: Supply voltage – 1.5 VDC
Switching output 2	High-side (PNP)* Optional
	Switching current: max. 500 mA
	Short-circuit current: 800 mA (momentary), short-circuit-proof
	Switching voltage: V_+ – 1.5 VDC
IO Link	Specification V1.0 PNO Order No. 2.802
Analogue output	4...20 mA, 0...20 mA, 0...10 V

*see ECN15003

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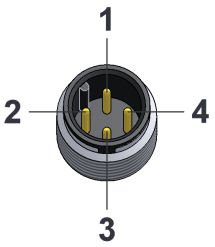
SCPSDi PressureController

Technical data

Housing	
Rotating	> 360°
Readability of the display	viewing angle can be rotated 180° Configurable (programming)
Display	4-digit 7-segment LED with additional symbols for units and switching status display; Digit height: ~6 mm, Height of units: ~2 mm
Material	Die-cast nickel-plated zinc
Protection degree	IP67
Weight	148 g
Ambient conditions	
Ambient temperature range	-25...+85 °C
Storage temperature range	-40...+85 °C
Vibration resistance	20 g; 10…500 Hz; IEC60068-2-6
Shock resistance	50 g; 11 ms; IEC60068-2-29
EM compatibility	
Disturbance emissions	EN 61000-6-3
Interference immunity	EN 61000-6-2
General	
MTTFd	> 100 years
RoHS-compliant	Yes

Pin assignment

M12x1; 4-pole

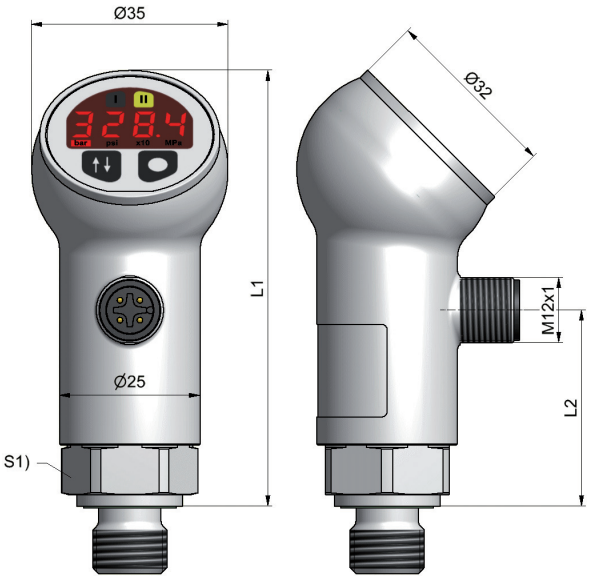


PIN	Assignment
1	V_+
2	S2 out / analogue
3	0 V / GND
4	S1 out / IO Link

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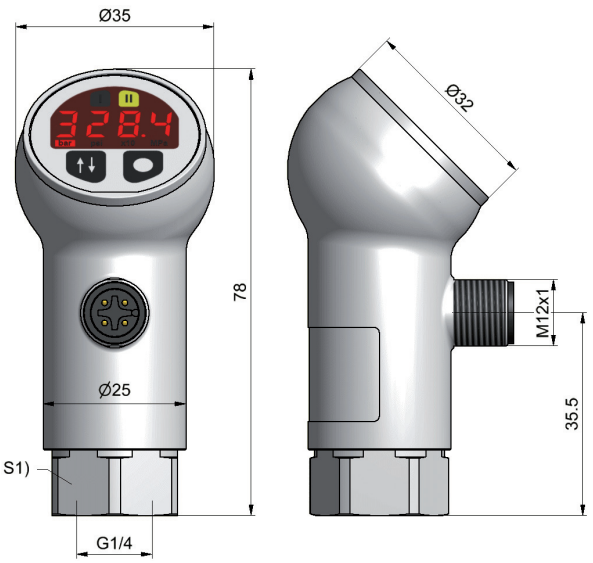
SCPSDi PressureController

SCPSDi-xxx-xx-17

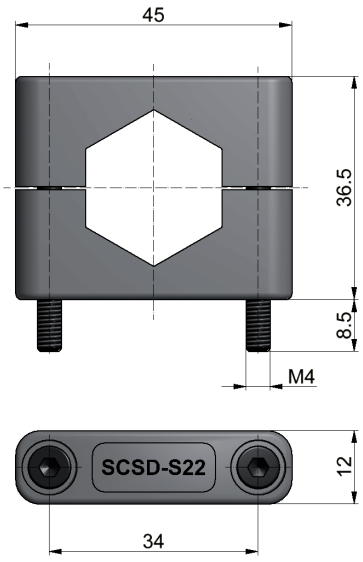


S1) SW22

SCPSDi-xxx-xx-27



SCSD-S22



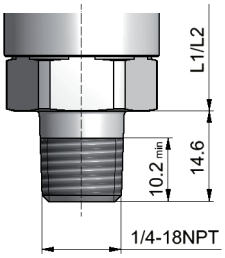
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SCPSDi PressureController

SCPSDi-xxx-x5-17

¼ NPT

L1) 75.5
L2) 33



Order code

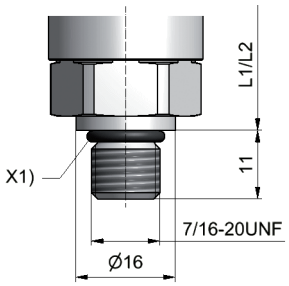
SCPSDi 2 switching outputs; **SCPSDi-xxx-04-x7-**
SCPSDi 2 switching outputs Marine; **SCPSDi-xxx-04-x7-MA**
(approved by DNV/GL/ABS)
without analogue output,
G 1/4, M12x1; 4-pole

1 switching output; **SCPSDi-xxx-14-x7**
1 switching output Marine; **SCPSDi-xxx-14-x7-MA**
(approved by DNV/GL/ABS)
switchable analogue output,
G 1/4, M12x1; 4-pole

SCPSDi-xxx-x7-17

7/16UNF

L1) 78
L2) 35.5
X1) OR 8.92x1.83



Pressure range

010	**010**
016	**016**
025	**025**
060	**060**
100	**100**
250	**250**
400	**400**
600	**600**

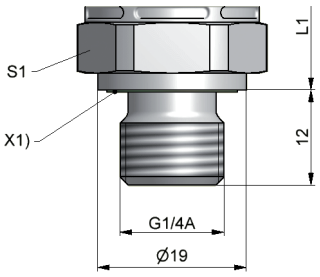
Version

Outer thread	**1**
Inner thread	**2**

SCPSDi-xxx-x4-17

G1/4ED

L1) 77.5
L2) 35
X1) ED seal



Connection cable and single plug

Connection cable, assembled **SCK-400-xx-xx**
(open cable end)

Cable length (m)

2 m	**02**
5 m	**05**
10 m	**10**

Connecting plug

M12 cable jack; straight	**45**
M12 cable jack; 90° angled	**55**

Single connector

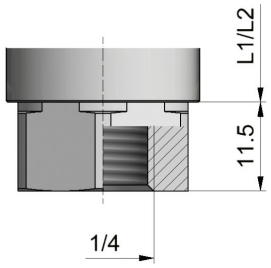
M12 cable jack; straight	**SCK-145**
M12 cable jack; 90° angled	**SCK-155**

Accessories:

Securing clamp	**SCSD-S27**

SCPSDi-xxx-x4-27

G1/4



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