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SCPSDi Pressure Switch

The all-purpose electronic pressure switch with many installation options



ENGINEERING YOUR SUCCESS.

Persuasive Reasons that Speak for Them

The SCPSDi pressure switch:
Rugged. Pivotal. Versatile. All-purpose.

Customers demand ease of use and the latest measuring technology for their applications - and the new SCPSDi pressure switch from our SensoControl® product line meets these requirements fully. This pressure switch can be installed and positioned as needed, thus ensuring that the display can be read quickly and accurately. It can be used just about anywhere! The compact all-metal housing makes a solid first impression. The sturdy construction of this pressure switch makes it perfect for use under extreme conditions. The housing can be smoothly rotated over the entire 360° to reach the best position for your applications: thanks to our patented Parker coupling. Configuring the switch is particularly simple because of the VDMA-compliant interface. Perfect for the long-term use in production: This switch is a crown jewel of measuring engineering!

Hardware

- 360° external thread
- Patented coupling
- 180° adjustable display
- Compact metal housing
- Compact installation dimensions
- Rugged and waterproof

Software

- Pressure display
- VDMA menu
- I/O link
- ECO mode
- Two programmable switching outputs
- Optional analogue output signal

Handling and ergonomics

- Simple to install and operate
- Top-side or panel mounted
- Can be rotated after the installation
- Locks into position when under pressure
- LOCK and button-lock function
- Raised buttons are simple to operate
- LED display is clearly arranged and illuminated



selves

Horizontal and vertical versions are available with a display that can be rotated 180° using menu commands. This permits a total of four different display positions. The external threading can be rotated continually and independently from the housing – so you can adjust it to best suit your operations and cable positions. For the inner threading, all components that come into contact with the pressurized media are made from stainless steel. The innovative design of the SCPSDi opens up new possibilities for installation, connection and usage. The many features integrated into this design make this switch a small all-purpose wonder capable of fitting efficiently and affordably into your everyday operations.



The slim shape and the 360° rotary mechanism make the switch simple to install and use. Each switching output can be adjusted individually. The parameters are defined according to VDMA or automatically via the I/O link. Various switch models are available for pressure ranges up to 600 bar, with multiple internal and external threads, and with or without an analogue output.

This is what makes the SCPSDi so attractive for long-term usage in industrial applications. Target applications include the construction of machines and hydraulic systems, presses, tooling machines, hydraulics, pneumatics, pumps and compressors.

All in one and one for all

The SCPSDi pressure switch is impressively versatile!

Design

- Ergonomic
- Minimal surface area that can become dirty
- Compact size
- Plug in the front
- Compact installation dimensions
- Sloped display

Housing

- All-metal case
- Does not wear out
- Not sensitive to external environment
- Waterproof
- Rugged
- Accessible

Measuring component

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

Innovative design external threads

- The externally threaded pressure port can be rotated continually and independently from the housing (more than 360°). So you can install the pressure connection without turning the housing.
- The housing can be rotated when not under pressure – to best fit the position of your cables.
- The unit locks itself into position when under pressure.
- Self-contained housing
- No force is exerted on the measuring component during installation
- Steel CF
- BSPP/UNF/NPT
- NBR seal
- No adapter needed



This outstanding switch offers many versatile installation options and an optimal pressure management system. It is an easy-to-use switch with a high-quality build that delivers superb reliability.

The SCPSDi pressure switch reinforces Parker's reputation as a top-class global systems provider. The SCPSDi is already being used effectively in several applications.

45° display

- Active-lit LED display
- Pressure is displayed
- Units are displayed
- Bar/psi/MPa
- Switch status is shown
- 180° rotation when mounted top-side
- ECO mode*

180° rotation when mounted top-side

Adjustments and settings

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

M12x1

- Threaded metal connection
- Plug cannot be over-rotated or broken off
- VDMA-compliant assignment of pins
- I/O link
- DESINA
- 2 switching outputs
- Switchable analogue output
- 0 – 20mA
- 4 – 20mA
- 0 – 10V
- Excellent interference immunity

Inner thread

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

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

**LOCK function / button lock: Prevents accidental changing of the switch parameters

Installation options



Orientation	Vertical	Vertical 180°
Order code	SCPSDi-xxx-xx-x7	SCPSDi-xxx-xx-x7
Programming	-	180 ° reverse view



Orientation	Horizontal	Horizontal 180°
Order code	SCPSDi-xxx-xx-x7-H	SCPSDi-xxx-xx-x7-H
Programming	-	180 ° reverse view

SCPSDi-	010	016	025	060	100	250	400	600
Pressure range P _n , relative (bar)	-1 – 10	-1 – 16	-1 – 25	0 – 60	0 – 100	0 – 250	0 – 400	0 – 600
Overload pressure (2 x P _n) P _{max} , relative (bar)	20	32	50	120	200	500	800	1200
Bursting pressure (3 x P _n) P _{burst} , relative (bar)	30	48	75	180	300	750	1200	1800
Display resolution Increment size (bar)	0.01	0.01	0.01	0.1	0.1	1	1	1
Highest switching point (SP) (bar)	10	16	25	60	100	250	400	600
Lowest reset switch point RSP (bar)	-1	-1	-1	0	0	0	0	0
Smallest difference for setting between SP and RSP (SP-RSP) (bar)	0.01	0.01	0.01	0.1	0.1	1	1	1

Information about selecting the pressure range:
The following parameters are relevant when working with pressure switches:

- The system pressure
- The pressure to be used as the switching point

Since a 400-bar pressure switch has a comparable resolution (of 1 bar) as that of a 600-bar pressure switch (also 1 bar), it is possible to use a 600-bar pressure switch even when there is a smaller nominal pressure (for example, 315 bar).

The advantages for you:

- Same resolution with more security
- Higher overload and bursting pressures
- Less product variants needed

Input values	
Switching cycles	≥ 100 million
Polling rate	≤ 10 ms
Fluid connections Inner/outer thread	G1/4 BSPP, 7/16 UNF, NPT
Tightening torque	35 Nm
Parts in contact with the pressurized media	Inner thread Stainless steel 1.4548.4; 1.4301 Outer thread 1.4548.4; steel CF; NBR
Temperature range of media substance	-20 to +105°C

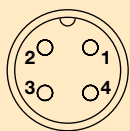
Output values	
Accuracy*	+/- 0.5% FS typ.; +/- 1% FS max.
Temperature drift	+/- 0.03 % FS/K
Long-term stability	+/- 0.2 % FS/a
Repeat accuracy	+/- 0.25 % FS
Switching point accuracy	+/- 0.5 % FS typ.; +/- 1% FS max.
Display accuracy	+/- 0.5 % FS +/- 1 digit typ. +/- 1 % FS +/- 1 digit max.
Max. displayed value	110 % P _n
Analogue output	+/- 0.5% FS typ.; +/- 1% FS max.

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

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

Electrical connection	
Supply voltage	Nominal 24 VDC; 12 – 30 VDC
Electrical connection	M12x1; 4-pole according to DIN EN 61076-2-101
Short-circuit protection	Yes
Protection against wrong insertion	Yes
Overload protection	Yes
Current consumption	< 50 mA; in ECO mode < 40 mA
Switch-on current	< 100 mA

Contact	Function
Pin 1	Supply voltage
Pin 2	Switching output 2 / analogue output
Pin 3	GND
Pin 4	Switching output 1 / I/O link



Outputs	
Switching output 1	High-side/low-side switch (PNP/NPN) Optional
	Switching current: max. 200 mA Short-circuit current: 400 mA (momentary) Short-circuit resistance
	Switching voltage: Supply voltage – 1.5 VDC
Switching output 2	High-side/low-side switch (PNP/NPN) Optional
	Switching current: max. 500 mA Short-circuit current: 800 mA (momentary) Short-circuit resistance
	Switching voltage: Supply voltage – 1.5 VDC
I/O link	Specification V1.0 PNO Order No. 2.802
Analogue output	4 – 20mA, 0 – 20mA, 0 – 10V

Housing	
Rotating	> 360°
Display readability	Programmable 180° rotating view
Display	4-digit 7-segment LED with additional symbols for displaying units and switching status; Height of digits: ~6 mm, Height of units: ~2 mm
Material	Die-cast nickel-plated zinc
Degree of protection	IP67
Weight	148 grams

Ambient conditions	
Ambient temperature range	-25 to +85°C
Storage temperature range	-40 to +85°C
Vibration resistance	20 g; 10 – 500 Hz; IEC60068-2-6
Shock resistance	50 g; 11ms; IEC60068-2-29

EM compatibility	
Disturbance emissions	EN 61000-6-3
Resistance to interference	EN 61000-6-2

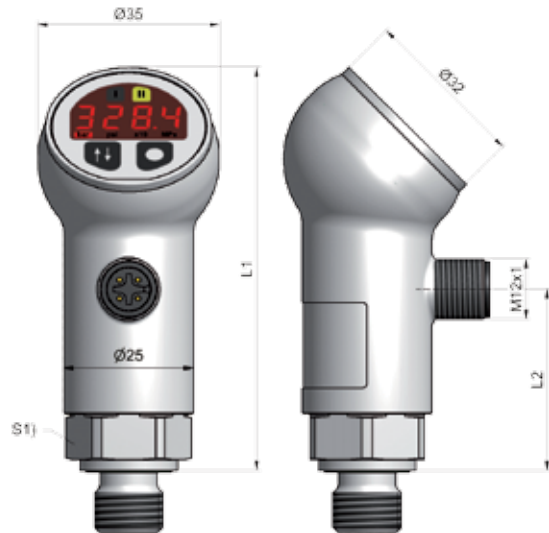
General	
MTTfd	> 100 years
Performance level	B
Category	1
RoHS compliant	Yes

Take advantage of our all-rounder!

Choose the SCPSDi pressure switch that is right for you: select one of the available configurations.

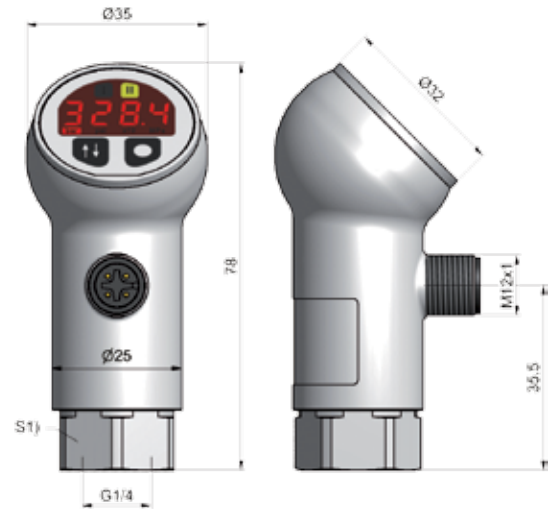
SCPSDi-xxx-xx-17

All specifications in mm



S1) SW22

SCPSDi-xxx-xx-27

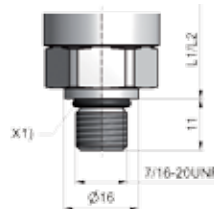


1/4NPT



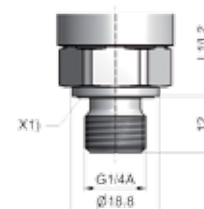
L1) 75.5
L2) 33

7/16UNF



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

G1/4ED



L1) 77.5
L2) 35
X1) FD seal

SCPSDi-xxx-xx-x7-H



Horizontal version
Display mounted at 90°
rotation when delivered

Order code

SCPSDi- **xxx** - **x** **4** - **x** **7** - **x**

Pressure range, in bar

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

Outputs

2 switching outputs without analogue output → 0
1 switching output + switchable analogue output (0/4 – 20 mA / 0 – 10 V) → 1

Connection to process

G 1/4 → 4

Thread type

Outer thread → 1
Inner thread → 2

Plug

M12x1 4-pin → 7

Display orientation

Mounted at 90° rotation when delivered → H

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