SCPSD PressureController

Device features

- Compact size
- Rugged
- Dependable
- Easily operable
- Long-term stability
- Excellent interference immunity
- Metal housing
- High protection class
- Many variants
- Pivoting
- Analogue output
- Password
- MPa, bar, PSI



The PressureController combines the functions of a pressure switch, a pressure sensor and a display device.

- Pressure gauge (manometer)
- Switching outputs
- Analogue signal

The PressureController is easy to operate, has a compact design and is very reliable. The PressureController features excellent technical specifications, optimal pressure management and a wide variety of installation options. This makes it perfect for permanent series use in industrial applications.

Easy to use

The parameters are set using the keys or over a programming module.

High functionality

Each switching output can be adjusted individually:

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

Thanks to these easy switching functions, intelligent adjustments can be set which are normally not possible using a mechanical switch. Therefore, many switches can be replaced with one controller.

The analogue output is individually adjustable

- 0/4...20 mA switchable
- Starting pressure selectable
- End pressure selectable

Reliable and safe

The pressure is recorded with a long term stable measuring cell. A functional error is signalled and can be processed further according to DESINA. Parameters can be password protected to avoid unauthorised changes.

Rugged

The housing is made of metal and is resistant to moisture, shock and vibrations. The electronics are protected against reverse polarity, over-voltage and short-circuits.

Everything at a glance

The large illuminated display can be read from long distances. The pressures can be displayed in MPa, bar or PSI.

Optimal installation possibilities

The SCPSD is ideal for installation under critical conditions because of its compact design and excellent interference immunity. The display is always easy to read because the housing can be positioned as needed.

Universal

Diverse versions are available for the many different applications.

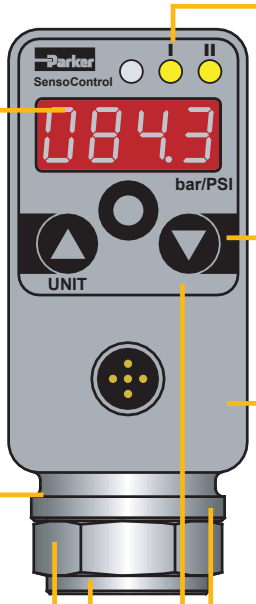
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SCPSD PressureController

Device features

Optical interface
- Switch status is shown

Everything at a glance
- Sloped display
- Digital display
  - Large
  - Illuminated
- Display
  - PSI/bar/Mpa
  - Current pressure
  - Minimum pressure
  - Maximum pressure
  - Switching points



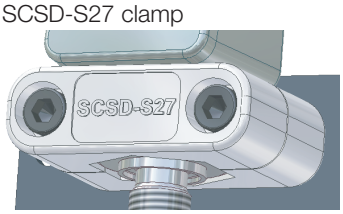
Easy to use
- 3 large buttons
- Display of the unit

Rugged
- Metal housing
- Waterproof
- Excellent interference immunity
- Vibration proof
- Shock proof

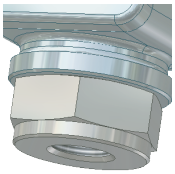
Variable installation
- Compact size
- 290° pivotable

Pressure port
- Stainless steel
- Long term stable measuring cell
- Wide range of compatible sub-stances

Tube clamp
- Safe installation with the sturdy SCSD-S27 clamp



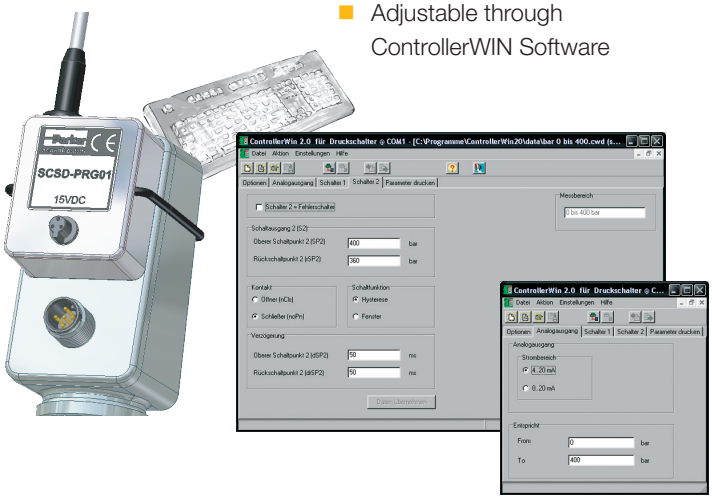
Thread
- Inner thread



- Outer thread



Programming module
- Adjustable through ControllerWIN Software



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SCPSD PressureController

Technical data

SCPSD-	004	010	016	060	100	250	400	600
Pressure range P_n relative (bar) Adjusting range RSP...SP	-1...4	-1...10	-1...16	0...60	0...100	0...250	0...400	0...600
Overload pressure P_n (bar)	10	20	40	120	200	500	800	1200
Burst pressure P_n (bar)	12	25	50	550	800	1200	1700	2200
Display resolution (bar)	0.01	0.01	0.01	0.1	0.1	1	1	1
Smallest adjustable difference between SP and RSP (SP-RSP)	0.03	0.06	0.09	0.3	0.6	2	3	3
Measuring component	Ceramic			Thin film DMS				
Parts in contact with substances	Stainless steel 1.4404; Ceramic AL2O3; NBR			Stainless steel 1.4404; 1.4542				

Input parameters	
Switching cycles	≥ 100 million
Polling rate	≥ 5 ms
Connector thread	G1/4 BSPP; ED soft seal NBR* (DIN 3852 T2, Form X); ED (DIN3852 T11, Form E)
Tightening torque	35 Nm
Temperature range of substance	-20...+85 °C
Weight	Approx. 300 g
MTTFd	> 100 years
Output values	
Accuracy	± 0.5 % FS typ.; ± 1 % FS max.
Temperature drift	± 0.02 % FS/°K type (at -20...+85 °C) ± 0.03 % FS/°K max.
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 type ± 1 Digit ± 1 % FS max. ± 1 Digit
Response speed	
Switching output	≤ 10 ms
Analogue output	≤ 10 ms

Electrical connection	
Supply voltage V_+	15 to 30 VDC nominal 24 VDC; Protection class 3
Electrical connection	M12x1; 4-pole; 5-pole; with gold-plated contacts device connector
Short-circuit protection	Yes
Protection against wrong insertion	Yes
Overload protection	Yes
Current consumption	< 100 mA
Housing	
	Adjustable direction to 290°C
Material	Painted zinc die cast Z 410
Foil material	Polyester
Display	4-digit 7-segment LED; red; digit height 9 mm
Protection degree	IP67 DIN EN 60529;

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SCPSD PressureController

Technical data

Ambient conditions	
Ambient temperature range	-20...+85 °C
Storage temperature range	-40...+100 °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
Resistance to interference	EN 61000-6-2
Outputs	
Switching outputs	Two MOSFET high-side switches (PNP)
Contact functions	NO / NC contact; window / hysteresis; function freely adjustable
Switching voltage	V_+ -1.5 VDC
Switching current max.	0.5 A per switch
Short-circuit current	2.4 A per switch
Analogue output	0/4...20 mA; programmable; freely scalable; RL ≤ (Supply voltage - 8 V)/ 20 mA (≤ 500 Ω)

* different sealing material (FKM, EPDM etc.) upon request
** does not apply for version DIN EN 175301-803 Form A (old DIN43650)

Information about selecting the pressure range

The following parameters are relevant when working with pressure switches:

- System pressure
- Switching point pressure

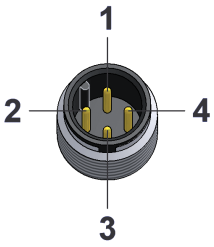
Since a 400-bar pressure switch has a comparable resolution (of 1 bar) as that of a 600-bar pressure switch (also 1 bar), it is possible to use a 600-bar pressure switch even when there is a smaller nominal pressure (for example, 315 bar).

This is a positive feature because it provides the same precision with improved safety and fewer product variants.

Pin assignment

SCPSD-xxx-14-x7

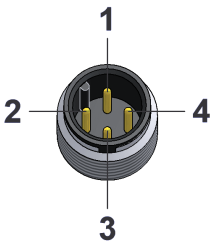
1 switching and 1 analogue output
M12x1; 4-pole



PIN	Assignment
1	V_+
2	Analogue out
3	0 V / GND
4	S1 out

SCPSD-xxx-04-x7

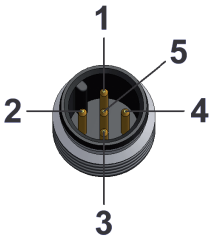
2 switching outputs;
M12x1; 4-pole



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

SCPSD-xxx-14-x5

2 switching outputs; 1 analogue output;
M12x1; 5-pole



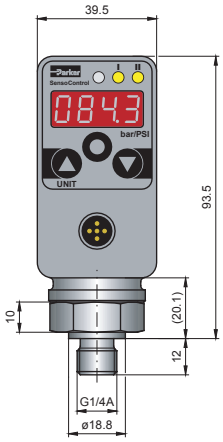
PIN	Assignment
1	V_+
2	S2 out
3	0 V / GND
4	S1 out
5	Analogue out

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Outer thread

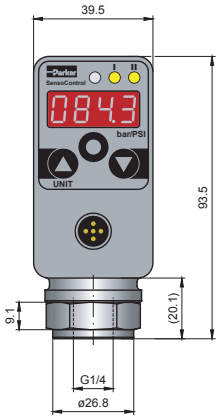
SCPSD-xxx-x4-1x



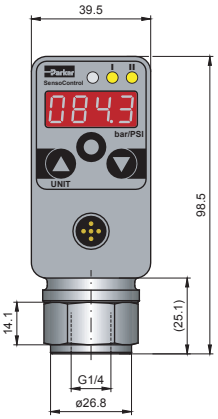
Inner thread

SCPSD-xxx-x4-2x

Up to 10 bar



From 16 bar

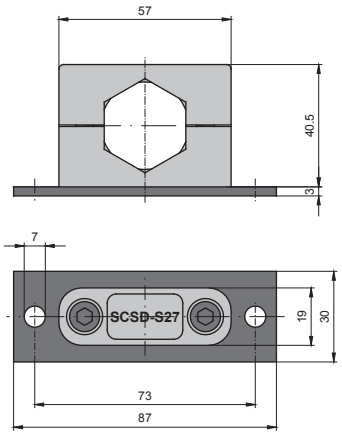


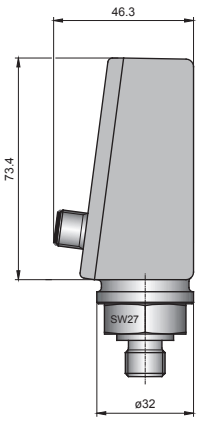
M12 connecting plug

SCPSD-xxx-x4-x5

Clamp (accessory)

SCSD-S27





The Controller Family

SCPSD PressureController

Order code

SCPSD digital pressure switch
2 switching outputs; no analogue output: SCPSD-xxx-04-x7
M12x1 connecting plug; 4-pole

1 switching output; with analogue output: SCPSD-xxx-14-x7
M12x1 connecting plug; 4-pole

2 switching outputs; with analogue output SCPSD-xxx-14-x5
M12x1 connecting plug; 5-pole

Pressure range

004	**004**
010	**010**
016	**016**
060	**060**
100	**100**
250	**250**
400	**400**
600	**600**

Version

G1/4 BSPP outer thread	**1**
G1/4 BSPP inner thread	**2**

Accessories:

PC Programming KIT	**SCSD-PRG-KIT**
Securing clamp	**SCSD-S27**
Reducing adapter M22x1.5	**SCA-1/4-M22x1.5-ED**
Reducing adapter G1/2 BSPP	**SCA-1/4-ED-1/2-ED**
Attenuation adapter	**SCA-1/4EDX1/4-D**
Attenuation adapter	**SCA-1/2EDX1/2-D**
Flange adapter for mechanical pressure switch	**SCAF-1/4-40**

Order example

SCPSD-100-04-27

Pressure range 100 bar
2 switching outputs
G1/4 BSPP inner thread
M12 connecting plug

SCPSD-004-14-17

Pressure range 4 bar
1 switching output
1 analogue output
G1/4 BSPP outer thread
M12 connecting plug

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**

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