

- Compact
- Rugged
- Reliable
- Easy operation
- Long-term stability
- Excellent interference resistance
- Metal housing
- High protection class
- Many variants
- Rotatable
- Analogue output
- Password
- MPa, bar, psi



The Pressure Controller combines the functions of a pressure switch, a pressure sensor and a display instrument:

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

Simple operation, compact design and high reliability are the most important features of the SCPSD. The Pressure Controller offers excellent technical performance and optimum pressure management. It is ideal for permanent use in industrial applications.

#### **Easy to operate**

Parameter setting is carried out via the keys or with a programming module.

#### **High functionality**

Every switching output can be set individually:

- Normally closed/normally open contacts
- On and off switching pressures
- Delay times
- Hysteresis/window function
- Damping

Intelligent settings which are not possible with a mechanical switch can be achieved with these convenient switch functions. Several switches can be replaced by a single controller.

#### **The analogue output is individually settable**

- 0/4...20 mA switchable
- Settable initial pressure
- Settable final pressure

#### **Reliable/safe**

Pressure is captured by a measuring cell with long-term stability. Any functional error is monitored and can be processed in accordance with DESINA. Thanks to a password, unauthorized change of parameters is prevented.

#### **Rugged**

The housing is made of metal and is resistant to humidity, shock and vibrations. The electronics are protected from reverse polarity, overvoltage and short circuits.

#### **Everything within view**

The large illuminated display is readable even from a considerable distance. Pressures are shown in MPa, bar or psi.

#### **Optimum installation possibilities**

With its compact design and excellent interference resistance the SCPSD is suitable for installation under critical conditions.

With its directionally settable housing, the display can always be read very easily.

#### **Universal**

Many versions are available to suit a wide variety of applications.

- Optical interface
- Switch status display

#### Everything in view

- Chamfered display
- Digital display
- Large
- Luminescent
- Display
- psi/bar/Mpa
- Actual pressure
- Minimum pressure
- Maximum pressure
- Switching points

#### Easy to operate

- 3 large keys
- Display of units

#### Pressure connection

- Stainless steel
- Measuring cell stable long-term
- Wide media tolerance

#### Rugged

- Metal housing
- Watertight
- High interference resistance
- Vibration resistant
- Shockproof

#### Flexible installation

- Compact
- Rotatable 290°

#### Thread

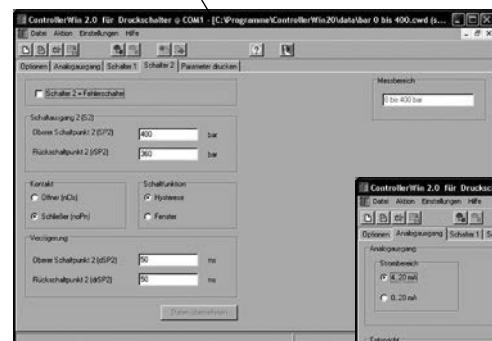
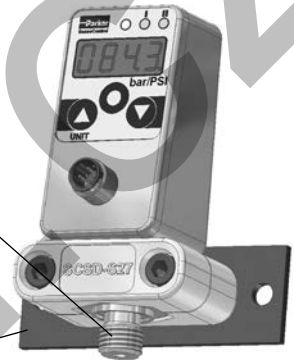
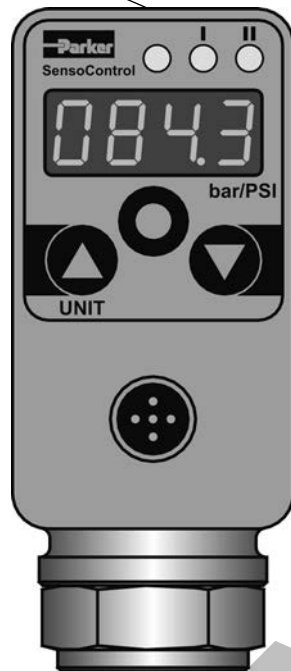
- Internal thread
- External thread

#### Tube clamp

- Safe mounting with a rugged SCSD-S27 clamp

#### Programming module

- Can be set with ControllerWIN software



SCPSD	004	010	016	060	100	250	400	600
Pressure range $P_n$ (bar)	-1...4	-1...10	-1...16	0...60	0...100	0...250	0...400	0...600
Overload pressure $P_{max}$ (bar)	10	20	40	120	200	500	800	1200
Burst pressure $P_{burst}$ (bar)	12	25	50	550	800	1200	1700	2200
Measuring element	Ceramic low pressure			DMS thin film high pressure				

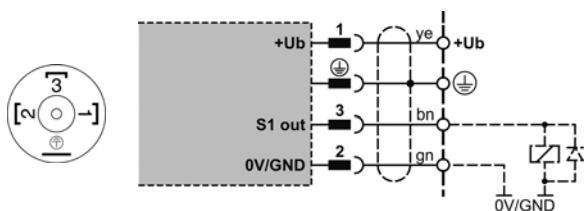
Input quantities	
Reversing cycles	≥ 100 Mio.
Scanning rate	≥ 5 ms
Connecting thread	G1/4 BSPP; ED soft seal NBR <sup>1)</sup> (DIN 3852 T2, form X); ED (DIN3852 T11, form E)
Torque	35 Nm
Parts in contact with media	Low pressure: 1.4404 stainless steel; AL2O3 ceramic; NBR high pressure: stainless steels 1.4404; 1.4542
Temperature range of medium	-20 ... +85 °C
Weight	approx. 300 g
Output quantities	
Accuracy	± 0.5 % FS typ.; ± 1 % FS max.
Temperature drift	± 0.02 % FS/°K typ. (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 typ. ± 1 Digit ± 1 % FS max. ± 1 Digit
Response speed	
Switching output	≤ 10 ms
Analogue output	≤ 10 ms
Electrical connection	
Power supply	15...30 VDC nominal 24 VDC; protection class 3
Electrical connection	M12x1; 4-pole; 5-pole with gold-plated contacts. appliance inlet connector DIN EN 175301-803 form A (formerly DIN43650)
Short circuit protection	yes
Reverse polarity protection	yes
Overload protection	yes
Current consumption	< 100 mA

Housing	
Material	directionally adjustable up to 290° pressure die-casting Z 410; painted
Foil material	polyester
Display	4-figure 7-segment LED; red; digit height 9 mm
Protection class	IP67 DIN EN 60529; IP65 with plug-in connector DIN EN 175301-803 form A (formerly DIN43650)
Environmental conditions	
Environmental temperature range	-20...+85 °C
Storage temperature range	-40...+100 °C
Vibration resistance	20 g; 10...500 Hz IEC60068-2-6 <sup>2)</sup>
Shock resistance	50 g; 11 ms IEC60068-2-29 <sup>2)</sup>
EM compatibility	
Interference emissions	EN 61000-6-3
Interference resistance	EN 61000-6-2
Outputs	
Switching outputs	2 MOSFET high side switches (PNP)
Contact functions	normally open/normally closed; window/hysteresis; freely settable function
Switching voltage	Power supply - 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 ≤ (power supply - 8 V)/ 20 mA (≤ 500 Ω)

<sup>1)</sup> Other sealing materials (FPM, EPDM etc.) on request.  
<sup>2)</sup> Does not apply to DIN EN 175301-803 form A (formerly DIN43650) version.

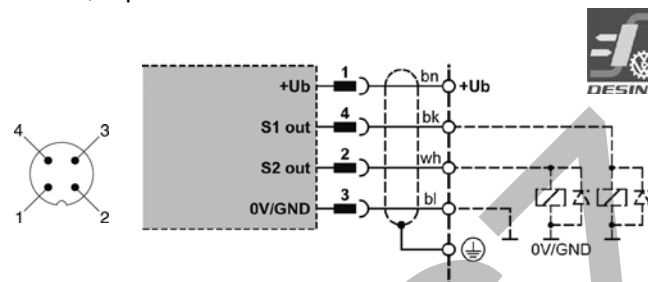
**SCPSD-xxx-04-x6**

1 switching output;  
 DIN EN 175301-803 form A (formerly DIN43650)



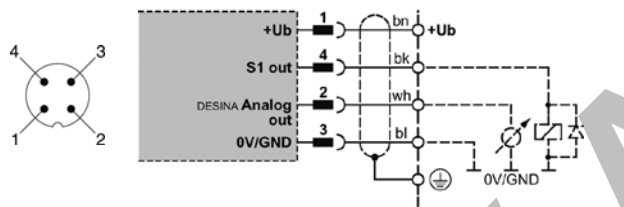
**SCPSD-xxx-04-x7**

2 switching outputs;  
 M12x1; 4-pole



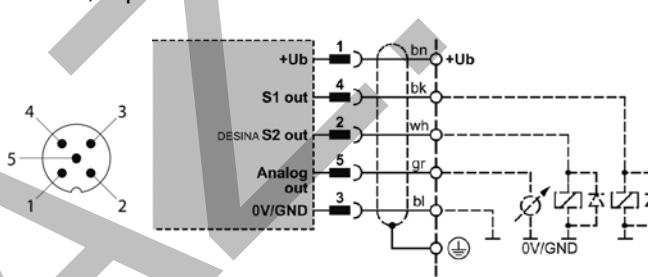
**SCPSD-xxx-14-x7**

1 switching output;  
 1 analogue output;  
 M12x1; 4-pole



**SCPSD-xxx-14-x5**

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



ye = yellow    gn = green    wh = white    gr = grey  
 bn = brown    bk = black    bl = blue

Measurement range (bar)	Display resolution increment (bar)	Smallest reverse switch value RSP	Greatest switch value SP	Smallest settable difference between SP and RSP (SP-RSP)
-1...4	0.01	-1	4	0.08
-1...10	0.01	-1	10	0.05
-1...16	0.01	-1	16	0.09
0...60	0.1	0	60	0.3
0...100	0.1	0	100	0.6
0...250	1	0	250	2
0...400	1	0	400	3
0...600	1	0	600	3

**12 Pressure range selection**

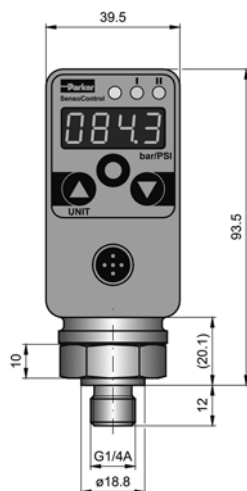
With pressure switches the settable pressure is very relevant.

Because a 400 bar pressure switch shows the same resolution (1 bar) as a 600 bar pressure switch (also 1 bar), a 600 bar pressure switch can be deployed even at a smaller nominal pressure (eg. 315 bar).

The positive effects of this are the same accuracy with higher safety and fewer product variants.

**External thread**

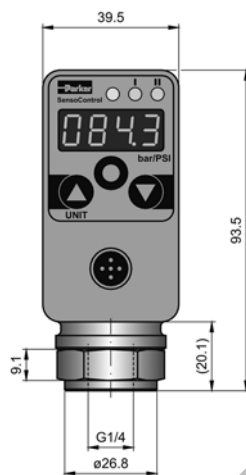
SCPSPD-xxx-x4-1x



High and low pressure  
 DMS/ceramic

**Internal thread**

SCPSPD-xxx-x4-2x



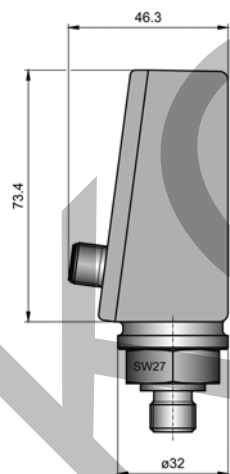
High pressure (from 60 bar)  
 DMS



Low pressure (up to 16 bar)  
 Ceramic

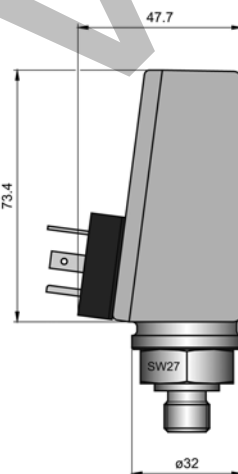
**M12 plug-in connector**

SCPSPD-xxx-x4-x5



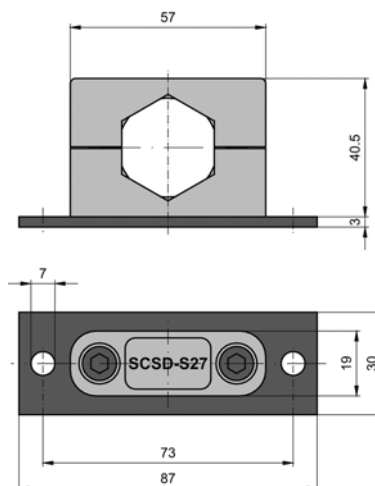
**DIN EN 175301-803 form A  
 (formerly DIN43650)**

SCPSPD-xxx-04-x6



**Accessories**

Clamp



**SCPSD digital pressure switch**

Pressure range 004; 010; 016; 060; 100; 160, 400; 600 bar	
1 switching output; without analogue output DIN EN 175301-803 form A (formerly DIN 43650) plug-in connector	<b>SCPSD - xxx - 04 - x 6</b>
2 switching outputs; without analogue output M12x1 plug-in connector; 4-pole	<b>SCPSD - xxx - 04 - x 7</b>
1 switching output; with analogue output M12x1 plug-in connector; 4-pole	<b>SCPSD - xxx - 14 - x 7</b>
2 switching outputs; with analogue output M12x1 plug-in connector; 5-pole	<b>SCPSD - xxx - 14 - x 5</b>
Type G1/4 BSPP external thread = 1 G1/4 BSPP internal thread = 2	

**Ordering examples**

**SCPSD-100-04-27**  
 Pressure range 100 bar  
 2 switching outputs  
 G 1/4 BSPP internal thread  
 M12 plug-in connector



**SCPSD-60-14-27**  
 Pressure range 60 bar  
 1 switching output  
 1 analogue output  
 G 1/4 BSPP internal thread  
 M12 plug-in connector



**SCPSD-004-14-17**  
 Pressure range 4 bar  
 2 switching outputs  
 1 analogue output  
 G 1/4 BSPP external thread  
 M12 plug-in connector

**Accessories**

**PC programming kit**

Fixing clamp  
 Reducing adaptor M22x1.5  
 Reducing adaptor G 1/2 BSPP  
 Damping adaptor  
 Flange adaptor for mechanical pressure switch

**SCSD-PRG-KIT**

**SCSD-S27**

**SCA-1/4-M22x1.5-ED**

**SCA-1/4-ED-1/2-ED**

**SCA-1/X-EDX-1/X-D**

**SCAF-1/4-40**

**Connecting cable and separate plugs**

**Connecting cable, ready-made**  
 (open cable end)

**SCK-400-xx-xx**

Cable length in m

02 2 m

05 5 m

10 10 m

Plug-in connector

45 M12 cable socket; straight

55 M12 cable socket; 90° angled

56 DIN EN 175301-803 form A plug connector  
 (formerly DIN 43650)

**Separate plugs**

M12 cable socket; straight

**SCK-145**

M12 cable socket; 90° angled

**SCK-155**

DIN EN 175301-803 Form A plug connector  
 (formerly DIN 43650)

**SCK-006**