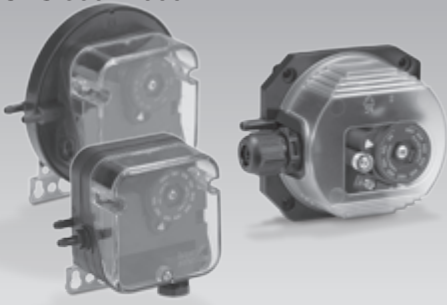


Operating instructions
CPS 300–3000
CPS 330–4000



Translation from the German
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Safety

Please read and keep in a safe place



Please read through these instructions carefully before installing or operating. Following the installation, pass the instructions on to the operator. These instructions can also be found at www.docuthek.com.

Explanation of symbols

- , 1, 2, 3... = Action
- > = Instruction

Liability

We will not be held liable for damages resulting from non-observance of the instructions and non-compliant use.

Safety instructions

Information that is relevant for safety is indicated in the instructions as follows:

⚠ DANGER

Indicates potentially fatal situations.

⚠ WARNING

Indicates possible danger to life and limb.

! CAUTION

Indicates possible material damage.

All interventions may only be carried out by qualified gas technicians. Electrical interventions may only be carried out by qualified electricians.

Conversion, spare parts

All technical changes are prohibited. Only use OEM spare parts.

Transport

On receipt of the product, check that the delivery is complete (see Part designations). Report any transport damage immediately.

Storage

Store the product in a dry place. Ambient temperature: see Technical data.

Checking the usage

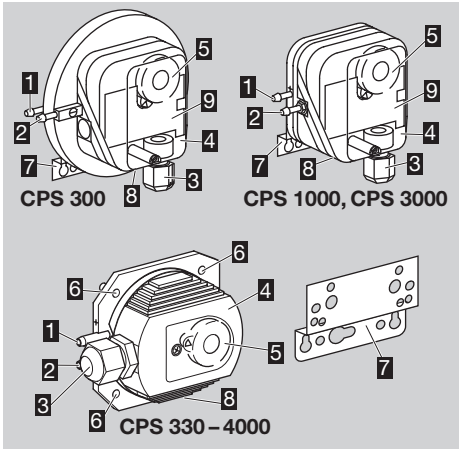
CPS

Pressure switch for air for monitoring positive, negative or differential pressure, for air or non-flammable gases.

Type code

Code	Description
CPS	Air pressure switch Adjusting range [Pa]
300	20–300
330	20–330
450	30–500
510	100–510
800	50–800
1000	100–1000
1100	100–1100
1600	400–1600
2400	200–2400
3000	250–3000
4000	500–4000
G	Gold contacts

Part designations



- 1 Positive pressure port (+)
- 2 Negative pressure port (-)
- 3 Cable gland
(M16×1.5, for cable diameters 4.5 – 10 mm)
- 4 Cover
- 5 Hand wheel with scale
- 6 Holes for bolting
- 7 Z-angle bracket for bolting to the CPS
(included in delivery for CPS 300, CPS 1000, CPS 3000)
- 8 Type label
- 9 Cover for connection terminals

Inlet pressure $p_{e \max}$ and ambient temperature – see type label.



Installation

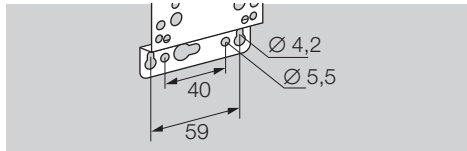
! CAUTION

Please observe the following to ensure that the CPS is not damaged during installation and operation:

- Protect the connections against dirt or moisture in the medium to be measured and the surrounding air.
 - Avoid subjecting the CPS to strong or violent vibrations.
 - Condensation must not be allowed to get into the housing. At subzero temperatures malfunctions/ failures due to icing can occur.
 - When using silicone tubes, only use silicone tubes which have been sufficiently cured.
- ▷ The switching pressure p_S only corresponds to the scale value SK on the hand wheel when the diaphragm is vertical.

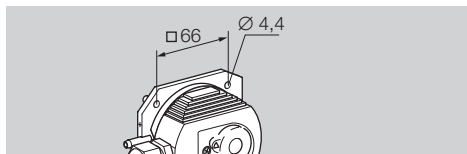
CPS 300	$p_S = SK$	$p_S = SK + 18 Pa$	$p_S = SK - 18 Pa$
CPS 1000	$p_S = SK$	$p_S = SK + 18 Pa$	$p_S = SK - 18 Pa$
CPS 3000	$p_S = SK$	$p_S = SK + 18 Pa$	$p_S = SK - 18 Pa$
CPS 330 to CPS 4000	$p_S = SK$	$p_S = SK + 13 Pa$	$p_S = SK - 13 Pa$

CPS 300, CPS 1000, CPS 3000



- 1 Mount the CPS using the Z-angle bracket.

CPS 330 – 4000



- 1 Attach the CPS itself using screws or bolt it using the optional Z-angle bracket.

- ▷ If the CPS is directly attached, use a maximum of 2 screws to prevent stresses on the CPS.

CPS 300 – 4000

- 2 Attach 4.75 mm diameter tube to the positive or negative pressure port.

For measuring positive pressure

- ▷ Attach the tube to the positive pressure port (+). The negative pressure port is left open to ventilate the upper chamber of the diaphragm.

For measuring negative pressure

- ▷ Attach the tube to the negative pressure port (-). The positive pressure port is left open to ventilate the lower chamber of the diaphragm.

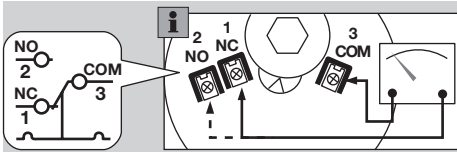
For measuring differential pressure

- ▷ Attach the tube with the higher pressure to the positive pressure port (+), attach the tube with the lower pressure to the negative pressure port (-).

Adjusting the switching pressure p_s

- ▷ The switching pressure can be adjusted using the hand wheel with scale. The switching pressure differs from the adjusted setpoint by a maximum of $\pm 15\%$, when it has been set for increasing pressure and with a vertical diaphragm.

- 1 Disconnect the system from the electrical power supply.
- 2 Generate negative and/or positive pressure on the CPS.
- 3 Remove the CPS cover.
- 4 Check the contact position with a measuring instrument.



- 5 Set the switching pressure using the hand wheel.

	Adjusting range [Pa]	Switching hysteresis [Pa]
CPS 300	20 – 300	7 – 16
CPS 330	20 – 330	8 – 18
CPS 450	30 – 500	10 – 25
CPS 510	100 – 510	13 – 25
CPS 800	50 – 800	15 – 40
CPS 1000	100 – 1000	25 – 40
CPS 1100	100 – 1100	15 – 40
CPS 1600	400 – 1600	20 – 60
CPS 2400	200 – 2400	35 – 75
CPS 3000	250 – 3000	60 – 80
CPS 4000	500 – 4000	40 – 100

Wiring

CPS (silver contact)

24 – 250 V AC:

$I = 0.05 - 5 \text{ A}$, $\cos \varphi = 1$,

$I = 0.05 - 1 \text{ A}$, $\cos \varphi = 0.6$.

CPS..G (gold contact)

12 – 250 V AC:

$I = 0.01 - 5 \text{ A}$, $\cos \varphi = 1$,

$I = 0.01 - 1 \text{ A}$, $\cos \varphi = 0.6$;

12 – 48 V DC:

$I = 0.01 - 1 \text{ A}$.

- ▷ If the CPS..G has switched a voltage $> 24 \text{ V}$ and a current $> 0.1 \text{ A}$ once, the gold plating on the contacts will have been burnt through. It can then only be operated at this power rating or higher power rating.

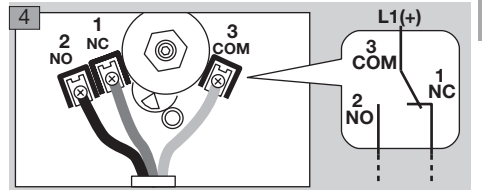
- ▷ In the case of low switching capacities, as 24 V, 8 mA, for example, we recommend using an RC module (22Ω , $1 \mu\text{F}$) in air containing silicone or oil.

- 1 Disconnect the system from the electrical power supply.

- 2 Remove the CPS cover.

- ▷ CPS 300, CPS 1000, CPS 3000: remove the cover for the connection terminals.

- 3 Feed the cable through the cable gland into the CPS.



- 5 Replace the CPS cover and screw into place.

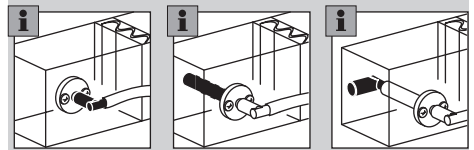
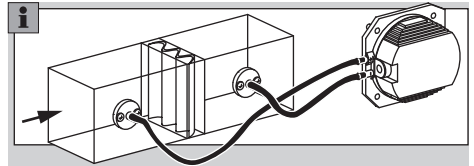
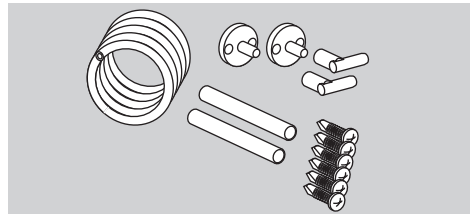
Maintenance

- ▷ We recommend a function check once a year.

Accessories

Tube set

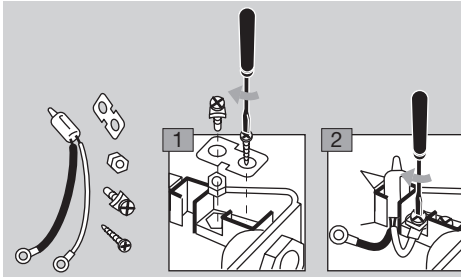
For connecting the CPS to an air duct.



Order No. 74919272

Pilot lamp set

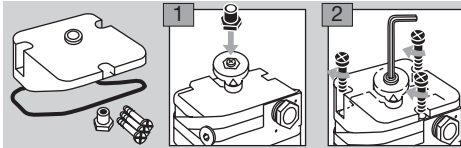
For indicating the switching status of the CPS.



	Voltage	Order No.
Pilot lamp set red	220/240 V AC	74920492
Pilot lamp set red	110/120 V AC	74920430
Pilot lamp set blue	220/240 V AC	74916122
Pilot lamp set blue	110/120 V AC	74916121
LED set green/red	24 V DC	74921089
LED set green/red	230 V AC	74923275

External adjustment

For adjusting the switching pressure for the pressure switches CPS 300, CPS 1000 or CPS 3000 when the cover is closed.

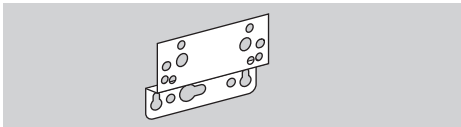


Order No. 74916155

Z-angle bracket

For fast installation and removal of the CPS 330 – 4000 with diverse mounting options, even with only one screw.

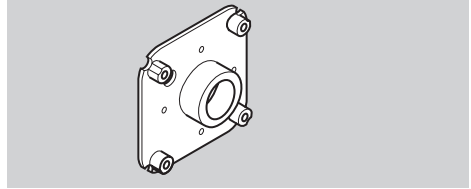
The angle bracket increases the distance between pressure switch and mounting plate.



Order No. 74919824

Motor flange

For space-saving attachment of the pressure switch directly on the fan motor. It is not necessary to drill holes for mounting the motor flange.



	Order No.
CPS 300	74916157
CPS 1000, CPS 3000	74916156
CPS 330 – 4000	74920415

Declaration of conformity



We, the manufacturer, hereby declare that the products CPS 300 to CPS 4000 comply with the requirements of the listed Directives and Standards.

Directives:

- 2006/95/EC.

Standards:

- DIN EN 1854.

The production is subject to a Quality System pursuant to DIN EN ISO 9001.

Elster GmbH

Scan of the Declaration of conformity (D, GB) – see www.docuthek.com

Contact

If you have any technical questions, please contact your local branch office/agent. The addresses are available on the Internet or from Elster GmbH.

We reserve the right to make technical modifications in the interests of progress.

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