

DESCRIPTION AND APPLICATION

The flow sensors are intended for contact measurements of gaseous substance flowing. They meet the degree of protection IP 65 according to ČSN EN 60 529. When the sensor in combination with the central holder is used, it is possible to use the sensor for measurements of flow in air conditioning ducts or piping. The temperature resistance of the sensor head is -30 to 70 °C and it must not be exceeded even for a short time. The sensors can be used for all control systems that are compatible with the 0 to 10 V voltage output.

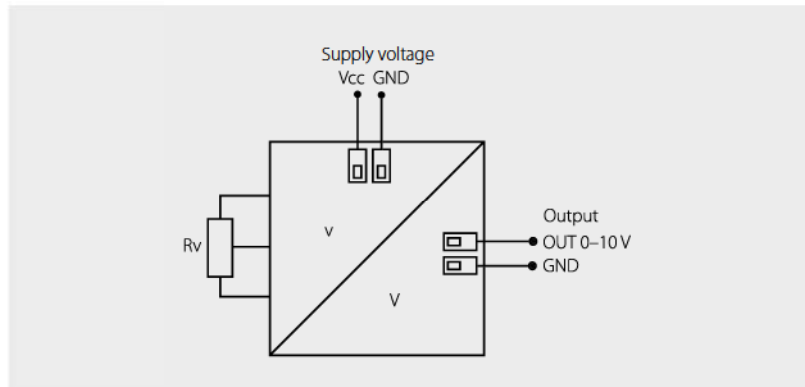
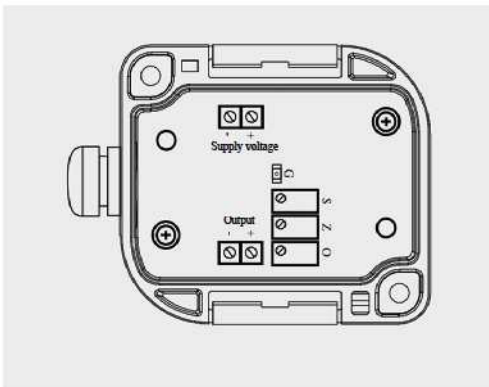
The sensors are designed for operation in chemically non-aggressive environments.



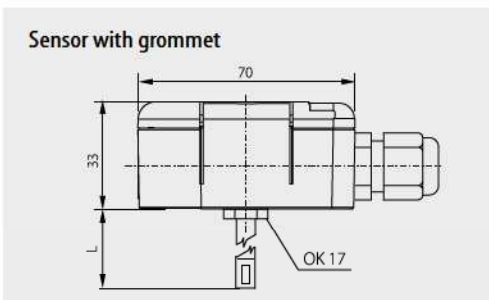
TECHNICAL PARAMETERS

Sensor type	SNP	
Sensing element type	F55	
Standard measuring range / Recommended measuring range	0–5 m/s / 2–5 m/s	
	0–10 m/s / 2–10 m/s	
	0–20 m/s / 2–20 m/s user selectable 0–100 m/s	
Supply voltage	15 to 30 VDC (recommended 24 VDC)	
Power consumption	1 W	
Output signal	0–10 V	
Measuring sensitivity	0,01 m/s	
Settling time after power-up	15 minutes	
Measurement error	< 3 % of the range (Applied to air, temperature 25±5 °C, humidity 40±5 % RH, atmospheric pressure 1000±10 hPa in recommended measuring range. Error after power-up is approx. +2V, after 5 min. < +0,3V, after 10 min. < +0,1V.)	
Speed of response	< 2 s	
Sensor wiring	according to the wiring diagram	
Recommended wire cross-section	0,35 to 1,5 mm ²	
Material of head	Polyamide	
Head size	70 x 63 x 34 mm	
Temperature round the head	-30 to 70 °C	
Temp. of measuring stem with element	-20 to 150 °C	
Degree of protection of head	IP 65 according to ČSN EN 60 529	
Degree of protection of measuring stem	IP 20 according to ČSN EN 60 529	
EMC compatibility - criterion A for:	EMC emission	ČSN EN 61 000-6-3
	EMC immunity	ČSN EN 61 000-6-2
	Electrostatic discharge	IEC 61 000-4-2
	Electromagnetic field	IEC 61 000-4-3
	Fast transient phenomena	IEC 61 000-4-4
	Shock pulse	IEC 61 000-4-5
	Electromagnetic interference	IEC 61 000-4-6
	Short-time interruption	IEC 61 000-4-11
Type of grommet	M 16 x 1,5	
Measuring stem diameter	10 mm	
Measuring stem standard lengths	100 mm a 200 mm	
Weight	0,15 kg	

WIRING DIAGRAM



DIMENSIONAL DRAWING



SENSOR INSTALLATION AND OPERATION

It is necessary to open the plastic head before the supply cable is connected. To open the head, use a standard flat-tip screwdriver and insert the tip subsequently into both of the slots in the cap and release it by tilting the tool up. Put the supply cable through the loose grommet and connect it to the terminals according to the wiring diagram. The recommended wire cross-section is 0.35 up to 1.5 mm² and the external diameter of the circular section of the cable is 4 to 8 mm.

If the supply cable is laid in the proximity to high voltage cables or those supplying the units generating interfering electromagnetic fields, a shielded cable should be used.

The sensors are installed on a horizontal surface using the plastic holder with grommet or the internal holes in the sensor head. The holes are accessible after removing the cap from the head. The plastic holder is not included in the delivery.

The recommended operating position is with the grommet not facing up. In order to ensure impermeability, the grommet should be tightened after connection of the supply cable. When closing the head, the clips must click into their original seats.

The sensor may only be installed by the person with electrical qualification according to § 5 Regulation No. 50/1978 Coll. and who has been well familiarized with the "Operating Instructions".

Switches must not be used for measuring in the following locations:

- Where the switch may be subject to vibrations or mechanical effects,
- With explosion hazard or with substantial electrical interference,
- In chemically aggressive environments,
- Where they could be exposed to direct thermal radiation (lamps, radiators, etc.) or to solar radiation.

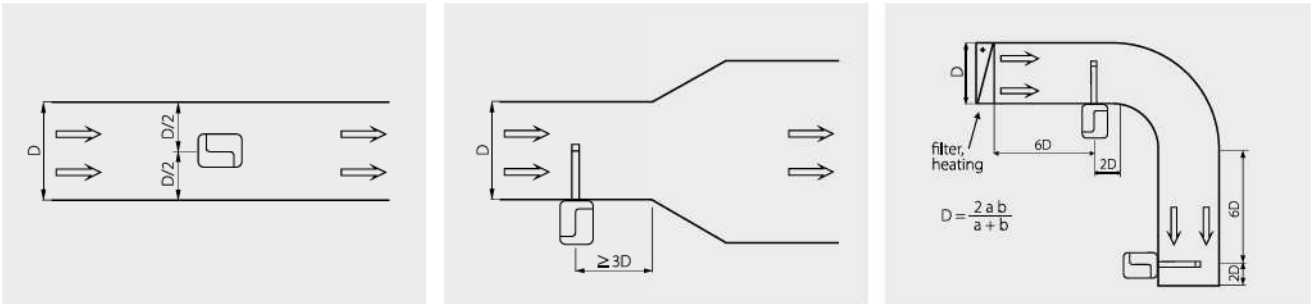
FLOW SENSOR SETTING

Once the supply voltage is connected to terminals + and -, the G control LED (green) is on. The sensor has three trimmers for setting up. The S and O trimmers are set the manufacturer and it is not allowed to adjust them. The Z trimmer is set up in such a way so that the output voltage is 10V at the nominal flow speed. You can use the Z trimmer to adjust the 10V output voltage for a different flow speed. The change of setting may be necessary in the cases when the air flow speed is not measured.

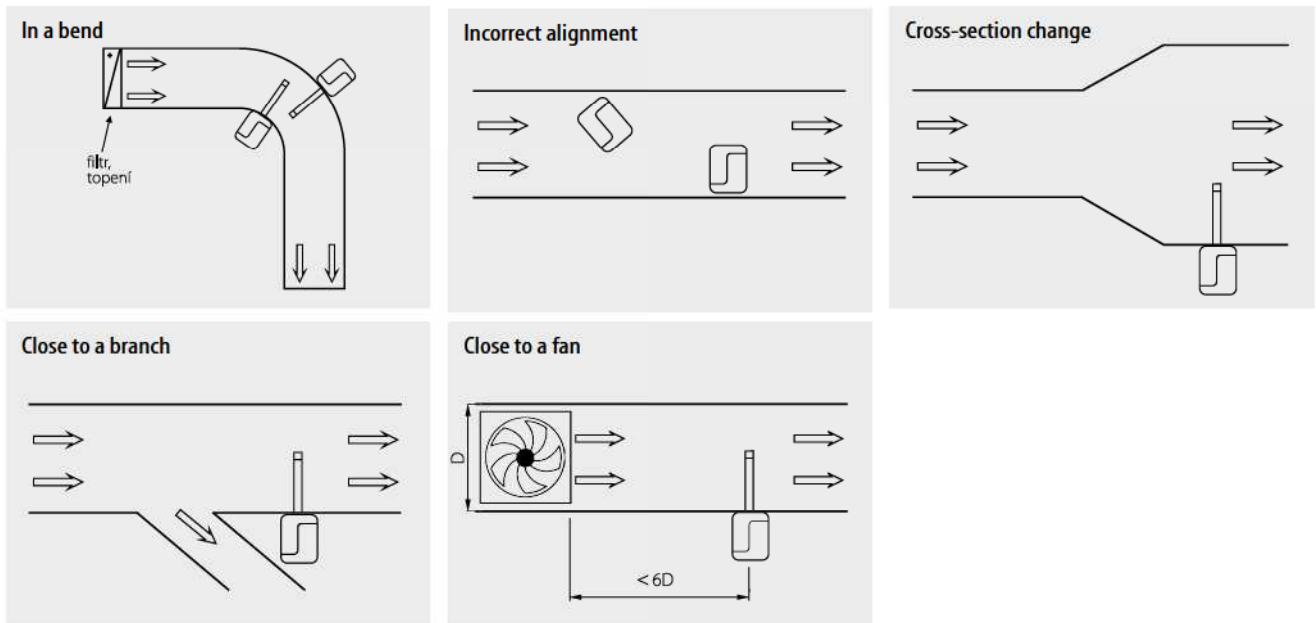
ACCEPTABLE AND UNACCEPTABLE PLACEMENT OF SENSORS:

For the sensor to operate correctly, it is necessary to observe several rules for the placement of the devices into the sensing line. The following figures show correct and incorrect placement of the product:

The axis of the cable grommet must be horizontal with the direction of the flow.



For rectangular pipes, the diameter **D** is calculated from the rectangle sides **a, b**.



METHOD OF ORDERING

Flow sensors	1	P	2	0	C	D	D	0	0	G	G	G	G
0 – 5 m/s						0	1						
0 – 10 m/s						0	2						
0 – 20 m/s						0	3						
Stem length L1								100 mm	0	1	0	0	
								200 mm	0	2	0	0	

DELIVERY

The sensors are packed in a box containing 1 or 2 units.
 The following can be delivered with the product: – Calibration sheet
 – ES Declaration of Conformity.