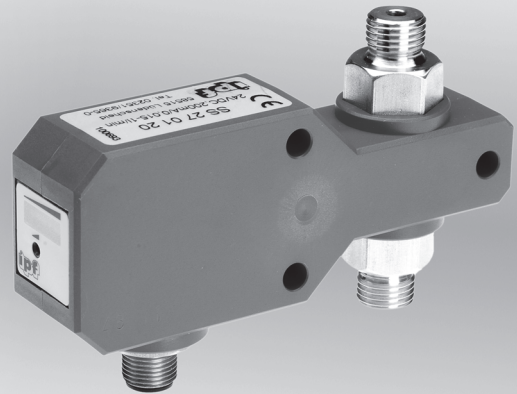


dimensions	G¼"	27 x 70 x 112mm
	hose	27 x 125 x 112mm
	G½"	38 x 107.5 x 118mm
	G¾"	38 x 118 x 118mm
	Tri Clamp	27 x 67 x 112mm

thermodynamic operating range **0.015 to 30l/min**



- ✓ monitoring device for water
- ✓ LED calibration display
- ✓ various pipe diameters
- ✓ pressure-proof to 20 bar
- ✓ short reaction time
- ✓ connection with M12-connector

**inline compact
switching or analog output**



description

The flow sensor functions according to the thermodynamic principle. The sensor tube is heated from inside by a few degrees Celsius above the temperature of the flow medium which flows through the sensor tube.

When the medium is flowing, the generated heat is dissipated, i.e. the tube is cooled. The temperature in the tube is measured and compared with the medium temperature, which is also measured. The flow status can be derived from the determined difference in temperature.

Flow sensors continuously monitor the flow of fluids. They are used for monitoring cooling systems, as

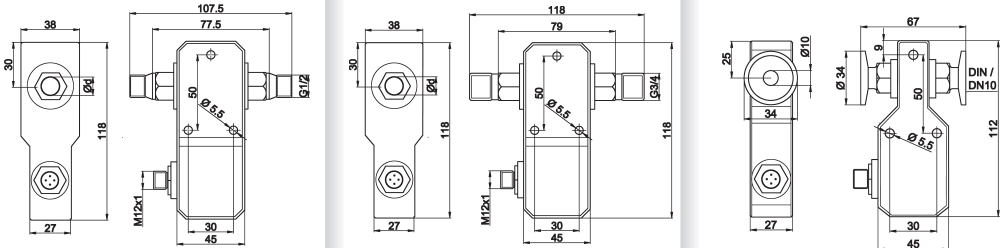
dry-run protection for pumps, in manufacturing processes, purification plants, filling and metering systems as well as in medical and laboratory equipment.

The sensor tube is a single-piece component made of stainless steel. This ensures absolute leaktightness and high pressure resistance. Furthermore, this material is suitable for a wide range of different applications.

application examples

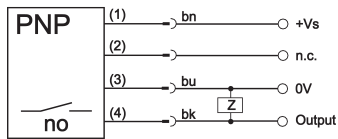
- ▶ coolant used in welding machines
- ▶ dry-run protection for pumps

article-no.	SS270020	SS270021	SS270023
version	G $\frac{1}{4}$ ", Ø 4mm	hose	G $\frac{1}{4}$ ", Ø 9mm
operating range ¹	0.015 ... 1l/min	1 ... 200ml/min	0.1 ... 6l/min
output signal	4 ... 20mA, RL ≤ 500Ω	4 ... 20mA, RL ≤ 500Ω	4 ... 20mA, RL ≤ 500Ω
article-no.	SS270120	SS270121	SS270123
version	G $\frac{1}{4}$ ", Ø 4mm	hose	G $\frac{1}{4}$ ", Ø 9mm
operating range ¹	0.015 ... 1l/min	1 ... 200ml/min	0.1 ... 6l/min
output signal	pnp, no	pnp, no	pnp, no
TECHNICAL DATA			
operating range ¹	0.015 ... 1l/min	1 ... 200ml/min	0.1 ... 6l/min
flow rate	max. 300l/h	max. 100l/h	max. 1800l/h
pressure resistance (operation)	20bar	1bar	20bar
output signal	see above	see above	see above
operating voltage	24V DC ±10%	24V DC ±10%	24V DC ±10%
output current (max. load)	pnp: 200mA	pnp: 200mA	pnp: 200mA
current consumption (w/o load)	< 50mA	< 50mA	< 50mA
voltage drop (max. load)	< 2V DC	< 2V DC	< 2V DC
readiness delay ²	5 ... 15s	5 ... 20s	5 ... 15s
measuring time ³	0.5 ... 1s	0.5 ... 3s	0.5 ... 1s
display (actual value)	LED row	LED row	LED row
sensitivity adjustment	potentiometer	potentiometer	potentiometer
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
housing material	plastic	plastic	plastic
material (sensing element)	stainless steel	stainless steel	stainless steel
dimensions	27x67x112mm	27x125x112mm	27x67x112mm
operating temperature	0 ... +60°C	0 ... +60°C	0 ... +60°C
temperature (medium)	0 ... +80°C	0 ... +60°C	0 ... +80°C
temperature gradient	400K/min	400K/min	400K/min
degree of protection (EN 60529)	IP67	IP67	IP67
connection	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. VK200025	e.g. VK200025	e.g. VK20002
<p>1 With optimum and constant ambient and installation conditions</p> <p>2 Depends on medium temperature</p> <p>3 Depends on medium and setting of switching point</p>			

article-no.	SS270024	SS270025	SS270026
version	G½", Ø 15mm	G¾", Ø 19mm	Tri Clamp, Ø 10mm
operating range ¹	3 ... 20l/min	4 ... 30l/min	0.1 ... 6l/min
output signal	4 ... 20mA	4 ... 20mA	4 ... 20mA
article-no.	SS270124	SS270125	SS270126
version	G½", Ø 15mm	G¾", Ø 19mm	Tri Clamp, Ø 10mm
operating range ¹	3 ... 20l/min	4 ... 30l/min	0.1 ... 6l/min
output signal	pnp, no	pnp, no	pnp, no
			
TECHNICAL DATA			
operating range ¹	3 ... 20l/min	4 ... 30l/min	0.1 ... 6l/min
flow rate	max. 4000l/h	max. 7500l/h	max. 1800l/h
pressure resistance (operation)	20bar	20bar	20bar
output	see above	see above	see above
operating voltage	24V DC ±10%	24V DC ±10%	24V DC ±10%
output current (max. load)	pnp: 200mA	pnp: 200mA	pnp: 200mA
current consumption (w/o load)	< 60mA	< 60mA	< 50mA
voltage drop (max. load)	< 2V DC	< 2V DC	< 2V DC
readiness delay ²	5 ... 15s	5 ... 15s	5 ... 15s
measuring time ³	0.5 ... 3s	0.5 ... 3s	0.5 ... 1s
display (actual value)	LED row	LED row	LED row
sensitivity adjustment	potentiometer	potentiometer	potentiometer
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
housing material	plastic	plastic	plastic
material (sensing element)	stainless steel	stainless steel	stainless steel
dimensions	38x107.5x118mm	38x118x118mm	27x67x112mm
operating temperature	0 ... +60°C	0 ... +60°C	0 ... +60°C
temperature (medium)	0 ... +80°C	0 ... +80°C	-20 ... +60°C
temperature gradient	400K/min.	400K/min.	400K/min.
degree of protection (EN 60529)	IP67	IP67	IP67
connection	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. VK200025	e.g. VK200025	e.g. VK200025
<p>1 With optimum and constant ambient and installation conditions</p> <p>2 Depends on medium temperature</p> <p>3 Depends on medium and setting of switching point</p>			

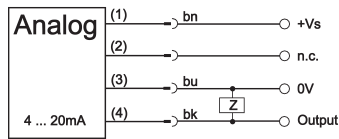
connection

devices with switching output



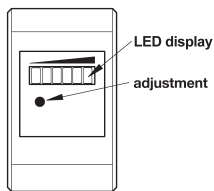
wire colors: bn = brown (1), bu = blue (3), bk = black (4)

devices with analog output

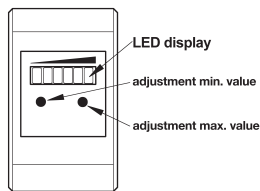


LED display

devices with switching output



devices with analog output



setting instructions

devices with switching output

The switching point can be set using a potentiometer while the medium is at rest or flowing.

LED indicators

red	flow below set value, switching output not active
yellow	flow at set value, switching output active
green	flow above set value, number of lit LEDs indicates flow reserve

devices with analog output

The bar display can be adjusted to the flow minimum and flow maximum using the two potentiometers.

LED display

red	=	4mA
1. green	>	4mA
2. green	>	8mA
3. green	>	12mA
4. green	>	16mA
5. green	=	20mA

This data sheet only contains the available standard variants. For other output / connection variants, we kindly ask that you contact us.

We are happy to supply the right cable socket for the plug equipment. You will find a list in the “accessories” section of the catalog under **ipf-SENSORFLEX®** “cable sockets” or in the search window on our homepage www.ipf-electronic.com (using the search term “VK”).

Warning: Never use these devices in applications where the safety of a person depends on their functionality.

You also find this data sheet, as well as contact details under www.ipf-electronic.com

