design	**G¼" Ø40 x 73mm**	
	G½" Ø40 x 84mm	
	G½" Ø40 x 66mm	
flow	water	**1 to 150cm/sec**
	oil	**3 to 350cm/sec**

- ✓ **insensitive to soiling**
- ✓ **wear-free because of no mechanically moved parts**
- ✓ **pressure resistant up to 100bar**
- ✓ **robust stainless steel housing**
- ✓ **flow display by LED-chain**
- ✓ **easy to mount into T-pieces**
- ✓ **integrated amplifier**

one-piece stainless steel sensor head wear free

description

The function of the flow sensor is based on the calorimetric principle. Compared to the flow medium, into which it protrudes, the measuring head is heated up by a few degrees Celsius from the inside outwards. If the medium is flowing, the heat generated in the head is channeled away through the medium, i.e. the head is cooled.
The temperature reached in the head is measured and compared with the temperature of the medium which is also measured. Out of the temperature difference that is gained, it is possible to derive the flow state for each medium.
For use in corrosive or oxidative media, materials are optionally available upon request, such as hastelloy or titanium. The sensing head is manufactured from stainless steel in one part thanks to a new type of electronic and mechanical construction. This way, total impermeability and a high level of pressure resistance is achieved. In addition, this material is versatile in terms of its application.

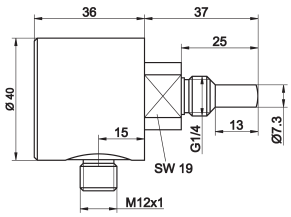
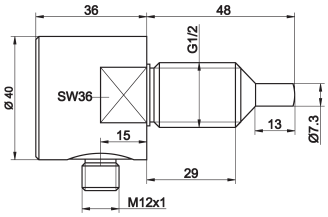
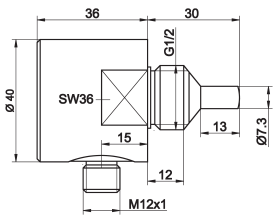
application examples

- continuous flow monitoring of liquids or gas
- movement of granulate materials
- control of cooling systems
- protection against dry running of pumps
- to be used in ventilation systems, cleaning facilities, filling facilities and batchers, in medical and laboratory technology as well as in air conditioning systems
- monitoring of filters and sieves

ipf electronic gmbh Kalver Straße 27 D-58515 Lüdenscheid Fon +49 (0) 2351 / 9365-0 Fax +49 (0) 2351 / 936519 www.ipf-electronic.com E-Mail: info@ipf-electronic.com

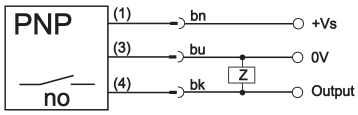
Subject to alteration! Version: February 2010

1300 flow sensors

article-no.	**SS400120**	**SS410120**	**SS410124**
version	**G¼"**	**G½"**	**G½"**
output	**pnp, no**	**pnp, no**	**pnp, no**
			
TECHNICAL DATA			
detection range (water)	1 ... 150cm/sec	1 ... 150cm/sec	1 ... 150cm/sec
detection range (oil)	3 ... 300cm/sec	3 ... 300cm/sec	3 ... 300cm/sec
pressure resistance	100bar	100bar	100bar
output	pnp, no	pnp, no	pnp, no
operating voltage	24V DC ±20%	24V DC ±20%	24V DC ±20%
output current (max. load)	< 400mA	< 400mA	< 400mA
current consumption (w/o load)	< 70mA	< 70mA	< 70mA
voltage drop (max. load)	< 2V DC	< 2V DC	< 2V DC
power-on delay time	2 ... 15sec	2 ... 15sec	2 ... 15sec
display	LED-row	LED-row	LED-row
sensitivity adjustment	potentiometer	potentiometer	potentiometer
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
housing material	stainless steel	stainless steel	stainless steel
sensing element material	stainless steel	stainless steel	stainless steel
design	Ø40 x 73mm	Ø40 x 84mm	Ø40 x 67mm
operating temperature	-20 ... +80°C	-20 ... +80°C	-20 ... +80°C
medium temperature	-20 ... +80°C	-20 ... +80°C	-20 ... +80°C
temperature gradient	250°C/min	250°C/min	250°C/min
system of protection (EN 60529)	IP67	IP67	IP67
connection	M12-connector 4-pin, 3 assigned	M12-connector 4-pin, 3 assigned	M12-connector 4-pin, 3 assigned
connection accessories	e.g. **VK200021** 2m angular, PUR	e.g. **VK200021** 2m angular, PUR	e.g. **VK200021** 2m angular, PUR

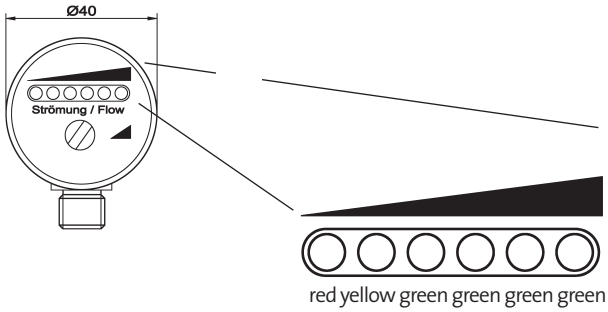
connection

switching devices



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

LED-display



setting instructions

calibration for stationary medium
Install sensor and set potentiometer in a way that the red LED lights up. In case of a flow one green LED at least must light up.

calibration for flowing medium
Install sensor and adjust potentiometer in such a way that two green LEDs light up. When the medium is stationary, the red LED lights up.

falling beneath the set flow
Install sensor, set the flow and then adjust the potentiometer so that the first green LED just lights up. Any reduction of the flow speed causes the green LED to go out first, subsequently the yellow LED goes out and the switching output is blocked. Now the red LED lights up.

exceeding the set flow
Install sensor, set the flow and then adjust the potentiometer so that the red LED just lights up. Any increase of the flow speed causes the red LED to go out, the yellow LED lights up and the switching output switches.

LED assignment

red
Fallen beneath set flow value, switching output blocked.

yellow
Set flow value obtained, switching output switched.

yellow and green
Set flow value exceeded, switching output switched, flow reserve sufficient.

This data sheet contains the standard versions only. Kindly request the availability of other output- and connection functions.

We will be pleased to supply the matching cable socket for your devices with connector. Please refer to the list in catalog chapter "accessories" under "cable sockets ipf ***-SENSORFLEX®***" or search our website for "VK".

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

notes

export division
Kalver Straße 27
D-58515 Lüdenscheid

Fon +49 (0) 2351 / 98597-0
Fax +49 (0) 2351 / 98597-29