



KSW230

KSW series

For monitoring flow of liquid and piped, gaseous media

These compact flow monitors reliably measure the flow of liquids and gases in pipes and detect any falling below a predefined switching point. The sensitivity and hence the switching point

can be set very precisely with a rough and fine potentiometer. The switching state is shown by a yellow LED. The sensor element must be located in the flow.

Technical data

Medium temperature -10...+80°C

Max. ambient temperature -20...+60°C

Temperature compensation
0–80°C, higher temperatures (up to 120°C) may cause a deviation of the switching point but cannot damage the sensor.

Sensor material
In contact with medium: stainless steel 1.4305
Sealing compound: Wepuran (vu 4459/41 sv)

Max. pressure 30 bar

Process connection G 1/2"

Power supply 230 VAC or 24 VAC/DC

Power consumption 4 VA

Contact load
Relay, single pole
250 VAC, 10 (2) A

Max. temperature gradient 15 K/min.

Flow rate 0.05...3 m/s

Response time 5...60 s

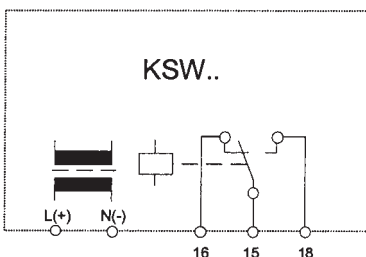
Sensor protection
In case of mechanical failure of the sensor element or power failure or short circuit, the relay drops out.

Reproducibility of switching point
+/-1%

Weight 430 g

Mounting conditions:
The sensor tip should be placed in the midst of the pipe and must be bathed completely from the medium.
Please provide a straight pipe:
5x the pipe diameter before and after the sensor device. Malfunctions can occur when the sensor device is mounted directly after f.e.g. valves, butterfly valves or junctions.

Wiring diagram



Applications and conditions of use

The sensor is easy to install and has no mechanical moving parts liable to wear. It is especially suitable for monitoring **cooling and heating circuits containing up to 35% glycol. Prevents pumps from running dry.** These devices are used in the **chemical industry for monitoring flow of aqueous alkaline solutions and bases.** Such use is subject to compatibility with the material 1.4305.

Thanks to its robust design, the sensor is suitable for lightly contaminated media, and also aggressive media provided the material is compatible. Suspended material adhering to the sensor can have an insulating effect and so affect the measurement result and hence the defined switching point. Therefore it is advisable to remove any dirt during routine maintenance operations.

i Operating method

The electronic flow monitors work according to the calorimetric principle. A thermistor is heated up. As heat is withdrawn by the flowing medium, the thermistor resistance alters. The change in resistance is evaluated. As the resistance also depends on the temperature of the medium, the difference is determined by a second thermistor and the temperature deviation is compensated. In this way the switching point remains stable.

Type	Supply voltage
KSW230	230 V AC
KSW24	24 V AC/DC

Operator interface and dimensioned drawing of setting potentiometer

Rough and fine sensitivity (high sensitivity for small flow).

Signal lamps

Main power present: LED green "main"
ON LED yellow "flow" ON

Dimensioned drawing (mm)

