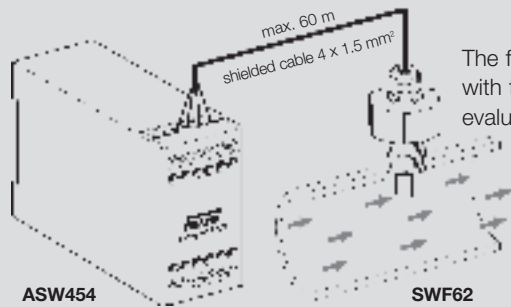


SWW series

For monitoring flow of liquid and piped, gaseous media



The flow in fluids can be monitored reliably with flow sensors SWF62 and SWF62L and evaluation unit ASW454.

The sensitivity can be adjusted accurately with a rough and fine potentiometer. The switching state is indicated by LED. The sensor element must be located in the flow.

Technical data of sensor

General

The flow sensor in stainless steel 1.4571 is suitable for lightly contaminated media, and also aggressive media provided the material is compatible. Flows in gaseous media can also be monitored with this sensor.

Medium temperature 0...80°C.
Higher medium temperatures (up to 120°C) may cause a deviation of the switching point but cannot damage the sensor.

Temperature compensation up to 80°C

Sensor material

In contact with medium: stainless steel 1.4571
Casting compound: Wepuran (vu 4459/41 sv)
Cable gland: Nickel-plated brass

Max. permitted pressure 20 bar

Process connection G 1/4" or G 1/2"

Connection cable four-wire, 2.5 m long

Degree of protection IP 65

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.

Technical data of evaluation unit

Power supply

230 V AC or 24 V AC/DC
(see Product Summary)

Power consumption approx. 3 VA

Contact load

Relay, single pole
8 A, max. 250 V AC

Ambient temperature 0 - 60°C

Max. temperature gradient 10 K/min.

Flow rate

0.1...3 m/s (liquid media) 1...15 m/s
(gaseous media)

Response time approx. 20 - 60 s

Repetition accuracy

< 2%, relative to the flow rate at the sensor.

Switching hysteresis

Approx. 2% of overall range.

Max. cable length between sensor and evaluation unit

60 m, for shielded cable 1.5 mm².

Sensor protection

In case of breakage or interruption of the sensor wires, the unit switches off or an interruption of flow is signaled.

Type of construction Standard housing N 45

Weight approx. 0.35 kg

Function

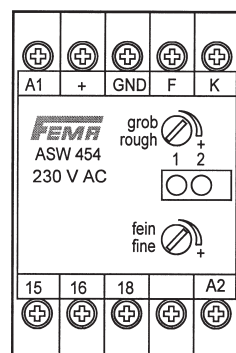
The flow monitors work according to the calorimetric principle. A thermistor is heated up. As heat is withdrawn by the flowing medium, the thermistor resistance alters. The change in resistance is evaluated. As the resistance also depends on the temperature of the medium, the difference must be determined by a second thermistor. The difference is compensated and in this way the switching point is kept stable. When monitoring high flow rates, rapid temperature fluctuations can trigger switching operations. Suspended materials 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.

Product Summary

Sensors	Type	Screw-in thread	Sensor length (from thread)	Thread length
	SWF62	G 1/4	25 mm	10 mm
	SWF62L	G 1/2	45 mm	18 mm

Evaluation units	Type	Supply voltage
	ASW454	230 V AC
	ASW454/24	24 V AC/DC

Operator interface



Adjusting elements

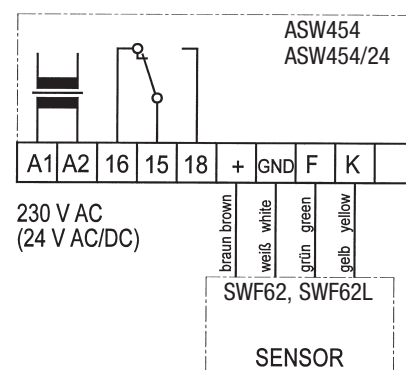
Sensitivity (rough and fine)
(high sensitivity at low flow)

Signal lamps

1 = Flow present

2 = Supply voltage present

Wiring diagram



i In case of malfunction, a sensor error can be ruled out by checking the resistances between the connecting wires of the sensor. Sensor SWF62 or SWF62L must be disconnected and checked with a suitable ohmmeter between the individual connecting wires:

White-brown approx. 0.2 kOhm
White-green approx. 1.0 kOhm
White-yellow approx. 1.0 kOhm

The terminal voltage of the evaluation units ASW454 or ASW 454/24 can also be checked with a voltmeter between the "+" and "Gnd" terminals after disconnecting the sensor.
14.8 VDC is the correct value.