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Calorimetric Flow Switch EFK2

- **Very small installation width, therefore very narrow pipework is possible**
- **Mo moving parts in the medium being monitored**
- **Installation largely independent of nominal width**

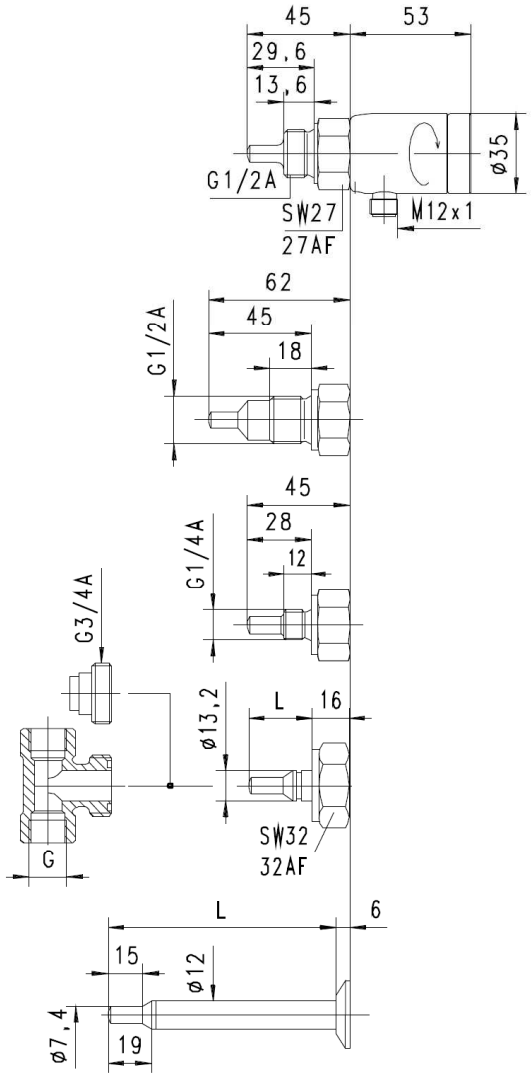
Characteristics

The EFK2 flow switch controls the flow speed of fluid media. Its compact form combines the built-in sensor, a two-colour LED status display, and a switching point which can be set using a potentiometer; it has push-pull or relay output. A flexible gooseneck can be installed between the sensor and the electronics housing, so that the best possible view of the flow switch display is provided even in awkward installation locations.

Technical data

Sensor	calorimetric measurement principle
Process connection	screw-in thread G ¼ A..G ½ A, push-in sensor Ø12 mm
Metering range	water 2..150 cm/s or 3..300 cm/s oil available on request
Measurement accuracy	±10 % of full scale value
Dynamics	1..3 seconds in water
Pressure resistance	PN 100 bar optionally PN 200 bar
Media temperature	0..70 °C
Ambient temperature	-20..+70 °C
Temperature gradient	4 K/s
Supply voltage	24 V DC / AC ±10 %
Current consumption	max. 70 mA
Switching output	galvanically separated relay contact or "push-pull" transistor output (resistant to short circuits and reversal polarity protected)
Output loading	2 A / 30 V DC/AC max. for relay, 100 mA / 24 V max. for transistor output
Display	red / green LED (red < limit value, green > limit value)
Adjustment potentiometer	as input
Electrical connection	for round plug connector M12x1, 4-pole
Resistant to short circuits	yes
Reversal polarity protected	yes
Ingress protection	IP 65
Materials medium-contact	1.4571
Materials, non-medium-contact	1.4305
Weight	approx. 0.3 kg
Conformity	CE

Dimensions



Gooseneck option

A gooseneck (optional) between the electronics head and the primary sensor provides complete freedom in the orientation and reading direction of the sensor.

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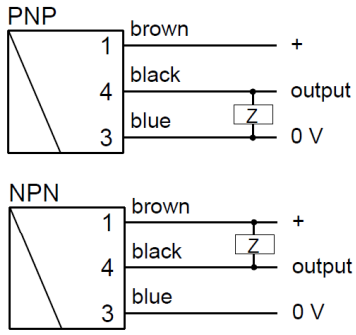
Product Information

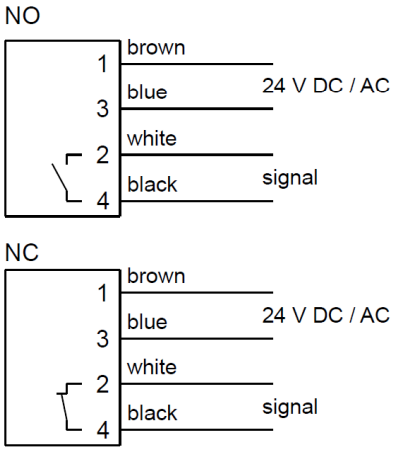
EFK2

Wiring

Push-pull (Z-Load)



Relay contact



The switching outputs are self-configuring, depending on whether they are connected as PNP or NPN switches.

Handling and operation

Installation

Installation must be such that the flow impinges on the marking (X) on the sensor. For sensors with screw-in threads, PTFE tape or sealing paste can be used for the seal. The installation location should be selected so that reproducible flow conditions are achieved (sufficient run-in length, wherever possible no valves, kinks, bends, etc directly ahead of the sensor. A sieve just upstream of the sensor may have a beneficial effect on reproducibility.

Operation

The flow is raised to the limit value, and the switching point is determined by turning the potentiometer to the point where the LED just switches from red to green (teaching).

LED red: Flow rate < Limit value
LED green: Flow rate > Limit value

Ordering code

EFK2 - 1. 2. 3. 4. 5. 6. 7.

EFK2 - [ ] [ ] **K** [ ] [ ] **S** [ ]

❍=Option

1.	**Connection size**						
	008	connection G $^1/_4$ A					
	015	connection G $^1/_2$ A					
	013	system fastener Ø13.2					
	012	push-in sensor Ø12					
2.	**Process connection**						
	H	male thread			●	●	
	T	for insertion into the system T-piece		●			
	V	push-in sensor with variable insertion depth	●				
3.	**Connection material**						
	K	stainless steel 1.4571	●	●	●	●	
4.	**Sensor**						
	028	sensor length	28.0 mm				●
	029		29.6 mm			●	
	045 ❍		45.0 mm			●	
	031	sensor for T-piece	G $^3/_8$..G $^1/_2$		●		
	037		G $^3/_4$..G 2		●		
	050	insertion sensor	50 mm	●			
	070		70 mm	●			
	100		100 mm	●			
	150		150 mm	●			
	200		200 mm	●			
5.	**Switching output**						
	O	relay contact NO (normally open / open when there is no flow)					
	C	relay contact NC (normally closed / closed when there is no flow)					
	T	push-pull output					
6.	**Electrical connection**						
	S	for round plug connector M12x1, 4-pole					
7.	**Optional**						
	H ❍	model with gooseneck					

Accessories

- Cable/round plug connector (KB...)
  see additional information “Accessories”
- made-up cable
- T-pieces for system connection Ø13.2
- Weld-on adapter for insertion sensor Ø12
- Compression fitting for insertion sensor Ø12 Flange for insertion sensor Ø12