



- * flow switch/transmitter of low flow rates
- * possible combination with temperature switch or transmitter
- * no movable parts in monitoring medium
- * only a material in contact with media
- * easy use
- * low pressure losses
- * different nominal diameter
- * very fast reaction times for a calorimetric system
- * linearized and temperature-compensated

BENEFIT

The EFIN flow sensor monitors liquid media. In a compact design, it combines the installation sensing element and evaluation electronics that, according to the respective version, control a limit value output with a PNP or NPN transistor output or an analogue output (4..20 mA or 0..10 V) or both. The limit switch can alternatively be replaced by a frequency output.

The evaluation electronics record two processing parameters: the flow speed of the medium and its temperature. Both parameters can be assigned to the analogue output or the switching output.

The following output combinations are available:

flow		temperature	
analogue	switching output	analogue	switching output
•			
	•		
•	•		
•			•
	•	•	

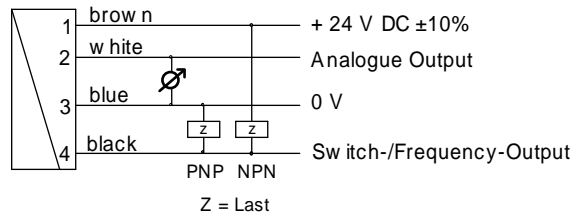
The analogue output can be designed as a 4..20 mA output or as a 0..10 V output.

The standard design of the switching output is as a limit switch Push-pull (PNP or NPN). It can be ordered as a minimum switch or maximum switch. Alternatively, the switch is available as a frequency output.

For further options, see page 3

TERMINAL ASSIGNMENT

Before the electrical installation, make sure that the supply voltage corresponds to the data provided!



Please use shielded cable, signal lines < 30m and power supply lines < 10m.

MOUNTING

To maintain the greatest possible interference insensitivity of the sensor, the flow should be from the bottom to the top (best ventilation even in case of the lowest flow velocity). For the connection, conventional crimp connectors, hoses with crimp fasteners, or Honsberg's own crimp connectors can be used. For the best possible insulation from the outside environment, insulating hoses that may not be removed can be used.

PROGRAMMING

Designs with a limit switch have a magnetic contact by means of which the current measurement value can be assumed as a limit value. It is programmed by applying a magnet to the marking on the type plate for 0.5 to 2 seconds. If the contact time is too short or too long, no programming will take place (protection against magnetic fields). Immediately after programming, the switching output enters the OK state (LED on, output switched through, e.g. PNP = high or NPN = low).

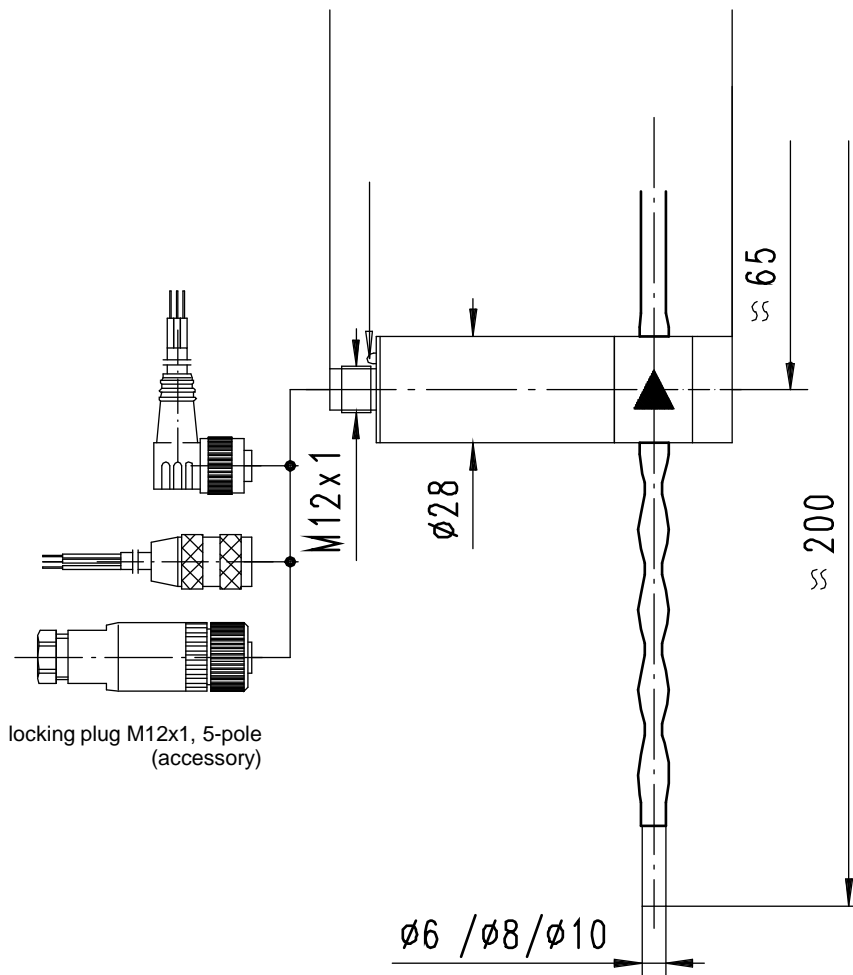


TECHNICAL DATA

range (water)	6 mm-pipe	(0.001) 0.01..2 l/min
	8 mm-pipe	0.025..5 l/min
	10 mm-pipe	0.05..10 l/min
		() = special range on request
temperature gradient		4°C/s
measurement range temperature		0..70°C
storage temperature		(-20..100°C on request on request)
pressure		max. 10 bar (other on request)
pressure loss		max. 0.3 bar at max. flow
connection		at locking plug M 12x1, 5-pole
protection class		IP65
weight		appr. 200 g

supply voltage	24 VDC ±10%
power consumption	max. 100 mA
switching output	transistor output "push pull" short circuit proof, reverse polarity protected, I _{out} = 100mA max.
switching hysteresis	flow: 4% F.S. temperature: approx. 2°C
display (only in case of switching output)	yellow LED (ON = OK /OFF = alarm)
adjustment	via magnet
analogue output	4..20 mA, max. load 500 Ohm or 0..10V, min load 1 kOhm
materials	media contact stainless steel 1.4305 other: PPS, PA66, brass nickel plated

DIMENSIONS



NOMENCLATURE

Example: **EFIN** **006** **R** **K** **I** **F** **U** **F** **L** **O**
 A **B** **C** **D** **E** **F** **G** **H** **I** **J**

A sensor family:	EFIN	calorimetric sensor inline design	●
B connection size:	006	pipe Ø 6 mm / 0.5 mm wall thickness	●
	008	pipe Ø 8 mm / 0.5 mm wall thickness	●
	010	pipe Ø 10 mm / 0.5 mm wall thickness	●
	xxx	other pipe on request	○
C type of connection:	R	pipe	●
D material (in contact with media):	K	stainless steel 1.4571	●
E analogue output:	I	current output 4..20 mA	●
	U	voltage output 0..10 V	●
	K	no analogue output	●
F the analogue output is actuated by the following:	F	flow	●
	T	temperature	●
G switching output:	U	push pull PNP and NPN	●
	K	no switching output	●
H the switching output is actuated by the following:	F	flow	●
	T	temperature	●
I switching signal:	L	minimum switch	●
	H	maximum switch	○
	R	frequency output	●
	K	no switching output	●
J inversion of output:	O	standard output	●
	I	inverted output	●

Options:

special measurement range, flow:	
measurement range initial value	□□ . □□□ l/min
measurement range final value	□□ . □□□ l/min
filter time (standard = 0.5 sec.)	
Possible values: off/0.2/0.5/1/2/4/8/16/32 sec.	□□□ s
special measurement range, temperature:	
maximum 120°C (standard = 70°C)	□□□ °C
minimum -20°C (standard = 0°C)	□□□ °C
special range - analogue output:	
<= meas. range (standard = meas. range)	□□□ cm/s °C
special range - frequency output:	
<= meas. range (standard = meas. range)	□□□ cm/s °C
end frequency (max. 2000 Hz)	□□□□ Hz
turn-on delay (from alarm to OK)	□□ s
turn-off delay (from OK to alarm)	□□ s
power-on delay	□□ s
(time after the supply is created; in this time the switching output is not activated)	
switching output with permanent setting	□□□ cm/s °C
special hysteresis (standard = 1% full scale)	□□ %

In case of empty fields, the standard setting will be selected automatically.

ACCESSORIES

Locking plug M12x1

K	PU-	02	S	G	S	basic type specification
K						● assembled
KB04						● self makable cable 4-pole
	PU-					● material PUR
		02				● length 2 m
		05				● length 5 m
		10				● length 10 m
			S			● moulded-on plug
				G		● straight plug
				W		● angled plug 90°
					S	● shielded



All technical changes reserved

●BASIC Standard ○BASIC Programme option □VARIO Special option ⊕PLUS Accessories ✗not recommendable