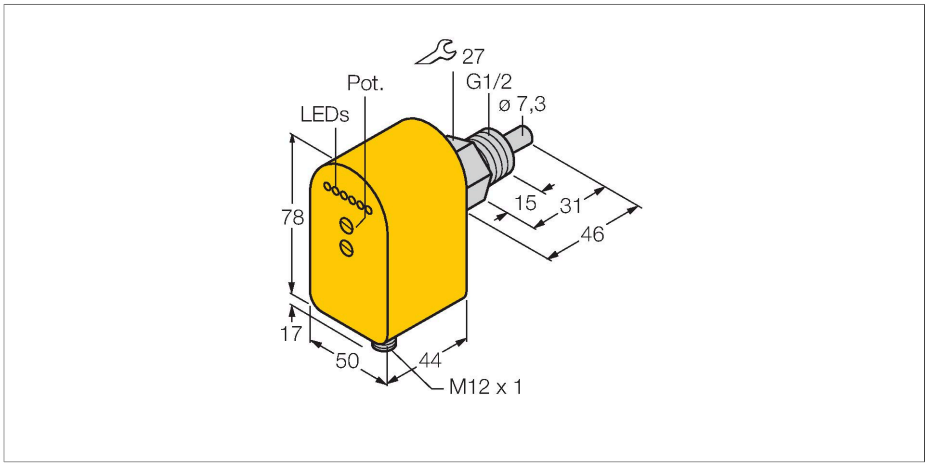
FCS-G1/2A4P-2AP8X-H1140
Flow Monitoring – Immersion Sensor with Integrated Processor



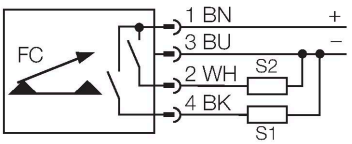
Technical data

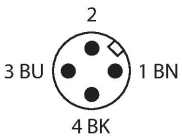
Ident. no.	6870030
Type	FCS-G1/2A4P-2AP8X-H1140
Mounting	Immersion sensor
Water Operating Range	1…150 cm/s
Oil Operating Range	3…300 cm/s
Stand-by time	typ. 8 s (2…15 s)
Switch-on time	typ. 2 s (1…15 s)
Switch-off time	typ. 2 s (1…15 s)
Temperature jump, response time	max. 12 s
Temperature gradient	≤ 250 K/min
Medium temperature	-20…+80 °C
Operating voltage	19.2…28.8 VDC
Current consumption	≤ 100 mA
Output function	PNP, NO contact
Rated operational current	0.4 A
Voltage drop at I_e	≤ 1.5 V
Short-circuit protection	yes
Reverse polarity protection	yes
Protection class	IP67
Design	Immersion
Housing material	Plastic, PBT
Sensor material	Stainless steel, V4A (1.4571)
Max. tightening torque housing nut	30 Nm
Electrical connection	Connector, M12 × 1

Features

- Sensor for liquid media
- Calorimetric principle
- Adjustment via potentiometer
- Status indicated via LED chain
- Two independent switchpoints
- DC 4-wire, 21…26 VDC
- NO contact, PNP output
- Connector device, M12 × 1

Wiring diagram





Functional principle

Our insertion - flow sensors operate on the principle of thermodynamics. The measuring probe is heated by several °C as against the flow medium. When fluid moves along the probe, the heat generated in the probe is dissipated. The resulting temperature is measured and compared to the medium temperature. The flow status of every medium can be derived from the evaluated temperature difference. Thus TURCK's wear-free flow sensors reliably monitor the flow of gaseous and liquid media.

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Technical data

Process Pressure	100 bar
Process connection	G ½“
Switching state	LED chain, Green/Yellow/Red
Flow state display	LED chain
Indication: Drop below setpoint	LED red
Indication: Setpoint reached	LED yellow
Indication: Setpoint exceeded	LED green

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LED display

LED	Color	Status	Description
LED 1	red	on	The flow has failed or dropped below the default setpoint. Switching output 1 is not switched.
LED 2	yellow	on	The setpoint is reached. Switching output 1 is switched.
LED 3	green	on	The adjusted setpoint is exceeded. Switching output 1 is switched.
LED 4	red	on	The flow has failed or dropped below the default setpoint. Switching output 2 is not switched.
LED 5	yellow	on	The setpoint is reached. Switching output 2 is switched.
LED 6	green	on	The adjusted setpoint is exceeded. Switching output 2 is switched.

Adjustment guidelines

Switching outputs	Setup with resting medium	■ Install sensor in the flow channel, switch on the device and wait for standby time. ■ Set the potentiometer S1 so that the red LED just turns on. In the case of two switching outputs also valid for S2. ■ When the medium starts to flow, at least one green LED should be on.
	Setup with flowing medium	■ Install sensor in the flow channel, set flow and turn on the device. Wait for standby time. ■ Set potentiometer S1 so that one or two green LEDs are on. In the case of two switching outputs also valid for S2. ■ When the medium stops flowing, the red LED must turn on.

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