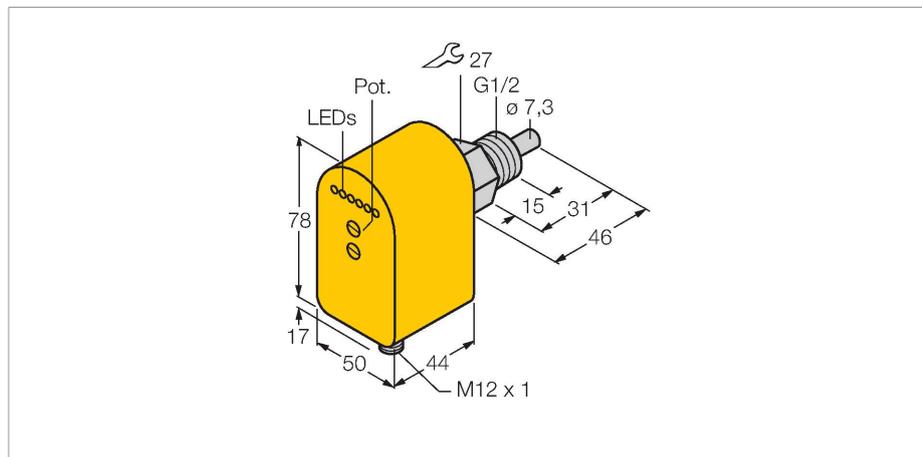


# FCS-G1/2A4P-2AP8X-H1140

## Flow Monitoring – Immersion Sensor with Integrated Processor

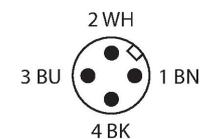
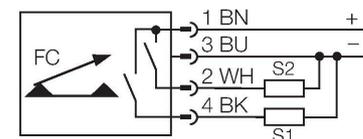
### Transistor Output 24 VDC PNP NO



#### Features

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

#### Wiring diagram



#### Functional principle

The function of immersion flow sensors is based on the thermodynamic principle. The sensor is heated up by a few degrees Celsius compared to the flow medium. If the medium flows past the sensor, the heat generated in the sensor is dissipated. The resulting temperature is measured and compared with the temperature of the medium. The flow condition of each medium can be derived from the temperature difference obtained. Thus, TURCK flow sensors reliably and wear-free monitor the flow of liquid or gaseous media.

#### Technical data

ID	6870030
Type	FCS-G1/2A4P-2AP8X-H1140
Mounting conditions	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
<b>Electrical data</b>	
Operating voltage	19.2...28.8 VDC
Current consumption	≤ 100 mA
Output function	2 × PNP, 2 normally open contact
Rated operational current	0.4 A
Voltage drop at I <sub>o</sub>	≤ 1.5 V
Short-circuit protection	yes
Reverse polarity protection	yes
Switching current	400 mA
Protection class	IP67
<b>Mechanical data</b>	
Design	Immersion
Housing material	Plastic, PBT

## Technical data

Sensor material	Stainless steel, 1.4571 (AISI 316Ti)
Max. tightening torque of housing nut	30 Nm
Electrical connection	Connector, M12 × 1
Pressure resistance	100 bar
Process connection	G 1/2"
Indication: Drop below setpoint	LED Red
Indication: Setpoint reached	LED Yellow
Indication: Setpoint exceeded	LED Green

## 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 out-puts	Setup with resting medium	<ul style="list-style-type: none"> <li>■ Install sensor in the flow channel, switch on the device and wait for standby time.</li> <li>■ Set the potentiometer S1 so that the red LED just turns on. In the case of two switching outputs also valid for S2.</li> <li>■ When the medium starts to flow, at least one green LED should be on.</li> </ul>
	Setup with flowing medium	<ul style="list-style-type: none"> <li>■ Install sensor in the flow channel, set flow and turn on the device. Wait for standby time.</li> <li>■ Set potentiometer S1 so that one or two green LEDs are on. In the case of two switching outputs also valid for S2.</li> <li>■ When the medium stops flowing, the red LED must turn on.</li> </ul>