



Operating instructions
Mechatronic flow sensor
SBU3xx

GB



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1 Preliminary note

You will find instructions, technical data, approvals and further information using the QR code on the unit / packaging or at www.ifm.com.

1.1 Symbols used

- ✓ Requirement
- ▶ Instructions
- ▷ Reaction, result
- [...] Designation of keys, buttons or indications
- Cross-reference
-  Important note
Non-compliance may result in malfunction or interference.
-  Information
Supplementary note

1.2 Warnings used

	ATTENTION Warning of damage to property
<hr/>	
	CAUTION Warning of personal injury ▷ Slight reversible injuries may result.

2 Safety instructions

- The unit described is a subcomponent for integration into a system.
 - The system architect is responsible for the safety of the system.
 - The system architect undertakes to perform a risk assessment and to create documentation in accordance with legal and normative requirements to be provided to the operator and user of the system. This documentation must contain all necessary information and safety instructions for the operator, the user and, if applicable, for any service personnel authorised by the architect of the system.
- Read this document before setting up the product and keep it during the entire service life.
- The product must be suitable for the corresponding applications and environmental conditions without any restrictions.
- Only use the product for its intended purpose (→ Intended use).
- Only use the product for permissible media.
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property may occur.
- The manufacturer assumes no liability or warranty for any consequences caused by tampering with the product or incorrect use by the operator.
- Installation, electrical connection, set-up, operation and maintenance of the product must be carried out by qualified personnel authorised by the machine operator.
- Protect units and cables against damage.

3 Intended use

The unit detects liquid media (glycol solutions, industrial oils, coolants).

It detects the volume flow (flow rate/time) according to the principle of differential pressure and switches the output.

The switch point is adjustable.

ATTENTION

Frost formation of the medium.

- ▷ The sensor may be damaged.
 - ▶ Ensure that the medium in the sensor does not freeze during operation and transport.
-

4 Mounting



CAUTION

During installation or in case of a fault (e.g. housing damage) media under high pressure or hot media can leak from the system.

- ▷ Risk of injury caused by pressure or burns.
- ▶ Ensure that the system is free of pressure during installation.
- ▶ Ensure that no media can leak at the mounting location during installation.
- ▶ Equip the unit with suitable protection (e.g. cover) to avoid hazard to personnel from leaking media.

4.1 Process connection

The unit provides 5 connections for pipe thread G ½.

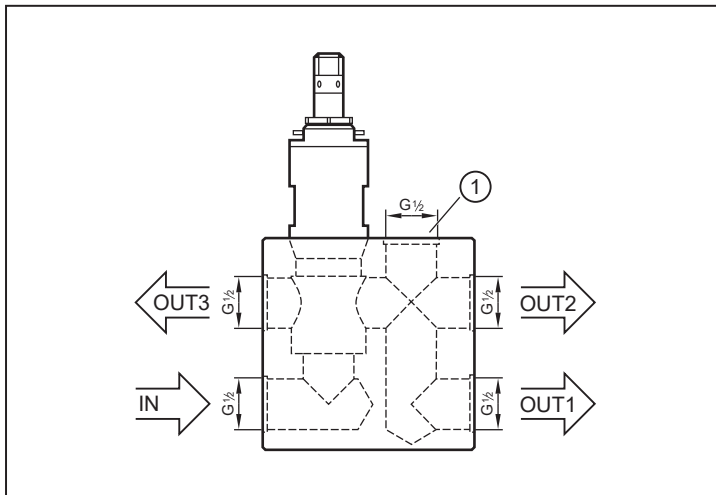


Fig. 1: Process connection

- 1: Connection for additional sensor
 2: Inlet
 OUT1...OUT3: 3 x outlet for different connection types

The connections 1, OUT2 and OUT3 are equipped with sealing plugs on delivery.

- ▶ Remove the sealing plugs if required.



Calming sections on the sensor's inlet or outlet side are not necessary.

5 Electrical connection



The device must be connected by a qualified electrician.

Observe the national and international regulations for the installation of electrical equipment.

Voltage supply according to EN 50178, SELV, PELV.

► Disconnect power.

► Connect the unit as follows:

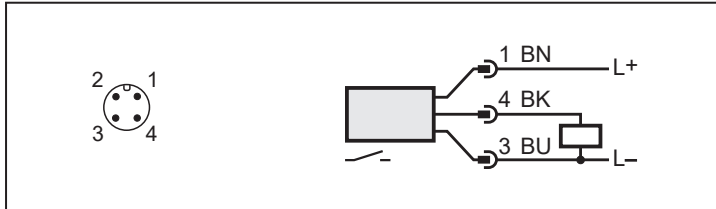


Fig. 2: Wiring diagram (colours in accordance with DIN EN60947-5-2)

BN: Brown

BK: Black

BU: Blue



Information about available sockets / plugs at www.ifm.com.

6 Settings

There are 2 options to set the switch point:

- Set the switch point on the unit.
- Carry out the flow adjustment.

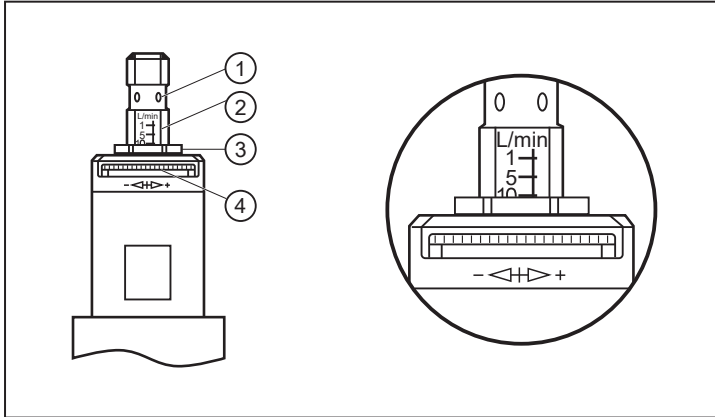


Fig. 3: Switch point setting

1: Yellow LED (switching status)
3: Lock nut

2: Setting scale
4: Knurl



Do not turn the knurl beyond the maximum value of the setting range (→ Technical data) to avoid faulty switching.

6.1 Set the switch point on the unit

- ▶ Loosen the lock nut.
- ▶ Turn the knurl until the target value just becomes visible on the setting scale.
- ▶ Tighten the lock nut.

6.2 Carry out the flow adjustment

- ▶ Let the normal flow circulate in the installation.
- ▶ Loosen the lock nut.
- ▶ Set the switch point by slowly turning the knurl:
 - ▷ The switch point has been reached as soon as the LED is on.
- ▶ Tighten the lock nut.

7 Operation

After power on, the unit is ready for operation.

The unit detects the volumetric flow quantity and switches the output according to the setting.

- Output closed (LED = ON), if volumetric flow quantity \geq switch point.
- Output open (LED = OFF), if volumetric flow quantity $<$ switch point.

8 Maintenance, repair and disposal

The operation of the unit is maintenance-free.

Only the manufacturer is allowed to repair the unit.

- ▶ After use dispose of the device in an environmentally friendly way in accordance with the applicable national regulations.

In case of heavily polluted media:

- ▶ Mount a filter in front of the inlet (IN). Recommendation: use a 200-micron filter.