



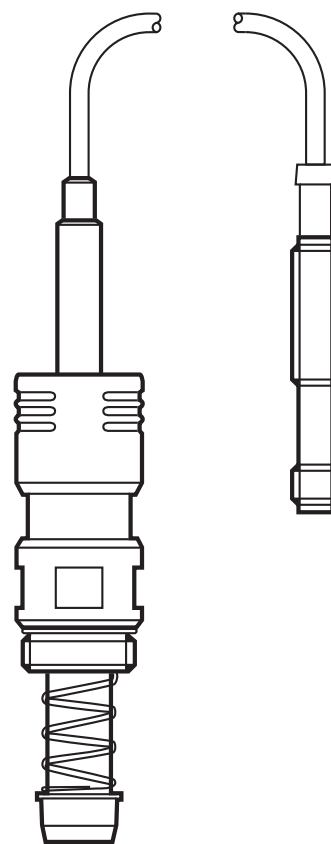
Operating instructions  
Mechatronic flow sensor

**efector300<sup>®</sup>**

**SBM6xx**

**UK**

11374542 / 00 08 / 2014



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## 1 Preliminary note

- ▶ Instruction
- > Reaction, result
- Cross-reference



Important note

Non-compliance may result in malfunction or interference.



Information

Supplementary note.

## 2 Safety instructions

- Please read this document prior to set-up of the unit. Ensure that the product is suitable for your application without any restrictions.
- Improper or non-intended use may lead to malfunctions of the unit or to unwanted effects in your application. That is why installation, electrical connection, set-up, operation and maintenance of the unit must be carried out by qualified personnel authorised by the machine operator.

- In order to guarantee the correct condition of the unit for the operating time it is necessary to use it only for media to which the wetted materials are sufficiently resistant (→ Technical data).
- The responsibility whether the measurement devices are suitable for the respective application lies with the operator. The manufacturer assumes no liability for consequences of misuse by the operator. Improper installation and use of the devices result in a loss of the warranty claims.

## **WARNING**

Personal injury can occur if the unit and connections become hot or media under pressure (up to 15 bar) or hot media (up to 180 °C) leak.

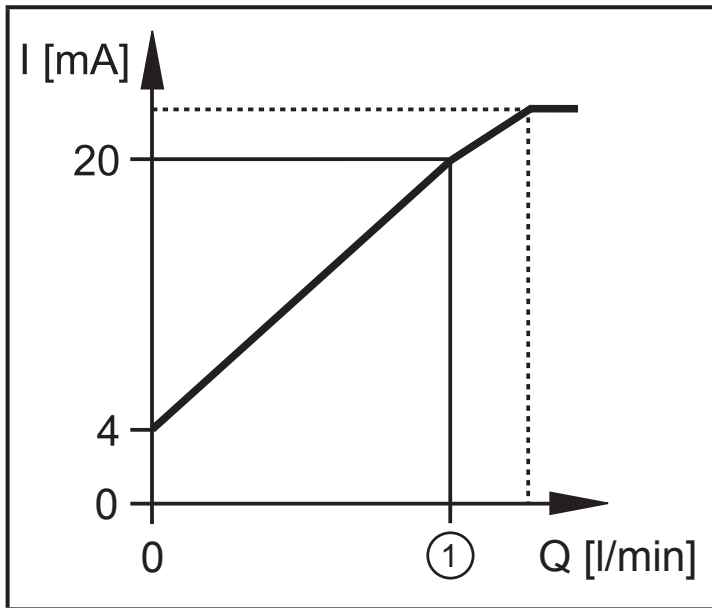
- ▶ Install the unit according to the applicable rules and regulations.
- ▶ Ensure that the system is free of pressure during installation.
- ▶ Ensure that no media can leak at the mounting location during installation.
- ▶ Equip the unit with suitable protection (e.g. cover) to avoid hazard to personnel from touching the sensor, connections and cables or from leaking media.

## **3 Functions and features**

The unit monitors liquids (water, glycol solutions).

It detects the flow quantity on the principle of differential pressure and converts it into an analogue output signal (4...20 mA).

## 4 Function



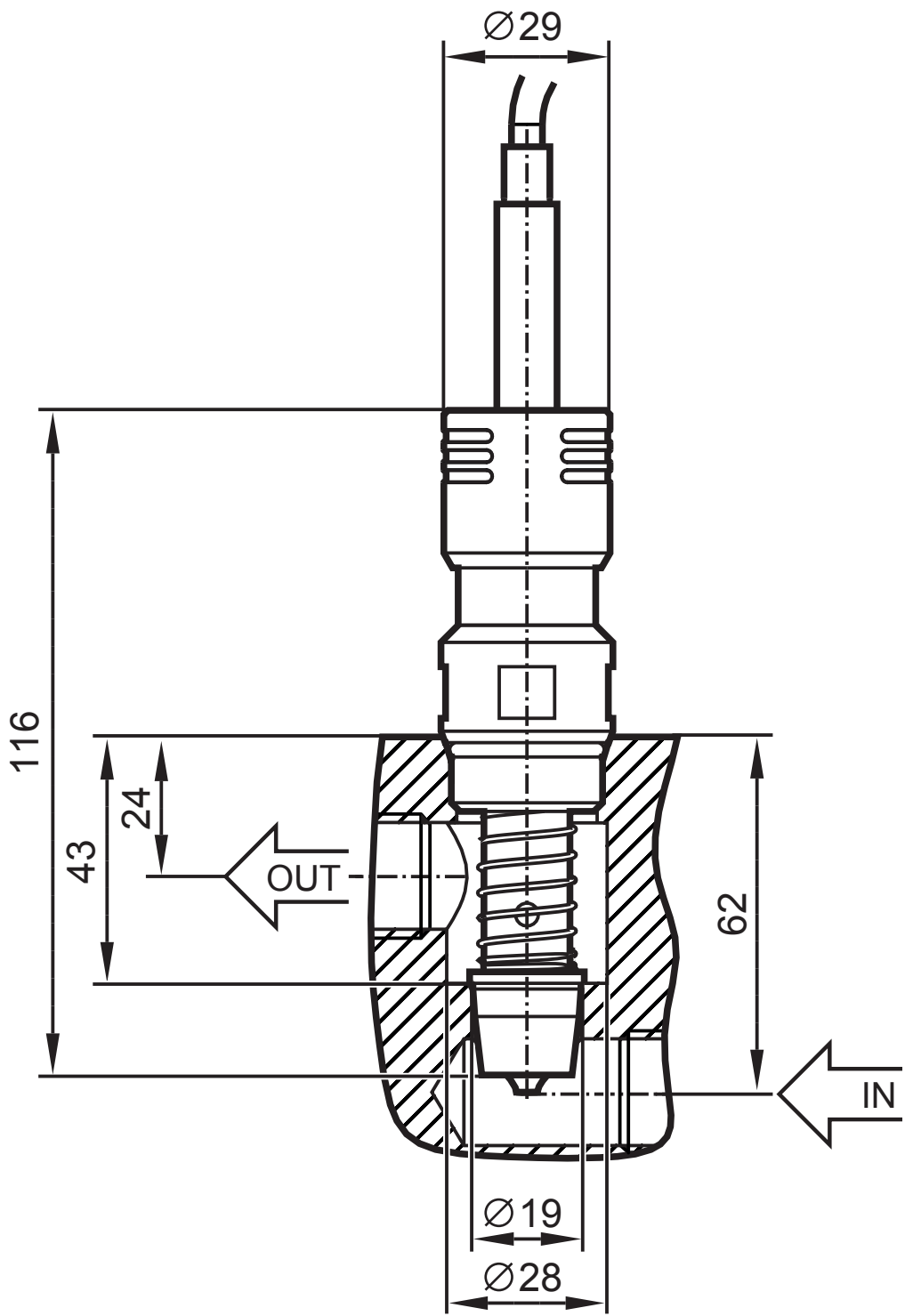
1: Final value of the measuring range

The analogue signal for water (20 °C) is linear from 4 mA (= no flow) to 20 mA (= final value of the measuring range, see Technical data).

For an output signal  $> 20$  mA the flow quantity is above the final value of the measuring range.

## 5 Installation

- ▶ Do not install the unit on ferromagnetic materials.  
(Ferromagnetic materials are all metals exerting an attractive force on test magnets.)
- ▶ Do not operate the unit in the vicinity of magnetic constant and alternating fields (e.g. welding systems).
- ▶ If the sensors are installed side by side, observe a minimum distance of 50 mm between the sensor axes.



IN: Inlet  
 OUT: Outlet

- ▶ Screw the unit into a boss or an isolating valve with a G  $\frac{3}{4}$  process connection until the measurement insert rests on the boss or the valve.
- ▶ Tighten firmly. Tightening torque 10 Nm.

Preferred installation position: vertical.



Baffled pipes at the input and output side are not necessary.

## 6 Electrical connection

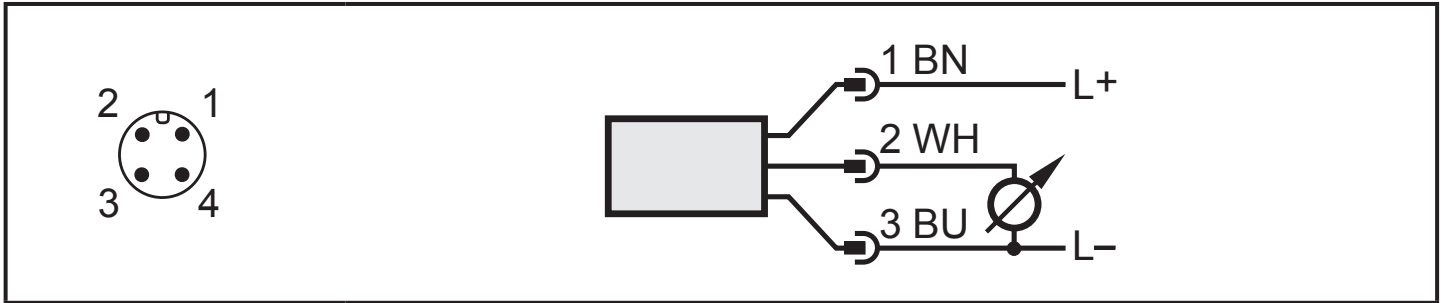


The unit must be connected by a qualified electrician.

The national and international regulations for the installation of electrical equipment must be adhered to.

Voltage supply according to EN 50178, SELV, PELV.

- ▶ Disconnect power.
- ▶ Connect the unit as follows:

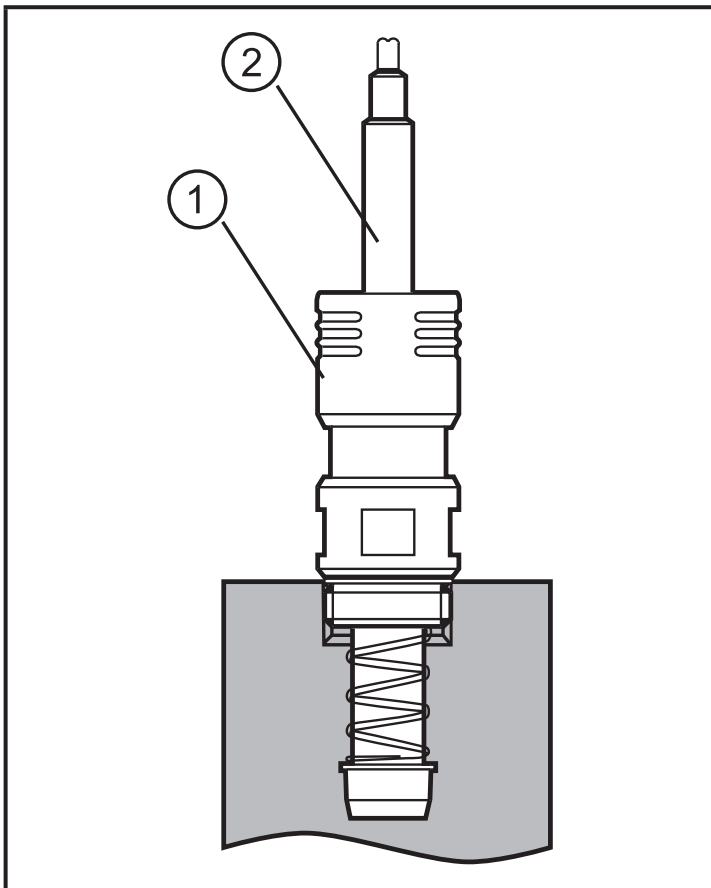


Core colours of ifm sockets: 1 = BN (brown), 2 = WH (white), 3 = BU (blue)  
Colours to DIN EN 60947-5-2



Information about the available sockets/plugs at [www.ifm.com](http://www.ifm.com).

## 7 Settings



To adapt the unit to the application, an adjustment / zero offset can be carried out:

- ▶ Ensure that there is no flow in the system.
- ▶ Loosen the lock cap (1).
- ▶ Turn the heatpipe (2) until the output signal is 4 mA.
- ▶ Tighten the lock cap.

## 8 Operation



- ▶ Do not bring any magnetised objects (e.g. screwdrivers with a steel blade) close to the unit.

After power on, the unit is ready for operation.

It detects the volumetric flow quantity and generates an analogue output signal.

## 9 Technical data and scale drawing

Technical data and scale drawing at [www.ifm.com](http://www.ifm.com).

## 10 Maintenance, repair, disposal

If used correctly, no maintenance and repair measures are necessary.

In case of strongly polluted media: mount a filter before the inlet (IN). Recommendation: use a 200-micron filter.

Only the manufacturer is allowed to repair the unit.

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

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