



In connection with a calculator the flow sensor AN 130 is used for energy consumption measurement in heating or cooling systems filled with the energy carrier liquid water.

AN 130 can also be operated with water-antifreeze mixtures if not used in business commerce.

These installation and operating instructions describes the installation and operation of the flow sensor AN 130 and its variants. They are an essential part of the supplied items and shall be handed over to the final user.

Scope of delivery

- Flow sensor AN 130
- 2 meter screw connections (optional)
- 2 seals
- These installation and operating instructions

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1. Technical data

Display	8-digit with three decimal places 00000,000 m ³
Operating pressure	16 bar (25 bar as special version)
Operating temperature	5 ... 130 °C
Max. temperature	150 °C (temporary)
Metrological Class	2 or 3 acc. EN 1434 $q_i / q_p = 1 / 50$ or $1 / 25$
Straight inlet pipe	Not applicable
Installation position	Counter always upwards
Pulser	Integral reed switch
Pulse cable	Length 2 m, two-core (white and brown), shielded
Capacity	max. 0,1 A, max. 28 V
Protective resistor	max. 105 Ohm
Polarity	None
Pulse value	10 litre/pulse (marking: black triangle) (other pulse values as special versions)
Electromagnetic environment class	Class E1
Mechanical environment class	Class M2

2. Important information

Applied standard: inter alia EN 1434, part 6



This device has left the company in a safety related proper condition. Please read the entire instructions to ensure a safe installation. Repair and maintenance may only be carried out by specially trained and authorized persons. If the housing or the contact cables are damaged the device shall be taken out of service and secured against accidental reconnection. Flow sensors are measuring devices and therefore have to be handled with care. In order to protect them against damage and dirt they should only be taken from the package immediately before installation. Clean only with a cloth dampened in water.

Due to the danger of scalding from leaking heating liquid ensure proper installation. Therefore close the shut-off valves before disassembly.

Depending on manufacturing conditions the brass connection threads might be sharp-edged. Therefore we recommend wearing protection gloves.

3. Required tools

- Open-end-wrench (screw joints)
- Wire cutter (sealing wire)

Take care to assemble only sub-units marked with the same symbol:

Combination example for the „triangle“ symbol:

- Flow sensor q_p 1,5 - 10
- Calculator PolluTherm with an input pulse value of 10 litres
- Temperature sensors length 100 mm

4. Flow sensor installation

Applied standards: EN 1434-6

Standard installation of the flow sensor is in the colder line (return pipe with heating systems, supply pipe with cooling systems). Should the flow sensor be installed in the warmer line (supply pipe with heating systems, return pipe with cooling systems) a suitably adjusted calculator has to be used, e.g. PolluTherm X. The letter "X" means that the heat quantity is calculated with the volume and the temperature in the warmer line.

An arrow on the housing marks the flow direction. The counter always has to face upwards. For upwards or downwards flow the appropriate version has to be used.

The permitted operating pressure and operating temperature may not be exceeded. A straight inlet pipe (area of steady flow) is not required.

It is recommended to install shut-off valves before and after the flow sensor so that the pipe line doesn't have to be emptied if the flow sensor has to be exchanged. Install a spool piece during the initial installation instead of the flow sensor and flush the pipe system thoroughly. Then close the shut-off valves, remove the spool piece, clean the sealing surfaces and install the flow sensor using new gaskets.

Take care to not reduce the pipe diameter by bad positioning of the gaskets, particularly if flanged versions are installed.

5. Calculator connection

Please make sure that calculator and flow sensor have the same marking for pulse value (for 10 litres/pulse: black triangle).

The pulse cable can be extended via a junction box (order number: 88599001) (max. 23 m). It is recommended that the pulse cable is extended with a shielded cable with at least 2 cores (e.g. I-Y(St)Y 2x2x0,8).

For the pulse inputs of the Sensus calculators PolluTherm, PolluWatt Duo, N/B 101/501 the terminals 10 and 11 are used. There are no polarity requirements on the connection.

Material number: 28505052

Edition: 003-0911
Subject to changes

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