



**AccuFlo<sup>®</sup>**

**for gas, liquids and steam**

## **Brief instructions**

**Attention: refer to the warning information on page 2 before commissioning!**

# Warning notices

## ***Exceeding pressure***

Appropriate measures are to be taken to secure that the allowed operation pressure according to the stamp on the measuring section is not exceeded.

## ***Exceeding or underrunning the allowed operation temperature***

Appropriate measures are to be taken to secure that the allowed operation temperature is not exceeded or underrun.

## ***Damage***

Please observe that the measuring section is not dropped down and that it is not affected by higher forces.

## ***Too many load cycles***

Appropriate measures are to be taken to secure that the allowed number of load cycles is not exceeded.

## ***Opening under pressure***

Appropriate measures are to be taken to secure that the pipe is not opened under pressure.

## ***External fire near the pipe***

Appropriate measures are to be taken to secure that the pipe is taken out of operation in case of damage.

## ***Improper mounting of the pipe***

Please observe that the pipe is mounted properly.

## ***Corrosion***

Please observe that the measuring section is used and inserted as intended.

## ***Other risks***

Please observe that the operation instructions of the manufacturer are respected at all times.

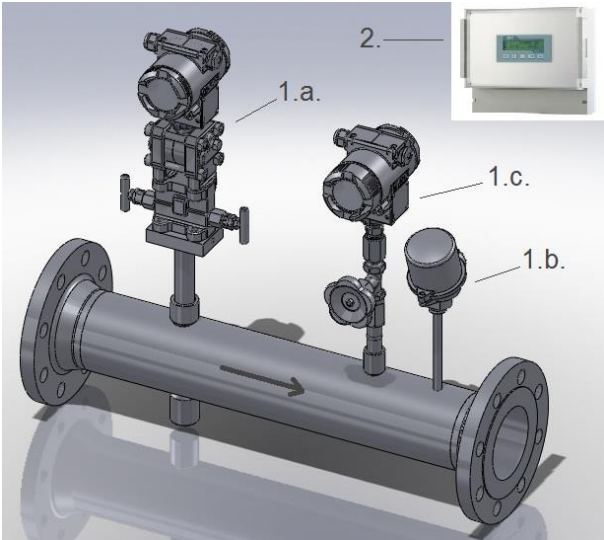
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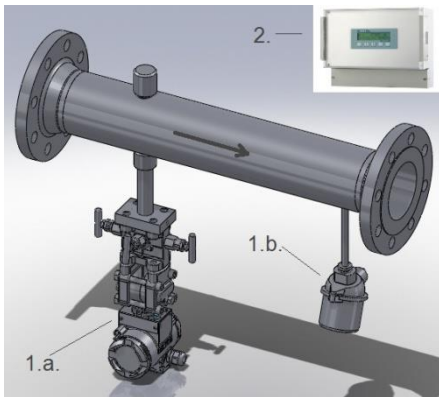
## 1 Inspection of incoming goods

Please check the scope of supply for the following items:

- 1. AccuFlo® in accordance with the illustration / description for AccuFlo®-G, AccuFlo®-L or AccuFlo®-St
- 2. Computer (evaluation unit)
- 3. Warning information
- 4. Documentation
- 5. Information on transport locks

<b>AccuFlo®-G</b>	
	1.a. Flow measurement (refer also to point 3.2 and to the documentation)
	1.b. Temperature measurement (refer also to section 3.4 and to the documentation)
	1.c. Pressure measurement (refer also to section 3.3 and to the documentation)
	2. Evaluation unit (refer also to section 3.1 and to the documentation)

## AccuFlo® -L

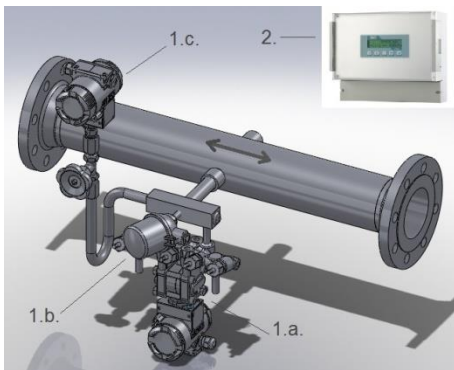


1.a. Flow measurement (refer also to section 3.2 and to the documentation)

1.b. Temperature measurement (refer also to section 3.4 and to the documentation)

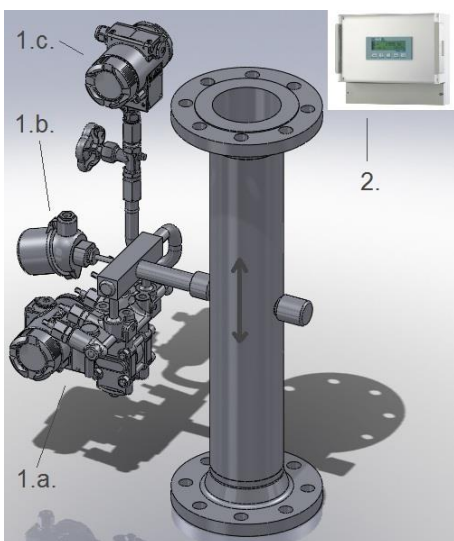
2. Evaluation unit (refer also to section 3.1 and to the documentation)

## AccuFlo® -St



1.a. Flow measurement (refer also to section 3.2 and to the documentation)

1.b. Temperature measurement (refer also to section 3.4 and to the documentation)



1.c. Pressure measurement (refer also to section 3.3 and to the documentation)

2. Evaluation unit (refer also to section 3.1 and to the documentation)

## 2 Assembly instructions

Attention must be paid to the following items when installing the AccuFlo®:

- The AccuFlo® must be installed in such a way that all transducers are aligned in accordance with the illustration shown in the section Inspection of incoming goods
- Attention must be paid to the direction of flow (flow direction arrow on the AccuFlo®).
- The AccuFlo® must be installed into the existing piping system such that it lines up precisely with the piping.
- There must be no installations in the pipeline before the AccuFlo®. Welded seams in the existing piping system must be levelled if necessary (mounting flange in front of the AccuFlo®).
- During the leak check, all bolted connections inside the AccuFlo® must be checked and tightened if necessary.
- The computer must be connected to the transducers in accordance with the description Connection configuration for the computer(evaluation unit) (see below).
- **Please also follow the installation instructions in the documentation!**

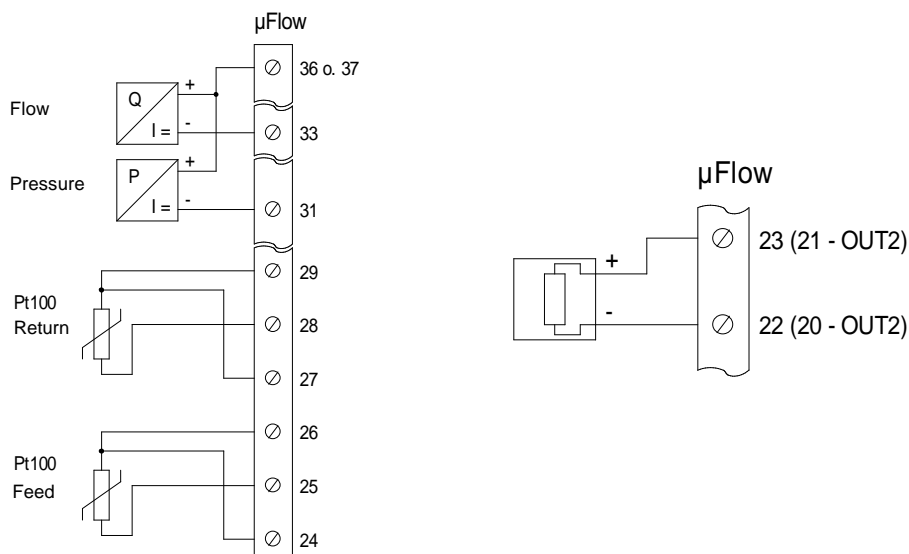
## 3 Electrical connections

### 3.1 Computer (evaluation unit)

The connection configuration of the computer can vary due to the different versions of the AccuFlo®:

- AccuFlo®-G: contains temperature, flow and pressure measurement devices
- AccuFlo®-L: does not contain a pressure measurement device
- AccuFlo®-ST: contains temperature, flow and pressure measurement devices
- Optionally, further components may be contained, such as an additional temperature measurement device.

Connection configuration for the computer (evaluation unit) in the wall-mounted housing of the terminals used (inputs on left; outputs on right):



Overview of all available terminals of the computer (evaluation unit):

### Large terminal strip

Terminal	Desig.	Use
1	L/DC+	Mains voltage, (+ 24 V DC optional)
2	N/DC-	Mains voltage, (- 24 V DC optional)
3	PE	Protective earth
4		Receive Data
5	TXD	Transmit Data
6	DGND	Data Ground
7	CNT	Pulse output NPN open collector
8	DGND	Ground for pulse output
9	CO	Relay 1 (optional)
10	NO	
11	NC	
12	CO	Relay 2 (optional)
13	NO	
14	NC	
15	CO	Fail relay
16	NO	
17	NC	
18	Freq+	Frequency input, n.c.
19	Freq-	
20	OUT2-	Analogue output 2 (optional)
21	OUT2+	
22	OUT1-	Analogue output 1
23	OUT1+	

### Small terminal strip

Terminal	Desig.	Use
24	B	Current input T1 or (not AccuFlo® -L)
25	A/IN5	
26	b	Current input T2 or (optional)
27	B	
28	A/IN6	
29	b	
30	IN4	free
31	IN3	Current input, pressure
32	IN2	Current input, flow 2 (optional)
33	IN1	Current input, flow 1
34	GND	n.c.
35	GND	n.c.
36	24V	Voltage supply for transducer
37	24V	Voltage supply for transducer

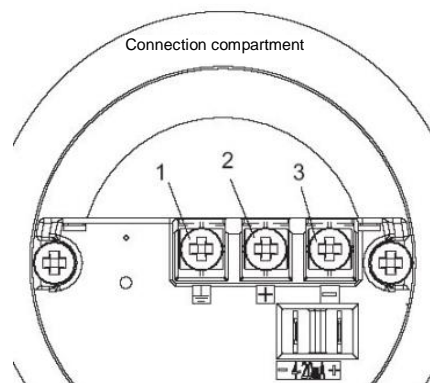
Note:

The connection configuration for additional options on the evaluation unit can be taken from the respective operating manual.

**Attention: In the case of a 24V DC supply, all components must be fed directly from the external power supply.**

## 3.2 Flow measurement

- Open the cover on the electronic housing of the transducer and feed the cable through the cable gland.
- Make the electrical connection in accordance with the terminal diagram and the illustration below.

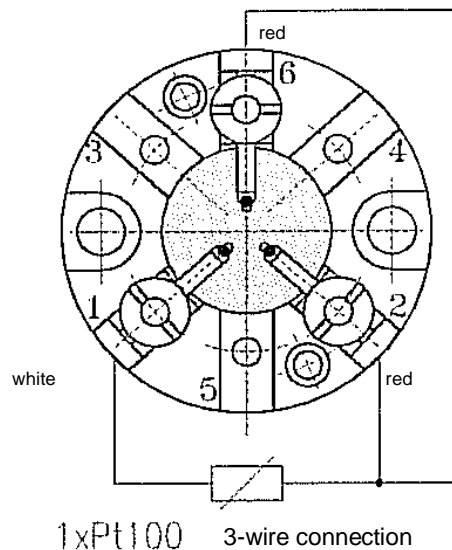


## 3.3 Pressure measurement

- The electrical connection for the pressure measurement is to be carried out in the same way as item 3.2.

### 3.4 Temperature measurement

- Open the connection cover of the temperature probe and feed the cable through the cable gland.
- Make the electrical connection in accordance with the terminal diagram and the illustration below.



## 4 Commissioning

If all components have been connected, please switch the power supply on and check the display on the computer (evaluation unit) and, if existent, check the function and plausibility of the transducers. If the values displayed should not appear plausible, please refer to the documentation.

### 4.1 Checking (and if necessary adjusting) the zero point of the flow measurement

- Close one of the outer valves on the 3-way valve block and open the middle valve. On a 5-way valve block (AccuFlo®-St), both outside valves and also the second or fourth valve must be closed. The middle valve must be opened.
- If the display is not visible (optional), remove the display cover.
- Open the key cover of the transducer.
- There are three keys under the flap, which are marked as follows: M, and (Fig. 1)
- The M key is used to scroll through the menu: The mode is displayed at the bottom left of the display. It begins with Mode 2 (Fig. 2). Select Mode 7.
- Zero point calibration: Simultaneously press and hold the arrow keys and until the value shown on the display disappears and reappears. The zero point is now automatically saved.
- Pressing the M key takes you to the next menu option. Press the M key repeatedly until the transducer is once again in the normal measuring mode or wait until the transducer automatically switches back to the normal measuring mode.

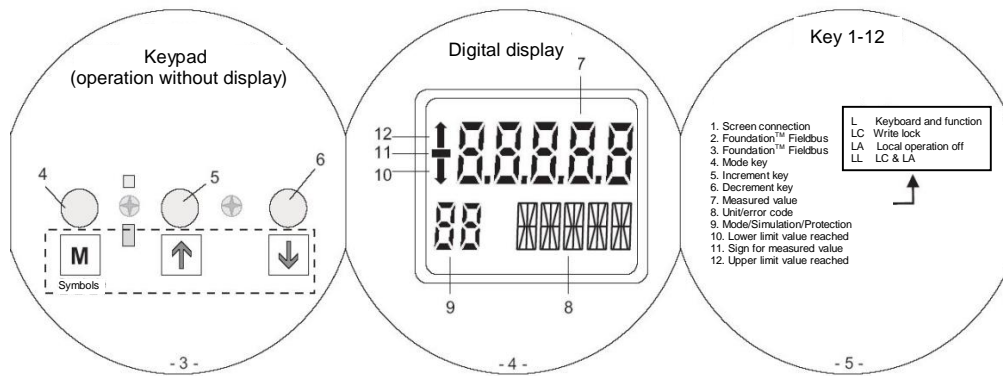


Fig. 1



Fig. 2



Fig. 3

**After successful adjustment of the zero point, the middle valve on the 3-way valve block must be closed and the outside valves must be opened! On the 5-way valve block (AccuFlo®-St) the outside valves and the middle valve must be closed and the second and fourth valves must be opened!**

S.K.I. Schlegel & Kremer Industrieautomation GmbH

Postfach 41 01 31  
D-41241 Mönchengladbach

Hanns-Martin-Schleyer-Str. 22  
D-41199 Mönchengladbach

Phone +49 (0) 2166/62317-0  
Fax +49 (0) 2166/611681

Web: [www.ski-gmbh.com](http://www.ski-gmbh.com)  
E-mail: [info@ski-gmbh.com](mailto:info@ski-gmbh.com)

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