bürkert
FLUID CONTROL SYSTEMS

Type 8026 - 8036 - SE36

Flowmeter and Flow transmitter
Durchflussmessgerät und Durchflusstransmitter
Débitmètre et transmetteur de débit

Quickstart

English Deutsch Français

MAN 1000372802 EN Version: AStatus: RL (released | freigegeben) printed: 17.12.2020

Operating Instructions 2012/04_EU-ML 00567366 / Original_FR

MAN 1000372802 EN Version: AStatus: RL (released | freigegeben) printed: 17.12.2020

1. THE QUICKSTART

The quickstart describes the entire life cycle of the device. Please keep the quickstart in a safe place, accessible to all users and any new owners.

The quickstart contains important safety information.

Failure to comply with these instructions can lead to hazardous situations. Pay attention in particular to the chapters Basic safety information and Intended use.

- ▸ Irrespective of the device variant, read the quickstart. If you do not understand the content of the quickstart, then contact Bürkert.
- ▸ When the symbol ⚠ is marked inside or outside the device, carefully read the Operating Instructions.

The quickstart explains how to install, adjust, and commissioning the device.

A detailed description of the device can be found in the related Operating Instructions available on the internet at: country.burkert.com

1.1. Definition of the term device

The term device that is used in the quickstart refers to the following products:

- Type 8026 flowmeter
- Type 8036 flowmeter
- Type SE36 flow transmitter

1.2. Validity of the quickstart

The quickstart is valid for the following devices:

- Type 8026 flowmeter, from version V2
- Type 8036 flowmeter, from version V2
- Type SE36 flow transmitter, from version V2

Mention V2 is given on the device Type-label. Refer to chpt. 5.

1.3. Symbols used

⚠ **DANGER**

Warns against an imminent danger.

- ▸ Failure to observe this warning can result in death or in serious injury.

⚠ **WARNING**

Warns against a potentially dangerous situation.

- ▸ Failure to observe this warning can result in serious injury or even death.

⚠ **CAUTION**

Warns against a possible risk.

- ▸ Failure to observe this warning can result in substantial or minor injuries.

NOTICE

Warns against material damage.

Indicates additional information, advice or important recommendations.

Refers to information contained in this quickstart or in other documents.

- ▸ Indicates an instruction for risk prevention.
- → Indicates a work step that you must carry out.
- ✔ Indicates a result.

2. INTENDED USE

Use of the device that does not comply with the instructions could present risks to people, nearby installations and the environment.

Type 8026 flowmeter and Type 8036 flowmeter are intended for the measurement the flow rate of liquids.

Type SE36 flow transmitter associated with a sensor-fitting is intended for the measurement of the flow rate of liquids.

- ▸ Use the device in compliance with the characteristics and commissioning and use conditions specified in the contractual documents and in the Operating Instructions.
- ▸ Do not use this device for security applications.
- ▸ Only operate a device in perfect working order.
- ▸ Store, transport, install and operate the device properly.
- ▸ Only use the device as intended.

3. BASIC SAFETY INFORMATION

This safety information does not take into account any contingencies or occurrences that may arise during installation, use and maintenance of the device.

The operating company is responsible for the respect of the local safety regulations including staff safety.

Risk of injury due to electrical voltage.

- Before carrying out work on the system or the device, disconnect the electrical power for all the conductors and isolate it.
- If the device is installed either in a wet environment or outdoors, all the electrical voltages must be of max. 35 V DC.
- All equipment connected to the device must be double insulated with respect to the mains according to the standard UL/EN 61010-1.
- Observe all applicable accident protection and safety regulations for electrical equipment.

Risk of injury due to pressure in the installation.

- Before any intervention in the installation, stop the circulation of fluid, cut off the pressure and drain the pipe.
- Before any intervention in the installation, make sure that there is no pressure in the pipe.
- Observe the dependency between the fluid temperature and the fluid pressure.

Risk of burns due to high fluid temperatures.

- Use safety gloves to handle the device.
- Before opening the pipe, stop the circulation of fluid and drain the pipe.
- Before opening the pipe, make sure that the pipe is completely empty.

Risk of injury due to the nature of the fluid.

- Respect the prevailing regulations on accident prevention and safety relating to the use of dangerous fluids.

Various dangerous situations

To avoid injury, observe the following instructions:

- Do not use the device in explosive atmospheres.
- Do not use the device in an environment incompatible with the device materials.
- Do not use fluid that is incompatible with the device materials. Find the compatibility chart on our homepage: country.burkert.com
- Do not subject the device to mechanical stress.
- Do not make any modifications to the device.
- Prevent any unintentional power supply switch-on.

Various dangerous situations

To avoid injury, observe the following instructions:

- Only qualified and skilled staff may carry out the installation and maintenance work.
- Ensure a defined or controlled restart of the process after a power supply interruption.
- Observe the general technical rules.

NOTICE

Elements and components that are both sensitive to electrostatic discharges

- The device contains electronic components that are sensitive to electrostatic discharges. The components may be damaged if they are touched by an electrostatically charged person or object. In the worst case scenario, the components are instantly destroyed or disabled as soon as they are activated.
- To minimise or even avoid any damage caused by an electrostatic discharge, take all the precautions that are described in the EN 61340-5-1 norm.
- Do not touch any of the live electrical components.

4. GENERAL INFORMATION

4.1. Contact

To contact the manufacturer of the device, use following address:

Bürkert SAS

Rue du Giessen

BP 21

F-67220 TRIEMBACH-AU-VAL

The addresses of our international sales offices are available on the internet at: country.burkert.com

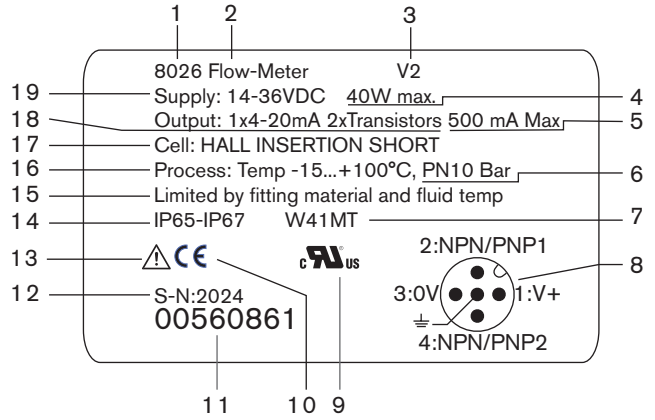
4.2. Warranty conditions

The condition governing the legal warranty is the conforming use of the device in observance of the operating conditions specified in the Operating Instructions.

4.3. Information on the Internet

You can find the Operating Instructions and technical data sheets for Type 8026, Type 8036 and Type SE36 at: country.burkert.com

5. TYPE LABEL



1. Type of the device
2. Measured quantity
3. Device version
4. Maximum power consumption
5. Maximum current available at a transistor output
6. Nominal pressure of the fluid
7. Manufacturing code
8. Pin assignment of an electrical connection
9. Certification

10. Conformity marking
11. Article number
12. Serial number
13. Warning: Before using the device, take into account the technical specifications described in the Operating Instructions.
14. IP-Code
15. Restrictions for fluid temperature and fluid nominal pressure
16. Fluid temperature range
17. Sensor specifications
18. Outputs
19. Operating voltage

Fig. 1: Type-label (example)

6. TECHNICAL DATA

6.1. Conditions of use

Ambient temperature	–10...+60 °C
Air humidity	< 85%, without condensation
Use	Indoor and outdoor ▸ Protect the device against electromagnetic interference, ultraviolet rays and, when installed outdoors, the effects of the climatic conditions.
IP-Code *1) not evaluated by UL*	IP67 [1)] and IP65 [1)], according to IEC / EN 60529 Mating connectors must be wired, plugged and tightened. Housing lid must be fully tightened and locked
Operating condition	Continuous operation
Mobility of the device	Fixed device
Degree of pollution	Degree 2 according to UL/EN 61010-1
Installation category	Category I according to UL/EN 61010-1
Maximum height above sea level	2000 m

6.2. Conformity to standards and directives

The applied standards, which verify conformity with the EU directives, can be found on the EU-Type examination certificate and/or the EU declaration of conformity (if applicable).

6.2.1. Conformity to the pressure equipment directive

- ▸ Make sure that the device materials or the fitting materials are compatible with the fluid.
- ▸ Make sure that the pipe DN is adapted for the device or the fitting used.
- ▸ Observe the fluid nominal pressure (PN) for the device or the fitting used. The nominal pressure (PN) is given by the device manufacturer or the fitting manufacturer.

Type 8026 flowmeter, Type S030, Type S070 and Type S077 fittings conform to Article 4, Paragraph 1 of the Pressure Equipment Directive 2014/68/EU under the following conditions:

- Device used on a piping (PS = maximum admissible pressure; DN = nominal diameter of the pipe)

Type of fluid	Conditions
Fluid group 1, Article 4, Paragraph 1.c.i	DN ≤ 25
Fluid group 2, Article 4, Paragraph 1.c.i	DN ≤ 32 or PSxDN ≤ 1000 bar

Type of fluid	Conditions
Fluid group 1, Article 4, Paragraph 1.c.ii	DN ≤ 25 or PSxDN ≤ 2000 bar
Fluid group 2, Article 4, Paragraph 1.c.ii	DN ≤ 200 or PS ≤ 10 bar or PSxDN ≤ 5000 bar

6.2.2. UL certification

Devices with variable key PU01 or PU02 are UL-certified devices and comply also with the following standards:

- UL 61010-1
- CAN/CSA-C22.2 n°61010-1

Identification on the device	Certification	Variable key
c UL us	UL recognized	PU01
c UL us LISTED Measuring Equipment EXXXXXX	UL listed	PU02

6.3. Materials

Table 1 : Materials, all device variants

Part	Material
Housing	stainless steel 316L 1.4404, PPS
Housing seals	EPDM
Housing lid	PC
Housing-lid seal	silicone
Display module	PC, PBT
M12 male connector, M12 female connector	▪ nickel-plated brass ▪ stainless steel, on request
Holder of the electrical connections	stainless steel 1.4404 (316L)
Screws	stainless steel
G2" nut	PC

Table 2 : Materials specific to the Type 8026 and in contact with the fluid

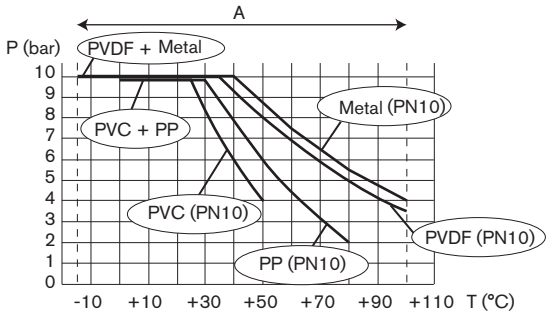
Part	Material
Flow-sensor holder	PVDF
Holder seal	FKM, by default
Paddle-wheel axis, paddle-wheel shaft	Ceramic (Al_2O_3)

Part	Material
Paddle wheel	PVDF

Table 3 : Materials specific to the Type SE36

Part	Material
Quarter-turn system	PC

6.4. Fluid data



A: Operating range

Fig. 2: Dependency between the fluid temperature and the fluid pressure, Type 8026 associated to a fitting Type S020

Type of fitting	
▪ Type 8026	▪ Type S020
▪ Type SE36	▪ Type S030, Type S070 or Type S077
Fluid temperature	
▪ Type 8026	▪ –15...+100 °C Take into account the dependency between the fluid temperature and the fluid pressure. Refer to Fig. 2
▪ Type 8036, Type SE36	▪ Refer to the Operating Instructions that are delivered with the fitting used.
Fluid pressure	Also refer to the requirements of the Pressure Equipment Directive: see chpt. 6.2.1
▪ Type 8026 *2) not evaluated by UL*	▪ PN10[2)] Take into account the dependency between the fluid temperature and the fluid pressure. Refer to Fig. 2
▪ Type 8036, Type SE36	▪ Refer to the Operating Instructions that are delivered with the fitting used.

Type of fluid	
▪ Type 8026, Type 8036	▪ Neutral or slightly aggressive fluids
▪ Type SE36 with a Type S070 fitting or Type S077 fitting	▪ Viscous fluids, free of solid particles
Fluid viscosity	
▪ Type 8026, Type 8036	▪ 300 cSt max.
▪ Type SE36 with a Type S070 fitting or Type S077 fitting	▪ Refer to the Operating Instructions that are delivered with the fitting used.
Solid particle rate in the fluid	
▪ Type 8026, Type 8036	▪ ≤ 1 %
▪ Type SE36 with a Type S070 fitting or Type S077 fitting	▪ 0 %
Flow rate measurement for Type 8026 and Type 8036	
▪ Measurement range	▪ 0.3...10 m/s
▪ Linearity	▪ ±0.5 % of the full scale (10 m/s)[3)]
▪ Repeatability	▪ ±0.4 % of the measured value[3)]
▪ Measurement deviation with standard K-factor	▪ ±2.5 % of the measured value[3)]
▪ Measurement deviation with a Teach-in procedure	▪ ±1 % of the measured value (at the value of the teach-in flow rate)[3)]

Flow rate measurement for Type SE36 with fitting Type S070 or fitting Type S077	
▪ **Measurement range**	
- viscosity > 5 mPa.s	- Type S070: 2...1200 l/min
	- Type S077: 2...1200 l/min
- viscosity < 5 mPa.s	- Type S070: 3...616 l/min
	- Type S077: 3...616 l/min
▪ **Measurement deviation**	
- with standard K-factor	- Type S070: ±0.5 % of the measured value[3)]
	- Type S077: ±1 % of the measured value[3)]
- with K-factor determined with a teach-in procedure or with the specific K-factor, engraved on the fitting	- Type S070: ±0.5 % of the measured value (at the value of the teach-in flow rate)[3)]
	- Type S077: ±0.5 % of the measured value (at the value of the teach-in flow rate)[3)]
▪ **Repeatability**	▪ ±0.03 % of the measured value[3)]

3) Determined in the following reference conditions: fluid = water, water temperature and ambiant temperature = 20 °C, upstream and downstream distances respected, appropriate pipe dimensions.

6.5. Electrical data

Operating voltage	
▪ device variant with 2 or 3 outputs (2 wires)	▪ 14...36 V DC ▪ connection to main supply: permanent through external safety extra-low voltage (SELV) and through limited power source (LPS) ▪ filtered and regulated ▪ oscillation rate: ±10 %
▪ device variant with 4 outputs (3 wires)	▪ 12...36 V DC ▪ connection to main supply: permanent through external safety extra-low voltage (SELV) and through limited power source (LPS) ▪ filtered and regulated ▪ oscillation rate: ±10 %
Power source (not supplied)	▪ Limited power source according to UL/EN 60950-1 standards ▪ or limited energy circuit according to UL/EN 61010-1, Paragraph 9.4

Current consumption	
▪ device variant with 2 or 3 outputs (2 wires)	▪ 25 mA max. (at 14 V DC)
▪ device variant with 4 outputs (3 wires)	▪ 5 mA max. (at 12 V DC)
Current consumption, with loads on the transistors	1 A max.
Power consumption	40 W max.
Protection against polarity reversal	yes
Protection against voltage spikes	yes
Protection against short circuits	yes, transistor outputs
Current output	4...20 mA, sink or source, through wiring and through software setting, 22 mA to indicate a fault (software setting)
▪ device variant with only 1 current output (2 wires)	▪ maximum loop impedance: 1100 Ω at 36 V DC, 610 Ω at 24 V DC, 180 Ω at 14 V DC
▪ device variant with 2 current outputs (3 wires)	▪ maximum loop impedance: 1100 Ω at 36 V DC, 610 Ω at 24 V DC, 100 Ω at 12 V DC

Transistor output	
▪ device variant with only 1 transistor output	▪ NPN, 700 mA max., 1...36 V DC
▪ device variant with 2 transistor outputs	
- type	- NPN or PNP. Through wiring and through software setting
- NPN output	- 1...36 V DC, 700 mA max. (or 500 mA max. if 2 transistor outputs are wired)
- PNP output	- supply voltage, 700 mA max. (or 500 mA max. if 2 transistor outputs are wired)
- protection	- galvanically insulated, protected against overvoltages, polarity reversals and short-circuits

7. INSTALLATION

7.1. Safety instructions

DANGER

Risk of injury due to electrical voltage.

- Before carrying out work on the system or the device, disconnect the electrical power for all the conductors and isolate it.
- If the device is installed either in a wet environment or outdoors, all the electrical voltages must be of max. 35 V DC.
- All equipment connected to the device shall be double insulated with respect to the mains according to the standard UL/EN 61010-1.
- Observe all applicable accident protection and safety regulations for electrical equipment.

Risk of injury due to pressure in the installation.

- Before any intervention in the installation, stop the circulation of fluid, cut off the pressure and drain the pipe.
- Before any intervention in the installation, make sure that there is no pressure in the pipe.
- Observe the dependency between the fluid temperature and the fluid pressure.

DANGER

Risk of burns due to high fluid temperatures.

- Use safety gloves to handle the device.
- Before opening the pipe, stop the circulation of fluid and drain the pipe.
- Before opening the pipe, make sure that the pipe is completely empty.

Risk of injury due to the nature of the fluid.

- Respect the prevailing regulations on accident prevention and safety relating to the use of dangerous fluids.

WARNING

Risk of injury due to non-conforming installation.

- The electrical and fluid installation can only be carried out by qualified and skilled staff with the appropriate tools.
- Install appropriate safety devices (correctly rated fuse and/or circuit-breaker).
- Respect the installation instructions for the fitting used.

WARNING

Risk of injury if the dependency between the fluid pressure and the fluid temperature is not respected.

- Observe the dependency between the fluid temperature and the fluid pressure for the device. Refer to chpt. 6.4.
- Observe the dependency between the fluid temperature and the fluid pressure for the fitting used. Refer to the Operating Instructions of the fitting used.

WARNING

Risk of injury due to unintentional switch on of power supply or uncontrolled restart of the installation.

- Avoid unintentional activation of the installation.
- Guarantee a defined or controlled restart of the process after any intervention on the device.

7.2. Installation of a Type 8026 on a pipe

Follow the next steps to install the Type 8026 flowmeter properly:

7.2.1. Install the fitting Type S020 in the pipe

→ Select a fitting that is adapted to the fluid velocity. Refer to the chart in the data sheet of the related fitting.

→ Choose a place for the fitting on the pipe so that the following conditions are met:

- air bubbles do not appear in the pipe, in the section around the sensor (Fig. 3).
- the pipe is always filled in the section around the sensor (Fig. 3).

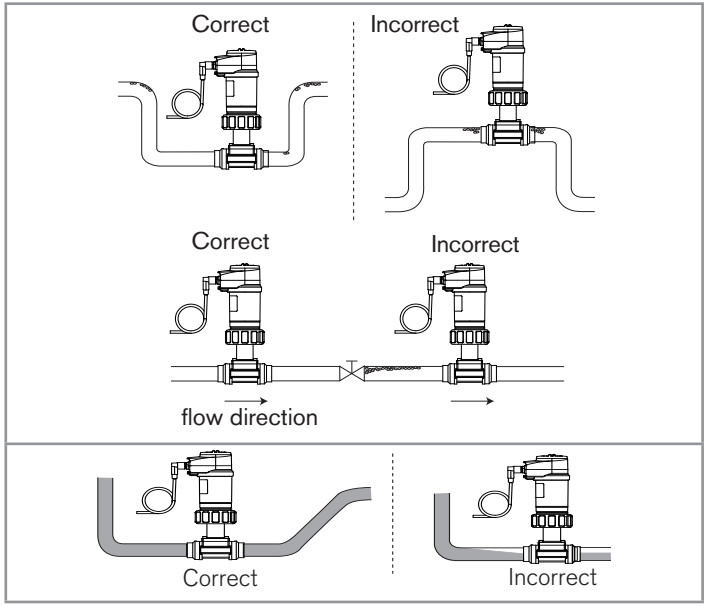


Fig. 3: Air bubbles within the pipe / Filling of the pipe

CAUTION

Risk of damage when installing the fitting.

▸ Respect the installation instructions given in the Operating Instructions of the fitting.

→ Install the fitting in the pipe so that the paddle-wheel axis of the device is horizontal (Fig. 4).

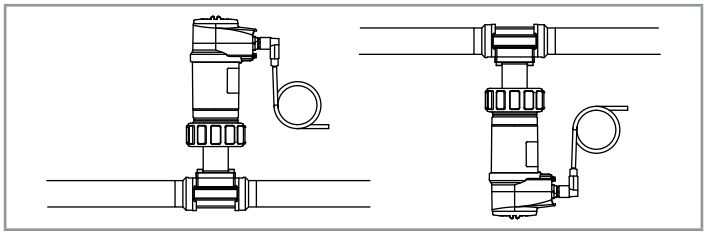
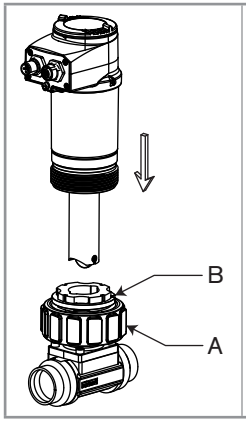


Fig. 4: Mounting positions for an horizontal paddle-wheel axis

7.2.2. Install the device into the fitting



→ Make sure that there is a seal on the device and that it is not damaged. Replace the seal if necessary.

→ Place nut A on the fitting and insert circlip B into the groove.

→ Carefully insert the device into the fitting.

✔ If assembly is correct, the device can no longer rotate on itself.

→ Secure the unit with nut A, tightening only by hand.

Fig. 5: Installation of the flowmeter in the fitting

7.2.3. Complete the installation

→ Wire the device (see chpt. 7.5).

→ Energize the device.

→ With the display module, set the K-factor or determine it through a Teach-In procedure (see chpt. 8.11).

7.3. Installation of a Type 8036 on a pipe

A Type 8036 flowmeter is composed of a Type SE36 flow transmitter and a Type S030 sensor-fitting. Follow the next steps to install the Type 8036 flowmeter properly:

7.3.1. Install the Type S030 in the pipe

→ Select a sensor-fitting that is adapted to the fluid velocity. Refer to the chart in the data sheet of the related fitting.

→ Choose a place for the sensor-fitting on the pipe so that the following conditions are met:

- air bubbles do not appear in the pipe, in the section around the sensor (Fig. 3, chpt. 7.2.1).
- the pipe is always filled in the section around the sensor (Fig. 3, chpt. 7.2.1).

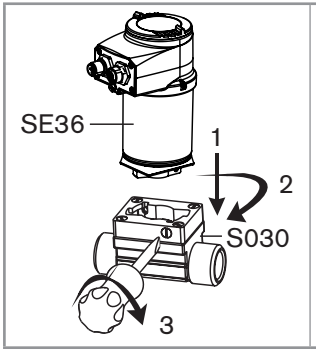
CAUTION

Risk of damage when installing the fitting.

- Respect the installation instructions given in the Operating Instructions of the fitting.

→ Install the sensor-fitting in the pipe so that the paddle wheel axis is horizontal (Fig. 4, chpt. 7.2.1)

7.3.2. Assemble the Type SE36 to the Type S030



→ 1: Insert the flow transmitter in the sensor holder.

→ 2: Turn the flow transmitter by a quarter turn.

→ 3: To fix the flow transmitter to the sensor-fitting, tighten the screw to a torque of max. 1 N·m.

Fig. 6: Assembling the flowmeter

7.3.3. Complete the installation

→ Wire the device (see chpt. 7.5).

→ Energize the device.

→ With the display module, set the K-factor or determine it through a Teach-In procedure (see chpt. 8.11).

7.4. Installation of a Type SE36 flow transmitter with a Type S070 or a Type S077 sensor-fitting in a pipe

Follow the next steps to install the Type SE36 flow transmitter properly on the Type S070 or Type S077 sensor-fitting, mounted in the pipe:

7.4.1. Install the Type S070 or Type S077 in a pipe

→ Select a sensor-fitting that is adapted to the fluid viscosity. Refer to the data sheet of the related fitting.

CAUTION

Risk of damage when installing the fitting.

- Respect the installation instructions given in the Operating Instructions of the fitting.

→ Install the sensor-fitting in the pipe so that the oval gear axes are in the horizontal plane (see Fig. 7).

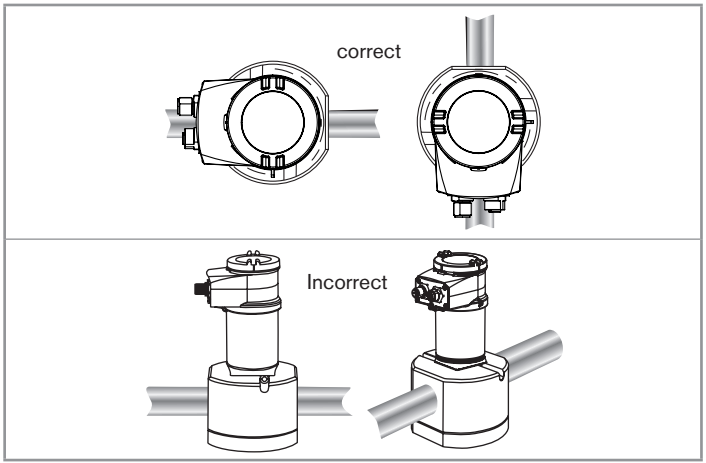
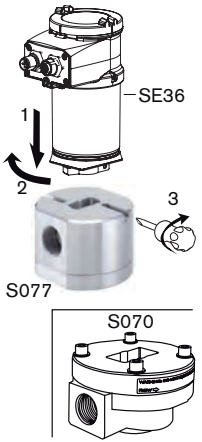


Fig. 7: The oval gear axes must be horizontal (seen from the front)

7.4.2. Assemble the Type SE36 to the Type S070 or Type S077



1. Insert the flow transmitter in the sensor holder.
2. Turn the flow transmitter by a quarter turn.
3. To fix the flow transmitter to the sensor-fitting, tighten the screw or the screws to a torque of max. 1 N·m.

Fig. 8: Assembling the flow transmitter with the sensor-fitting

7.4.3. Complete the installation

→ Wire the device (see chpt. 7.5).

→ Energize the device.

→ With the display module, set the K-factor or determine it through a Teach-In procedure (see chpt. 8.11).

7.5. Wiring

DANGER

Risk of injury due to electrical voltage.

- Before carrying out work on the system or the device, disconnect the electrical power for all the conductors and isolate it.
- If the device is installed either in a wet environment or outdoors, all the electrical voltages must be of max. 35 V DC..
- All equipment connected to the device shall be double insulated with respect to the mains according to the standard UL/EN 61010-1.
- Observe all applicable accident protection and safety regulations for electrical equipment.

- Use a high-quality electrical power supply. The power supply must be filtered and regulated.
- Make sure that the installation is equipotential (see chpt. 7.5.2).
- Protect the power supply of the device with a 100 mA time-delay fuse and a switch.
- Protect the power supply of each transistor output with a 750 mA fuse.
- Once the device is wired, set the "HWMode" parameter depending on the wiring carried out, sink/NPN or source/PNP (see chpt. 8.6).

7.5.1. Mating connector with article number 917116

To wire the product, you can use mating connectors from Bürkert. For example, you can use the 5-pin M12 female connector with article number 917116.

Table 4 : Specifications of the cable and conductors for the M12 female connector with article number 917116

Specification	Recommended value
▪ Electromagnetic protection (EMC)	▪ Shielded
▪ Cross section of the conductors	▪ max. 0.75 mm^2
▪ Diameter of the cable	▪ 3...6.5 mm
▪ Maximum operating temperature of a cable	▪ equal to or higher than 80 °C

7.5.2. Equipotentiality of the installation

To ensure the equipotentiality of the installation (power supply - device - fluid):

→ Connect together the various earth spots in the installation to eliminate the potential differences that may occur between different earthes.

→ Observe faultless grounding of the shield of the power supply cable.

→ Special attention has to be paid if the device is installed on plastic pipes because there is no direct earthing possible.

Proper earthing is performed by earthing together the metallic equipment such as pumps or valves, that is as close as possible to the device.

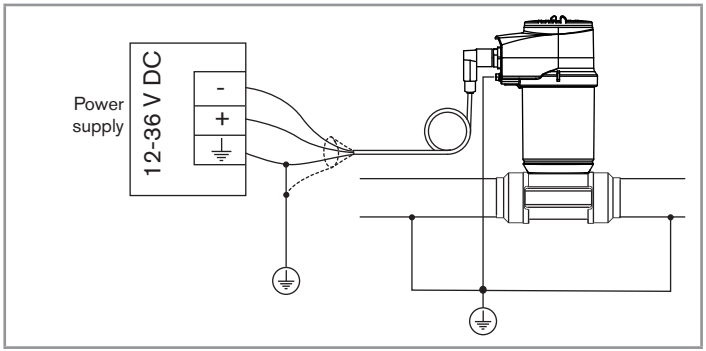
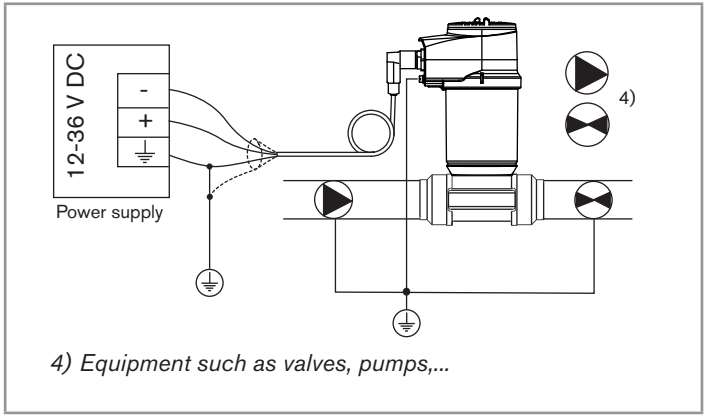


Fig. 9: Equipotentiality skeleton diagram with pipes in metal



4) Equipment such as valves, pumps,...

Fig. 10: Equipotentiality skeleton diagram with pipes in plastic

7.5.3. Device variant with 1 connector, 1 NPN transistor output and 1 current output

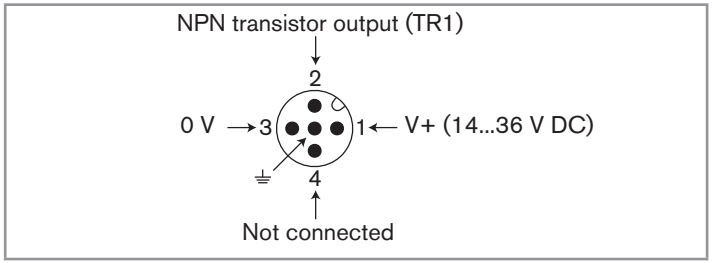


Fig. 11: Pin assignment of the male connector

Pin of the M12 female cable available as an accessory (article number 438680)	Colour of the wire
1	brown
2	white
3	blue
4	black
5	grey or green/ yellow

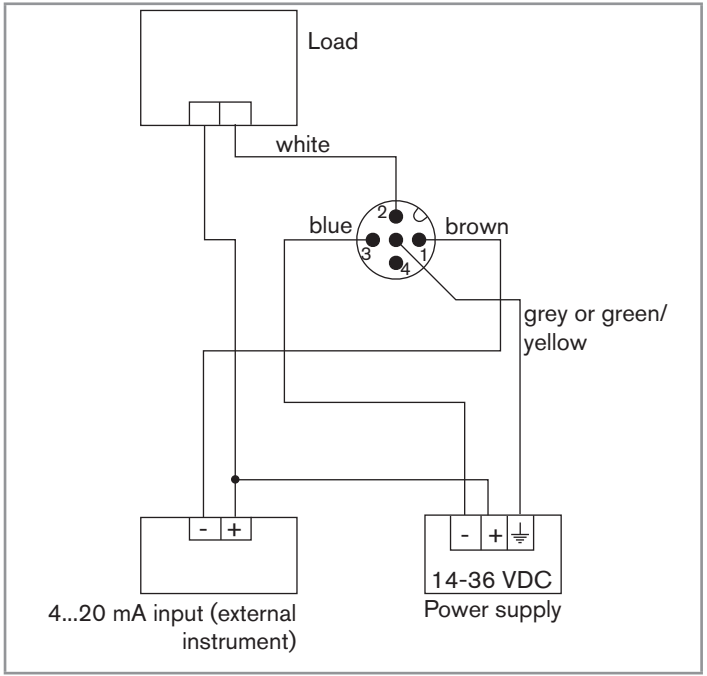


Fig. 12: Transistor output, NPN wiring, and current output in sinking mode (parameter setting "NPN/sink", cannot be changed), device variant with 1 connector, 1 NPN transistor output and 1 current output

7.5.4. Device variant with 1 connector, 2 transistor outputs and 1 current output

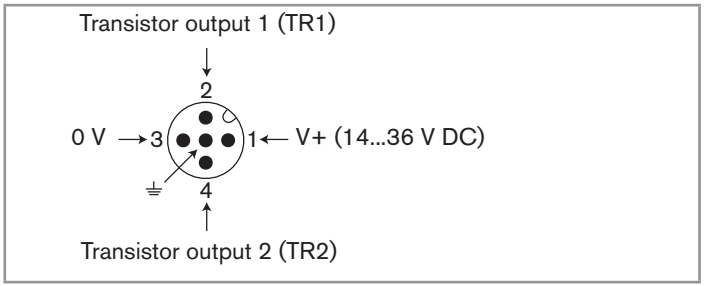


Fig. 13: Pin assignment of the male connector

Pin of the M12 female cable available as an accessory (article number 438680)	Colour of the wire
1	brown
2	white
3	blue
4	black
5	grey or green/ yellow

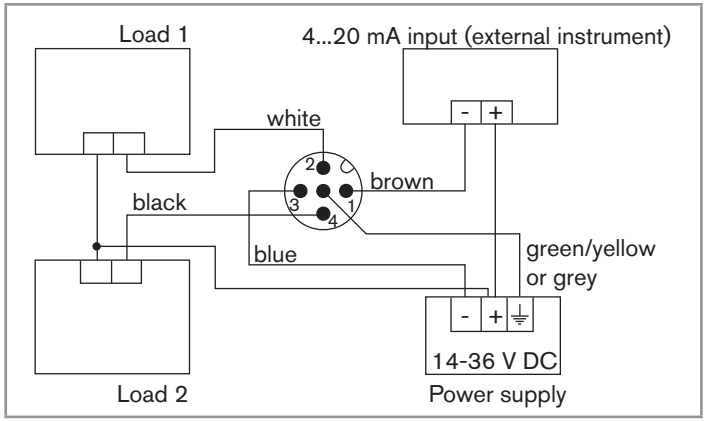


Fig. 14: NPN wiring of both transistor outputs, and current output in sinking mode (parameter setting "NPN/sink"), device variant with 1 connector, 2 transistor outputs and 1 current output

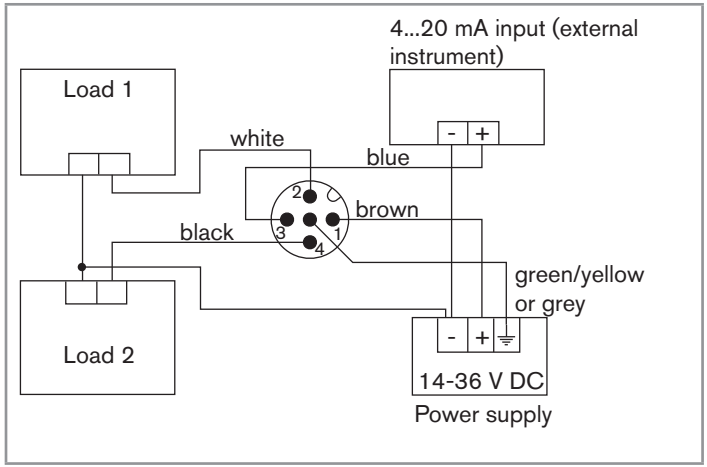


Fig. 15: PNP wiring of both transistor outputs, and current output in sourcing mode (parameter setting "PNP/source"), device variant with 1 connector, 2 transistor outputs and 1 current output

7.5.5. Device variant with 2 connectors

Connect the power supply for the device to the male connector; the supply is then transferred internally to pins 1 and 3 of the female connector in order to ease wiring of the load to the female connector.

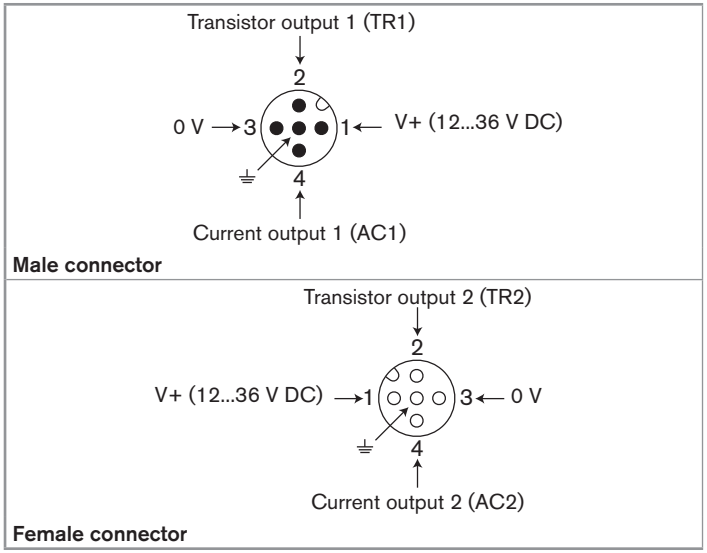


Fig. 16: Pin assignment of the connectors

Pin of the female or male M12 cables available as accessories (article number 438680 respectively 559177)	Colour of the wire
1	brown
2	white
3	blue
4	black
5	green/yellow or grey

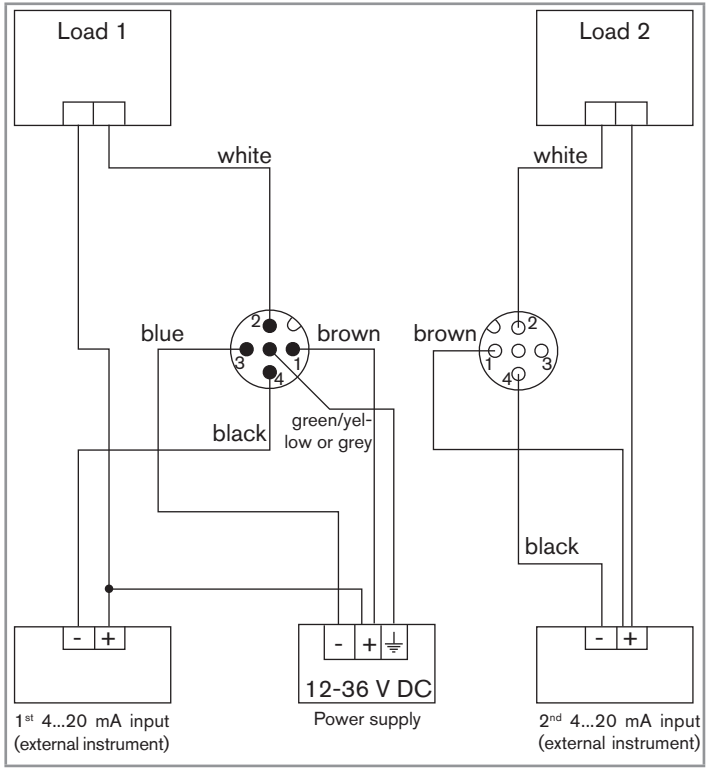


Fig. 17: NPN wiring of both transistor outputs, and wiring of both current outputs in sinking mode, device variant with 2 connectors (parameter setting "NPN/sink")

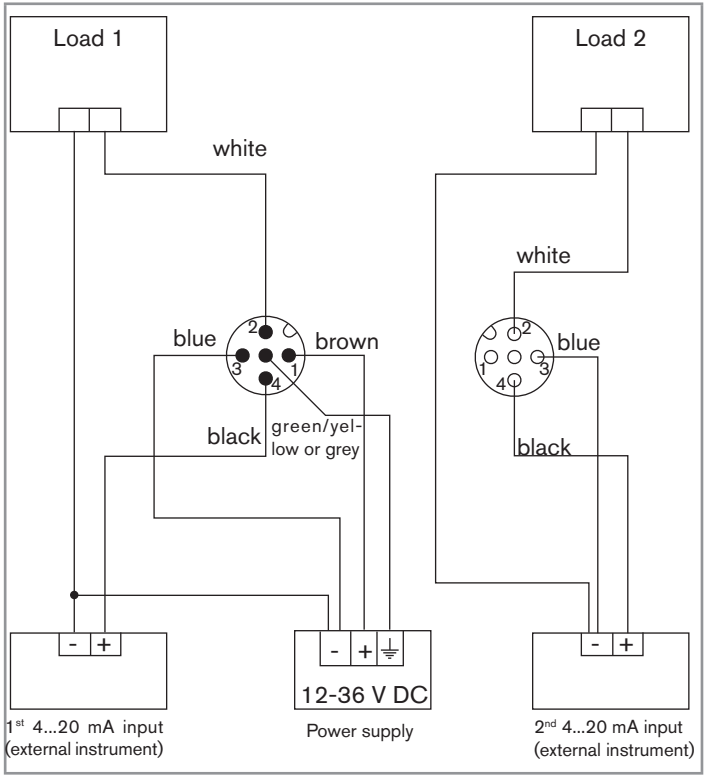


Fig. 18: PNP wiring of both transistor outputs, and wiring of both current outputs in sourcing mode, device variant with 2 connectors (parameter setting "PNP/source")

8. ADJUSTMENT AND COMMISSIONING

You need a display module to adjust the device parameters. The display module is not equipped on all devices. The display module can be ordered as an accessory.

8.1. Safety instructions

WARNING

Risk of injury due to non-conforming adjustment.

Non-conforming adjustment could lead to injuries and damage the device and its surroundings.

- The operators in charge of adjustment must have read and understood the contents of this quickstart
- In particular, observe the safety recommendations and intended use.
- Adjustment can only be carried out by suitably trained staff.

WARNING

Danger due to non-conforming commissioning.

Non-conforming commissioning could lead to injuries and damage the device and its surroundings.

- Before commissioning, make sure that the staff in charge have read and fully understood the contents of this quickstart.
- In particular, observe the safety recommendations and intended use.
- Commissioning can only be carried out by suitably trained staff.
- Before commissioning, set the K-factor of the fitting used (see chpt. 8.11).

8.2. Display module

NOTICE

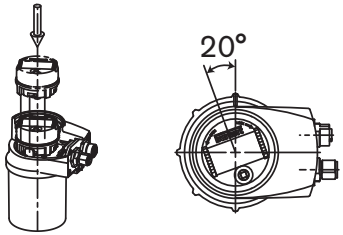
The tightness of the device is not guaranteed when the housing lid is removed.

- Prevent the projection of liquid inside the housing.

The device may be damaged if a metal component comes into contact with the electronics.

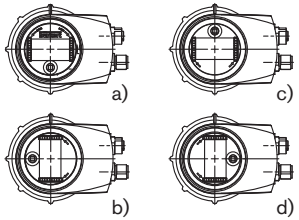
- Prevent contact of the electronics with a metallic item.

8.2.1. Mount the display module

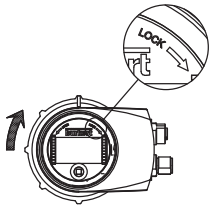


→ Remove the housing lid.

→ Set the display module at an angle of about 20° in relation to the desired position.



The display module can be mounted in 4 different positions, at 90° intervals.

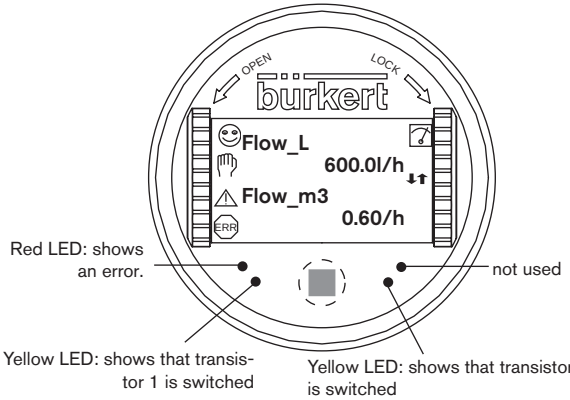


→ Fully push in the display module and turn clockwise to lock it.

→ Put the housing lid back.

Fig. 19: Mounting the display module

8.2.2. Icons and LEDs



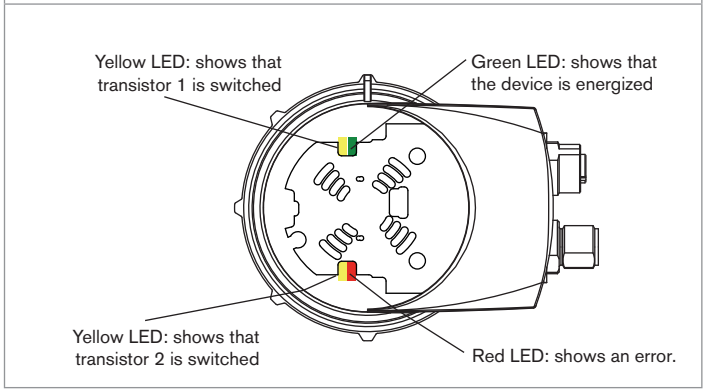


Fig. 20: Icons and LEDs

- The LEDs of the display module are duplicated on the electronic board that is located under the display module: these LEDs become visible when the device is not equipped with the display module.
- The yellow LED related to a transistor output is deactivated if the transistor output is configured in pulse mode ("Pulse").

Icon	Meaning and alternatives
☺	Sensor input frequency within the defined ranges The alternatives, in this position, if monitoring of the sensor input frequency is activated, are: ▪ ☺, associated with ⚠ ▪ ☹, associated with ERR
	The device is measuring. The alternative icons in this position are: ▪ ⚠ HOLD flashing: HOLD mode activated. ▪ T: running check that the outputs are working and behaving correctly.
⚠	"warning" message.
ERR	"error" message.

8.2.3. Navigation button

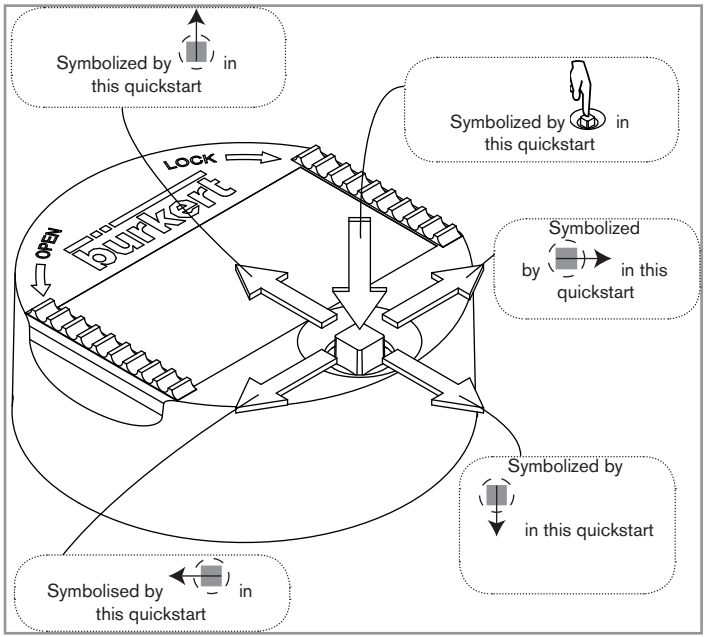


Fig. 21: Using the navigation button

You want to...	Press...
...browse in Process level	▪ next screen:  ▪ previous screen: 
▪ ...access the Configuration level ▪ ...display the Param menu	 for at least 2 sec., from any screen of the Process level
...browse in the menus of the Configuration level	▪ next menu:  ▪ previous menu: 
...access the menu displayed	
...browse in the menu functions	▪ next function:  ▪ previous function: 
...select the highlighted function	

You want to...	Press...
...browse in the dynamic functions bar (MEAS, BACK, ABORT, OK, YES, NO)	▪ next function:  ▪ previous function: 
...confirm the highlighted dynamic function	
...modify a numerical value	
- increment the figure selected	- 
- decrement the figure selected	- 
- select the previous figure	- 
- select the next figure	- 
- allocate the "+" or "-" sign to the numerical value	-  to the extreme left of the numerical value then  until the desired sign is displayed
- move the decimal point	-  to the extreme right of the numerical value then  until the decimal point is in the desired place

8.2.4. Dynamic functions

You want to...	Choose...
...go back to the Process level, without validating the modifications made	dynamic function "MEAS"
...confirm the entering	dynamic function "OK"
...go back to the parent menu	dynamic function "BACK"
...abort the current operation and go back to the parent menu	dynamic function "ABORT"
...answer the question asked	dynamic function "YES" or "NO"

8.3. Operating levels

The device has 2 operating levels: the Process level and the Configuration level.

When the device is energized or the display module is mounted on the electronic module, the display indicates the display software version and then the Process level.

If the message “ERROR - This display does not support this Element - Contact Bürkert” is displayed, the version of the display module is not compatible with the software version of the device. Contact your Bürkert reseller.

→ To browse in the Process level, see chpt. 8.2.3.

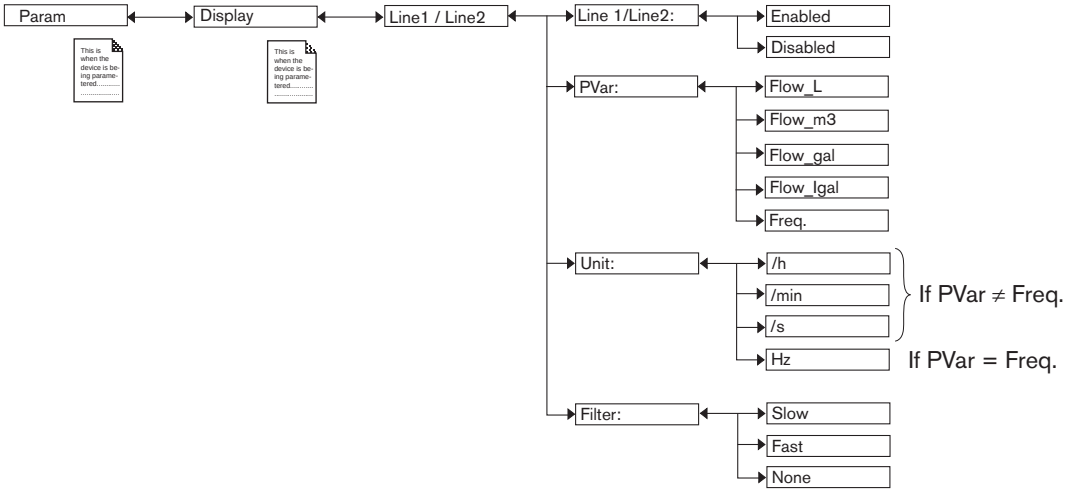
→ To access the Configuration level and to browse in the menus, see chpt. 8.2.3. The Configuration level has 5 menus: „Param“, „Calib“, „Diagnostic“, „Test“, „Info“.

The access codes to the menus „Param“, „Calib“, „Diagnostic“ and „Test“ are only required if they have been customized.

Only the most current functions are described in the quickstart. For the use of the other functions, refer to the Operating Instructions available at: country.burkert.com.

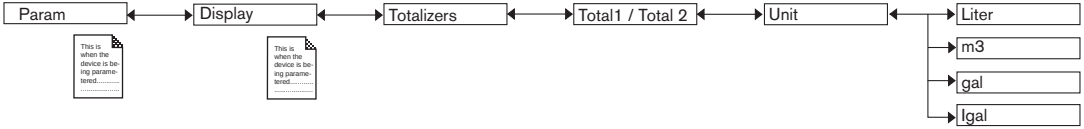
Do not remove the display module while making the settings on the device.

8.4. Set the data displayed in Process level

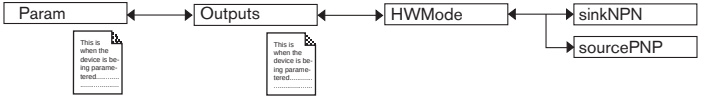


8.5. Choose the units for the totalizers displayed in Process level

The totalizers are saved if a power cut occurs.



8.6. Choose the connection mode of the outputs

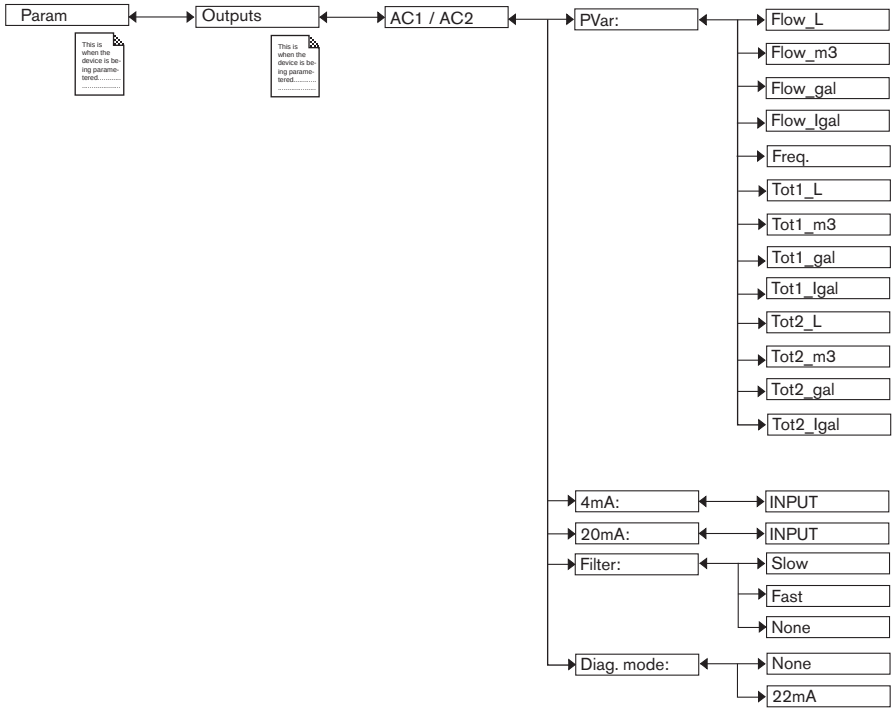


On a device variant with an NPN transistor output and a current output, only the choice “sink/NPN” is possible.

The setting has no effect if the sole current output is wired on a device variant with 1 connector, 2 transistor outputs and a single current output,.

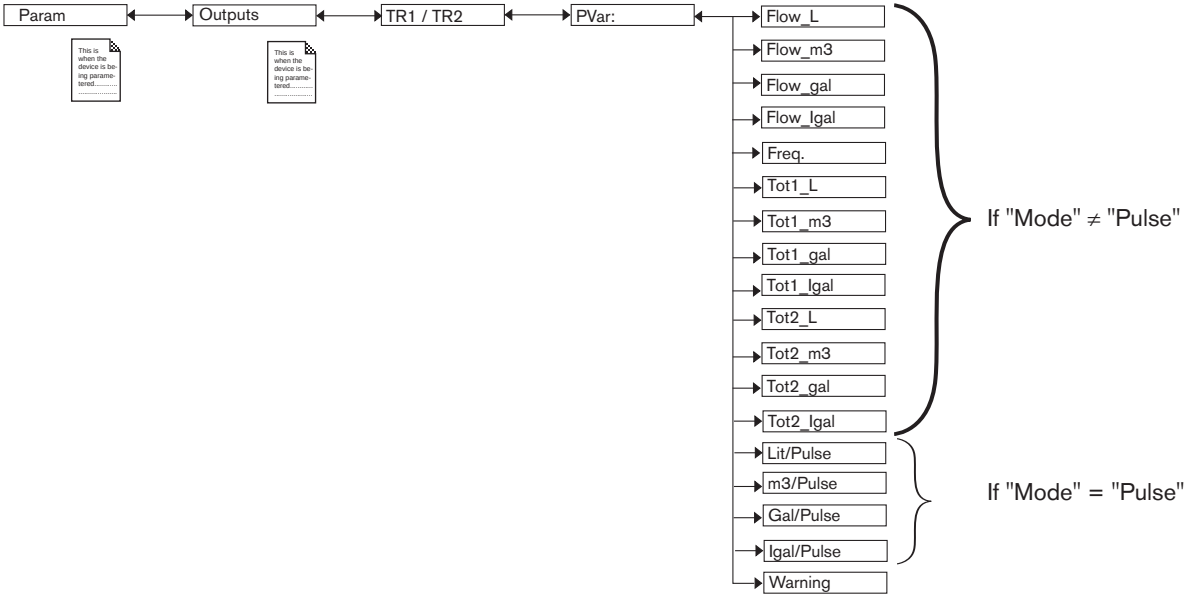
8.7. Set the parameters of the current outputs

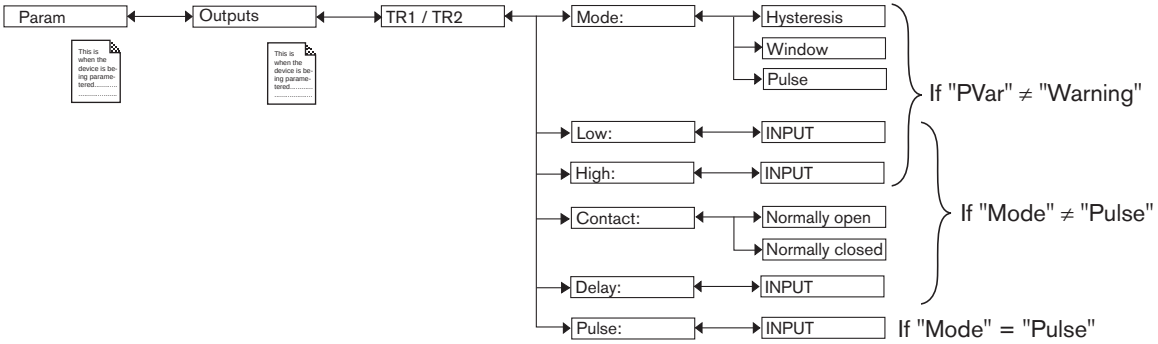
The 2nd current output "AC2" is only available on a device variant with 2 current outputs.



8.8. Set the parameters of the transistor outputs

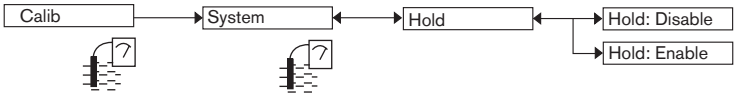
The 2nd transistor output "TR2" is only available on a device variant with 2 transistor outputs.





8.9. Activate or deactivate the Hold function

- If the mode "Hold" is activated and if there is a power interruption, then, when the device restarts, the mode "Hold" is automatically deactivated.
- The Hold mode has no effect on the transistor outputs when they are operating in “Pulse” mode.

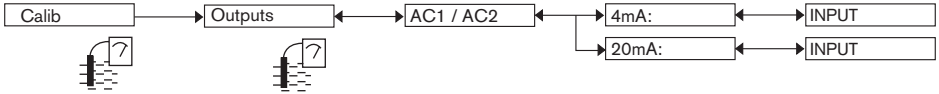


8.10. Adjust the current outputs

WARNING

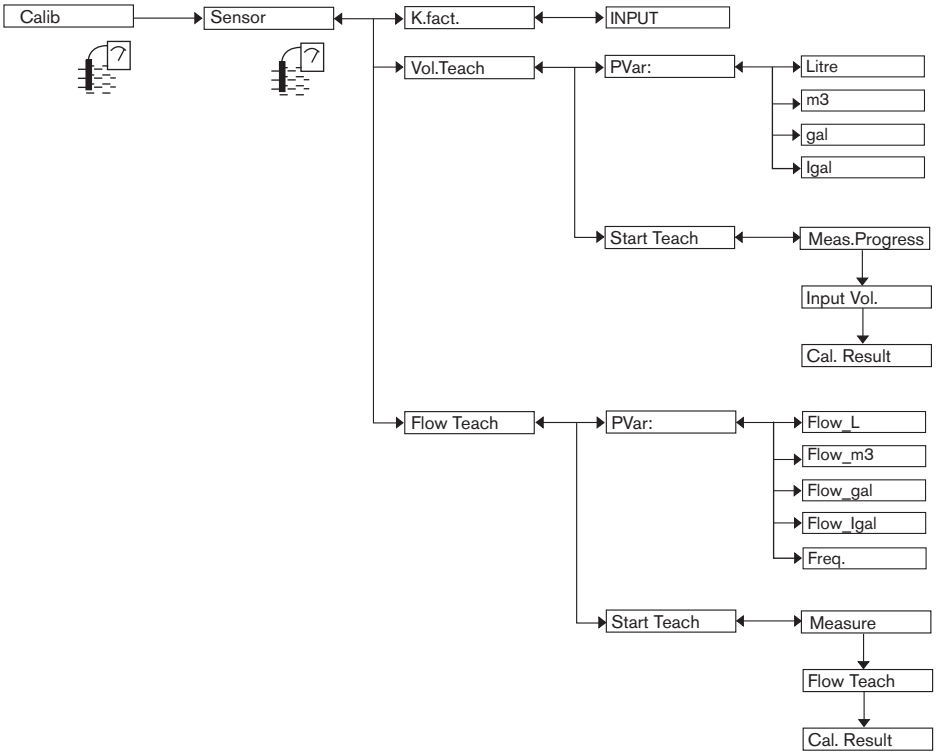
Risk of injury due to wrong adjustment.

- Make sure that the Hold mode is disabled (see chpt. 8.9).



The entered values are not memorised in this menu. Only the values emitted on the current outputs are adjusted after pressing “OK” when the message “Recalibrate AC outputs?” is shown.

8.11. Enter the K-factor or use a Teach-in procedure



9. MAINTENANCE AND TROUBLESHOOTING

9.1. Safety instructions

DANGER

Risk of injury due to electrical voltage.

- Before carrying out work on the system or the device, disconnect the electrical power for all the conductors and isolate it.
- If the device is installed either in a wet environment or outdoors, all the electrical voltages must be of max. 35 V DC.
- All equipment connected to the device shall be double insulated with respect to the mains according to the standard UL/EN 61010-1.
- Observe all applicable accident protection and safety regulations for electrical equipment.

Risk of injury due to pressure in the installation.

- Before any intervention in the installation, stop the circulation of fluid, cut off the pressure and drain the pipe.
- Before any intervention in the installation, make sure that there is no pressure in the pipe.
- Observe the dependency between the fluid temperature and the fluid pressure.

DANGER

Risk of burns due to high fluid temperatures.

- Use safety gloves to handle the device.
- Before opening the pipe, stop the circulation of fluid and drain the pipe.
- Before opening the pipe, make sure that the pipe is completely empty.

Risk of injury due to the nature of the fluid.

- Respect the prevailing regulations on accident prevention and safety relating to the use of dangerous fluids.

WARNING

Risk of injury due to non-conforming maintenance.

- Maintenance must only be carried out by qualified and skilled staff with the appropriate tools.
- Ensure that the restart of the installation is controlled after any interventions.

→ If you encounter problems, refer to the Operating Instructions available on the internet at: country.burkert.com

10. PACKAGING, TRANSPORT

NOTICE

Damage due to transport

Transport may damage an insufficiently protected device.

- ▸ Transport the device in shock-resistant packaging and away from humidity and dirt.
- ▸ Do not expose the device to temperatures that may exceed the admissible storage temperature range.
- ▸ Protect the electrical interfaces using protective plugs.

11. STORAGE

NOTICE

Poor storage can damage the device.

- ▸ Store the device in a dry place away from dust.
- ▸ Storing temperature for Type 8026: −10...+60 °C.
- ▸ Storing temperature for Type SE36: −10...+60 °C.
- ▸ Storing temperature for the fitting: refer to the related Operating Instructions

12. DISPOSAL

→ Dispose of the device and its packaging in an environmentally-friendly way.

NOTICE

Damage to the environment caused by parts contaminated by fluids.

- ▸ Comply with the national and/or local regulations which concern the area of waste disposal.

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MAN 1000372802 EN Version: AStatus: RL (released | freigegeben) printed: 17.12.2020