bürkert
FLUID CONTROL SYSTEMS

Type 8045

Insertion electromagnetic flowmeter
Magnetisch-induktives Durchfluss-Messgerät, Insertion
Débitmètre électromagnétique à insertion

Quickstart

English Deutsch Français

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1. ABOUT THE QUICKSTART

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

Important safety information.

Respect the safety instructions. Study in particular the chapters entitled 2. Intended use and 3. Basic safety information.

- The Quickstart must be read and understood.
- When the symbol  is marked inside or outside the device, carefully read the Operating Instructions.

The Quickstart explains how to install, set, and start-up the device.

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

1.1. 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 to be carried out to avoid a danger, a warning or a possible risk.

→ Indicates a procedure to be carried out.

1.2. Definition of the word "device"

The word "device" used within this Quickstart refers to the insertion electromagnetic flowmeter type 8045.

2. INTENDED USE

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

The insertion electromagnetic flowmeter type 8045 is intended exclusively to measure flow rate in liquids.

- This device must be used in compliance with the characteristics and commissioning and use conditions specified in the contractual documents and in these Operating Instructions.
- Never use this device for security applications.
- This device must be protected against electromagnetic interference, ultraviolet rays and, when installed outdoors, the effects of climatic conditions.
- Only operate a device in perfect working order.
- Requirements for the safe and proper operation of the device are proper transport, storage and installation, as well as careful operation and maintenance.
- 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 devices.
- the local safety regulations for which the operating company is responsible including the staff in charge of installation and maintenance.

Risk of injury due to high pressure in the installation.

- Stop the circulation of fluid, cut off the pressure and drain the pipe before loosening the process connections.

Danger due to electrical voltage.

- If a 18...36 V DC powered version is installed either in a wet environment or outdoors, all the electrical voltages must be of max. 35 V DC.
- Disconnect the electrical power for all the conductors and isolate it before carrying out work on the system.
- Observe all applicable accident protection and safety regulations for electrical equipment.

Risk of injury due to high fluid temperatures.

- Use safety gloves to handle the device.
- Stop the circulation of fluid and drain the pipe before loosening the process connections.

Risk of injury due to the nature of the fluid.

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

Various dangerous situations

To avoid injury take care:

- not to use the device in explosive atmospheres.
- not to use the device in an environment incompatible with the materials it is made of.
- not to use fluid that is incompatible with the materials the device is made of.
- not to subject the device to mechanical loads.
- not to make any modifications to the device.
- to prevent any unintentional power supply switch-on.
- to carry out the installation and maintenance work by qualified and skilled staff with the appropriate tools.
- to guarantee a defined or controlled restarting of the process, after a power supply interruption.
- to observe the general technical rules when installing and using the device.

NOTICE

The device may be damaged by the fluid in contact with.

- Systematically check the chemical compatibility of the component materials of the device and the fluids likely to come into contact with it (for example: alcohols, strong or concentrated acids, aldehydes, alkaline compounds, esters, aliphatic compounds, ketones, halogenated aromatics or hydrocarbons, oxidants and chlorinated agents).

NOTICE

Elements / Components sensitive to electrostatic discharges

- This device contains electronic components sensitive to electrostatic discharges. They may be damaged if they are touched by an electrostatically charged person or object. In the worst case scenario, these components are instantly destroyed or go out of order as soon as they are activated.
- To minimise or even avoid all damage due to an electrostatic discharge, take all the precautions described in the EN 61340-5-1 norm.
- Also ensure that you do not touch any of the live electrical components.

4. GENERAL INFORMATION

4.1. Manufacturer's address and international contacts

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

Bürkert SAS

Rue du Giessen

BP 21

F-67220 TRIEMBACH-AU-VAL

You may also contact your local Bürkert sales office.

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

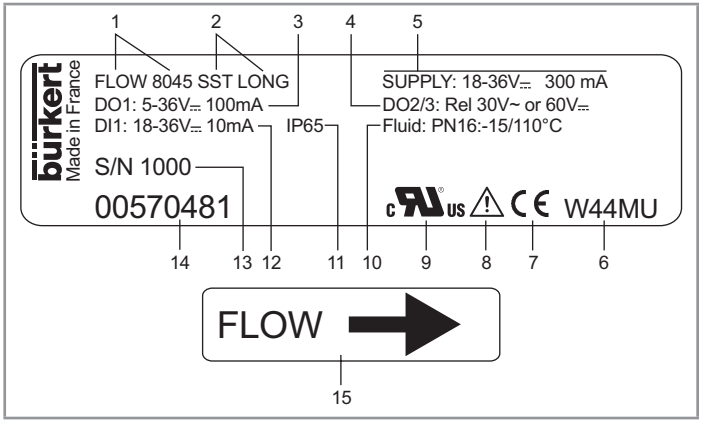
4.2. Warranty conditions

The condition governing the legal warranty is the conforming use of the 8045 in observance of the operating conditions specified in this Quickstart.

4.3. Information on the Internet

You can find the Operating Instructions and technical data sheets regarding the type 8045 at: www.burkert.com

5. DESCRIPTION OF THE RATING PLATE



1. Measured value and type of the device
2. Specification of the flow sensor
3. Specification of the DO1 digital output
4. Specifications of the relay outputs DO2 and DO3
5. Electrical power supply and current consumption
6. Manufacturing code
7. Conformity marking
8. Warning: before using the device, take into account the technical specifications described in the Operating Instructions.
9. Certification
10. Fluid temperature range and fluid nominal pressure
11. Protection class of the device
12. Specification of the DI1 digital input
13. Serial number
14. Order code
15. Shows the flow direction

Fig. 1 : Rating plate of the 8045 insertion electromagnetic flowmeter (example)

6. TECHNICAL DATA

6.1. Conditions of use

Ambient temperature	–10...+60 °C
Air humidity	< 85 %, non condensated
Height above see level	max. 2000 m
Operating conditions	Continuous
Equipment mobility	Fixed
Use	Indoor and outdoor (Protect the device against electromagnetic interference, ultraviolet rays and, when installed outdoors, against the effects of climatic conditions)
Installation category	Category I according to UL/ EN 61010-1
Degree of pollution	Degree 2 according to UL/ EN 61010-1
Protection class according to IEC / EN 60529	IP65 [1)], if the device is wired and if the cable glands are tightened and the cover lid is screwed tight.

[1)] not evaluated by UL

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).

6.3. Conformity to the Pressure Equipment Directive

→ Make sure the device materials are compatible with the fluid.

→ Make sure the pipe DN is adapted for the device.

The device conforms to Article 4, Paragraph 1 of the Pressure Equipment Directive 2014/68/EU under the following conditions:

- Device used on a pipe (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
Fluid group 1, Article 4, Paragraph 1.c.ii	DN ≤ 25 or PSxDN ≤ 2000
Fluid group 2, Article 4, Paragraph 1.c.ii	DN ≤ 200 or PS ≤ 10 or PSxDN ≤ 5000

6.4. UL certification

The 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 US	UL recognized	PU01
c UL US LISTED Measuring Equipment EXXXXXX	UL listed	PU02

6.5. Mechanical data

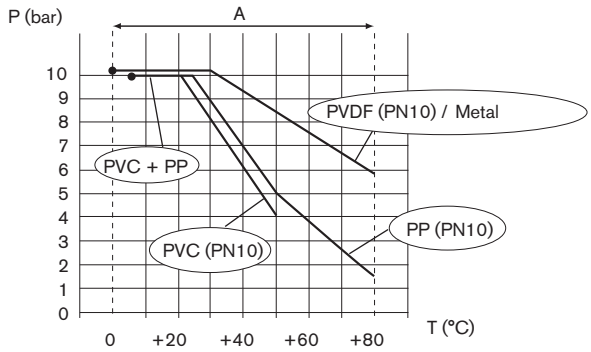
Part	Material (8045 with flow sensor in PVDF)	Material (8045 with flow sensor in stainless steel)
Housing / seal	PC / NBR	Black PPA / NBR
Cover with lid / seal	PC / silicone	PSU / silicone
Front foil	Polyester	
M20x1,5 cable glands / seal	PA / neoprene	

Part	Material (8045 with flow sensor in PVDF)	Material (8045 with flow sensor in stainless steel)
Screws	Stainless steel	
Nut	PC	PPA
Flow sensor (exposed to the fluid)	PVDF	Stainless steel 316L (DIN 1.4404)
Seal	FKM	8045 with a G2" nut: FKM
Earth ring of the flow sensor	Stainless steel 316L (DIN 1.4404) or Alloy C22	-
Electrodes holder	-	PEEK
Electrodes	Stainless steel 316L (DIN 1.4404) or Alloy C22	
Rating plate	Polyester	

6.6. Fluid data

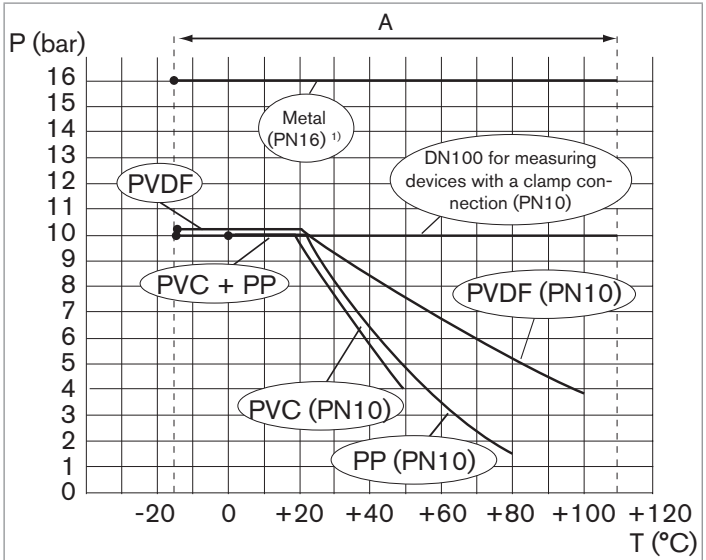
Min. fluid conductivity	20 µS/cm
Fluid temperature	The fluid temperature may be restricted by the fluid pressure, the material the flow sensor is made of and the material the S020 fitting used is made of.
▪ 8045 with flow sensor in PVDF	▪ 0...+80 °C
▪ 8045 with flow sensor in stainless steel	▪ −15...+110 °C
Fluid pressure	The fluid pressure may be restricted by the fluid temperature, the material the flow sensor is made of, the material the S020 fitting used is made of and the DN of the fitting used.
▪ 8045 with flow sensor in PVDF	▪ PN10 [1]
▪ 8045 with flow sensor in stainless steel	▪ PN16 [1]

[1] not evaluated by UL



A: range of use

Fig. 2 : Fluid pressure / fluid temperature dependency for a 8045 with PVDF flow sensor and a fitting S020 in metal, PVC, PVDF or PP



1) Except DN100 for measuring devices with a clamp connection

A: range of use

Fig. 3 : Fluid pressure / fluid temperature dependency for a 8045 with stainless steel flow sensor and a fitting S020 in metal, PVC, PVDF or PP

6.7. Electrical data

Operating voltage	▪ 18...36 V DC, ▪ filtered and regulated ▪ oscillation rate: ±5 % ▪ Connection to main supply: permanent (through external SELV and through LPS power supply)
Specifications of the power source (not supplied) **of the UL devices**	▪ 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	300 mA max. (at 18 V DC)
Transistor output DO1	
▪ type	▪ NPN / PNP (wiring dependent), open collector
▪ function	▪ pulse output (by default), user configurable
▪ frequency	▪ 0...250 Hz
▪ Electrical data	▪ 5...36 V DC, 100 mA max.
▪ duty cycle if f > 2 Hz	▪ 0,5
▪ min. pulse duration if f < 2 Hz	▪ 250 ms
▪ protections	▪ galvanically isolated, and protected against overvoltages, polarity reversals and short-circuits

Relay outputs (DO2 and DO3)	To use the relay outputs in a wet location, observe the following safety instruction.
▪ operating	▪ hysteresis (by default), configurable, normally open
▪ electrical data of the load (non UL recognized devices)	▪ 250 V AC / 3 A or 40 V DC / 3 A (resistive load)
▪ electrical data of the load (UL recognized devices)	▪ max. 30 V AC and 42 V peak / 3 A or max. 60 V DC / 1 A
▪ max. breaking capacity	▪ 750 VA (resistive load)
▪ life span	▪ min. 100000 cycles
Current output AO1	
▪ specification	▪ 4...20 mA, sink or source (wiring dependent), 22 mA to indicate a fault
▪ max. loop impedance	▪ 1300 Ω at 36 V DC, 1000 Ω at 30 V DC, 700 Ω at 24 V DC, 450 Ω at 18 V DC
Digital input (DI1)	
▪ supply voltage	▪ 18...36 V DC
▪ input impedance	▪ 15 kΩ
▪ min. pulse duration	▪ 200 ms
▪ protections	▪ galvanically isolated, and protected against polarity reversals and voltage spikes

DANGER

Danger due to the operation of the relay outputs of a UL device in a wet location.

- If a UL device is used in a wet location:
  - energize the relay outputs with an alternating voltage of max. 16 Vrms and 22.6 Vpeak.
  - or energize the relay outputs with a direct voltage of max. 35 V DC.

6.8. Electrical connection

Type of connection	Through two M20x1,5 cable glands
Cable specifications	
▪ cable type	▪ shielded
▪ Cross section	▪ 0,5...1,5 mm²
▪ Diameter of each cable:	
- if only one cable is used per cable gland	- 6...12 mm
- if two cables are used per cable gland	- 4 mm, with the supplied multi-way seal

7. INSTALLATION AND WIRING

7.1. Safety instructions

DANGER

Risk of injury due to high pressure in the installation.

Risk of injury due to electrical voltage.

Risk of injury due to high fluid temperatures.

Risk of injury due to the nature of the fluid.

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 standard NF C 15-100 / IEC 60364.
- Observe mounting instructions of the fitting or sensor-fitting.

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

- Take appropriate measures to avoid unintentional activation of the installation.
- Guarantee a set or controlled restarting of the process subsequent to any intervention on the device.

Protect this device against electromagnetic interference, ultraviolet rays and, when installed outdoors, the effects of the climatic conditions.

7.2. Recommandations for installing the 8045 on the pipe

→ Choose an S020 fitting appropriate to the velocity of the fluid inside the pipe.

→ Install the device on the pipe in such a way that the upstream and downstream distances are respected according to the design of the pipes, refer to standard EN ISO 5167-1 and Fig. 4:

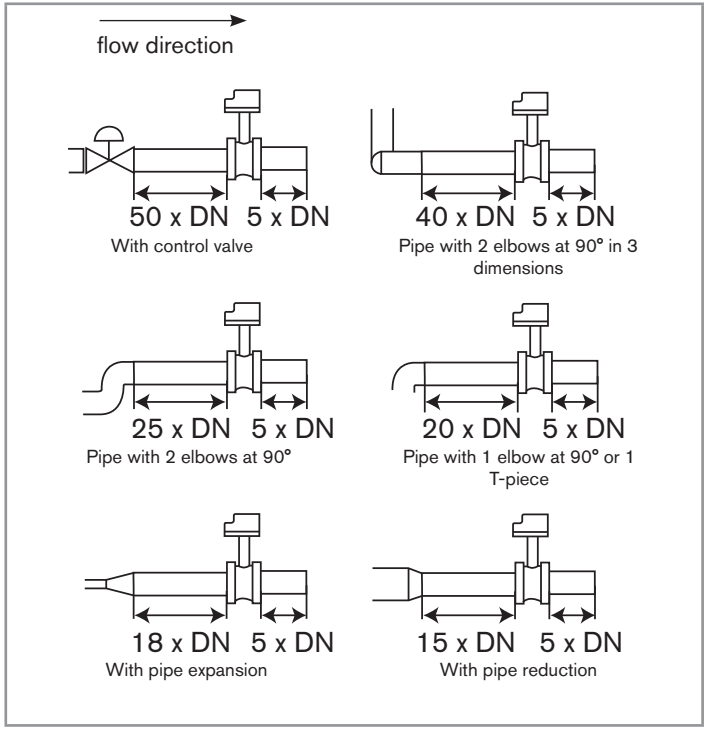


Fig. 4 : Upstream and downstream distances depending on the design of the pipes.

→ Respect the following additional mounting conditions to ensure that the measuring device operates correctly:

- Preferably install the device at a 45° angle to the horizontal centre of the pipe to avoid having deposits on the electrodes and false measurements due to air bubbles (see Fig. 5).

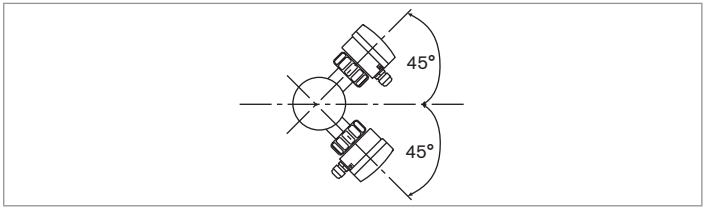


Fig. 5 : Mounting angle on the pipe

- Ensure that the pipe is always filled in the section around the device (see Fig. 6).
- When mounting vertically ensure that the flow direction is in an upward direction (see Fig. 6).

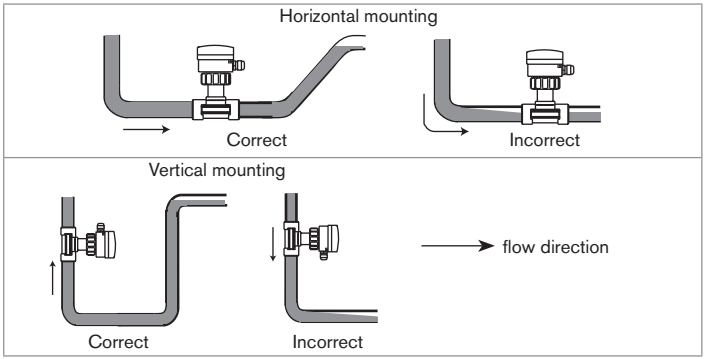


Fig. 6 : Filling of the pipe

- Prevent the formation of air bubbles in the pipe in the section around the device (see Fig. 7).
- Always mount the device upstream a possible injection point in the pipe of a high-conductivity fluid (for example: acid, base, saline,...).

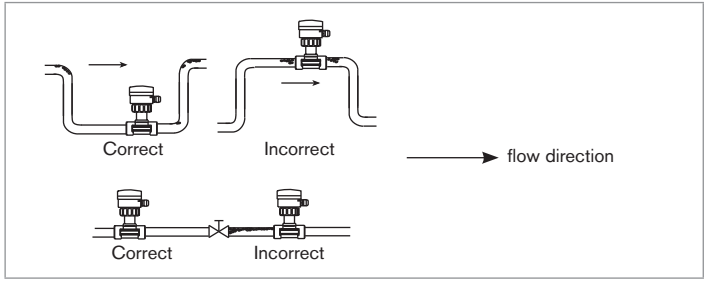


Fig. 7 : Air bubbles within the pipe

→ If necessary, use a flow conditioner to improve measurement precision.

7.3. Installation into the pipe of a 8045 with a G2" nut

In order to ensure a high accuracy of the measurements and good stability of the „flow zero“ point, install the device into the processed medium at least 24 hours before calibration.

→ Install the S020 fitting into the pipe taking into account the recommendations in chap. 7.2.

→ Check that there is a seal on the fitting and that it is not damaged. Replace the seal if necessary.

→ Check that there is a seal (see mark 6, Fig. 8) on the flow sensor.

→ Insert the nut (see mark 3, Fig. 8) on the fitting.

→ Insert the snap ring (mark 2 Fig. 8) into the groove (mark 5 Fig. 8).

→ Position the arrow on the side of the device in the direction of the flow: the totalizers will increment.

→ Insert the device (mark 1 Fig. 8) into the fitting.

→ Tighten the nut (mark 3, Fig. 8) by hand on the device.

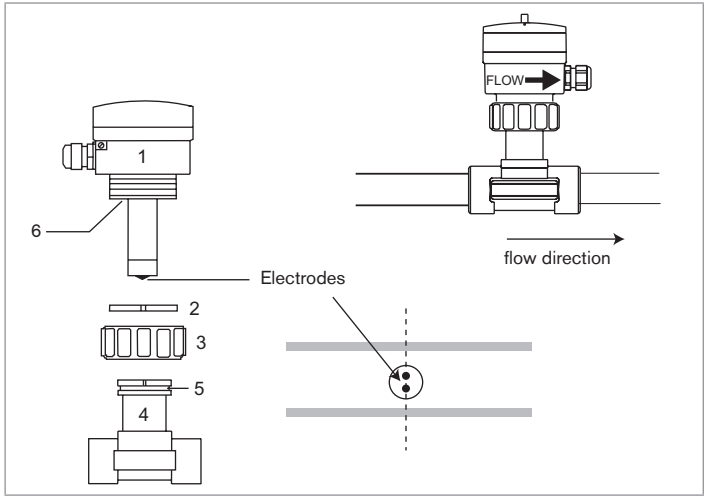


Fig. 8 : Installation into the pipe of a 8045 with a G2" nut

7.4. Installation into the pipe of a 8045 with a clamp connection

In order to ensure a high accuracy of the measurements and good stability of the „flow zero“ point, install the device into the processed medium at least 24 hours before calibration.

→ Install the S020 fitting into the pipe taking into account the recommendations in chap. 7.2.

→ Install the seal (mark 3 Fig. 9) on the S020 fitting.

→ Make sure that the polarizing pin (mark 4 Fig. 9) is on the fitting.
→ Insert the device (mark 1 Fig. 9) into the fitting. Position the arrow on the side of the device in the direction of the flow: the totalizers will increment.
→ Tighten by hand the clamp collar (mark 2 Fig. 9).
→ Charge the pipe to make sure the installation is tight.

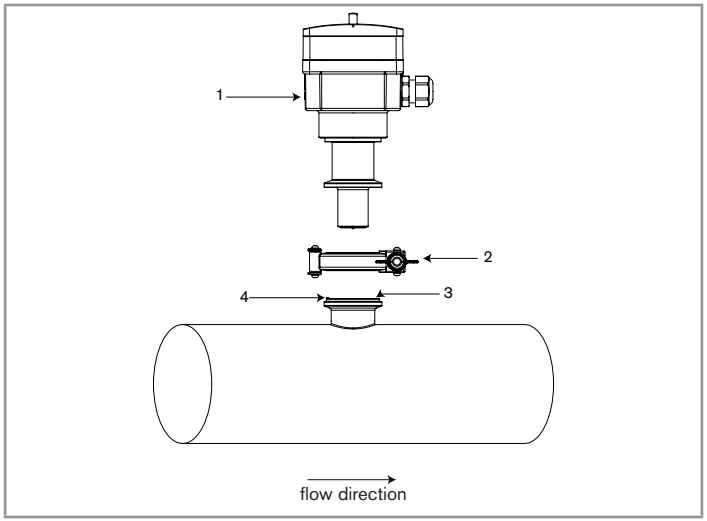


Fig. 9 : Installation into the pipe of a 8045 with a clamp connection

7.5. Wiring

DANGER

Risk of injury due to electrical voltage.

- If a 18...36 V DC powered version is installed either in a wet environment or outdoors, all the electrical voltages must be of max. 35 V DC.
- Disconnect the electrical power for all the conductors and isolate it before carrying out work on the system.
- Observe all applicable accident protection and safety regulations for electrical equipment.

DANGER

Danger due to the operation of the relay outputs of a UL device in a wet location.

- If a UL device is used in a wet location:
  - energize the relay outputs with an alternating voltage of max. 16 Vrms and 22.6 Vpeak.
  - or energize the relay outputs with a direct voltage of max. 35 V DC.

- Use a high quality electrical power supply (filtered and regulated).
- Make sure the installation is equipotential. See chap. 7.5.1.
- Use shielded cables with a temperature limit of 80 °C minimum.
- Do not install the cables near high voltage or high frequency cables; If this cannot be avoided, observe a min. distance of 30 cm.
- Protect the power supply by means of a 300 mA fuse and a switch.
- Protect the relays by means of a max. 3 A fuse and a circuit breaker (depending on the process).
- Do not apply both a dangerous voltage and a safety extra-low voltage to the relays.

Insert the supplied stopper gasket into the unused cable gland to ensure the tightness of the device.

If two cables are used in the same cable gland, first insert the supplied multi-way seal.

To wire the device:

→ Loosen the screw from the lid.

→ Flip the lid.

→ Loosen the 4 screws from the cover of the housing.

→ Remove the cover.

→ Loosen the nuts of the cable glands.

→ Insert the cable through the nut then through the cable gland.

→ Make sure the earth cable coming from the housing and, on a version with stainless steel sensor, the cable coming from the flow sensor, are connected as shown in Fig. 15, chap. 7.5.2.

→ Wire acc. to chap. 7.5.1 to 7.5.3.

7.5.1. Equipotentiality of the installation

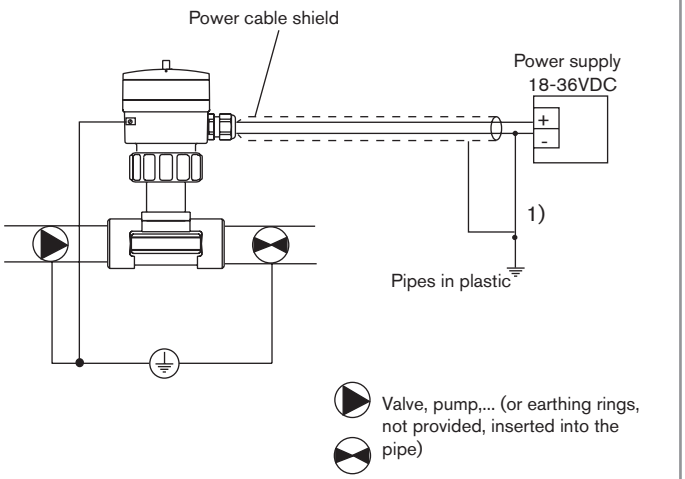
To ensure the equipotentiality of the installation (power supply - device - fluid):

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

→ Observe faultless earthing of the shield of the power supply cable, at both ends.

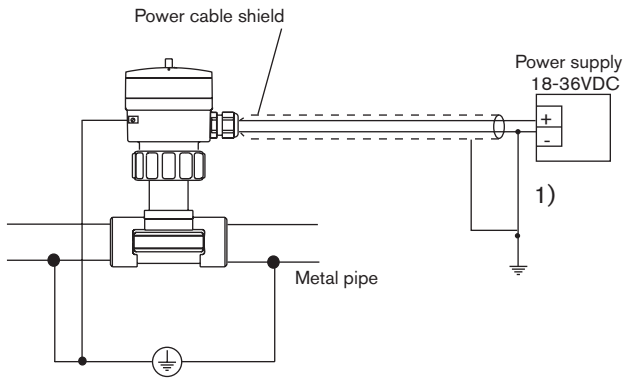
→ Connect the negative power supply terminal to the earth to suppress the effects of common mode currents. If this connection cannot be made directly, a 100 nF / 50 V capacitor can be fitted between the negative power supply terminal and the earth.

→ 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 instruments such as pumps or valves, that are as close as possible to the device. If no such instrument is near the device, insert metallic earth rings inside the plastic pipes upstream and downstream the device and connect these parts to the same earth. The earth rings must be in contact with the fluid.



[1] If a direct earth connection is not possible, fit a 100 nF / 50 V capacitor between the negative power supply terminal and the earth.

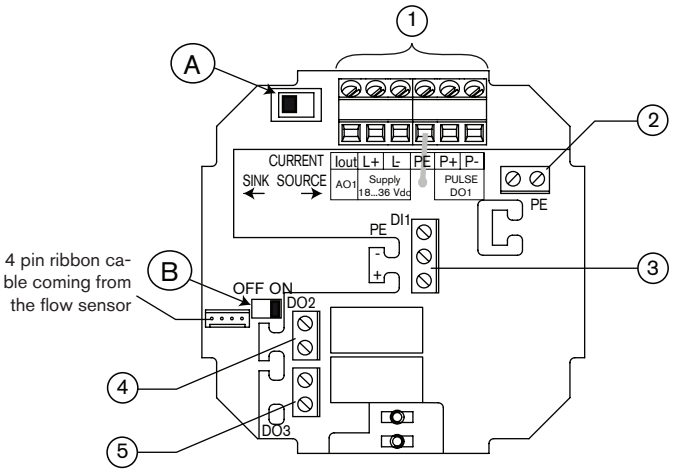
Fig. 10 : Equipotentiality skeleton diagram with pipes in plastic



[1] If a direct earth connection is not possible, fit a 100 nF / 50 V capacitor between the negative power supply terminal and the earth.

Fig. 11 : Equipotentiality skeleton diagram with pipes in metal

7.5.2. Terminal assignment and use of the selectors



Selector Ⓐ: see Fig. 13
Selector Ⓑ: see Fig. 14

Terminal block 1
Iout: 4...20 mA output (AO1)
L+: V+ (positive voltage)
L–: 0 V (power supply ground)
PE: functional earth, wired in the factory (see Fig. 15)
P+: positive transistor output (DO1)
P–: negative transistor output (DO1)

Terminal block 2
PE: shieldings of both the power supply cable and the AO1 and DO1 output cables

Terminal block 3
PE: functional earth of the DI1 digital input
–: negative signal of the DI1 input
+: positive signal of the DI1 input

Terminal block 4: wiring the DO2 relay output
Terminal block 5: wiring the DO3 relay output

Fig. 12 : Terminal assignment

Use switch Ⓐ to configure the wiring of the 4...20 mA current output in sinking or sourcing mode.

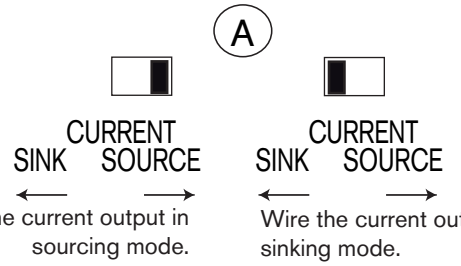


Fig. 13 : Sink/source switch

Use the switch Ⓑ to lock/unlock the ENTER key to prevent unauthorized access to the configuration of the device.

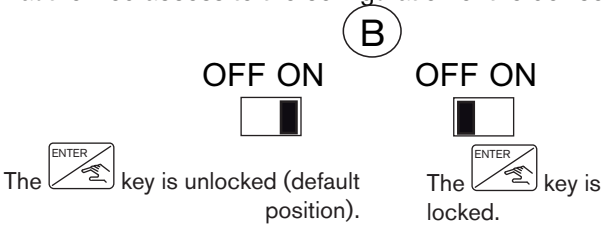


Fig. 14 : Switch to lock/unlock the ENTER key

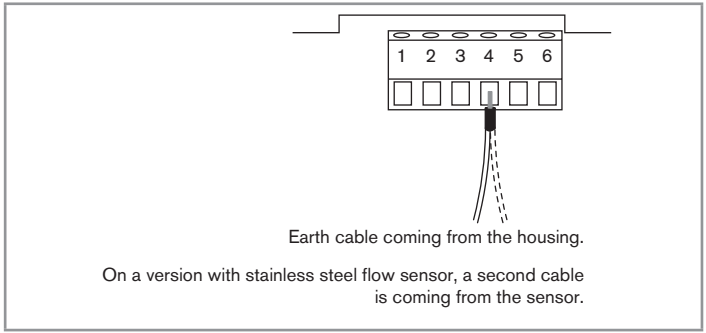


Fig. 15 : Connection of the earth wire coming from the housing (made in the factory)

7.5.3. Wiring the DO2 and DO3 relay outputs

DANGER

Danger due to the operation of the relay outputs of a UL device in a wet location.

- If a UL device is used in a wet location:
  - energize the relay outputs with an alternating voltage of max. 16 Vrms and 22.6 Vpeak.
  - or energize the relay outputs with a direct voltage of max. 35 V DC.

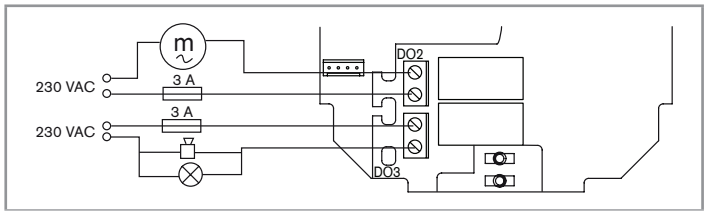


Fig. 16 : Wiring of the DO2 and DO3 relay outputs

7.5.4. Wiring the AO1 current output

For safety reasons, secure the cables using a non-conducting cable clamp.

The 4...20 mA output can be wired in either sourcing or sinking mode.

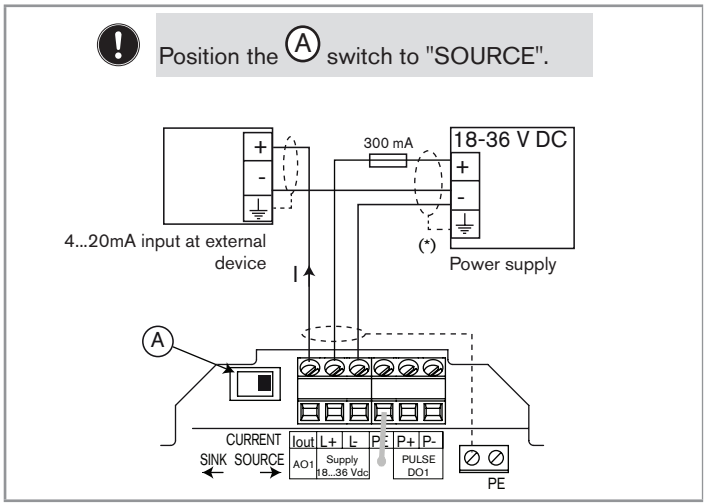


Fig. 17 : Wiring of the 4...20 mA output (AO1) in sourcing mode

*) If a direct earth connection is not possible, fit a 100 nF / 50 V capacitor between the negative power supply terminal and the earth

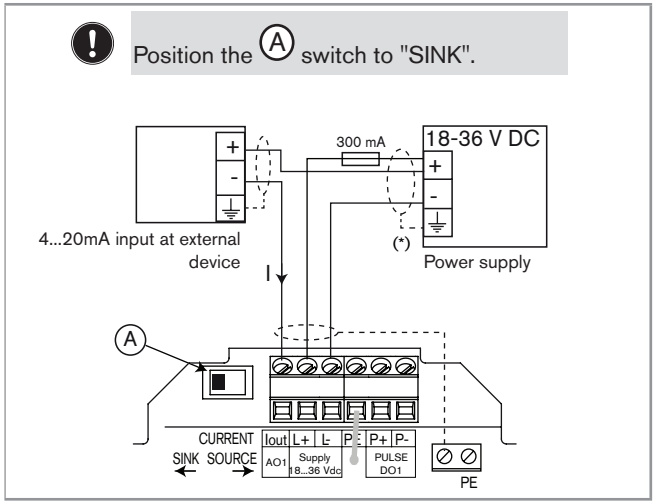


Fig. 18 : Wiring of the 4...20 mA output (AO1) in sinking mode

*) If a direct earth connection is not possible, fit a 100 nF / 50 V capacitor between the negative power supply terminal and the earth

7.5.5. Wiring the DO1 transistor output

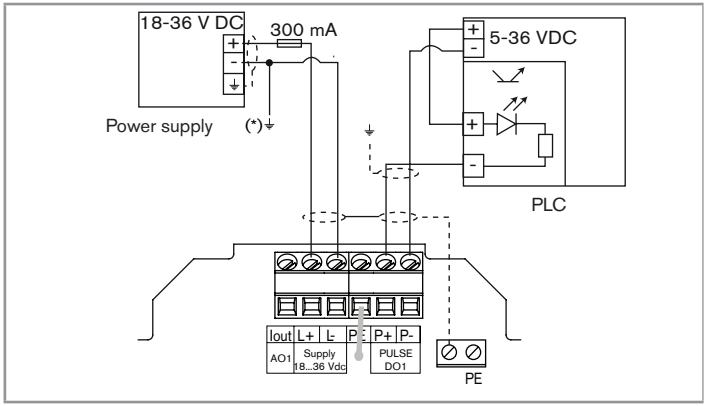


Fig. 19 : NPN wiring of the DO1 transistor output

*) If a direct earth connection is not possible, fit a 100 nF / 50 V capacitor between the negative power supply terminal and the earth

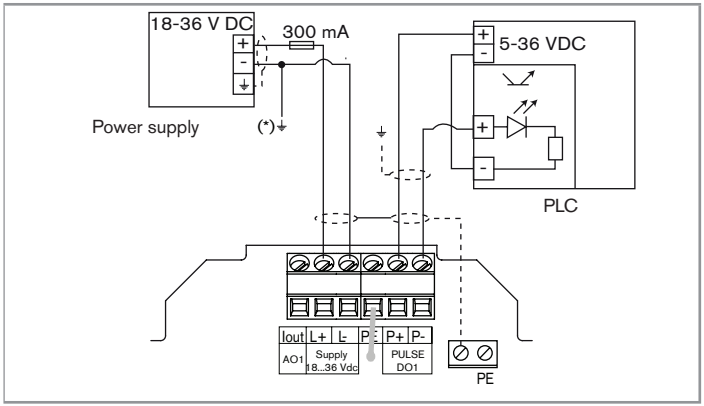
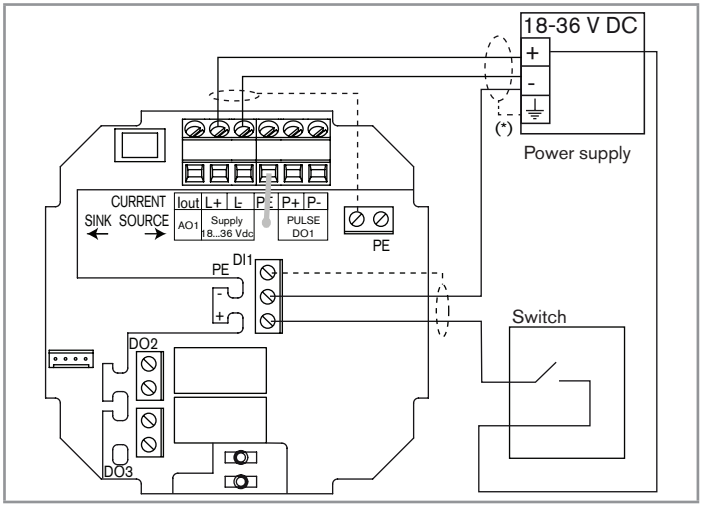


Fig. 20 : PNP wiring of the DO1 transistor output

*) If a direct earth connection is not possible, fit a 100 nF / 50 V capacitor between the negative power supply terminal and the earth

7.5.6. Wiring the DI1 digital input



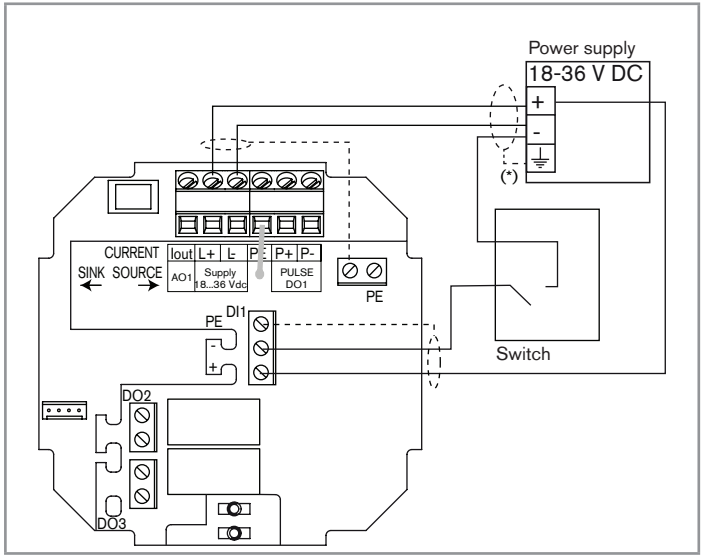


Fig. 21 : Possible wirings of the DI1 digital input

*) If a direct earth connection is not possible, fit a 100 nF / 50 V capacitor between the negative power supply terminal and the earth

8. ADJUSTMENT, COMMISSIONING

8.1. Safety instructions

WARNING

Risk of injury due to non-conforming operating.

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

- The operators in charge of operating must have read and understood the contents of this quickstart.
- In particular, observe the safety recommendations and intended use.
- The device/installation must only be operated 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.

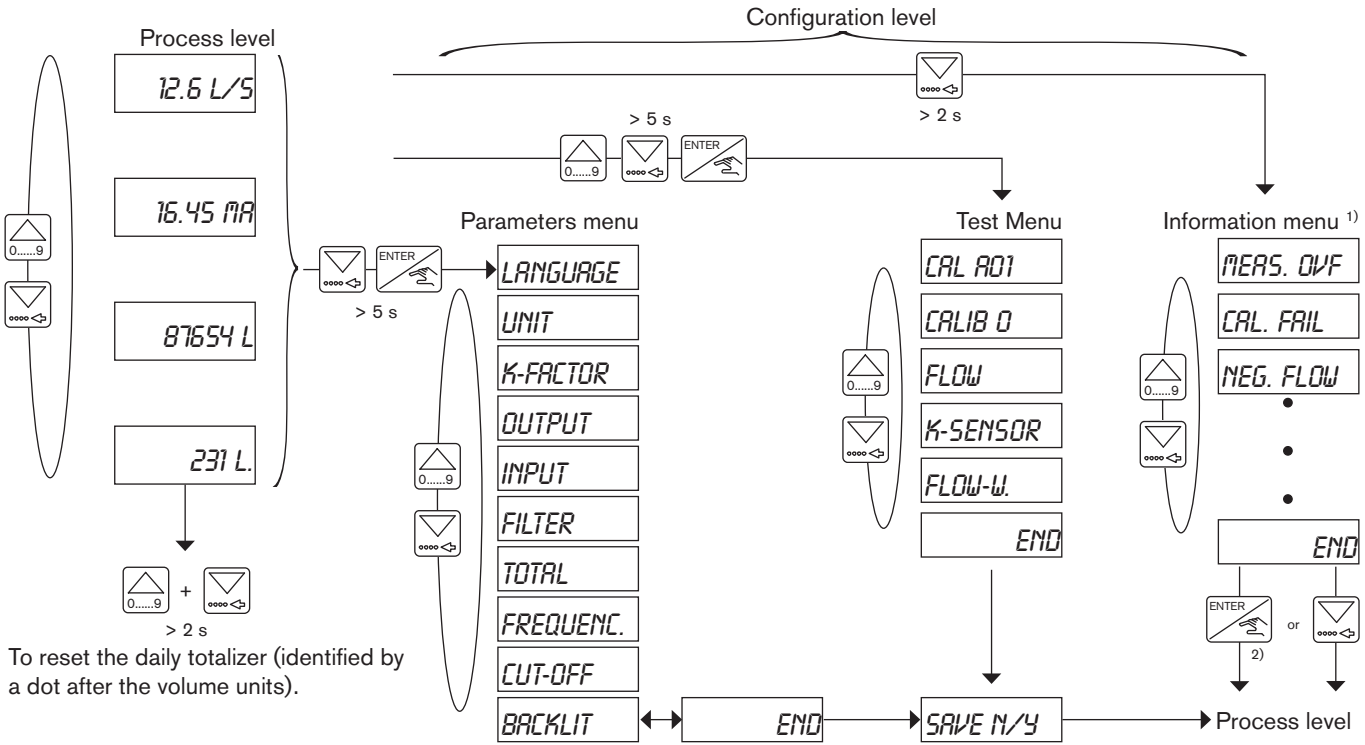
- Before commissioning, make sure that the staff in charge have read and fully understood the contents of the quickstart.
- In particular, observe the safety recommendations and intended use.
- The device / the installation must only be commissioned by suitably trained staff.
- Before commissioning the device, enter the K-factor of the fitting used. See chap. 8.6.

8.2. Operating levels of the device

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

Table 1 : Default settings of the device

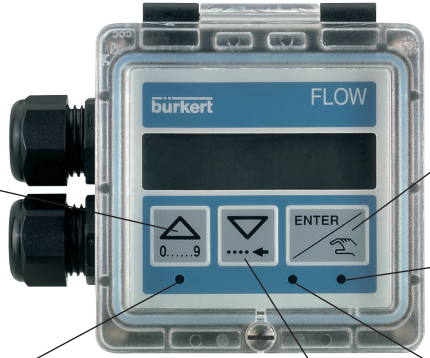
Function	Default value	Function	Default value
LANGUAGE	English	OUTPUT DO3	Hysteresis
UNIT of the flow rate	l/min.		3–= 0.000
UNIT of the totalizers	litre		3+= 0.000
K-FACTOR	1.000		Not inverted
OUTPUT AO1	4 mA= 0.000		time delay = 0
	20 mA= 0.000	INPUT DI1	disable
OUTPUT DO1	pulse	FILTER	5, slow
	PU= 0.00 litre	FREQUENC.	50 Hz
OUTPUT DO2	Hysteresis	CUT-OFF	0.000
	2–= 0.000	BACKLIT	level 9, activated for 30 s
	2+= 0.000	K-SENSOR	Kw= 1.000
	Not inverted	FLOW-W.	W–= 0.000
	time delay = 0		W+= 0.000



1) Accessible when the device status LED is orange or red.

2) If the ENTER key is unlocked.

8.3. Description of the navigation keys and the state LEDs



- Scrolling up the parameters
- Incrementing the figure selected

Device state LED: see following table.

- Selecting the displayed parameter
- Confirming the settings

Status LED of relay DO3 (LED ON = contact closed)

Status LED of relay DO2 (LED ON = contact closed)

- Reading the messages
- Scrolling through the parameters
- Selecting the figure on the left

8.4. Using the navigation keys

You want to...	Press...
move between parameters within a level or a menu.	▪  to go to the next parameter. ▪  to go to the previous parameter.
access the Parameters menu.	 +  simultaneously for 5 s, in the Process level
access the Test menu.	 +  +  simultaneously for 5 s, in the Process level
access the Information menu.	 for 2 s, in the Process level, when the device status LED is orange or red.
reset the daily totalizer.	 +  simultaneously for 2 s, when the daily totalizer is displayed in the Process level
select the displayed parameter.	
confirm the displayed value.	
modify a numerical value.	▪  to increase the blinking digit. ▪  to select the digit at the left of the blinking digit. ▪  +  to move the decimal point.

8.5. Choosing the display language

When the device is energized for the first time, the display language is English.

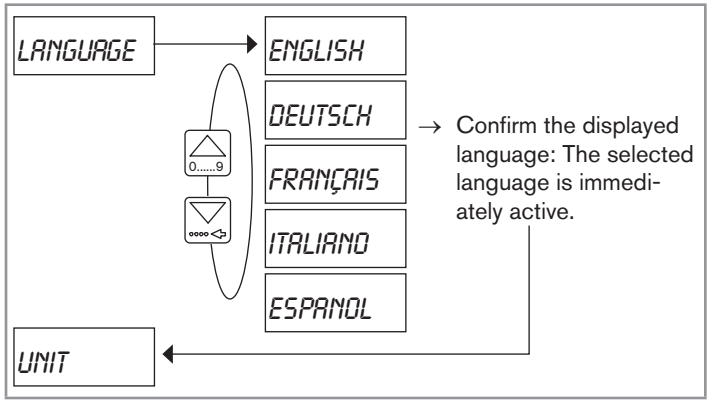


Fig. 22 : Diagram of the "LANGUAGE" parameter of the Parameters menu

→ If you do not want to adjust another parameter, go to the "END" parameter of the Parameters menu and press ENTER to save the settings or not and go back to the Process level.

8.6. Entering the K-factor of the fitting used

The device determines the flow rate in the pipe using the fitting K-factor.

The K-factor of the fitting used can be entered here.

The device will use the new K-factor as soon as "SAVE YES" is confirmed when leaving the Parameters menu.

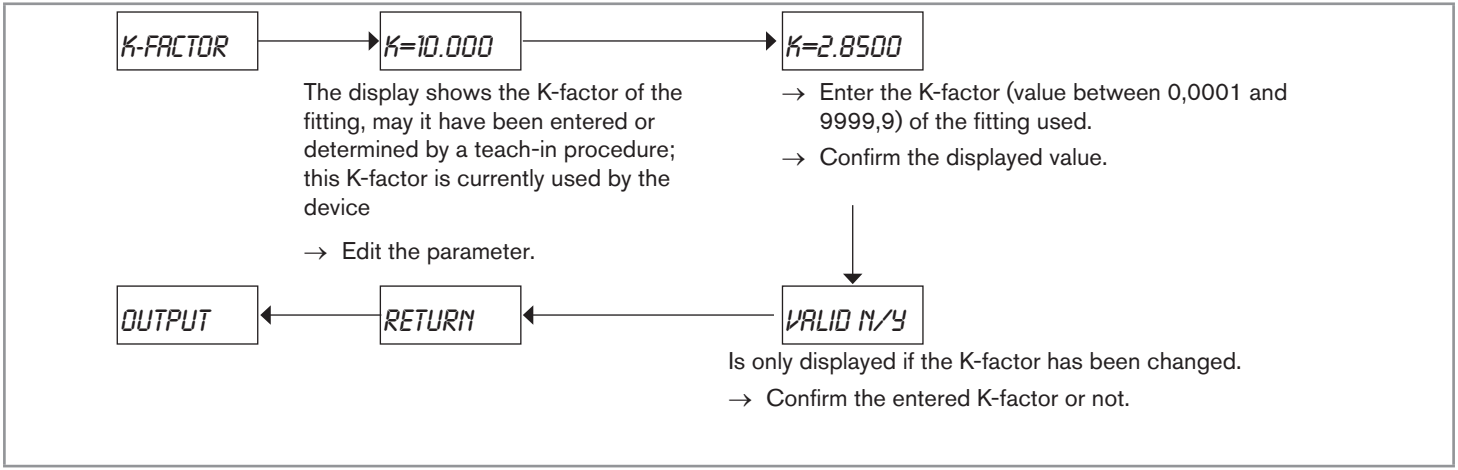


Fig. 23 : Entering the K-factor of the fitting used

→ If you do not want to adjust another parameter, go to the "END" parameter of the Parameters menu and press ENTER to save the settings or not and go back to the Process level.

9. MAINTENANCE AND TROUBLESHOOTING

9.1. Safety instructions

DANGER

Risk of injury due to high pressure in the installation.

Risk of injury due to electrical voltage.

Risk of injury due to high fluid temperatures.

Risk of injury due to the nature of the fluid.

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 a problem occurs, refer to the complete Operating Instructions available on the internet at www.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.
- Storage temperature of the device: −20...+60 °C.

12. DISPOSAL OF THE DEVICE

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

NOTICE

Damage to the environment caused by parts contaminated by the fluid.

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

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FLUID CONTROL SYSTEMS

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