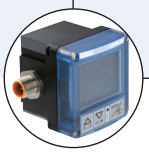
bürkert
FLUID CONTROL SYSTEMS

Insertion flowmeter with paddle wheel and flow transmitter

- Up to PN10, size of measurement pipes: DN06 to DN400
- Display for indication of flow rate and volume with two flow totalizers
- Automatic calibration using Teach-In
- All outputs can be checked without the need of actual flow

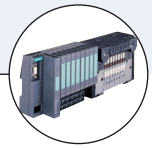
Type 8025 can be combined with…



Type 8611
Universal controller
eControl

Type 8619
multiCELL
transmitter/controller

Type 8802
ELEMENT
control valve system



Type 8644
Process actuation
control system
AirLINE

The 8025 flowmeter is specially designed for use in neutral, slightly aggressive, solid-free liquids.

Type 8025 flowmeter is offered in different models:

- **The compact flowmeter**
  with paddle wheel sensor is available in two versions: standard output signal or battery powered indicator/totalizer version without output (page 2…7).
- **The remote transmitter**
  is available in two versions:
  – **Universal transmitter** for panel or wall-mounted versions, which can be connected to any sensors already on the market; sensors with open collector output,reed relay output, TTL, CMOS or coil can be operated by this transmitter (page 8…12).
  – **Transmitter**, for panel or wall-mounted versions: standard input signal for connection to the Bürkert 8020/8030/ SE30+S077 flowmeter “Low Power” version (page 13…16).

General technical data (common to the various versions)	
Display	15 × 60 mm, 8-digit LCD, alphanumeric,15 segments, 9 mm high
Connection cable	Cable with maximum operating temperature greater than 80 °C (90 °C for UL-Recognized version) max. 50 m, shielded, 0.2…1.5 mm² wires cross-section
Environment	
Relative humidity	≤ 80 %, without condensation
High above sea level	Max. 2000 m
Standards, directives and certifications	
Standards and directives CE	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)
Certification UL-Recognized for US and Canada c UL us	UL 61010-1 + CAN/CSA-C22.2 No. 61010-1

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The compact flowmeter

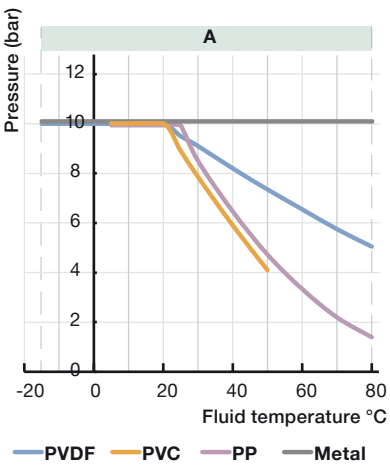
The compact flowmeter is available in two versions:

– standard signal (4...20 mA, frequency)
– indicator/totalizer with battery

The flowmeter combines a paddle wheel flow sensor and an electronic module with a display in an IP65 enclosure.
The electrical connection is provided via a cable plug or two cable glands (standard signal version).

Bürkert designed fitting S020 ensures simple installation of the Bürkert flowmeter into pipes from DN20…DN400.

Pressure/temperature chart



A: Application range for complete device (fitting + flowmeter)

[1] with battery version = 100 °C *(212 °F)*
[2] = "measurement bias" as defined in the standard JCGM 200:2012
[3] Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20 °C *(68 °F)*, while maintaining the minimum inlet and outlet distances and the appropriate internal diameter of the pipes.
* F.S. = Full scale (10 m/s)

General data	
Compatibility	With Bürkert Insertion fitting S020 (see corresponding datasheet)
Materials	
Housing, cover, lid, nut	PC
Front panel foil / Screws	Polyester / Stainless steel
Cable plug or glands	PA
Wetted parts	
Sensor holder, paddle wheel	PVDF
Seal	FKM standard (EPDM included, but not mounted)
Axis and bearings	Ceramics (Al_2O_3)
Electrical connections	
Standard signal version	Cable plug or cable glands M20 × 1.5
Battery indicator/totalizer version	None
Connection cable	
External diameter (cable)	5…8 mm (with cable plug), 6…12 mm or 3…5 mm when using a multiway seal (with cable glands)
Cross-section (local earthing wire)	0.75 mm^2
Complete device data (fitting + flowmeter)	
Pipe diameter	DN20…DN400
Measuring range	0.3…10 m/s
Fluid temperature with fitting in	
PVC/ PP	0…+50 °C *(+32...+122 °F)* / 0…+80 °C *(+32...+176 °F)*
PVDF, brass or stainless steel	-15…+80 °C[1] *(+5...+176 °F)*
Fluid pressure max.	PN10 *(145 PSI)* - see pressure/temperature chart
Viscosity / Particles rate	300 cSt max. / 1 % max. (size: 0.5 mm max.)
Measurement deviation[2]	
Teach-In	±1 % of the measured value (at Teach-In flow rate value)[3]
Standard K-factor	±2.5 % of the measured value[3]
Linearity	±0.5 % of F.S.*[3]
Repeatability	±0.4 % of the measured value[3]
Electrical data	
Power supply (V+)	
Standard signal version	12…36 V DC ±10 %, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Battery indicator/totalizer version	4 x 1.5 V DC non-rechargeable alkaline AA batteries, lifetime 4 years at 20 °C *(68 °F)*
Characteristics of the power source (not provided) of UL-Recognized devices	Limited power source (according to § 9.4 of the UL 61010-1 standard) or, Class 2 type power source (according to the 1310/1585 and 60950-1 standards)
Reversed polarity of DC	protected
Current consumption with sensor	Without pulse output consumption
Version 12…36 V DC	≤70 mA (with relays) ≤25 mA (without relays)
Output	
Standard signal version	
Pulse (potential free transistor)	Polarized, NPN or PNP (wiring dependant); function: pulse output, adjustable pulse value, 2.5…400 Hz; 5…36 V DC; 100 mA, line drop at 100 mA: 2.5 V DC; duty cycle: 0.5 Galvanic insulation and protected against overvoltage, polarity reversals and short circuit
Relay	2 relays, hysteresis, adjustable thresholds, normally open, 230 V AC/3 A or 40 V DC/3 A (resistive load)
Current	4…20 mA (3-wire with relays; 2-wire without relay), sourcing or sinking (wiring dependant), max. loop impedance: 900 Ω at 30 V DC, 600 Ω at 24 V DC, 50 Ω at 12 V DC, 800 Ω with a 115/230 V AC voltage supply
Response time (10 %...90 %)	6 s (default)
Battery indicator/totalizer version	None
4...20 mA output uncertainty	±1 % of range

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Technical specifications 115/230 V AC	
Voltage supply available inside the device	27 V DC regulated, max. current: 125 mA integrated protection: fuse 125 mA temporised power: 3 VA
Environment	
Ambient temperature (operation and storage)	-10…+60 °C *(+14…+140 °F)* (12…36 V DC version) -10…+50 °C *(+14…+122 °F)* (115/230 V AC version) -10…+55 °C *(+14…+131 °F)* (batteries version)
Standards, directives and certifications	
Protection class (according to EN 60529)	IP65 with device wired, cover and lid screwed tight and cable plug or glands mounted and tightened or with blind plug if not used
Standards and directives CE Pressure	Complying with article 4, §1 of 2014/68/EU directive*
Specific technical data of UL-Recognized products for US and Canada	
Relay output	30 V AC and 42 V peak max./3 A or 60 V DC max./1 A
Ambient temperature	0…+40 °C *(32…+104 °F)*
Relative humidity	max. 80 %, without condensation
Intended for an inner pollution	Pollution degree 2 according to EN 61010-1
Installation category	Category I according to UL 61010-1 – indoor use

*** For the 2014/68/EU pressure directive, the device can only be used under the following conditions (depends on max. pressure, pipe diameter and fluid).**

Type of Fluid	Conditions
Fluid group 1, article 4, §1.c.i	DN ≤ 25
Fluid group 2, article 4, §1.c.i	DN ≤ 32 or PN*DN ≤ 1000
Fluid group 1, article 4, §1.c.ii	DN ≤ 25 or PN*DN ≤ 2000
Fluid group 2, article 4, §1.c.ii	DN ≤ 200 or PN ≤ 10 or PN*DN ≤ 5000

If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

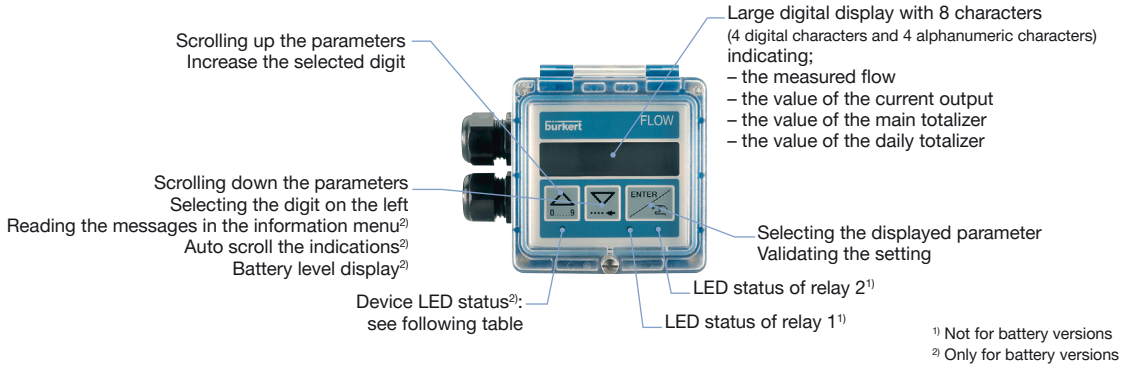
Operation and display

The device is calibrated by means of the K-factor (conversion coefficient) which is either entered or determined via the Teach-In function. User adjustments, such as measuring range, engineering units, pulse output and filtering level (damping) are carried out via the device operators interface.

The operation is specified according to two or three levels, depending on the flowmeter version:

	Indication in operating mode/display	Parameter definition	Test
Flowmeter	• flow rate • output current • main totalizer • daily totalizer with reset function	• language • engineering units • K-factor/Teach-In function • measuring range 4…20 mA • pulse output • relay (option) • filter (damping) • reset main totalizer	• alteration of basic adjustment (offset, span) • frequency test of sensor • flow simulation
Battery indicator/ totalizer	• flow rate • main totalizer • daily totalizer with reset function	• language • engineering units • K-factor/Teach-In function • filter (damping) • reset main totalizer	• frequency test of sensor • warning and fault messages generating

Description of the navigation keys and the LEDs status



Device status LED	Status of the device
Blinking orange	A warning message is generated in the information menu.
Blinking red	A fault message is generated

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Principle of operation

When liquid flows through the pipe, the paddle wheel with 4 inserted magnets is set in rotation, producing a measuring signal in the sensor (coil for battery indicator/totalizer version or Hall for other versions). The frequency modulated induced voltage is proportional to the flow velocity of the fluid.

A conversion coefficient (K-factor, available in the instruction manual of the S020 fitting), specific to each pipe (size and material) enables the conversion of this frequency into flow rate.

The electronic component converts the measured signal into several outputs (according to the flowmeter version) and displays the actual value. Totalizers are used to obtain the volume of fluid passed through the pipe.

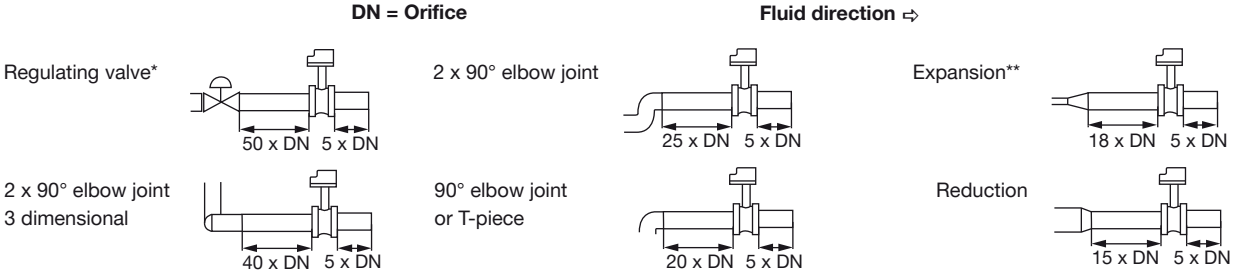
Installation

The 8025 flowmeter can easily be installed into any Bürkert Insertion fitting system (S020), by just fixing the main nut.

Minimum straight upstream and downstream distances must be observed. According to the pipe's design, necessary distances can be bigger or use a flow conditioner to obtain the best accuracy.
Fore more information, please refer to EN ISO 5167-1.

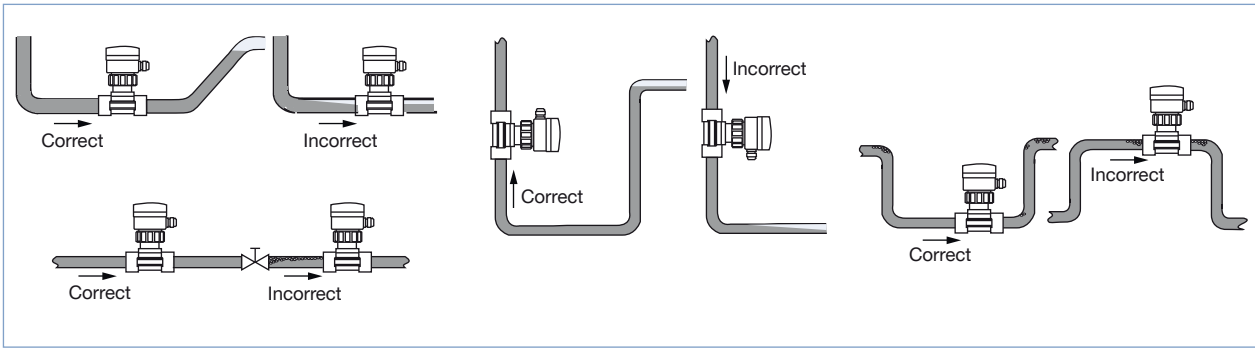
EN ISO 5167-1 prescribes the straight inlet and outlet distances that must be complied with when installing fittings in pipe lines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated prescribed minimum inlet and outlet distances.

These ensure calm, problem-free measurement conditions at the measurement point.



* If the valve cannot be mounted after the measuring device, the minimal distances have to be respected.
** If an expansion cannot be avoided, the minimal distances have to be respected.

The device can be installed into either horizontal or vertical pipes.
Important criteria for this are; ensure that the measurement pipe is fully filled and that the measurement pipe is air bubble free.



Pressure and temperature ratings must be respected according to the selected fitting material.
The suitable pipe size is selected using the diagram Flow/Velocity/DN.
The flowmeter is not designed for gas and steam flow measurement.

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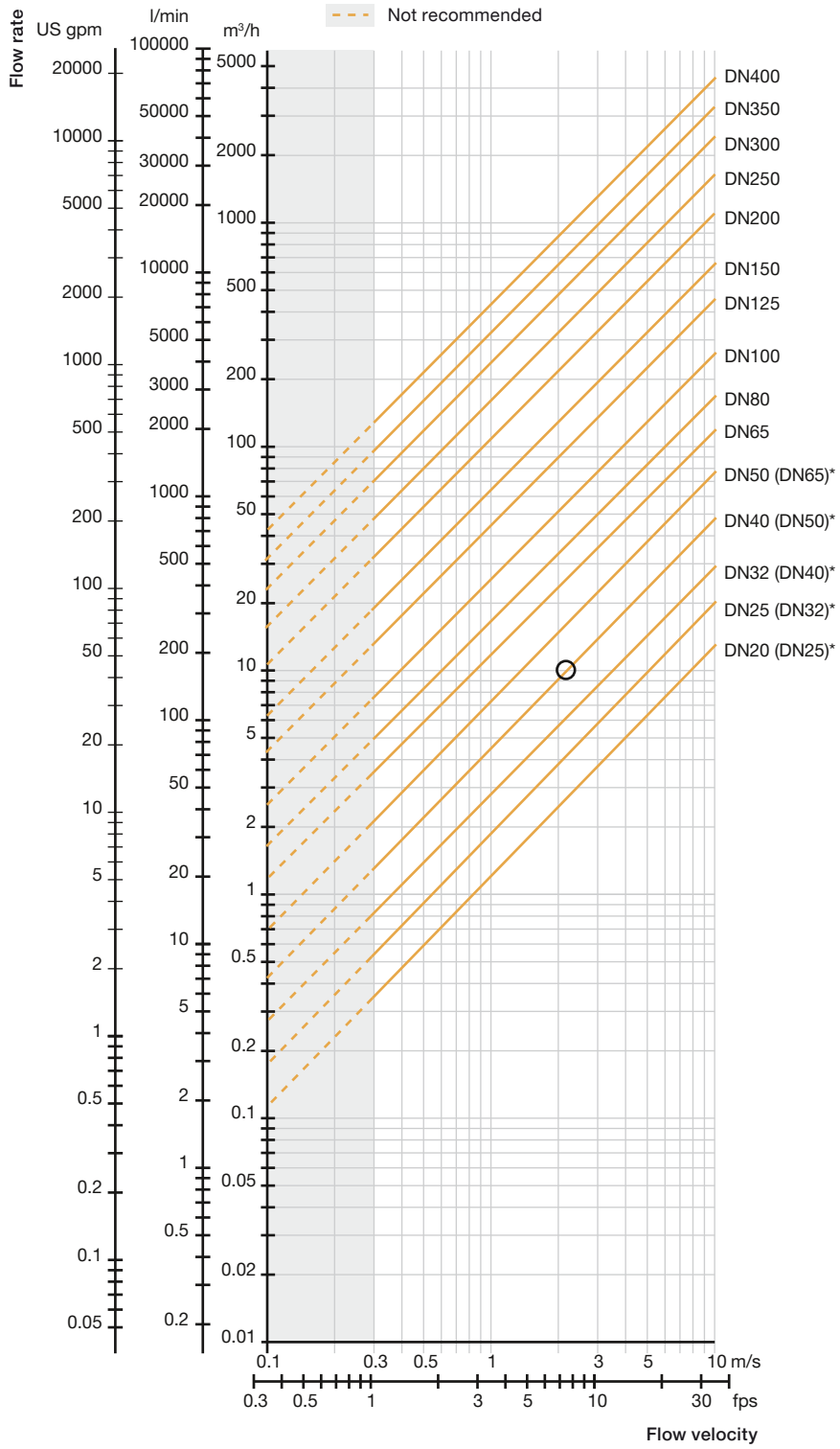
Diagram Flow/Velocity/DN

Example:

– Specification of nominal flow: 10 m³/h
– Ideal flow velocity: 2…3 m/s

For these specifications, the diagram indicates a pipe size of DN40 (or DN50 for (*) mentioned fittings)



*** for following fittings with:**
– external threads acc. to SMS 1145
– weld ends acc. to SMS 3008, BS4825-1/ASME BPE/DIN 11866 series C or DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A
– Clamp acc. to SMS 3017, BS 4825-3/ASME BPE or DIN 32676 series A

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Dimensions [mm] of flowmeter

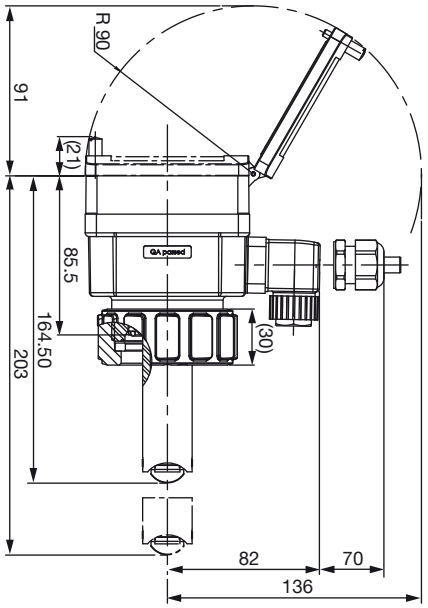
Flowmeter

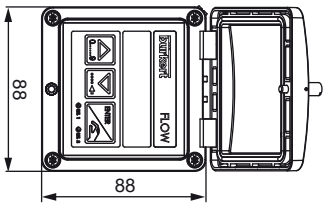
Note:

The length of the flow probe depends on the fitting used.

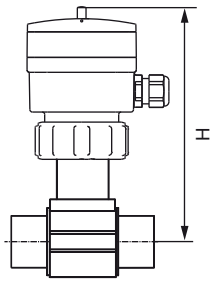
See datasheet Type S020.

More info.





Flowmeter with S020 fitting



DN	H with S020 fitting			
	T-Fitting	Saddle	Plastic spigot	Metal spigot
20	185			
25	185			
32	188			
40	192			
50	198	223		193
65	198	221	206	199
80		226	212	204
100		231	219	214
110		227		
125		234	254	225
150		244	261	236
180		268		
200		280	282	257
250			300	317
300			312	336
350			325	348
400			340	

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Ordering information and chart for compact flowmeter

A complete 8025 flowmeter with integrated paddle wheel sensor consists of a compact 8025 flowmeter and a Bürkert S020 Insertion fitting.

The following information is necessary for the selection of a complete device:
- **Article no.** of the desired compact **8025** flowmeter (see ordering chart below)
- **Article no.** of the selected **S020** Insertion fitting (see separate datasheet) More info.

→ You have to order the two components separately.
When you click on the orange box “More info.”, you will come to our website for the resp. product where you can download the datasheet.

Specifications	Voltage supply	Output	Relays	Sensor version	Electrical connection	Article no.
Standard output signal flowmeter, 2 totalizers	12…36 V DC	4…20 mA (2 wires) + pulse	None	Hall, short	Cable plug	418762
					2 cable glands	418802
				Hall, long	Cable plug	418763
					2 cable glands	418803
		4…20 mA (3 wires) + pulse	2	Hall, short	2 cable glands	418778
				Hall, long	2 cable glands	418779
	115/230 V AC	4…20 mA (2 wires) + pulse	None	Hall, short	2 cable glands	418423
				Hall, long	2 cable glands	418424
		4…20 mA (3 wires) + pulse	2	Hall, short	2 cable glands	418431
				Hall, long	2 cable glands	418432
Indicator, 2 totalizers	4 x 1.5 V DC AA Batteries	—	None	Coil, short	None	418403
				Coil, long	None	418405

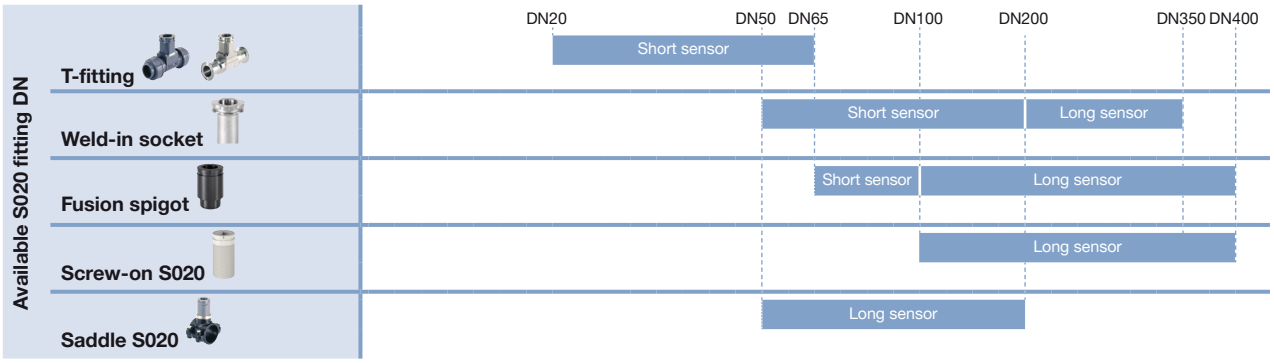
Note: FKM seal in standard; 1 set including a black EPDM seal for the sensor, an obturator for an M20 × 1.5 cable gland, a 2 × 6 mm multiway seal and a mounting instruction sheet is supplied with each flowmeter.

Further versions on request

Approvals
FDA, UL-Recognized for US and Canada (UL 61010-1 + CAN/CSA-C22.2 No. 61010-1)

Ordering chart - accessories (has to be ordered separately)

Specifications	Article no.
Set with 2 cable glands M20 × 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw plugs M20 × 1.5 + 2 multiway seals 2 × 6 mm	449755
Set with 2 reductions M20 × 1.5 /NPT ½" + 2 neoprene flat seals for cable gland or plug + 2 screw plugs M20 × 1.5	551782
Set with 1 stopper for unused cable gland M20 × 1.5 + 1 multiway seal 2 × 6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet	551775
Ring	619205
Union nut	619204
Set with 1 green FKM and 1 black EPDM seal	552111
Cable plug with cable gland (Type 2508)	438811
Cable plug with NPT ½" reduction without cable gland (Type 2509)	162673



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The remote Universal transmitter

The remote 8025 Universal transmitter can be associated with Bürkert flowmeter 8020, 8030, SE30+S077, … or another flow sensor which emits a frequency signal (with pulse output signal).

When connected to a flowmeter, the device makes it possible to switch a solenoid valve, activate an alarm or generate a flow rate proportional frequency, thanks to a digital output and, for some versions, by means of two relay outputs, fully configurable, and to establish a control loop thanks to a 4…20 mA current output.

The remote 8025 Universal is a flow transmitter with display, available in wall-mounted and panel versions:

The panel version
is made up of an electronics integrated in an open housing with display. The electrical connection is carried out on the terminal blocks of the electronic board.

The wall-mounted version
is made up of an electronics integrated in a housing with cover and display. The electrical connection is carried out on the terminal blocks of the electronic board via 3 cable glands.

The device is equipped with a 4…20 mA current output (analogue output, called AO1), a digital output (configured as a pulse output by default, called DO1) and two totalizers.
Some versions are also fitted with two relay outputs (called DO2 and DO3).
The device operates on a 3 wire system and needs a 12…36 V DC or a 115/230 V AC power supply.

General data	
Compatibility	Bürkert flowmeter with frequency output (8020, 8030, 8030HT, 8041, 8031, SE30+S077, 8071, 8077) or other sensors with compatible electrical data.
Materials	
Housing, cover	PC (panel-mounted version); ABS (wall-mounted version)
Front panel foil	Polyester
Screws	Stainless steel
Cable glands	PA (wall-mounted version)
Cable clips	PA (panel-mounted version)
Electrical connections	Terminals (panel-mounted version) or terminals via gland M16 × 1.5 (wall-mounted version)
Connection cable	4…8 mm external cable diameter (for the cable glands of the wall-mounted version)
Electrical data	
Power supply (V+)	
Panel-mounted version	12…36 V DC (max. tolerance: -5 % or +10 % at 12 V DC; ±10 % at 36 V DC), filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level
Wall-mounted version	12…36 V DC (max. tolerance: -5 % or +10 % at 12 V DC; ±10 % at 36 V DC), filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Characteristics of the power source (not provided) of UL-Recognized devices	Limited power source (according to § 9.4 of the UL 61010-1 standard) or, Class 2 type power source (according to the 1310/1585 and 60950-1 standards)
Reversed polarity of DC	protected
Current consumption without sensor	Without consumption of 4…20 mA output of the flow-meter
Version with relay	≤ 70 mA (at 12 V DC); ≤ 45 mA (at 36 V DC); ≤ 50 mA (for 115/230 V AC wall-mounted version)
Version without relays	≤ 50 mA (at 12 V DC); ≤ 30 mA (at 36 V DC); ≤ 35 mA (for 115/230 V AC wall-mounted version)
Transmitter input (from sensor)	
Frequency range	0.6 Hz…2.2 kHz, can be adjusted -
Voltage	Max. 36 V DC
Type of the signal	– Pulse: open collector NPN (with 470 Ω or 2.2 kΩ resistance) or PNP, TTL, CMOS (with 39 kΩ resistance) – Sine-wave, coil (with 39 kΩ resistance – with minimum sensitivity of 50 mV peak to peak)
Transmitter output (to sensor)	
Voltage supply	– With a 12…36 V DC powered transmitter: ▪ 10.5…34.5 V DC [= (V+) - 1.5 V DC], 140 mA max. ▪ 0…23.5 V DC [= (V+) - 12.5 V DC], 80 mA max. ▪ 5 V DC, 30 mA max. – With a 115/230 V AC powered transmitter: ▪ +27 V DC, 80 mA max. ▪ +14.5 V DC [= (V+) - 12.5 V DC] 80 mA max. ▪ 5 V DC, 30 mA max.

If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

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Electrical data (continued)	
Output Transistor (digital output – DO1)	Polarized, potential free, NPN or PNP (wiring dependant), function: pulse output, adjustable pulse value, 0.6…2200 Hz, 5…36 V DC; 100 mA, line drop at 100 mA: 2.7 V DC, duty cycle: ■ > 0.45 if 0.6 < frequency < 300 Hz ■ > 0.4 if 300 < frequency < 1500 Hz ■ < 0.4 if 1500 < frequency < 2200 Hz Galvanic insulation and protected against overvoltage, polarity reversals and short circuit
Relay (digital output – DO2 and DO3)	2 relays, hysteresis, adjustable thresholds, normally open; 230 V AC/3 A or 40 V DC/3 A (resistive load) max. cutting power of 750 VA (resistive load), life span of min. 100000 cycles
Current (analogue output – AO1)	4…20 mA, sourcing or sinking (wiring dependant), 22 mA to indicate a fault (can be activated); max. loop impedance: 1300 Ω at 36 V DC, 1000 Ω at 30 V DC, 750 Ω at 24 V DC, 300 Ω at 15 V DC, 200 Ω at 12 V DC 900 Ω with a 115/230 V AC voltage supply
4…20 mA output uncertainty	±1 % of range
Technical specifications 115/230 V AC	
Voltage supply available inside the device	Wall-mounted version: 27 V DC regulated, max. current: 250 mA integrated protection: fuse 250 mA temporised power: 6 VA
Environment	
Ambient temperature	-10…+60 °C *(+14…+140 °F)* (operation and storage)
Standards, directives and certifications	
Protection class Wall-mounted version	(according to EN 60529) IP65 with device wired, cover screwed tight and cable glands tightened.
Panel-mounted version	Front side: IP65 installation completed and closed cabinet Rear side: IP20, inside the closed cabinet
Specific technical data of UL-Recognized products for US and Canada	
Relay output	30 V AC and 42 V peak max./3 A or 60 V DC max./1 A
Ambient temperature	0…+40 °C *(32…+104 °F)*
Relative humidity	max. 80 %, without condensation
Intended for an inner pollution	Pollution degree 2 according to EN 61010-1
Installation category	Category I according to UL 61010-1 – indoor use

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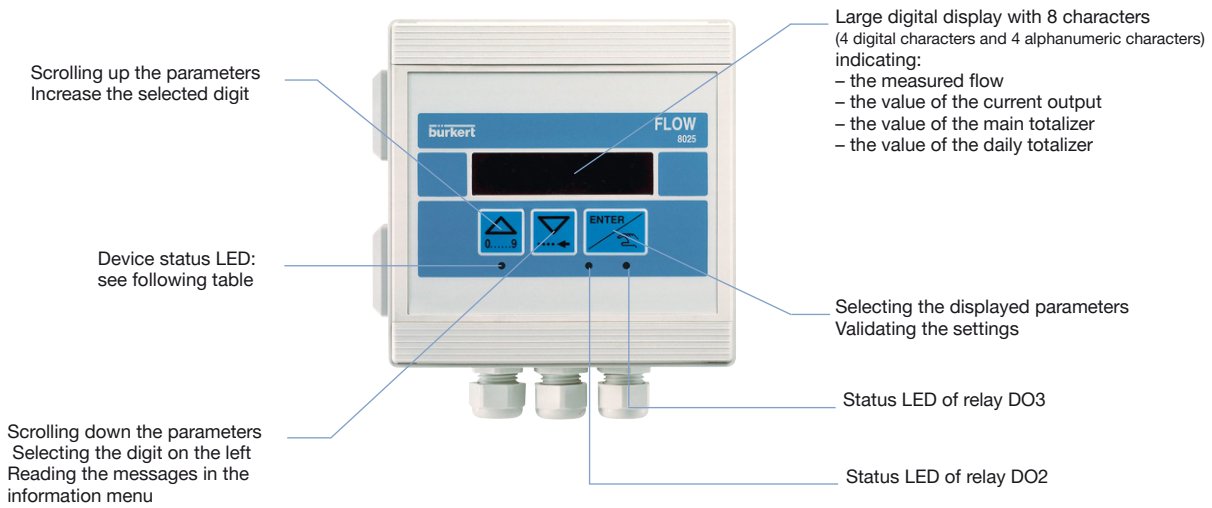
Operation and display

The device is calibrated by means of the K-factor (conversion coefficient) which is either entered or determined via the Teach-In function. User adjustments, such as measuring range, engineering units, pulse output and filtering level (damping) are carried out via the device operators interface.

The operation is specified according to two or three levels, depending on the transmitter version:

	Indication in operating mode/display	Parameter definition	Test
Flowmeter	• flow rate • output current • main totalizer • daily totalizer with reset function	• language • engineering units • K-factor/Teach-In function • measuring range 4…20 mA • pulse output • relay (option) • filter (damping) • reset main totalizer • reset both totalizers (main and daily) • Low flow “Cut Off” • Brightness of the display (backlight)	• alteration of basic adjustment (offset, span) • frequency test of sensor • flow simulation • warning and fault messages generating

Description of the navigation keys and the status LEDs



Device status LED	Status of the device
Green	The device operates correctly.
Orange	A warning messages is generated in the information menu.
Red	A fault message is generated and a 22 mA current is sent on the current output if activated.
Blinking, whatever the colour	A check for the correct behaviour of the outputs is running. The standard measurement function is inactive

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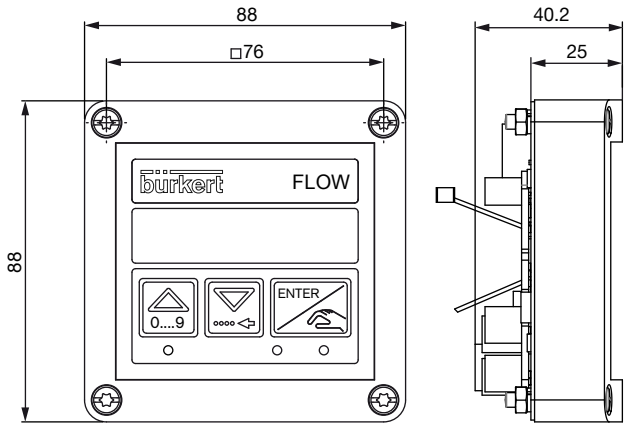
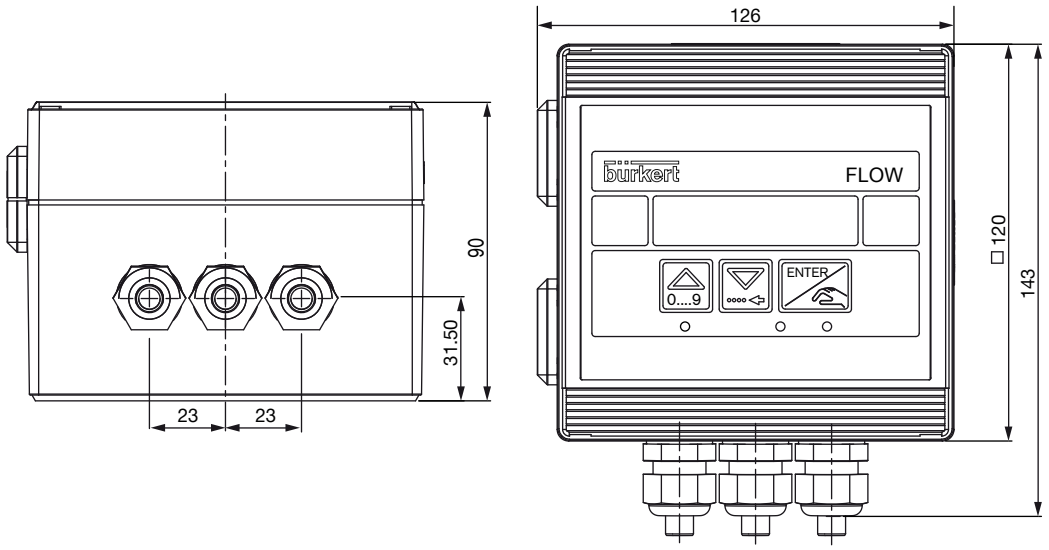
Dimensions [mm] of remote Universal transmitter

Panel-mounted version



Wall-mounted version



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Ordering information and chart for remote Universal transmitter

A complete remote 8025 Universal transmitter (panel- or wall-mounted), for connection to Bürkert or other sensors, consists of a remote 8025 Universal transmitter and a Bürkert flowmeter* or other compatible flowsensor on the market.

The following information is necessary for the selection of a complete device:
- **Article no.** of the desired remote **8025** Universal transmitter (see ordering chart below)
- **Article no.** of the selected **Bürkert flowmeter*** (see separate datasheet – has to be ordered separately)

→ You have to order the two components separately.

All these versions have as minimum:
- a 4…20 mA current output (AO1)
- a digital output (DO1)
- two totalizers

Specifications	Voltage supply	Output	Relays	Sensor version	Electrical connection	Article no.
Universal transmitter, panel mounted	12…36 V DC	4…20 mA (3 wires) + pulse	None	see note	Terminal strip	419538
			2	see note	Terminal strip	419537
Universal transmitter, panel mounted UL-Recognized for US and Canada	12…36 V DC	4…20 mA (3 wires) + pulse	None	see note	Terminal strip	564416
			2	see note	Terminal strip	564417
Universal transmitter, wall-mounted	12…36 V DC	4…20 mA (3 wires) + pulse	None	see note	3 cable glands	419541
			2	see note	3 cable glands	419540
	115/230 V AC	4…20 mA (3 wires) + pulse	None	see note	3 cable glands	419544
		4…20 mA (3 wires) + pulse	2	see note	3 cable glands	419543

***Note:** See the chart about compatible and recommended interconnection possibilities with Bürkert flowmeters on page 17 .

Ordering chart - accessories (has to be ordered separately)

Specifications	Article no.
Spare part, panel version	
Mounting set (screws, washer, nuts, cable clips)	554807
Seal	419350
Set with 8 FLOW front panel foils	553191
Spare part, wall version	
Power supply board 115/230 V AC + mounting instruction sheet	555722

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The remote transmitter

The remote 8025 transmitter can only be associated with Bürkert flowmeter 8020, 8030, SE30+S077, … with sinus or pulse output signal in a **"Low Power" version**.

When connected to a flowmeter, the device makes it possible to switch a solenoid valve, activate an alarm or generate a flow rate proportional frequency, thanks to a digital output and, for some versions, by means of two relay outputs, fully configurable, and to establish a control loop thanks to a 4…20 mA current output.

The remote 8025 is a flow transmitter with display, available in wall-mounted and panel versions:

The panel version
is made up of an electronics integrated in an open housing with display. The electrical connection is carried out on the terminal blocks of the electronic board.

The wall-mounted version
is made up of an electronics integrated in a housing with cover and display. The electrical connection is carried out on the terminal blocks of the electronic board via 3 cable glands.

The device is equipped with a 4…20 mA current output (analogue output), a digital output (pulse output) and two totalizers.
Some versions are also fitted with two relay outputs.
The device operates on a 2- or 3-wire system and needs a 12…36 V DC or a 115/230 V AC power supply.

General data	
Compatibility	Bürkert flowmeter with frequency output (8020, 8030, SE30+S077) with pulse "Low Power" version.
Materials	
Housing, cover	PC (panel-mounted version); ABS (wall-mounted version)
Front panel foil	Polyester
Screws	Stainless steel
Cable glands	PA (wall-mounted version)
Cable clips	PA (panel-mounted version)
Electrical connections	Terminals (panel-mounted version) or terminals via gland M16 × 1.5 (wall-mounted version)
Connection cable	4…8 mm external cable diameter (for the cable glands of the wall-mounted version)
Electrical data	
Power supply (V+)	
Panel-mounted version	12…36 V DC ±10 %, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level
Wall-mounted version	12…36 V DC ±10 %, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level or 15/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Characteristics of the power source (not provided) of UL-Recognized devices	Limited power source (according to § 9.4 of the UL 61010-1 standard) or, Class 2 type power source (according to the 1310/1585 and 60950-1 standards)
Reversed polarity of DC	protected
Current consumption with sensor	Without pulse output consumption
Version 12…36 V DC	≤70 mA (with relays) ≤25 mA (without relays)
Transmitter input (from sensor)	
Frequency range	2.5…400 Hz,
Pulse signal (Hall)	"Low Power", NPN open collector
Transmitter output (to sensor)	
Voltage supply	10…34 V DC [= (V+) - 2 V DC], 1 mA max.
Output	
Pulse (Transistor)	Polarized, potential free, NPN or PNP (wiring dependant), function: pulse output, adjustable pulse value, 2.5…400 Hz, 5…36 V DC; 100 mA, line drop at 100 mA: 2.5 V DC, duty cycle: 0.5 Galvanic insulation and protected against overvoltage, polarity reversals and short circuit
Relay	2 relays, hysteresis, adjustable thresholds, normally open; 230 V AC/3 A or 40 V DC/3 A (resistive load)
Current	4…20 mA (3-wire with relays; 2-wire without relay), sourcing or sinking (wiring dependant), max. loop impedance: 900 Ω at 30 V DC, 600 Ω at 24 V DC, 50 Ω at 12 V DC, 800 Ω with a 115/230 V AC voltage supply
Response time (10 %…90 %)	6 s (default)
4…20 mA output uncertainty	±1 % of range
Technical specifications 115/230 V AC	
Voltage supply available inside the device	Wall-mounted version: 27 V DC regulated, max. current: 250 mA integrated protection: fuse 250 mA temporised power: 6 VA
Environment	
Ambient temperature	-10…+60 °C *(+14…+140 °F)* (operation and storage)

If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

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Standards, directives and certifications	
Protection class Wall-mounted version Panel-mounted version	(according to EN 60529) IP65 with device wired, cover screwed tight and cable glands tightened. Front side: IP65 installation completed and closed cabinet Rear side: IP20, inside the closed cabinet
Specific technical data of UL-Recognized products for US and Canada	
Relay output	30 V AC and 42 V peak max./3 A or 60 V DC max./1 A
Ambient temperature	0…+40 °C *(32…+104 °F)*
Relative humidity	max. 80 %, without condensation
Intended for an inner pollution	Pollution degree 2 according to EN 61010-1
Installation category	Category I according to UL 61010-1 – indoor use

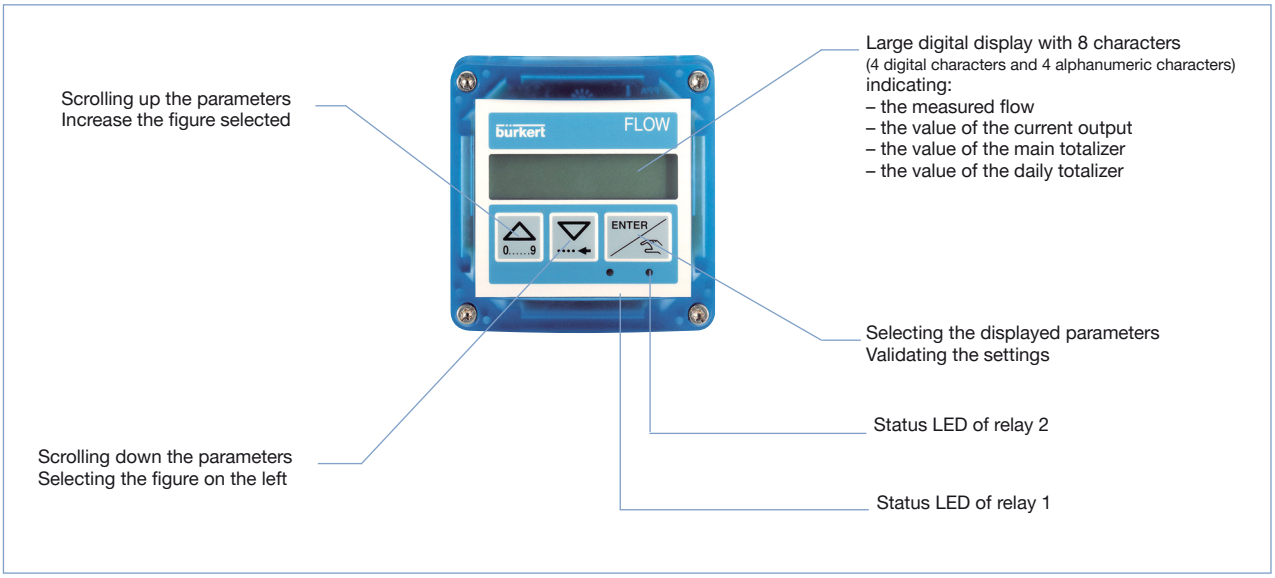
Operation and display

The device is calibrated by means of the K-factor (conversion coefficient) which is either entered or determined via the Teach-In function. User adjustments, such as measuring range, engineering units, pulse output and filtering level (damping) are carried out via the device operators interface.

The operation is specified according to two or three levels, depending on the transmitter version:

	Indication in operating mode/display	Parameter definition	Test
Flow transmitter	• flow rate • output current • main totalizer • daily totalizer with reset function	• language • engineering units • K-factor/Teach-In function • measuring range 4…20 mA • pulse output • relay (option) • filter (damping) • reset main totalizer	• alteration of basic adjustment (offset, span) • frequency test of sensor • flow simulation

Description of the navigation keys and the status LEDs



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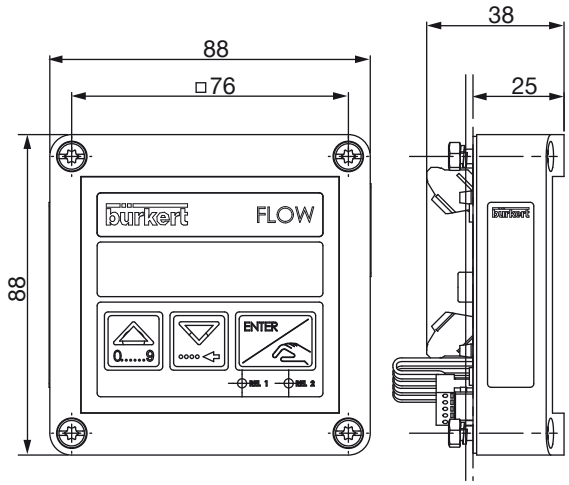
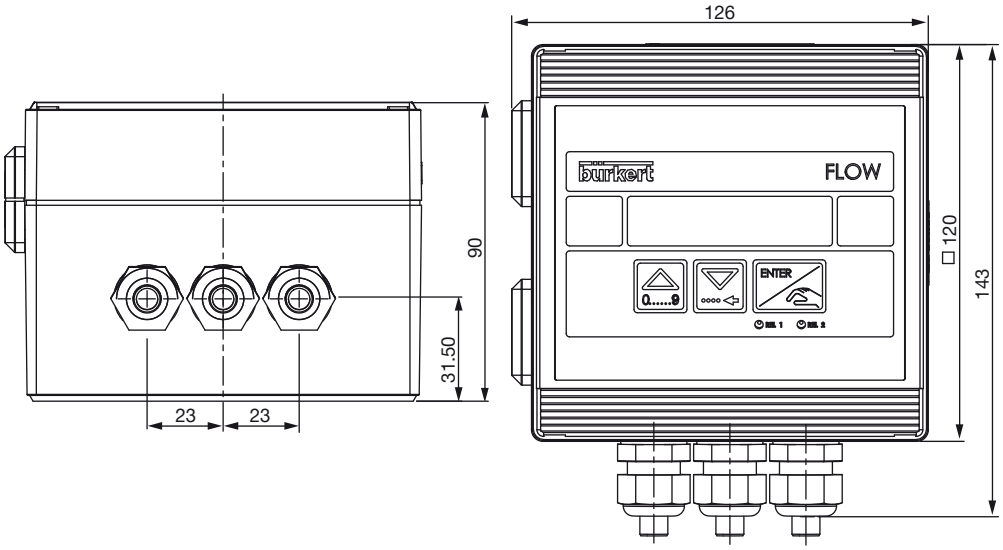
Dimensions [mm] of remote transmitter

Panel-mounted version



Wall-mounted version



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Ordering information and chart for remote transmitter

A complete remote 8025 transmitter (panel- or wall-mounted), for connection to Bürkert **"Low Power"** sensors only, consists of a remote 8025 transmitter, a Bürkert 8020 flowmeter associated to an Insertion S020 fitting or a SE30 flow transmitter associated to an Inline sensor-fitting type S030 (SE30+S030 = type 8030) or type S077.

The following information is necessary for the selection of a complete device:

- **Article no.** of the desired remote **8025** transmitter (see ordering chart below)
- **Article no.** of the selected Bürkert **8020** flowmeter* or Inline **SE30** transmitter* (pulse "Low Power" version) - (see corresponding datasheet – has to be ordered separately)
- **Article no.** of the selected Bürkert **S020** fitting (DN20…DN400) or Inline **S030** sensor-fitting (DN06…DN65) or Inline **S077** sensor-fitting (DN15… DN100) – (see corresponding datasheet – has to be ordered separately)

→ You have to order the three components separately.

Specifications	Voltage supply	Output	Relays	Sensor version	Electrical connection	Article no.
Transmitter, panel mounted, 2 totalizers	12…36 V DC	4…20 mA (2 wires) + pulse	None	8020/8030[1]/ SE30+S077	Terminal strip	418992
		4…20 mA (3 wires) + pulse	2		Terminal strip	418994
Transmitter, panel mounted, 2 totalizers UL-Recognized for US and Canada	12…36 V DC	4…20 mA (2 wires) + pulse	None		Terminal strip	552725
		4…20 mA (3 wires) + pulse	2		Terminal strip	552726
Transmitter, wall-mounted, 2 totalizers	12…36 V DC	4…20 mA (2 wires) + pulse	None		3 cable glands	418397
		4…20 mA (3 wires) + pulse	2		3 cable glands	418396
	115/230 V AC	4…20 mA (2 wires) + pulse	None		3 cable glands	418400
		4…20 mA (3 wires) + pulse	2		3 cable glands	418399

[1] 8030 = SE30 + S030

***Note:** See the chart about compatible and recommended interconnection possibilities with Bürkert flowmeters on page 17 .

Ordering chart - accessories (has to be ordered separately)

Specifications	Article no.
Spare part, panel version	
Mounting set (screws, washer, nuts, cable clips)	554807
Seal	419350
Set with 8 FLOW front panel foils	553191
Spare part, wall version	
Power supply board 115/230 V AC + mounting instruction sheet	555722

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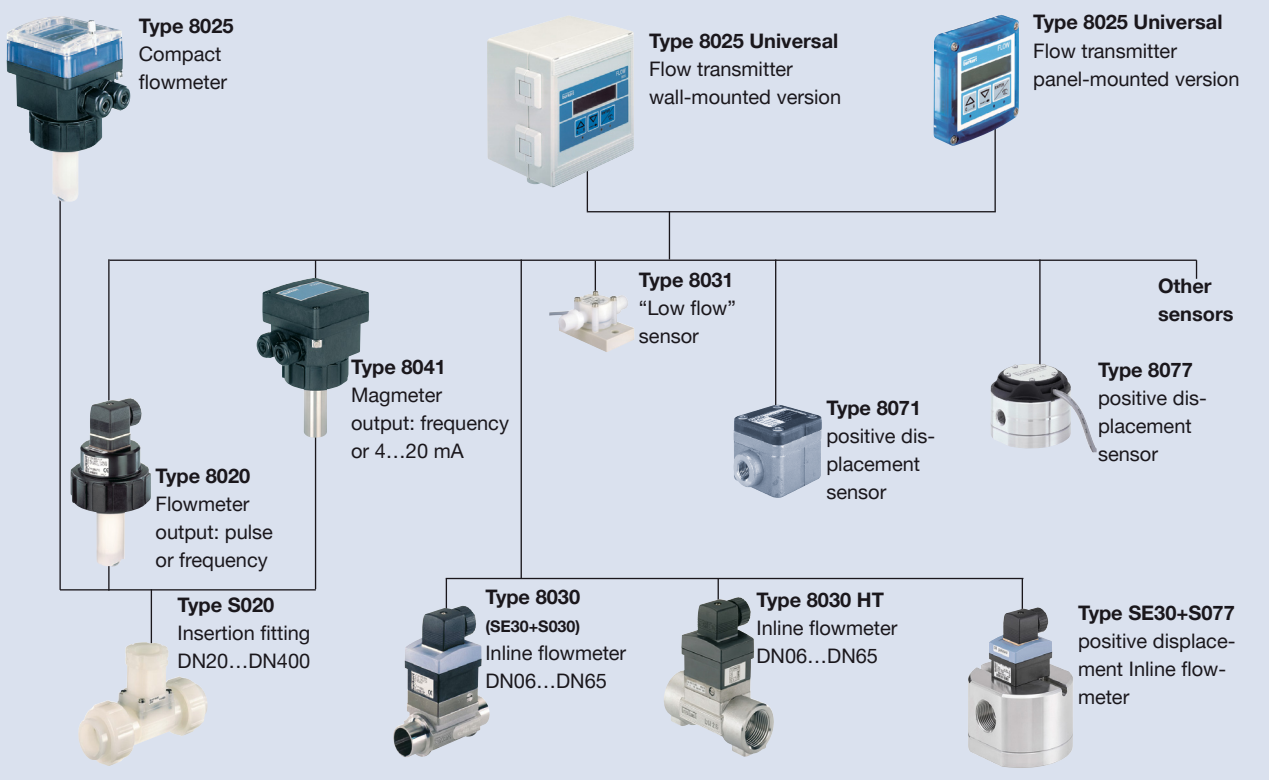
Interconnection possibilities with other Bürkert flowmeters

Flowmeter type	Remote 8025 version			
	Universal transmitter		Transmitter	
	Panel	Wall	Panel	Wall
8020 hall version (short or long) – frequency output with pulse signal (NPN, PNP, open collector)	X	X	-	-
8020 hall **"Low Power"** version (short or long) – frequency output with pulse signal (NPN, open collector)	X	X	X	X
8030/SE30+S077 hall version – frequency output with pulse signal (NPN, PNP, open collector)	X	X	-	-
8030/SE30+S077 hall **"Low Power"** version – frequency output with pulse signal (NPN, open collector)	X	X	X	X
8030 high temperature – frequency output with pulse signal (NPN, PNP, open collector)	X	X	-	-
SE30 Ex	X	X	-	-
8031 – frequency output with pulse signal (NPN)	X	X	-	-
8041 – frequency output with pulse signal (NPN)	X	X[1)]	-	-
8071 – frequency output with pulse signal (NPN)	X	X	-	-
8077 – frequency output with pulse signal (NPN)	X	X	-	-

X = Compatible or recommended interconnection possibilities

[1)] **except device with article no. 419543**



To find your nearest Bürkert facility, click on the orange box → **www.burkert.com**

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