

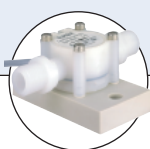
Digital controller for flow proportional continuous dosing



Type 8025/8035 konti-Dos can be combined with...



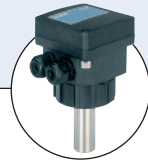
Type 8020
Flow sensor



Type 8031
Low flow sensor



Type 8030
INLINE flow sensor



Type 8041
Electromagnetic flow sensor



Type 7800
Dosing pump



Type 2712/8630
Process control valve

- Multi language, menu-guided operation
- Display of flow, dosing rate and two total counters
- 4-20 mA control output, quantity impulse
- Adjustable dosing rate from 0.01% to 99.9%
- Automatic calibration: TEACH-IN
- Compact-, Panel- and Wall-mounted versions

The konti-Dos dosing controller is specially designed for continuous dosing of liquid media. This konti-Dos controller combines in one device, the main flow measurement, the actual flow display, the simple numeric input and display of the dosing rate, the display and the registration of two consumption counters, the transmission of the control signal to a dosing pump or a control valve, as well as the transmission of scalable quantity impulses for the water amount or the calculated amount of dosing medium.

The konti-Dos controller is available in different models:

- Compact version: Type 8035 konti-Dos
- Remote version: Type 8025 konti-Dos with choice between wall-mounted or panel-mounted version.
- The design of this dosing controller enables a very good adaptation to different sensors and applications.
- The programming levels can be protected by a 4-digit code.
- The controller supervises the input range of the dosing rate and signals the max. main flow override.
- The dosing rate is defined as metered addition (in %) to the measured main flow.
- The two relays are freely programmable depending on the flow rate.

Technical data (common to the various versions)

General data

Display	15 x 60 mm, 8-digit LCD, alphanumeric, 15 segments, 9 mm high
Electrical connections	shielded cable with 1.5 mm ² max. cross-section 50 m max. length

Electrical data

Current consumption	≤ 70 mA (without pulse output consumption nor sensor supply)
Output	
Signal current	<ul style="list-style-type: none"> ▪ 4-20 mA configurable in sourcing or sinking mode; max. loop impedance: 1200 Ω at 30 V DC; 900 Ω at 24 V DC; 450 Ω at 15 V DC; 300 Ω at 13 V DC 1000 Ω with a 115/230 V AC voltage supply to activation of dosing pump Type 7800 or regulation valve Type 8630/2712.
Pulse	<ul style="list-style-type: none"> ▪ Polarized, potential free, 5...30 V DC; 100 mA, protected, line drop at 100 mA: 1.5 VDC Pulse output for measured water quantity or calculated consumption dosing medium
Relay	<ul style="list-style-type: none"> ▪ 2 relays, freely programmable, 3A, 230 V AC
Display	<ul style="list-style-type: none"> ▪ actual flow, dosing rate, main and daily totalisators

Environment

Ambient temperature	0 up to +60°C (32 to 140°F) (operation and storage)
Relative humidity	≤ 80 %, without condensation

Standards and approvals

Protection class	IP65
Standard	
EMC	EN 61000-6-2, EN 61000-6-3
Security	EN 61010-1
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

Mode of operation and Display

The konti-Dos controller with help of the connected sensor (coil or Hall transducer), measures the current flow rate in the main stream. The adjustment to different nominal sizes will be made by means of the K-factor input or by means of the TEACH-IN calibration.

According to adjusted dosing rate and actual flow, the dosing controller computes a continuous control signal, which is sent out as a 4-20 mA standard signal.

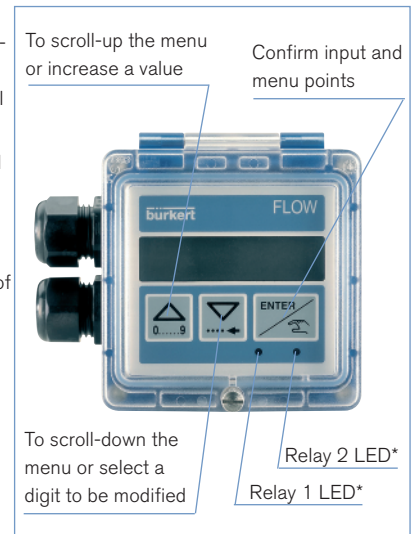
Either the quantity in the main pipe or the calculated quantity of the dosing medium can be transmitted via the pulse output. The dosing regulation increments 2 total counters (1 x main flow and 1 x dosing medium quantity), whereby both can be displayed.

Depending on the entered parameters for max. flow and max. dosing rate, the instantaneous values of these parameters are supervised. The desired dosing rate can directly be entered by means of the keyboard.

Internal calculation formula for the output current:

$$I = 4 \text{ mA} + (DR/DR_{\text{max}} \times Q/Q_{\text{max}} \times 16 \text{ mA})$$

where: DR = adjusted dosing rate; DR_{max} = max. dosing rate (parameter)
Q = actual flow rate; Q_{max} = max. flow rate (parameter)



Compact dosing controller type 8035 konti-Dos

The compact version 8035 konti-Dos



consists of an electronic module SE35 with a display and keyboard in an IP65 enclosure and an S030 fitting with integrated paddle-wheel, quickly and easily connected together by a Quarter-Turn. The output signals are provided on a terminal strip via cable gland.

* For the 2006/95/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

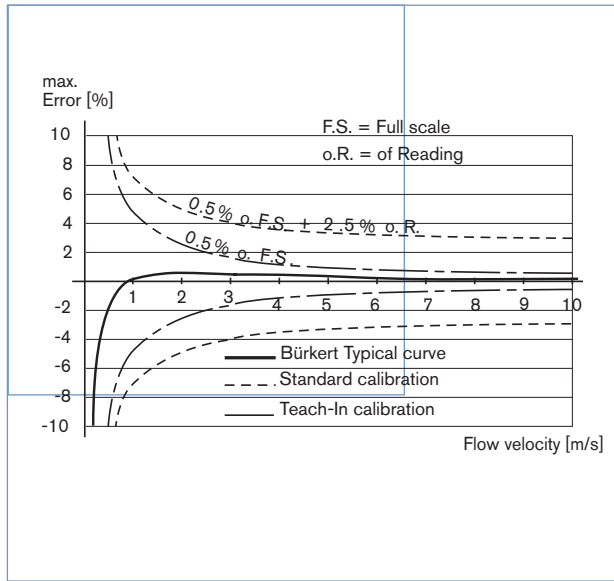
Type of fluid	Conditions
Fluid group 1, §1.3.a	DN 25 only
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature=20°C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

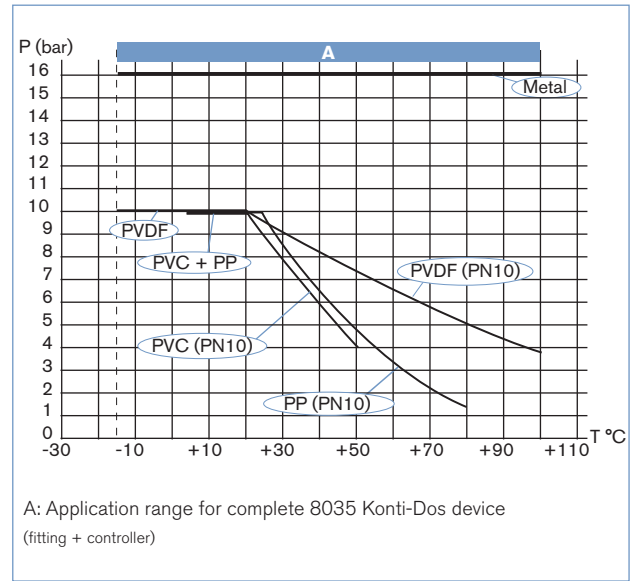
* F.S.=Full scale (10 m/s)

General data	
Compatibility	with fittings S030 (see corresp. data sheet)
Materials	Housing, cover, lid, nut Front panel foil / Screws Cable glands Wetted parts materials Body Paddle-wheel / Seal Axis and bearing
	PC Polyester / Stainless steel PA Brass, stainless steel 1.4435/316L, PVC, PP or PVDF PVDF / FKM (EPDM option) Ceramics
Electrical connections	Cable gland M20 x 1.5 for cable ø 6 to 10 mm
Complete device data (Fitting S030 + Electronics)	
Pipe diameter	DN 06 to 65
Measuring range	0.5 to 10 m/s (Coil transducer) 0.3 to 10 m/s (Hall transducer version)
Fluid temperature with fitting in PVC PP PVDF, brass or stainless steel	0 up to 50°C (32 to 122°F) 0 up to 80°C (32 to 176°F) -15 up to 100° (32 to 212°F)
Fluid pressure max. (see pressure/temperature diagram)	PN10 (145.1 PSI) (with plastic fitting) PN16 (232.16 PSI) (with metal fitting)
Viscosity / Solid particle rate	300 cSt. max. / 1% max.
Accuracy Teach-In Standard K-factor	≤ ±0.5% of F.S.* (at 10 m/s) ¹⁾ ≤ ±(0.5% of F.S.* + 2.5% of Reading) ¹⁾
Linearity	≤ ±0.5% of F.S.* (at 10 m/s) ¹⁾
Repeatability	≤ 0.4% of Reading ¹⁾
Electrical data	
Power supply	13-30 V DC (V+) ± 10%, filtered and regulated or 115/230 V AC 50/60 Hz (see technical specifications 115/230 VAC)
Standards and approvals	
Protection class	IP65
Standard : Pressure	Complying with article 3 of §3 from 2006/95/CE directive.*
Technical specifications 115/230 VAC	
Voltage supply available inside the device	27 V DC regulated, max. current: 125 mA integrated protection: fuse 125 mA temporised power: 3 VA

Accuracy diagram (compact 8035 konti-Dos)



Pressure / Temperature diagram (with fitting S030)

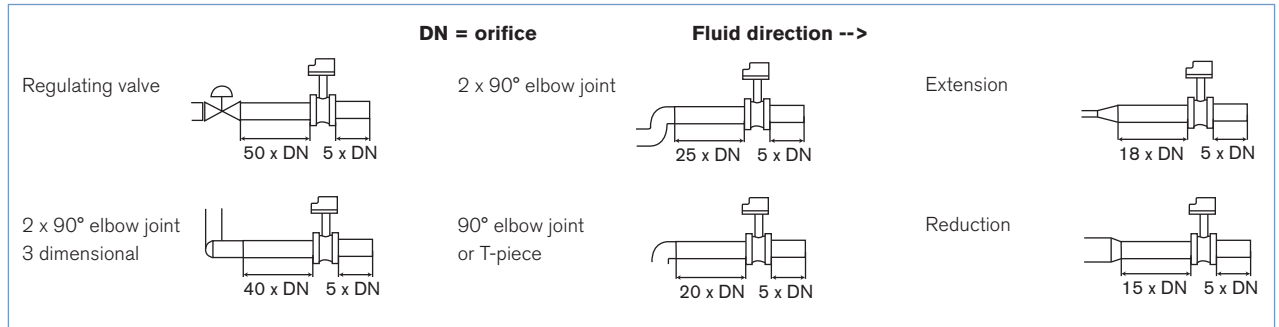


Installation

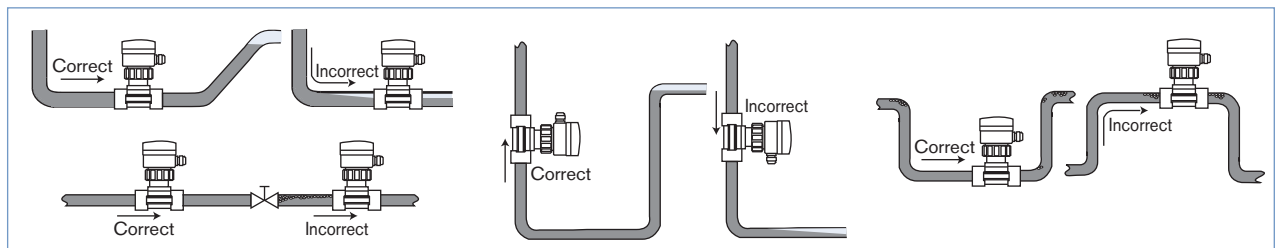
The compact konti-Dos controller can easily be installed into any pipe using the special Bürkert INLINE fitting system (S030).

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. For 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.



The flow rate controller can be installed in either horizontal or vertical pipes.



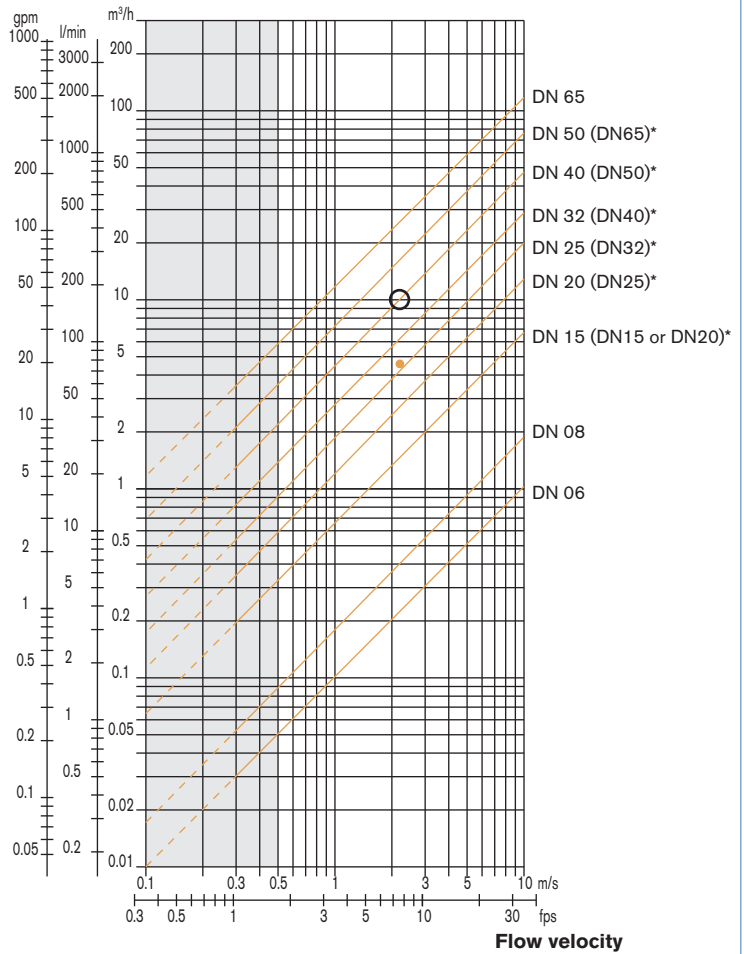
Pressure and temperature ratings must be respected according to the selected fitting material.
The suitable pipe size is selected using diagram Flow / Velocity / DN.
The controller is not designed for gas flow measurement.

Selection of fitting / pipe size

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]

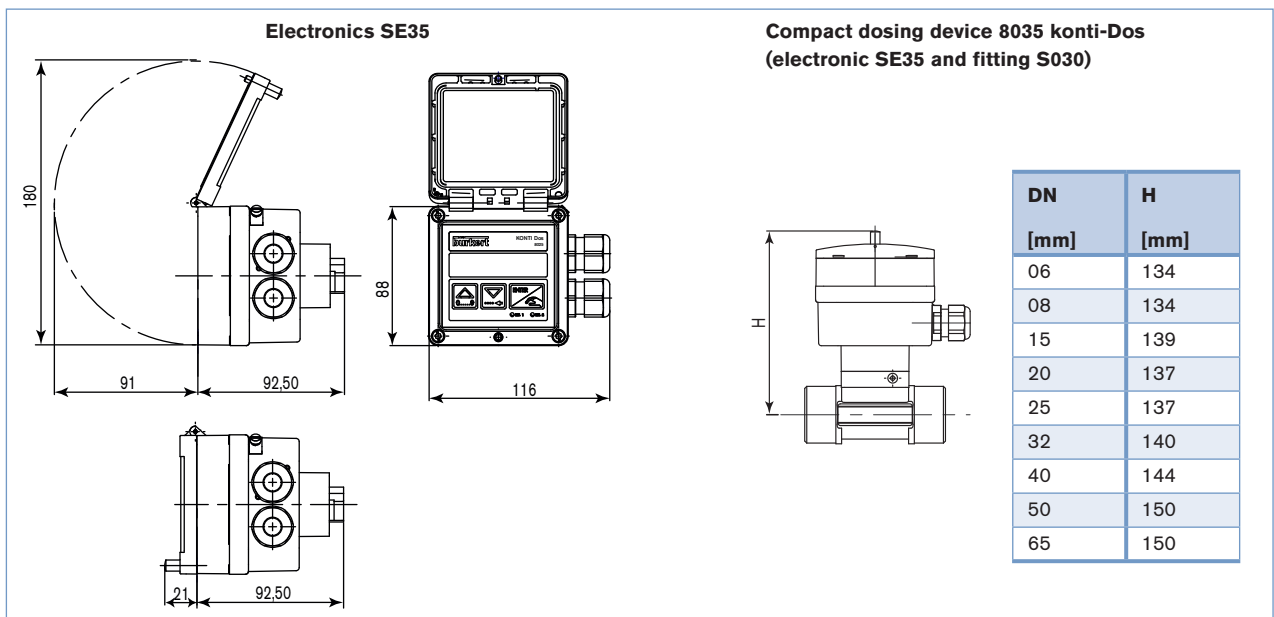
Flow rate



* for following fittings:

- with external threads acc. to SMS 1145
- with weld-ends acc. to SMS 3008, BS 4825 / ASME BPE or DIN 11850 Series 2
- Clamp acc. to SMS 3017 / ISO 2852, BS 4825 / ASME BPE or DIN 32676

Dimensions [mm]



Remote dosing controller version type 8025 konti-Dos

Type 8025 konti-Dos

• Panel-mounted version



The panel-mounted version

consists of an electronic module 8025 integrated in a front-cover. The associated flow sensor is a Type 8020, 8030, 8030 HT, 8031, 8041, 8070, 8071, or another sensor with pulse output available by Bürkert or on the market (see corresp. data sheet).

• Wall-mounted version



The wall-mounted version

consists of an electronic module 8025 in an IP65 enclosure. The associated flow sensor is a Type 8020, 8030, 8030 HT, 8031, 8041, 8070, 8071, or another sensor with pulse output available by Bürkert or on the market (see corresp. data sheet).

Bürkert designed fittings ensure simple installation of the Bürkert sensor into pipes from DN 06 to DN 400.

Technical data (only 8025 konti-Dos)

General data

Compatibility	Bürkert flow sensor with frequency output (8020, 8030, 8030HT, 8041, 8031, 8070, 8071) and other sensors with compatible electrical data. (see corresp. data sheet)
Materials Housing, cover Front panel foil Screws Cable gland, cable clip	PC (Panel-mounted version); ABS (Wall-mounted version) Polyester Stainless steel PA
Electrical connection	Terminal strip (Panel-mounted version) or terminal strip via cable gland (Wall-mounted version) - for cable \varnothing 4 to 8 mm

Electrical data

Power supply Panel-mounted version Wall-mounted version	13-30 V DC, \pm 10% - filtered and regulated 13-30 V DC, \pm 10% - filtered and regulated or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
Sensor input: Frequency range	0.5 or 2.5 (programmable) to 1400 Hz max. voltage: 30 V DC Open Collector NPN: with 470 Ω or 2.2 k Ω resistance or PNP, Coil (sensitivity of typical 80 mV peak-to-peak at 250 Hz), TTL, CMOS : with 39 k Ω resistance
Sensor output Voltage supply	11...28 V DC (V+ - 2 V DC) or +12 V DC or 5 V DC (with a 13-30 V DC powered transmitter); +27 V DC or +12 V DC or 5 V DC (with a 115/230 V AC powered transmitter)
Current consumption	max. current available from transmitter: 100 mA

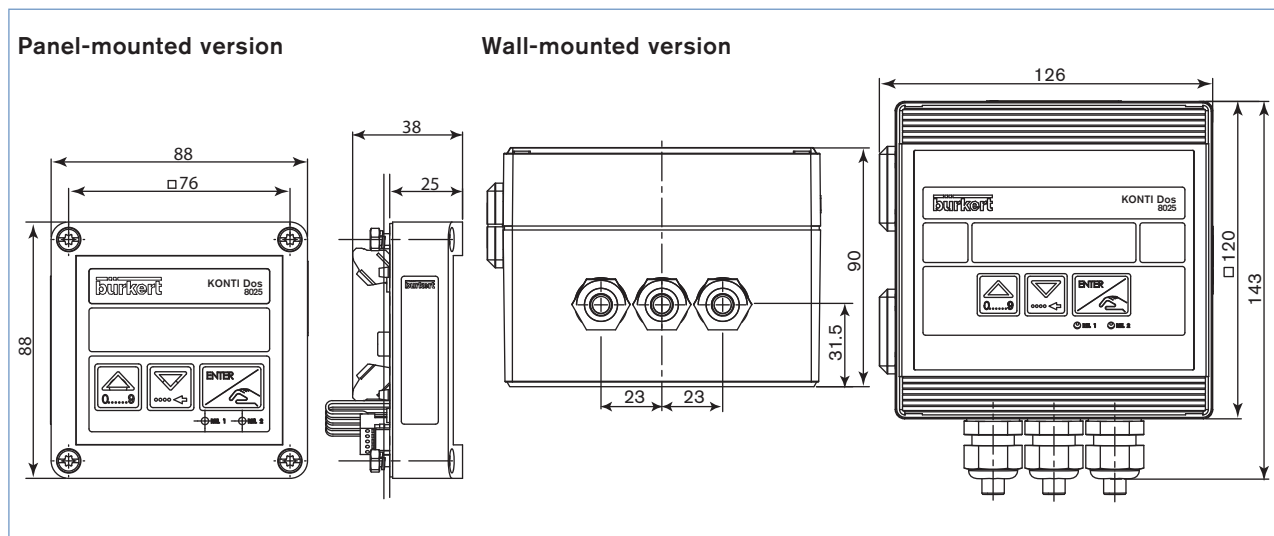
Standard and approvals

Protection class	IP65 (Panel- and Wall-mounted version) IP20 (Panel-mounted version inside, the cabinet)
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Technical specifications 115/230 VAC

Voltage supply available inside the device	27 V DC regulated, max. current: 250 mA integrated protection: fuse 250 mA temporised power: 6 VA
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Dimensions [mm]



Ordering chart for konti-Dos controller Type 8025/8035

Type 8035 konti-Dos (compact version)

A compact dosing controller Type 8035 consists of:

- an electronic module **SE35** with display and keyboard
- an INLINE fitting **S030** with integrated measuring paddle-wheel (has to be ordered separately - refer to corresp. data sheet)

Specifications	Voltage supply	Output	Sensor	Electrical connection	Item no.
Electronic module SE35 (Coil transducer version)	13-30 V DC	4-20 mA (3 wires) + pulse + 2 relays	From S030	Terminal strip via cable gland	557 855
Electronic module SE35 (Hall transducer version)	115-230 V AC	4-20 mA (3 wires) + pulse + 2 relays	From S030	Terminal strip via cable gland	557 856

Further versions on request



Port connection

The electronic SE35 with Hall transducer can be mounted with positive displacement flow fitting S070.

Type 8025 konti-Dos (remote version)

A remote dosing controller Type 8025 consists of:

- a remote electronic module **8025** with display and keyboard (panel- or wall-mounted version)
- a Bürkert sensor or other (has to be ordered separately - refer to corresp. data sheet)

Panel-mounted version

Specifications	Voltage supply	Output	Sensor	Electrical connection	Item no.
Electronic module 8025	13-30 V DC	4-20 mA (3 wires) + pulse + 2 relays	**	Terminal strip	557 859

Wall-mounted version

Specifications	Voltage supply	Output	Sensor	Electrical connection	Item no.
Electronic module 8025	13-30 V DC	4-20 mA (3 wires) + pulse + 2 relays	**	Terminal strip via cable gland	557 857
	115-230 V AC	4-20 mA (3 wires) + pulse + 2 relays	**	Terminal strip via cable gland	557 858

** NOTE: See the chart about compatible and recommended interconnection possibilities with Bürkert sensors.

Note:

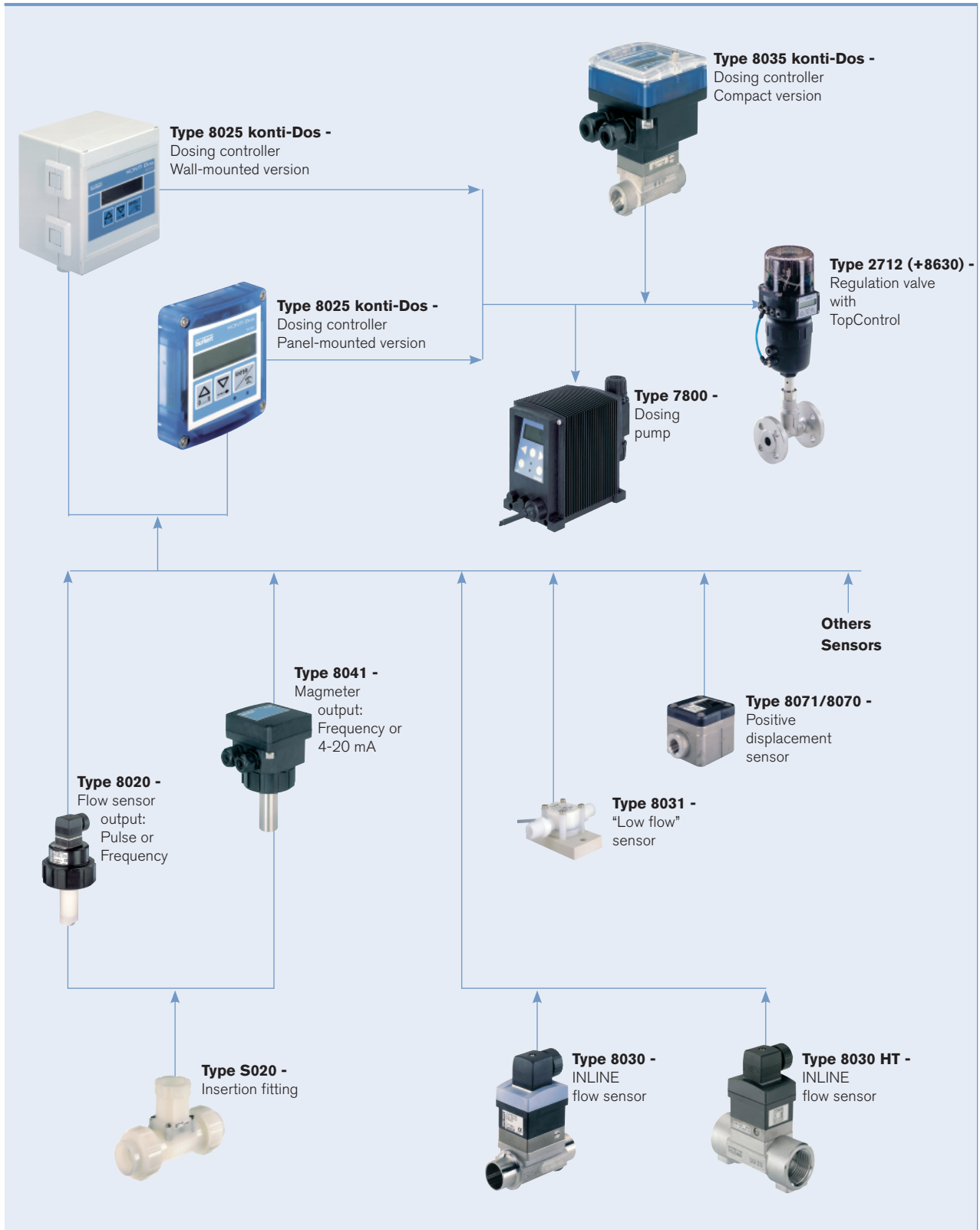
Remote (wall- or panel-mounted versions) electronic module 8025, INSERTION fitting S020, INLINE fitting S030, INSERTION flow sensor 8020, INLINE flow sensor 8030 have to be ordered separately (refer to corresponding data sheets).

Interconnection possibilities with other Bürkert flow sensors

Sensor Type	8025 transmitter	
	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
8020 Coil (Sinus) version (short or long) - Frequency output with sinus signal	X	X
8030/8070 Hall version - Frequency output with pulse signal (NPN, PNP, Open Collector)	X	X
8030/8070 Hall "Low Power" version - Frequency output with pulse signal (NPN, Open Collector)	X	X
8030 Coil (Sinus) version (short or long) - Frequency output with sinus signal	X	X
8030 High temperature - Frequency output with pulse signal (NPN, PNP, Open Collector)	X	X
8031 - Frequency output with pulse signal (NPN)	X	X
8041 - Frequency output with pulse signal (NPN)	X	X
8071 - Frequency output with pulse signal (NPN)	X	X

X = Compatible or recommended interconnection possibilities

Interconnection possibilities with other Bürkert flow sensors



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