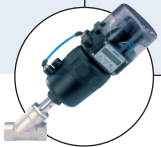




Paddle-wheel flow controller for On/Off control

- Indication, monitoring, transmitting and On/Off control in one device
- Programmable outputs (transistor or relay)
- Automatic-calibration: Teach-In
- Communication - external setpoints and process value (4-20 mA)

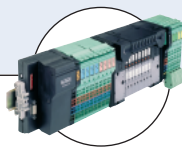
Type 8032 can be combined with...



Type 2702 (8630)
Control valve with TopControl



Type 1067
Continuous SideControl



Type 8644-P AirLINE
Valve island with electronic I/O



Type 8041
Flow sensor only with 8032 remote



Type 8030
Flow sensor only with 8032 remote

This intelligent controller with display is designed for use in clear, neutral or aggressive liquids and specially to switch a valve and to establish a monitoring system or an On/Off control loop. The switching points can be programmed with the 3-key keypad under the display or optionally, for the compact 8032 only, from an external source over a 4-20 mA loop. The compact 8032 is proposed with On/Off output, or with external setpoints and process value outputs. The remote 8032 has a transistor output. The connection to the process in the piping is done with standard INLINE fittings.

General data	
Compatibility	With fittings S030 (see corresp. data sheet)
Materials	PC, +20% glass fibre Polyester / Stainless steel PA
Housing, cover	
Front panel folio / Screws	
Cable plug, gland	
Materials wetted parts	
Fitting, sensor armature / Seal	Brass, stainless steel, PVC, PP or PVDF / FKM (EPDM option)
Paddle-wheel / Axis, bearings	PVDF / Ceramics
Wall-mounted holder	PVC
Display	8-digit LCD
Electrical connections	Cable plug acc. to EN 175301-803 Multipin: swivel M12, 5-pin or M12, 8-pin
Voltage supply cable	0.5 mm ² max. cross section; max. 100 m length, shielded
Remote sensor connection	0.5 mm ² max. cross section; max. 50 m length, shielded
Complete device data (fitting + electronic module)	
Pipe diameter	DN 06 to 65
Measuring range	0.3 to 10 m/s
Medium temperature	0 up to 50°C (32 to 122°F) (with PVC fitting) / 0 up to 80°C (32 to 176°F) (with PP fitting) / -15 up to 100°C (5 to 212°F) (with St. st., brass or PVDF fitting)
Fluid pressure max.	PN10 (145.1 PSI) (with plastic fitting) PN16 (232.16 PSI) (with metal fitting)
Viscosity	300 cSt. max.
Accuracy¹⁾	
Teach-In	≤ ± 1% of F.S.* (at 10 m/s)
Standard K-factor	≤ ± (1% of F.S.* + 3% o. Reading)
Programming mode	Threshold, window or hysteresis
Linearity¹⁾	≤ ± 0.5% of F.S.* (at 10 m/s)
Repeatability¹⁾	≤ 0.4% of Reading

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

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

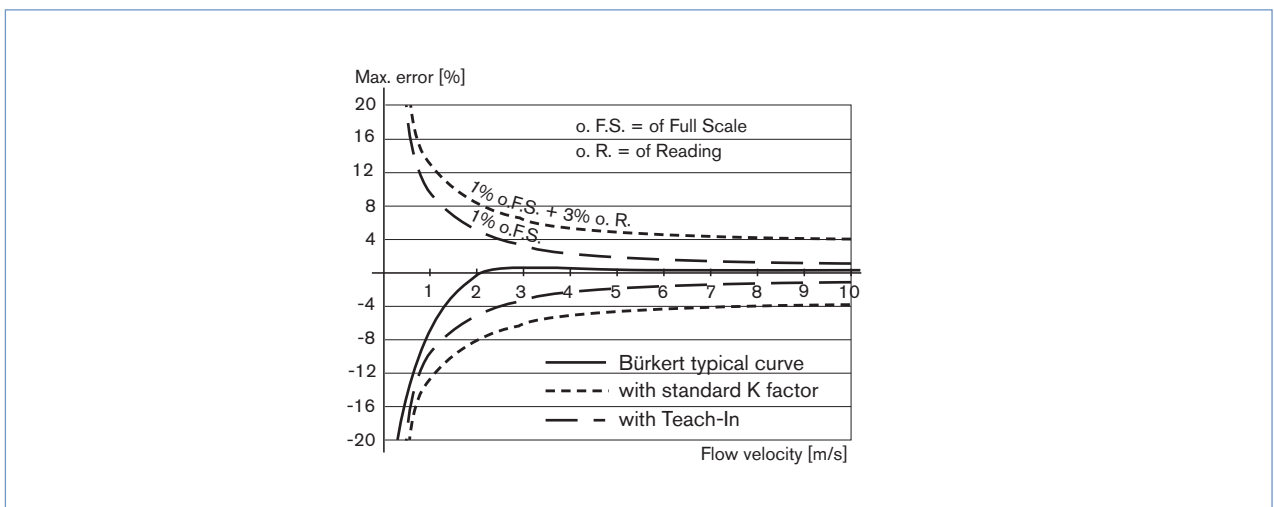
Electrical data	
Power supply Compact version Remote version	Filtered and regulated 12-30 V DC Depends on the remote sensor: 8041: 18-30 V DC 8020, 8030: 12-30 V DC other: min. 12 V DC, max. 30 V DC
Current consumption Compact version Remote version	≤ 80 mA (without load) ≤ 50 mA (without load) + consumption of remote sensor
Input External setpoint Frequency (remote version)	4-20 mA, galvanic insulation max. input impedance: 250 Ω Pulse signal: 2 to 400 Hz input impedance: 10 kΩ
Outputs Transistor (programmable) Relay (programmable) (compact version) Process value (option) (compact version)	NPN and PNP, open collector, 5-30 V DC, max. 700 mA, 0 to 300 Hz protect against short circuit. 3A/250 V AC or 3A/30 V DC. 3A/48 V AC or 3A/30 V DC ²⁾ . 4-20 mA, galvanic insulation Loop resistance: 1000 Ω at 30 V DC, 800 Ω at 24 V DC, 500 Ω at 18 V DC
Reversed polarity of DC	Protected
Environment	
Ambient temperature	0 up to + 60°C (32 to 140°F) (operating and storage)
Relative humidity	≤ 80%, without condensation
Standards, directives and approvals	
Protection class	IP65
Standard, directives EMC Security Pressure Vibration Shock	EN 610006-2, 610006-3 EN 61010-1 Complying with article 3 of §3 from 97/23/CE directive.* EN 60068-2-6 EN 60068-2-27

2) Valid for: external setpoint input, process value output

* For the 97/23/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

Accuracy diagram



Operation and display

The device can be calibrated by means of the K-factor, or via the Teach-In function. Customized adjustments, such as engineering units, output, filter, bargraph are carried out on site.

▶ Indication in operating mode / Display

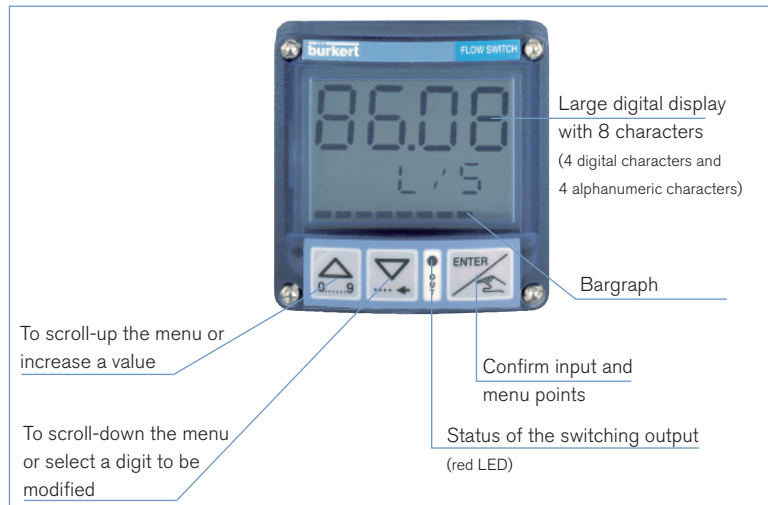
- measured flow
- high threshold value
- low threshold value

▶ Parameter definition

- engineering units (International measuring units)
- K-factor / Teach-In function
- selection of switching mode (window, hysteresis) (see main features)
- selection of threshold value (see main features)
- delay
- filter
- 10-segment bargraph (select min. and max. value)

▶ Test

- switching threshold test with flow simulation (dry-run test operation)



Main features

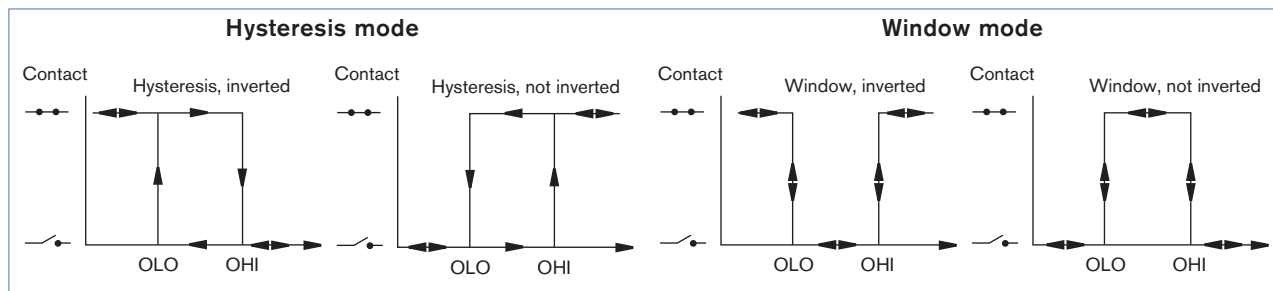
8032 with external setpoint option.

The switching points are automatically adjusted by the 4-20 mA input signal originating from a PLC.

- Power supplied by the PLC
- On/Off relay output

8032 with standard On/Off output

- 2 switching modes for the output, either hysteresis or window, inverted or not



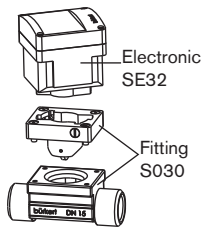
- Programmable delay before switching
- Possible outputs depending on the version: relay, transistor NPN, transistor PNP, frequency

8032 with process value option.

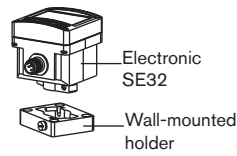
This version delivers an electric signal whose value is the image of the measured quantity.

- On/Off relay output
- 4-20 mA output
- external setpoint (4-20 mA input)

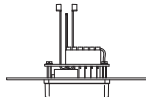
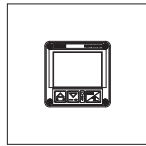
Design and principle of operation



The compact flow controller 8032 is built up with an electronic module SE32 associated to a fitting S030 with integrated measurement paddle-wheel. The output signal is provided via cable plug according to EN 175301-803 and/or a M12 multipin connector.



The wall-mounted flow controller 8032 is built up with an electronic module SE32 associated to a wall-mounted holder. The output signal is provided via two M12 multipin connector.



The panel-mounted flow controller 8032 is made up of an electronic module SE32 and a protection plate. The output signal is provided via a terminal strip located on the protection plate.

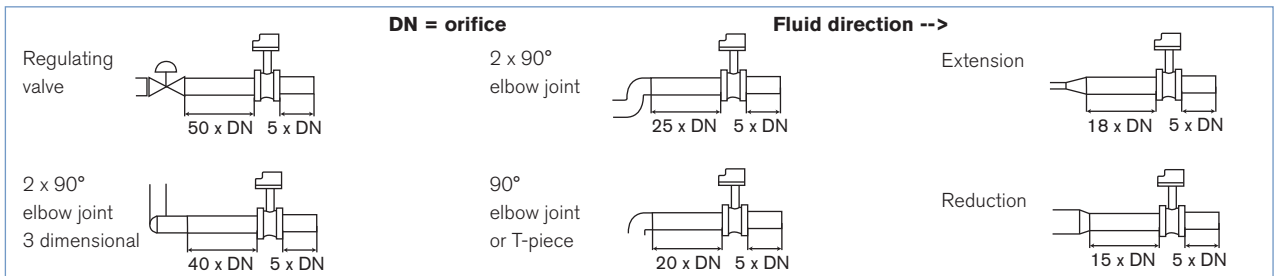
When liquid flows through the pipe, the 4 magnets, inserted in the paddle-wheel set in rotation, produce a measuring signal in the transducer. The frequency is proportional to the flow velocity of the fluid. A conversion coefficient (K factor, available in the instruction manual of the fitting), specific to each pipe (size and material) enables the conversion of this frequency into flow rate.

Installation

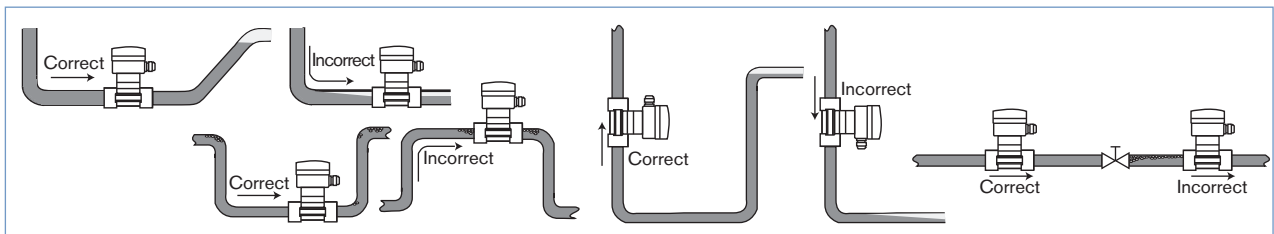


The 8032 flow controller can easily be installed into any Bürkert INLINE fitting system Type S030 by means of a Quarter-Turn. Minimum straight upstream and downstream distances must be observed. According to the pipe's design, necessary distances can be bigger or use a flow conditioner to obtain the 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.



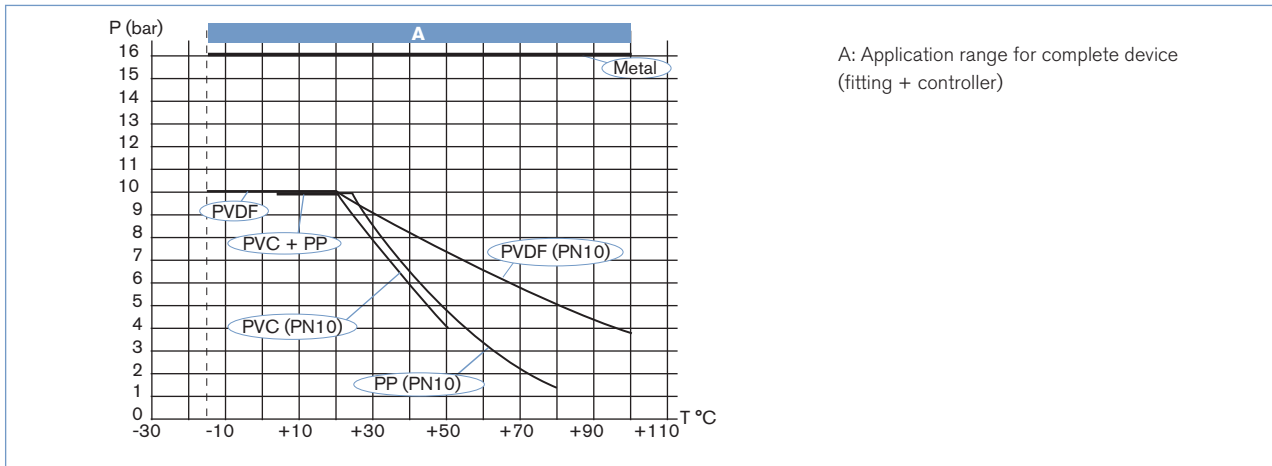
The flow controller can be installed into either horizontal or vertical pipes.



Pressure and temperature ratings must be respected according to the selected fitting material. The suitable pipe size is selected using the diagram Flow / Velocity / DN.

The controller is not designed for gas flow control.

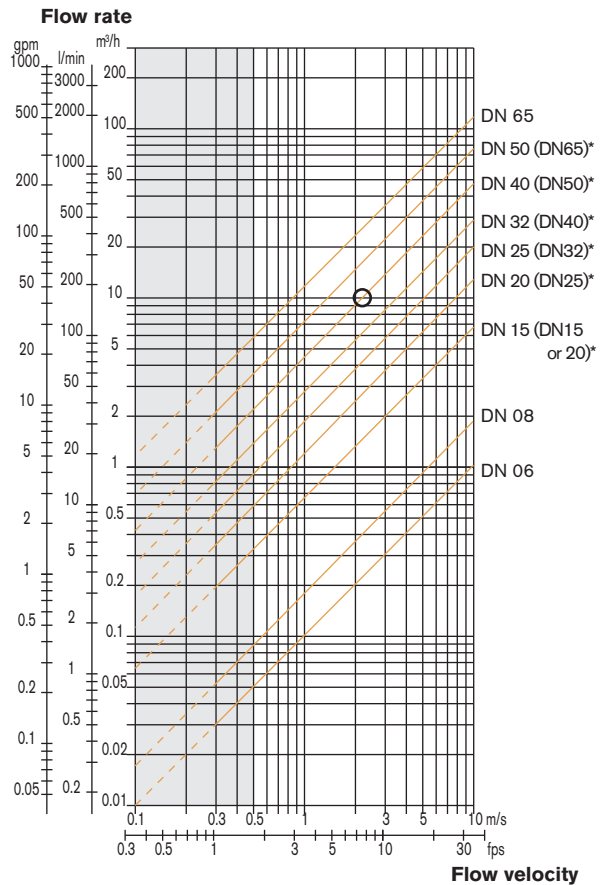
Pressure / temperature chart



Selection of fitting / pipe size

Example:

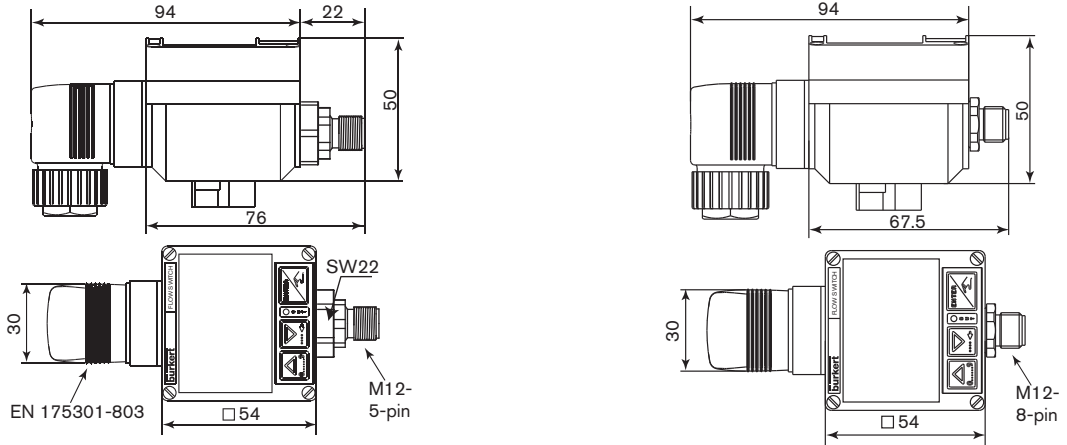
- Specification of nominal flow: 10 m³/h
- Ideal flow velocity: 2..3 m/s
- For these specifications, the diagram indicates a pipe size of DN40 [or DN50 for (*) mentioned fittings]



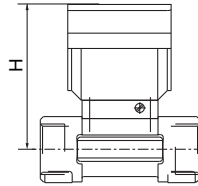
- * for following fittings:
- with external threads acc. to SMS 1145
 - with weld-ends acc. to SMS 3008, BS 4825 / ASME BPE or DIN 11850 Series 2
 - Clamp acc. to SMS 3017 / ISO 2852, BS 4825 / ASME BPE or DIN 32676

Dimensions

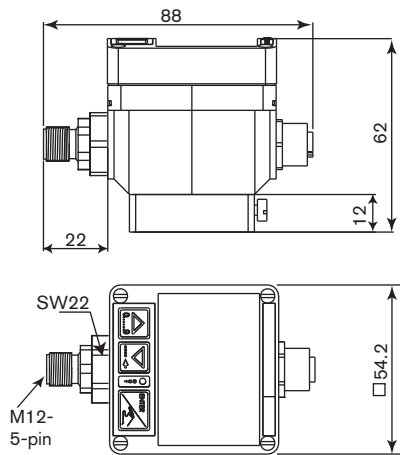
8032 compact



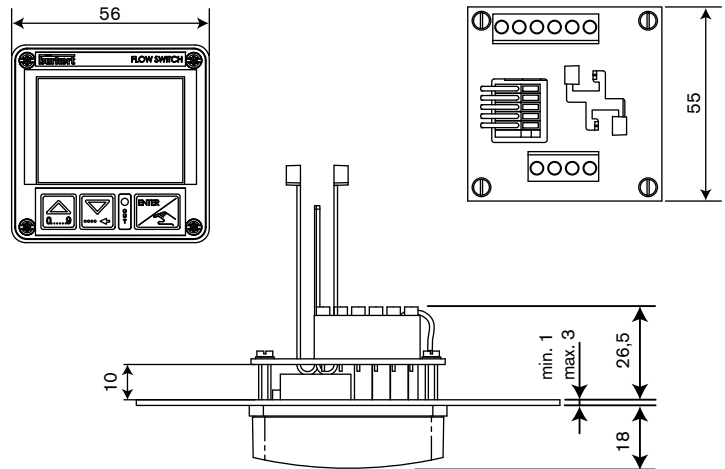
DN [mm]	H [mm]
06	79.5
08	79.5
15	84.5
20	82.0
25	82.2
32	85.8
40	89.6
50	95.7
65	95.7



8032 wall-mounted



8032 panel-mounted



Ordering chart for Controller Type 8032

A compact flow controller Type 8032 consists of:

- a compact electronic module SE32
- an INLINE fitting SO30 (DN 06 - DN 65) (Refer to corresponding data sheet - has to be ordered separately)

Voltage supply	Input	Output	Electrical connection	Item no.
12-30 V DC	---	NPN	Cable plug EN 175301-803*	436 474
		PNP	Cable plug EN 175301-803*	434 871
		NPN and PNP	Swivel 5-pin M12 plug	436 473
		Relay	Swivel 5-pin M12 plug and cable plug EN 175301-803*	436 475
	4-20 mA ¹⁾	4-20 mA ²⁾ +Relay	8-pin M12 plug and cable plug EN 175301-803*	444 699

1) External setpoint

2) Process value

* Europe / Asia (G / Rc): M16 x 1.5 mm cable plug
USA / CDN (NPT): NPT 1/2 cable plug

A wall- or panel- mounted a flow controller Type 8032 consists of:

- a wall- or a panel- mounted electronic module SE32
- a flow sensor Type 8020, 8030, 8030-HT, 8041 or 8070 - frequency output with pulse signal (Refer to corresponding data sheet - has to be ordered separately)

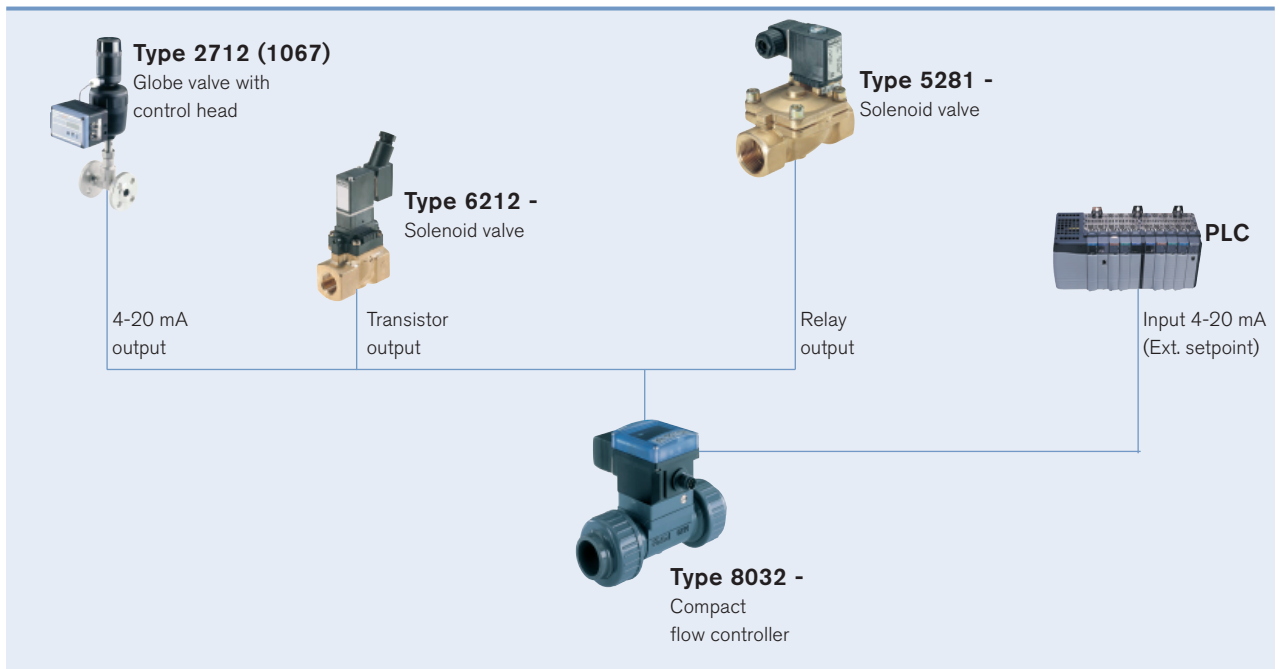
Description	Voltage supply	Input	Output	Electrical connection	Item no.
Wall-mounted	12-30 V DC	Frequency	NPN and PNP	Swivel 5-pin M12 male and 4-pin M12 female	448 861
Panel-mounted	12-30 V DC	Frequency	NPN and PNP	Terminal strips	558 181

Ordering chart for accessories (to be ordered separately)

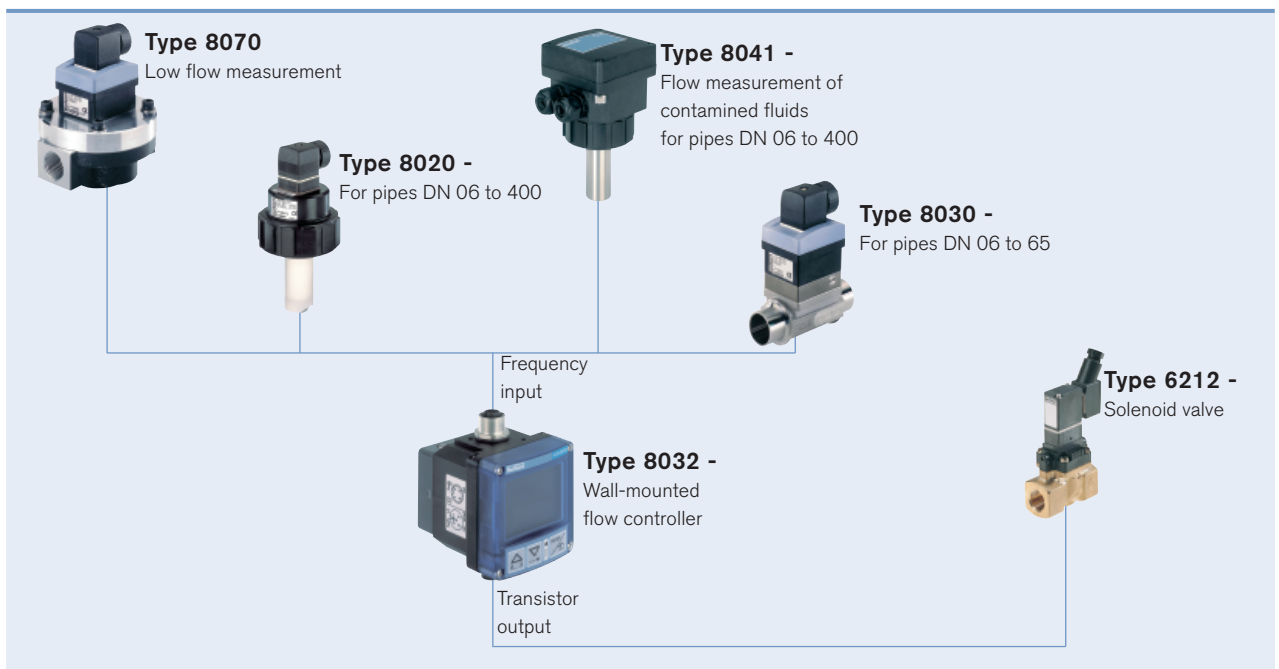
Description	Item no.
4-pin M12 male cable connector with plastic threaded locking ring, for remote version	448 856
4-pin M12 male connector moulded on cable (2 m, shielded), for remote version	448 857
5-pin M12 female cable connector with plastic threaded locking ring	917 116
5-pin M12 female connector moulded on cable (2 m, shielded)	438 680
8-pin M12 female cable connector with plastic threaded locking ring	444 799
8-pin M12 female connector moulded on cable (2 m, shielded)	444 800
Cable plug EN 175301-803 with cable gland (Type 2508)	438 811
Cable plug EN 175301-803 with NPT1/2 " reduction without cable gland (Type 2509)	162 673

Interconnection possibilities with other Bürkert products

Compact flow controller



Wall-mounted flow controller



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In case of special application conditions, please consult for advice.

Subject to alteration.
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