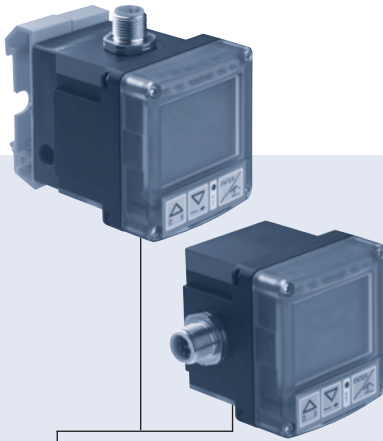


## Universal controller eCONTROL for flow, pressure and temperature



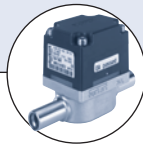
Type 8611 can be combined with...



**Type 6223**  
Proportional valve



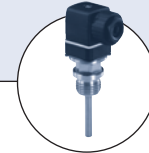
**Type 2012**  
Globe control valve



**Type 8012**  
INLINE flow sensor



**Type 8314**  
Pressure transmitter  
4-20 mA



**Type 8417**  
Pt100 sensor

- Microprocessor control
- Control of proportional and process valves
- For gases and liquids
- Sensor inputs (4-20 mA, frequency, Pt100)
- External or internal setpoint programming
- Variable PWM control frequency

Thanks to its compact design, the universal 8611 controller is especially designed for compact control system applications.

It is compatible with a wide range of proportional control valves and connects with an electro-pneumatic servo-system for pneumatically actuated process control valves.

The Proportional & Integral (PI) process controller is equipped with many additional functions.

The actual process value can be supplied as one of three inputs; a standard current (4-20 mA), frequency or Pt100 signal directly to the universal controller.

The process switching points can be set via a 4-20 mA signal or with the keypad.

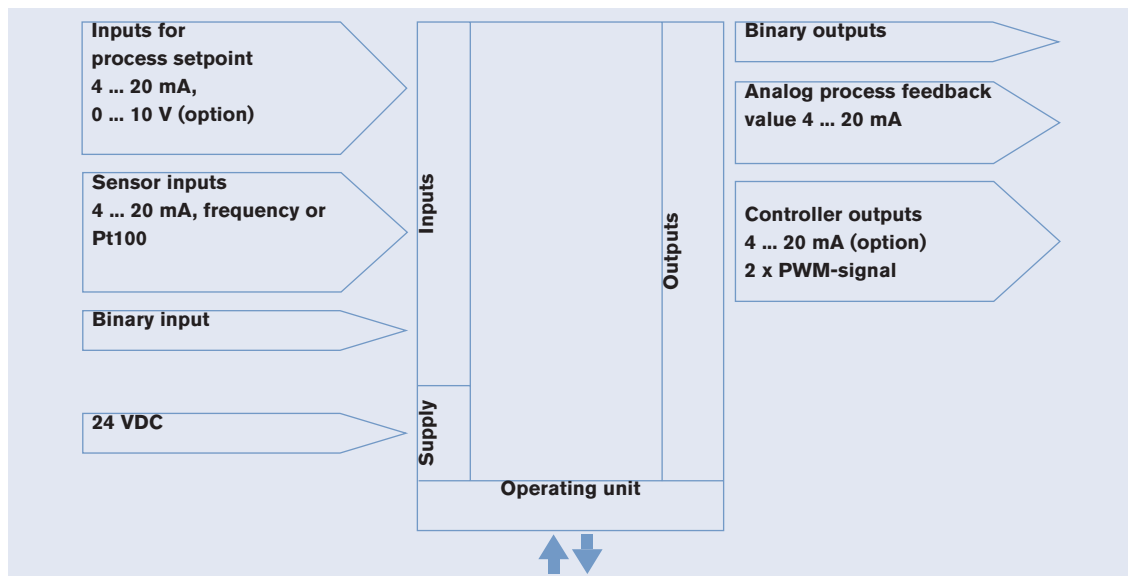
For temperature specific control, it is possible to develop a cascade structure with both temperature and flow as inputs.

Thanks to the proportional control capabilities, a wide range of control functions can be performed in a variety of liquids and gas Medias.

General data	
<b>Materials</b>	
Housing, cover	PC, +20% glass fibre
Front panel folio / Screws	Polyester / Stainless steel
Multipin	CuZn, nickel-plated
Wall-mounted holder	PVC
<b>Display</b>	8-digit LCD
<b>Electrical connections</b>	Multipin: 3-pin or/and 4-pin M8, 8-pin M12
<b>Voltage supply cable</b>	0.5 mm <sup>2</sup> max. cross section; max. 100 m length, shielded
Environment	
<b>Ambient temperature</b>	-20 °C up to + 70 °C (operating and storage)
<b>Relative humidity</b>	≤ 80%, non condensated
Standards and approvals	
<b>Protection class</b>	IP65
<b>Standard</b>	
EMC	EN 50081-1, 50082-2

Electrical data	
<b>Power supply</b>	24 V DC $\pm$ 10%, filtered and regulated
<b>Power consumption</b>	approx. 2 W (without valve)
<b>Input</b>	
Setpoint	
Standard 4-20 mA	Max. input impedance: 70 $\Omega$ Resolution: 5.5 $\mu$ A
Standard 0-10 V (on request)	Max. input impedance: 11.5 k $\Omega$ Resolution: 2.7 mV
Sensors	
Standard 4-20 mA	Max. input impedance: 70 $\Omega$ Resolution: 5.5 $\mu$ A
Frequency	Input 1: External sensor max. 5 kHz input impedance: > 1k $\Omega$ types of signal: Sinus, triangle-square-pulse (> 3000 mV peak to peak, max. 30 V peak to peak ) Input 2: Internal Hall-sensor (only with Bürkert Type S030 flow fitting)
Pt100	Pt100 (2-wire) measuring range: 0 $^{\circ}$ C ... 100 $^{\circ}$ C measuring current: 1 mA measuring error: < 0.5 $^{\circ}$ C
Binary input	Input impedance: 10 k $\Omega$ Operating threshold: 2 V ... 30 V Max. frequency: 5 kHz
<b>Outputs</b>	
Continuous signal	Standard signal 4-20 mA max. loop resistance: 680 $\Omega$ accuracy: 1%
Discontinuous signal	2 Transistor outputs (PNP) for PWM-signal Control frequency 1 kHz ... 20 Hz resolution max.: 16 Bit (depend from frequency) max. current load: 1 A switch voltage: 24 V DC
Binary output	Transistor output (PNP) (configurable) max. current load: 1 A switch voltage: 24 V DC

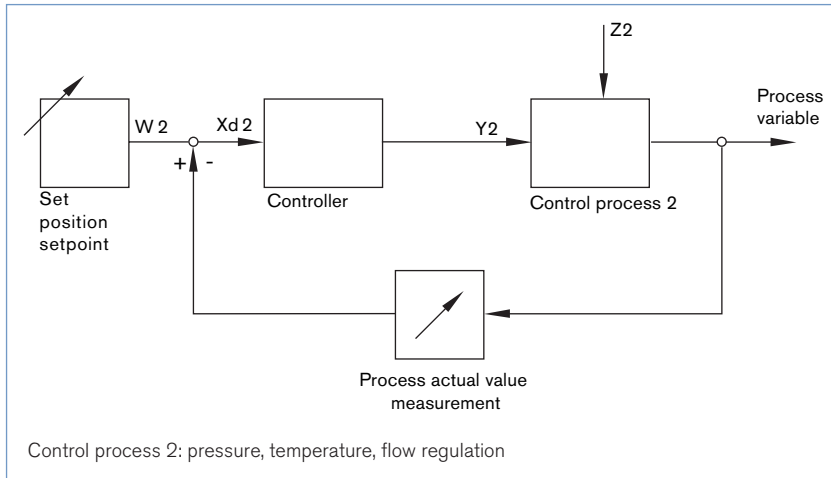
**Schematic representation of universal controller (3-wire device)**



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Signal flow plans

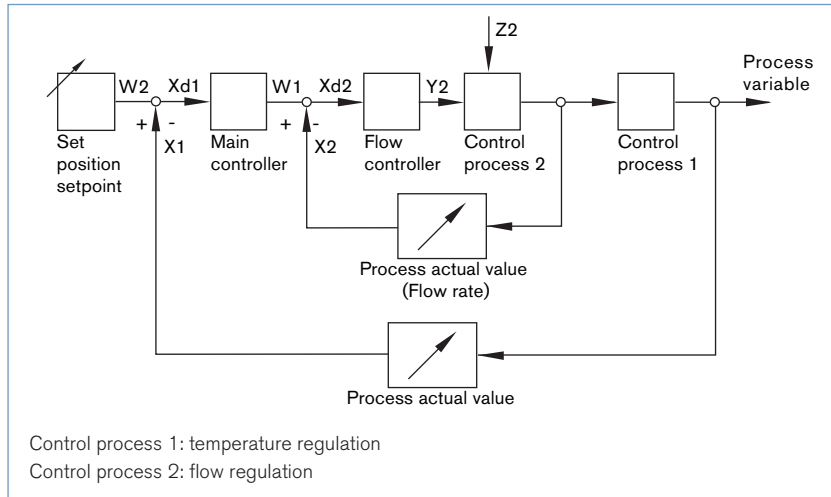
Process control loop



Software functions in universal controller

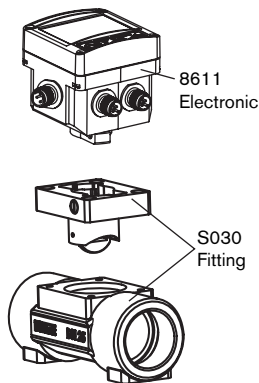
- Parametrization of the process controllers
- Configuration of one binary input
- Configuration of one binary output
- Setting of the setpoint range
- Limitation of control range
- Setting of a tight closure function (zero point cut-off)
- Code protection
- Setting direction between setpoint input signal and process values
- Setting direction between sensor input signal to valve positioning
- Scaling sensor input and actual value output

Process control loop (cascade control)

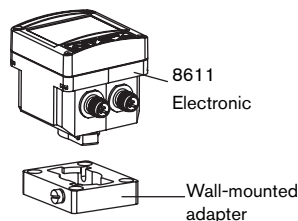


Assembly versions

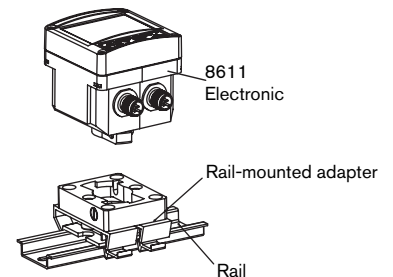
Mounting on sensor-fitting - Fitting mounted version



Mounting on a wall - Wall-mounted version



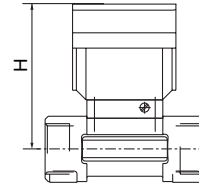
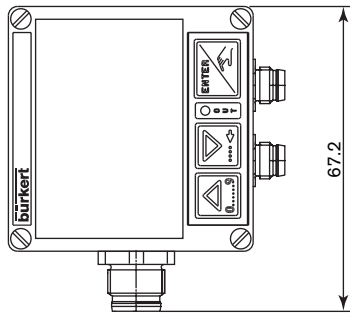
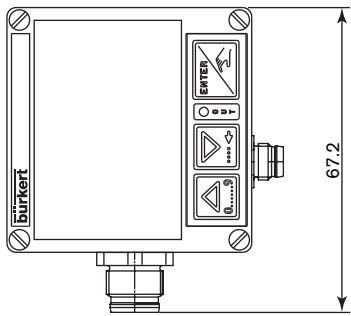
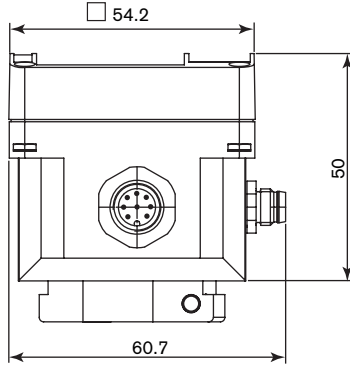
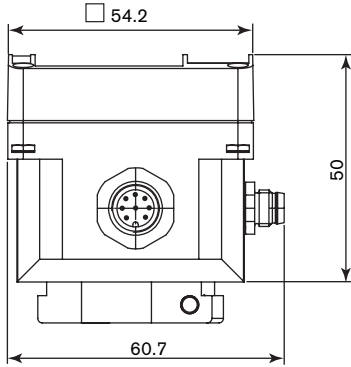
Mounting on rail - Rail-mounted version



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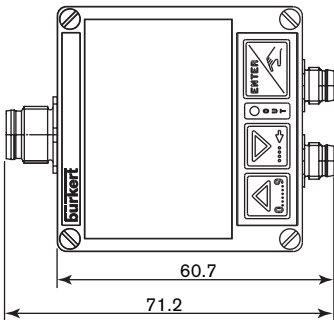
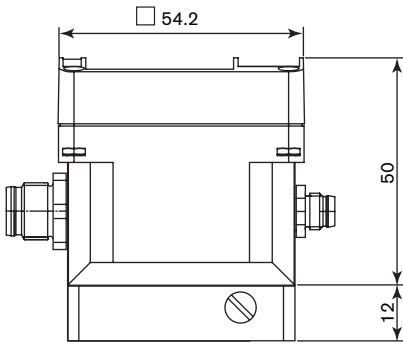
Dimensions

8611 Fitting mounted version

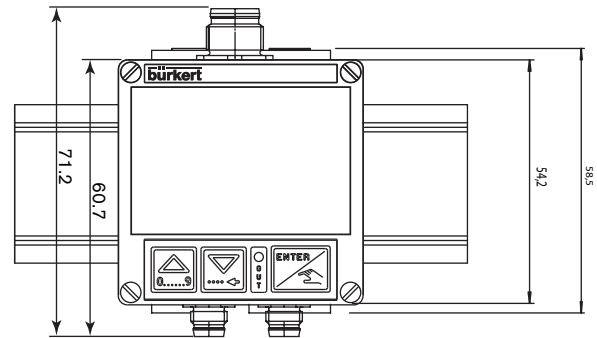
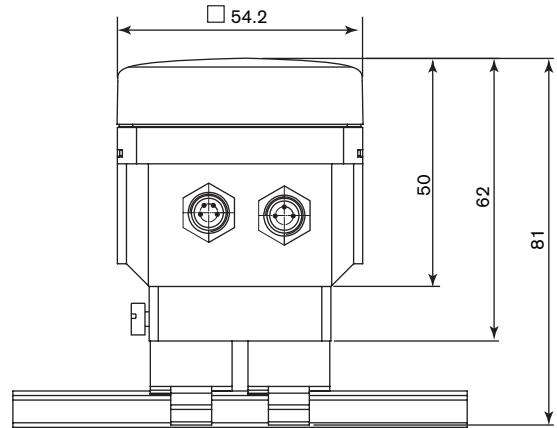


DN [mm]	H [mm]
06	79.5
08	79.5
15	84.5
20	82.0
25	82.2
32	85.8
40	89.6
50	95.7
65	95.7

8611 wall-mounted version

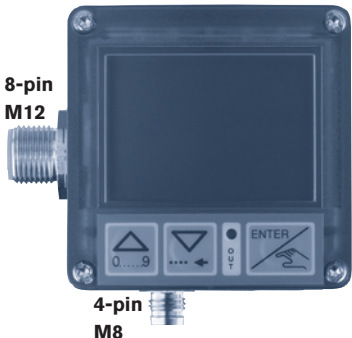
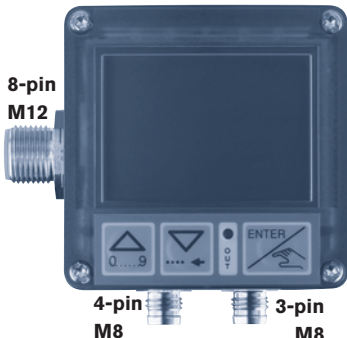



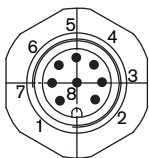
8611 rail-mounted version



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Connection feasibility and controller versions

Assembly	flow sensor fitting		Wall- and rail-mounted
<b>Sensor</b>	integrated HALL-sensor , without external sensor input	integrated HALL-sensor , with external sensor input	without HALL-sensor , with external sensor input
<b>Control</b>	<ul style="list-style-type: none"> <li>▪ Flow</li> </ul>	<ul style="list-style-type: none"> <li>▪ Temperature with flow display</li> <li>▪ Temperatur with subsidiary flow control</li> </ul>	<ul style="list-style-type: none"> <li>▪ Temperature</li> <li>▪ Pressure</li> <li>▪ Flow</li> </ul>
	 <p>8-pin M12</p> <p>4-pin M8</p>	 <p>8-pin M12</p> <p>4-pin M8</p> <p>3-pin M8</p>	 <p>8-pin M12</p> <p>4-pin M8</p> <p>3-pin M8</p>



**8-pin M12 plug**

Supply, setpoint value, actual process value, binary input, binary output



**4-pin M8 plug**

Control output of proportional valves, process valves or 4-20 mA actuator



**3-pin M8 plug**

Sensor input (4-20 mA, frequency, Pt100)

## Ordering chart for Controller Type 8611

A fitting mounted controller Type 8611 consists of:

- an electronic module 8611
- an INLINE fitting S030 (DN 06 - DN 65) (Refer to corresponding datasheet - has to be ordered separately)

Sensor input	Control variable	Controllers outputs*	Voltage supply	Setpoint setting	Process value output	Electrical connection	Item no.
Hall (internal)	Flow	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 4-pin M8 plug	177 455
Pt100 and Hall	Temperature	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 3-pin M8 plug, 4-pin M8 plug	177 458
4 ... 20 mA and Hall	Pressure, temperature, or flow	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 3-pin M8 plug, 4-pin M8 plug	177 463

A wall-mounted controller Type 8611 consists of:

- an electronic module 8611
- a wall-mounted adapter

Sensor input	Control variable	Controllers outputs*	Voltage supply	Setpoint setting	Process value output	Electrical connection	Item no.
Frequency (NPN)	Flow	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 3-pin M8 plug, 4-pin M8 plug	177 454
Pt100	Temperature	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 3-pin M8 plug, 4-pin M8 plug	177 457
4 ... 20 mA	Pressure, temperature, or flow	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 3-pin M8 plug, 4-pin M8 plug	177 462
		4 ... 20					182 383

A rail-mounted controller Type 8611 consists of:

- an electronic module 8611
- a rail-mounted adapter

Sensor input	Control variable	Controllers outputs*	Voltage supply	Setpoint setting	Process value output	Electrical connection	Item no.
Frequency (NPN)	Flow	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 3-pin M8 plug, 4-pin M8 plug	177 091
Pt100	Temperature	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 3-pin M8 plug, 4-pin M8 plug	177 456
4 ... 20 mA	Pressure, temperature, or flow	2 x PWM	24 V DC	4...20 mA	4 ...20 mA	8-pin M12 plug, 3-pin M8 plug, 4-pin M8 plug	177 460

\* PWM: Puls Wide Modulated output for actuating proportional valves or Process valves; 4-20 mA controller output on request.

## Ordering chart for accessories (to be ordered separately)

Description	Item no.
Wall-mounted adapter	427 098
Rail-mounted adapter	655 980
Positioning system 6104 for actuating process valve	161 802
4-pin M8 female right angle connector with self-locking threaded joint and 2 m molded cable	918 718
3-pin M8 female right angle connector with self-locking threaded joint and 2 m molded cable	918 717
8-pin M12 female connector with self-locking threaded joint and 2 m molded cable	918 991

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

We reserve the right to make technical changes without notice.

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