



Type 8631 can be combined with ...



**Type 2012**  
Globe valve



**Type 2000/01/02**  
Angle-seat valve



**Type 2030/2031**  
Diaphragm valve



**Type 2652/2655**  
Ball valve



**Type 2672/2675**  
Butterfly valve

- Easy control of pneumatically-activated process valves
- Compact unit consisting of pilot valve, position feedback and communication electronics
- Brief circuit times thanks to short hose connections
- Less effort to install, simple start-up

Pneumatically-activated process valves can be controlled very easily using the TopControl ON/OFF type 8631. For example, these Bürkert types 2000, 2030, 2031, 2031K, 2652, 2655, 2658, 2672 and 2675. TopControl ON/OFF and pneumatic drive are connected to each other mechanically and form one optical and functional unit.

Various levels of extension and electrical connection concepts are made possible by TopControl ON/OFF's modular construction. A position feedback is possible via inductive proximity switches or mechanical terminal switches. The terminal switches can be height-adjusted.

TopControl ON/OFF effects advancement to a valve safety position in the event of operational or pneumatic emergency current failure.

Process valves equipped with TopControl ON/OFF can be used for a multitude of control tasks in fluid technology.

Technical data	
<b>Body material</b>	PPE/PA
<b>Lid material</b>	PSU (transparent)
<b>Seal material</b>	NBR
<b>Control medium</b>	air, neutral gases
Dust content	Class 5 ( $\leq 40 \mu\text{m}$ particle size)
Particle density	Class 5 ( $\leq 10 \text{ mg/m}^3$ )
Pressure dew point	Class 3 ( $\leq -20^\circ\text{C}$ )
Oil concentration	Class 5 ( $\leq 25 \text{ mg/m}^3$ )
<b>Device variants</b>	for single and double-acting valve actuators
<b>Control air temperature</b>	$-10 \dots +50^\circ\text{C}$
<b>Ambient temperature</b>	$-10 \dots +50^\circ\text{C}$
<b>Control air port</b>	power supply/exhaust air
Working connection	G1/4 (NPT 1/4 and RC 1/4 on request) G1/8
<b>Compressed air</b>	3 to 7 bar <sup>1)</sup>
<b>Flow <math>Q_{Nn}</math></b>	100 NI/min pilot valve
<b>Pilot valve</b>	3/2-way valve (single-acting drive) 5/2-way valve (double-acting drive)
<b>Position feedback option</b>	
24 V version	inductive limit switch (proximity switch), position feedback via binary outputs (NO)
24 V or 230 V version	mechanical limit switch, position feedback via binary outputs (NO or NC)
<b>Communication circuit option</b>	ASI (AS interface) DeviceNet
<b>Protection class</b>	IP 65 according to EN 60529
<b>Initiators</b>	8 ... 30 V DC / max. 100 mA
<b>Terminal position switches</b>	max. 230 V AC / max. 1 A

<sup>1)</sup> The supply pressure applied must lie 0.5 to 1 bar above the minimum required control pressure of the valve actuator.

## Technical data - continuation

### Without field bus communication

Technical data - type 8631	
II 2G EEx ia IIC T6 PTB 00 ATEX 2077X	
<b>Initiators</b>	Pepperl+Fuchs 2-wire NAMUR
<b>Electrical connections</b>	2 x M16x1.5 Bushing by means of screw clamps
<b>Approval</b>	according DIN EN 50014 and 50020 (see also: "Temperature categories T5 and T6" table)
<b>Function-technical data</b>	
Resistance at 20°C (R <sub>20</sub> )	510 Ohm
Minimum clamp tension	11.7 V
Minimum current	23 mA

Technical data - type 8631	
<b>Operating voltage</b>	24 V DC; 230 V AC on request
<b>Residual ripple with DC</b>	10 % Not technical direct current!
<b>Voltage tolerance</b>	± 10%
<b>Power consumption</b>	< 2 W
<b>Electrical connection</b>	M16x1.5 bushing by means of screw clamps

### Temperature categories T5 and T6

Temperature category	Max. permitted ambient temperature <sup>1)</sup> [°C]	Max. permitted output [W]
T6	+50	0.4
	+45	0.5
	+40	0.7
	+35	0.8
T5	+50	0.8
	+45	1.0
	+40	1.1

<sup>1)</sup> Ambient temperature for complete TopControl 8631 (temperature inside the device is around a max. 5 °C higher)

### With field bus communication

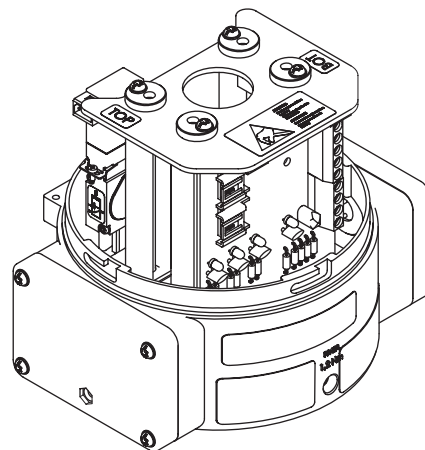
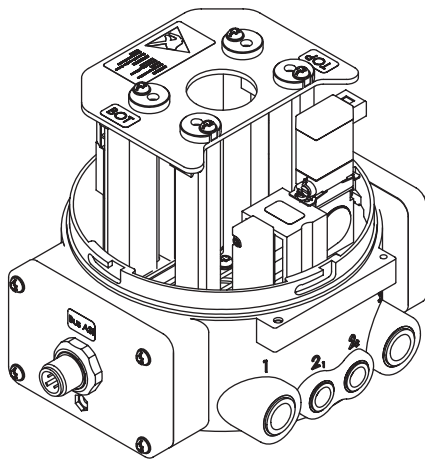
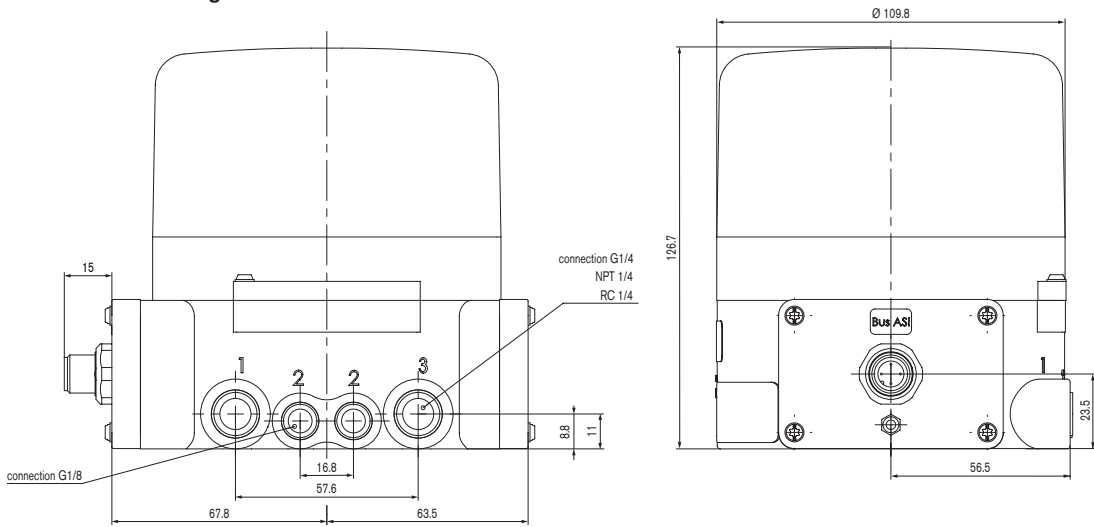
Technical data - type 8631 (ASI)	
<b>Profile</b>	S-D.F.F. (Standard slave, max. 31 slaves/master) S-D.A.E. (A/B slave, max. 62 slaves/master)
<b>Operating voltage</b> (via bus lines) (separated from bus signal)	29.5 ... 31.6 V DC according to specification on request
<b>Power consumption</b> maximum in normal operation with reduced current	120 mA ≤ 80 mA ≤ 50 mA (after 100 ms)
<b>Output</b> Contact rating Watch-dog function	≤ 1 W via AS-interface integrated
<b>Input</b> Sensor operating voltage Acceptable current load Switching level High Input current High Input current Low	24 V ± 10% (via AS-interface) ≤ 50 mA short circuit protected ≥ 10 V limited to 6.5 mA ≤ 1.5 mA
<b>Electrical connections</b>	M12 flange plug 4-pole Cable screw connection M16x1.5 incl. ASI flat-band cable seal
<b>Programming data</b>	see Operating instruction

Technical data - type 8631 (DeviceNet)	
<b>Profile</b>	Group 2 Only Slave Device; MAC-ID and transmission rate adjustable via DIP switches
<b>Operating voltage</b>	11 ... 25 V DC
<b>Power consumption</b>	≤ 125 mA
<b>Output</b> Pull-in current Holding current	120 mA 80 mA
Input "0" "1"	0 ... 1.5 V ≥ 8 V
<b>Electrical connection</b>	M12-Micro Style - flange plug 5-pole (assignment according to DeviceNet specifications)

- Flow QNn value Air [l/min] Measurement at +20 °C, 6 bar pressure at valve input and 1 bar pressure differential
- Pressure data [bar]: Overpressure with respect to atmospheric pressure

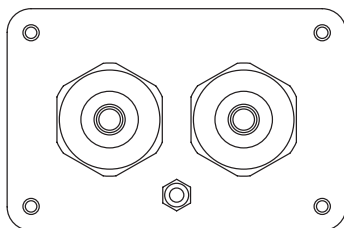
Dimensions [mm]

Dimensioned drawing 8631 - Connection M12

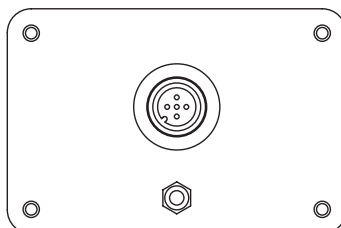


depicted without cover

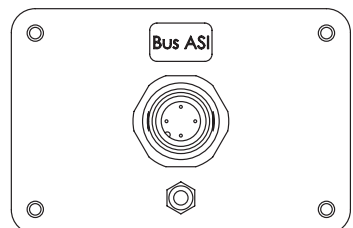
Connection diagram  
cable screw connection



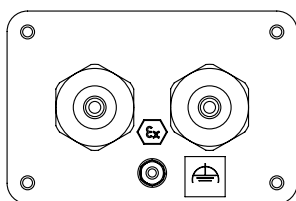
Connection diagram  
DeviceNet M12 5-pole



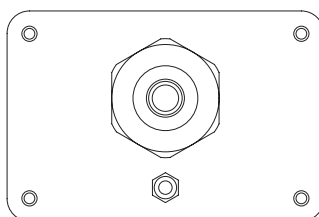
Connection diagram  
ASI with M12 4-pole



Connection diagram  
cable screw connection II 2G EEx ia IIC

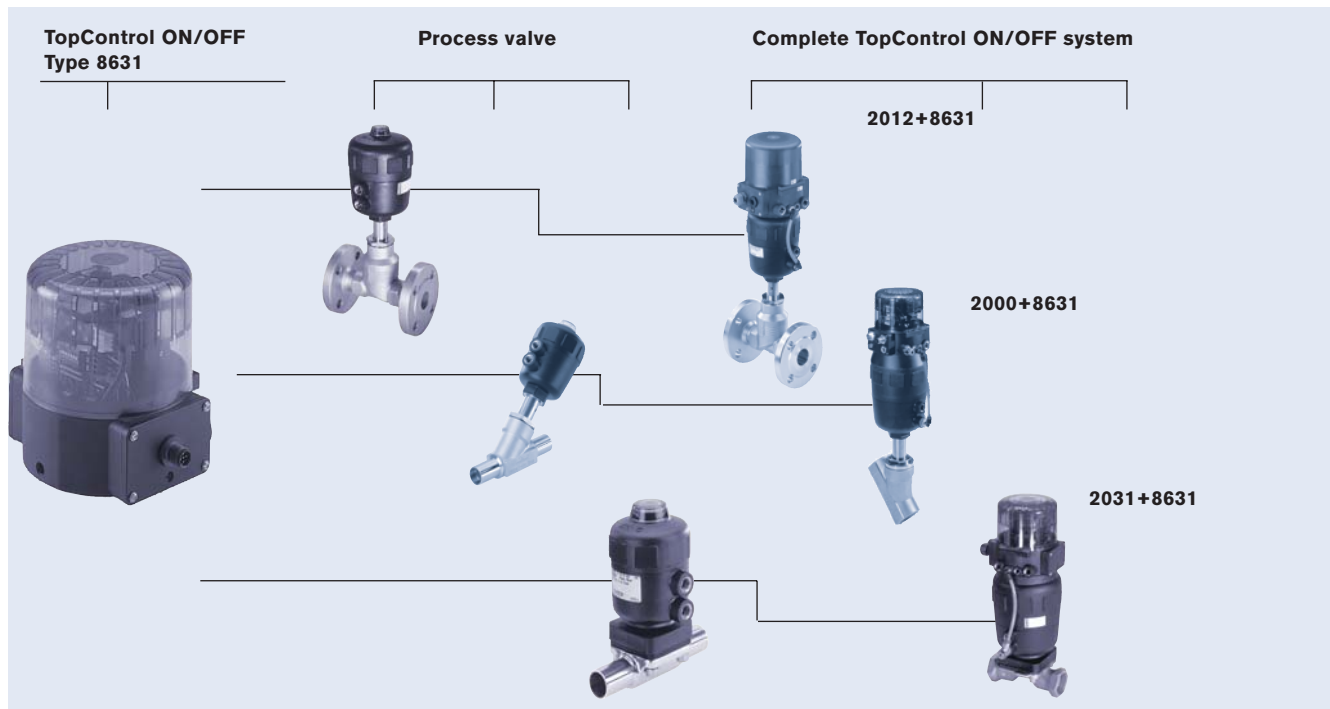


Connection diagram  
ASI with cable screw connection



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## Ordering complete TopControl ON/OFF systems



## Ordering chart (Extract, further layouts on request)

Function	24 V DC	ASI 31 slaves	ASI A/B 62 slaves	DeviceNet	Feedback	Electrical connection	Item no.
Control single-acting actuators	with	without	without	without	2 mechanical limit switches	Cable connector	140 637
	with	without	without	without	2 inductive proximity switches	Cable connector	147 958*
	with	without	without	without	2 inductive proximity switches	Multipol circular connector	170 343*
	without	with	without	without	2 inductive proximity switches	Cable connector	142 021
	without	with	without	without	2 inductive proximity switches	Multipol circular connector	142 594
	without	without	with	without	2 inductive proximity switches	Multipol circular connector	158 363
	without	without	with	without	1 inductive proximity switch	Multipol circular connector	162 764
	without	without	with	without	2 inductive proximity switches	Cable connector	162 766
	without	without	with	without	1 inductive proximity switch	Cable connector	163 051
	without	without	without	with	2 inductive proximity switches	Multipol circular connector	151 903
Control double-acting actuators	without	without	without	with	2 mechanical limit switches	Multipol circular connector	157 917
	with	without	without	without	2 mechanical limit switches	Cable connector	142 029
	with	without	without	without	2 inductive proximity switches	Cable connector	142 030
	without	with	without	without	2 inductive proximity switches	Cable connector	142 031
	without	with	without	without	2 inductive proximity switches	Multipol circular connector	142 045
	without	without	with	without	2 inductive proximity switches	Multipol circular connector	162 767
Position feedback; without control function	without	with	without	without	2 inductive proximity switches	Cable connector	163 052
	with	without	without	without	2 mechanical limit switches	Cable connector	146 643
	without	with	without	without	2 inductive proximity switches	Multipol circular connector	146 642

\* II 2G EEx ia IIC T6 ATEX approval

## Ordering information

### Ordering information for complete TopControl systems

A TopControl ON/OFF will only be supplied together with a process valve as a complete TopControl system.

For the selection of a suitable process valve, please consult the data sheets for the Types 2000, 2012, 2030, 2031K, 2652, 2655, 2658, 2672 and 2675 verwenden.

Information required for the ordering of a complete TopControl system

- Item no. of the TopControl ON/OFF
- Item no. of the selected process valve
- Remark "TopControl System"

**Order two components and receive a fully-assembled and tested TopControl system.**

### Ordering chart for accessories

Accessory	Item no.
M12 socket ASI or DeviceNet	917 116

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