

Control head for decentralized automation of ELEMENT process valves



Type 8695 can be combined with...



Type 2100

Angle set valve



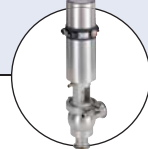
Type 2101

Globe valve



Type 2103

Diaphragm valve



Hygienic process valves

- Contact-free inductive valve position registration (Teach function)
- Coloured illuminated status display
- Internal control air routing
- Fieldbus AS-Interface or DeviceNet (option)
- With ATEX II cat. 3G/D approval

The control head Type 8691 is designed for decentralized automation of ELEMENT Type 21xx pneumatic process valves with smaller nominal size. The registration of the valve position is done through a contact-free analog position sensor, which automatically recognises and saves the valve end position through the teach function when starting up. The integrated pilot valve controls single or double-acting actuators.

The design of the control unit and the actuator is specially designed for the requirements of a hygienic process environment and enables an internal control air channel without external tubings. Besides the electrical position feedback signal the status of the device is shown directly on the control head itself through coloured LEDs showing a clear visible valve position status. As an option a fieldbus interface, AS-Interface, can be chosen.

The housing is easy to clean and features proven IP protection and chemically resistant materials for use in hygienic processing in food, beverage and pharmaceutical industries. Combined with Bürkert ELEMENT actuators the unique pilot valve system enables a compressed air recycling that avoids actuator chambers contamination from the environment.

Technical data

Material	Body Cover Sealing	PPS, stainless steel PC EPDM
Control medium	Dust concentration Particle density Pressure condensation point Oil concentration	neutral gases, air, quality classes acc. to ISO 8573-1 Class 7 (< 40 µm particle size) Class 5 (< 10 mg/m ³) Class 3 (< -20 °C) Class X (< 25 mg/m ³)
Supply pressure		0 to 7 bar ¹⁾
Actuator system	Actuator series 21xx	for single or double-acting actuators actuator ø 50 mm
Pilot air ports		Threaded ports G 1/8 stainless steel or push-in connector (tube Ø 6 mm / 1/4")
Position feedback		Analog position sensor (contact-free) with autotune switch-point (PNP) (NPN on request)
Stroke range valve spindle		2,5 to 32 mm
Ambient temperature	with pilot valve Without pilot valve	-10 to +55 °C -20 to +60 °C
Installation		as required, preferably with actuator in upright position
Protection type		IP65/IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard
Protection class		3 acc. to DIN EN 61140
Approvals		ATEX II cat. 3G/D cULus Cert. No. 238179
Ignition protection		II 3D Ex to IIIC T135 °C Dc II 3G Ex nA IIC T4 Gc
Fieldbus communication (option)		AS-Interface / DeviceNet
Conformity		EMC directive 2014/30/EU

¹⁾ The supply pressure has to be 0,5 - 1 bar above the minimum required pilot pressure for the valve actuator.

Technical data, continued

Without fieldbus communication

Technical data	
Power supply	24 V DC \pm 10% UL: NEC Class 2
Residual ripple with DC	10%
Power consumption	< 2 W
Electrical connection Multipole	M12, 8-pole
Output	max. 100 mA per output

With fieldbus communication; AS-Interface

Technical data	
Profile	S-B.A.E. (A/B slave, max. 62 slaves/master) Certificate No. 87301 acc. to version 3.0
Power supply through bus line separated from bus signal	29.5 to 31.6 V DC, UL: NEC Class 2 according to specification on request
Power consumption Units without external power supply Max. power consumption Power consumption in normal operation (after current reduction; Valve + 1 end position achieved)	120 mA 90 mA
Output Contact rating Watch-dog function	\leq 1 W over AS-Interface integrated
Electrical connection	M12 4-pins
Programming data	see operating instructions

With fieldbus communication; DeviceNet

Technical data	
Profile	Group 2 Only Slave Device; MAC-ID and transfer rate adjustable through DIP-switch
Power supply	11 to 25 V DC UL: NEC Class 2
Power consumption	\leq 80 mA
Output Inrush current Hold current	\leq 50 mA \leq 30 mA
Input "0" "1"	0 to 1.5 V \geq 8 V
Electrical connection	M12-Micro Style - flange connector 5-pins (configuration according DeviceNet specification)

Ordering information for decentralized automation of On/Off ELEMENT valve systems

A decentralized, automated valve system consists of **control head Type 8695** and a **process valve ELEMENT Type 21xx**, actuator size 50 mm. The following information is necessary for the selection of a complete system:

- **Item no.** of the desired control head **Type 8695** (see ordering chart on p. 4)
- **Item no.** of the selected process valve **Type 21xx** (see separate datasheets, Type 2100, 2101, 2103)

You order two components and receive a complete assembled and certified valve.

Click on the orange box "More info." below... you will come to our website for the resp. product where you can download the datasheet.

Example for decentralised automation of On/Off ELEMENT valve systems

Control head Type 8695 **Pneumatic process valves**



Valve system On/Off ELEMENT



*please see datasheet 8681/ELEMENT installation kits to third party process valves or contact your sales office for related drawings or individual engineering support

Ordering chart for control head Type 8695 (other versions on request)

Control head for decentralized automation of ELEMENT On/Off process valves Type 21xx

Electrical connection	Communication	Control function	Pilot air ports threaded ports	Item no.		
				Standard	ATEX II cat. 3G/D	
M12 multipole	AS-Interface	single-acting	G 1/8	227 444	265 075	
		double-acting	G 1/8	227 440	265 069	
	DeviceNet	single-acting	G 1/8	238 724	265 076	
		double-acting	G 1/8	265 081	265 070	
			single-acting	G 1/8	227 446	265 077
			double-acting	G 1/8	227 442	265 071
				G 1/8	234 246	265 067

Note: All non-ATEX versions are UL approved.

i Further versions on request

> **Additional**
push-in pilot air ports (tube Ø 6 mm / 1/4")

Ordering chart adapter kit (has to be ordered separately)

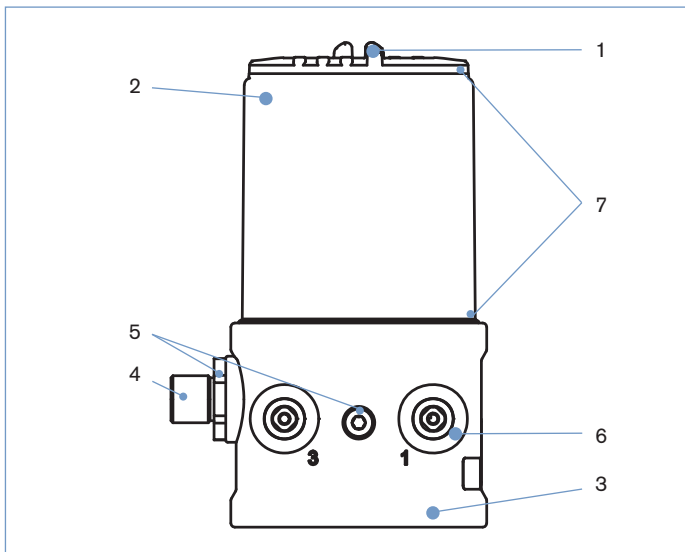
Description	Actuator size	Control function	Item no.
Adapter kit ELEMENT Types 21xx	Ø 50 mm	universal	679 918

For installation kits to 3rd party process valves please see datasheet installation kits for hygienic process valves or contact your sales office for related drawings or individual engineering support

Ordering chart accessories

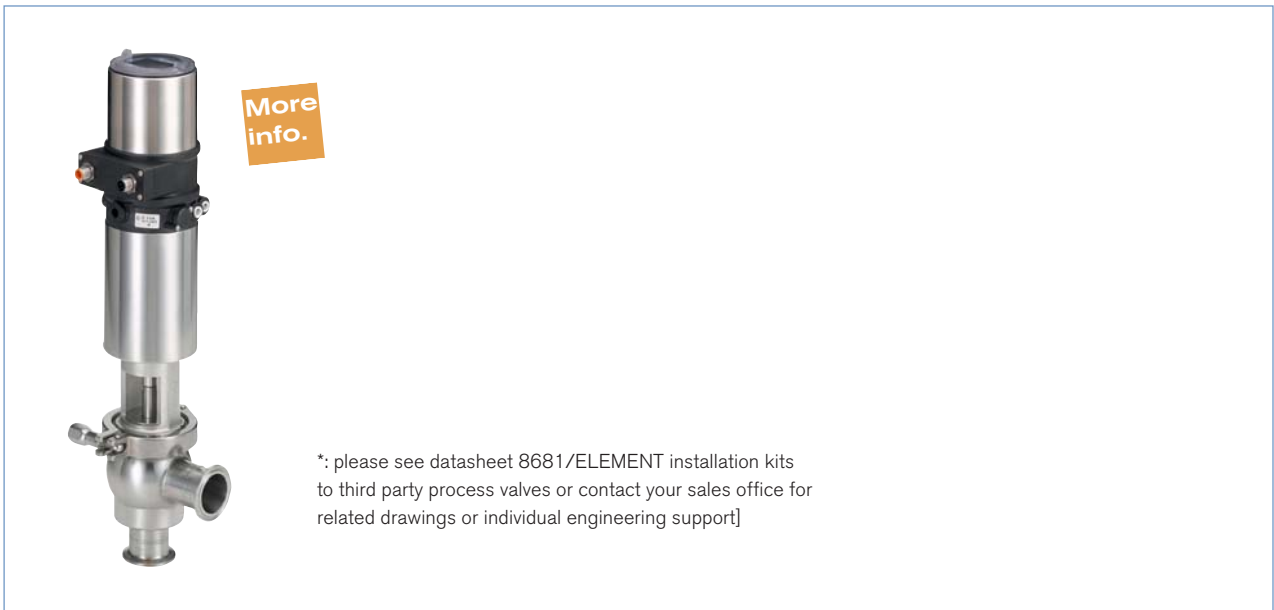
Description	Item no.
M12 socket 8-pin with 5 m cable for power supply and input/output signals	919 267
Silencer G 1/8	780 779
Silencer, push-in connector	902 662
Sensor puck (spare part)	677 245

Materials



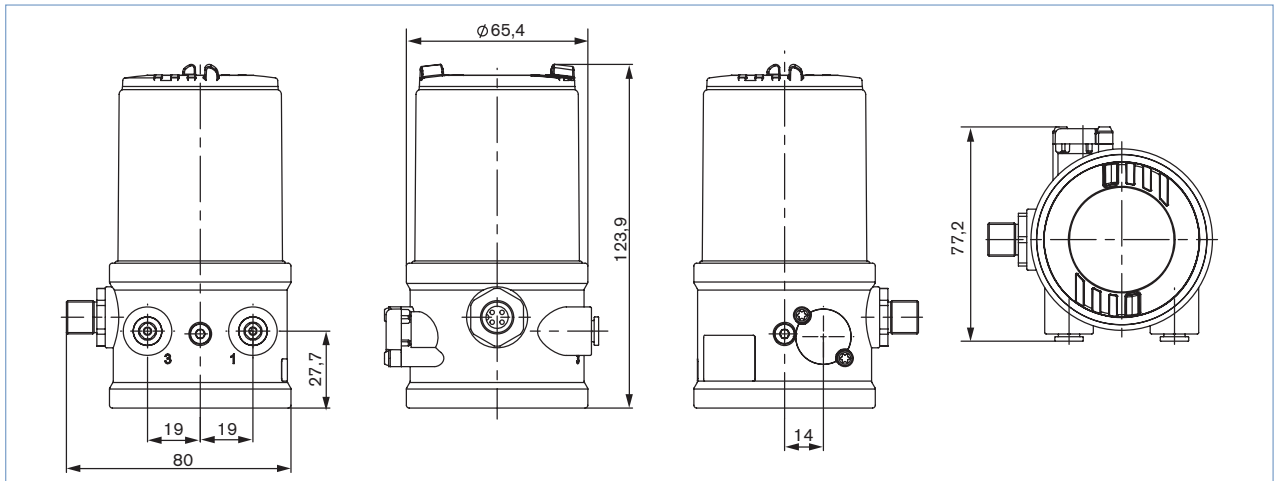
1 Cover	PC
2 Body casing	Stainless steel
3 BASIC body	PPS
4 Plug M12	Stainless steel
5 Screws	Stainless steel
6 Push-in connector	POM/stainless steel
Threaded ports G 1/8	Stainless steel
7 Sealing	EPDM

Mounting on third party hygienic process valves



Dimensions [mm]

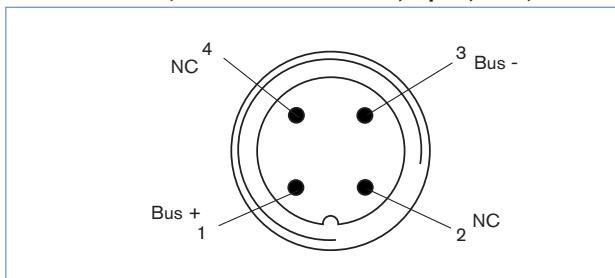
Mounting on process valve ELEMENT Type 21xx



Electrical installation

AS-Interface

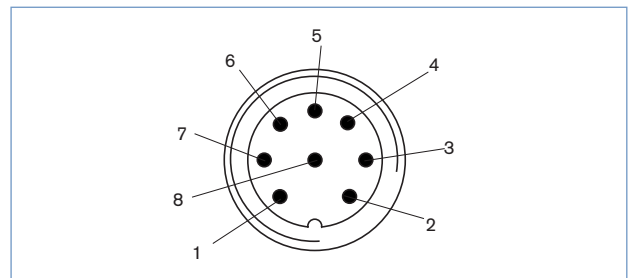
Multipole connection AS-Interface
 Bus connection (M12-circular connector, 4-pins, male)



Pin	Description	Configuration
1	Bus +	bus line AS-Interface +
2	NC	not assigned
3	Bus -	bus line AS-Interface -
4	NC	not assigned

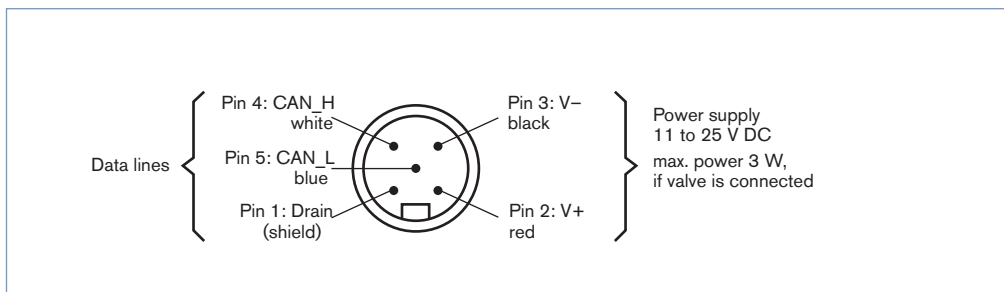
24 V DC

Multipole connection M12, 8-pins



Pin	Description	Configuration
1	Limit switch 1	IN 1 / TOP
2	Limit switch 2	IN 2 / BOTTOM
3	Power supply	GND
4	Operating voltage +	24 V DC
5	Valve control +	Valve +
6	Valve control -	Valve -
7	n.a.	not assigned
8	n.a.	not assigned

With fieldbus communication DeviceNet



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

Subject to alteration.
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