

# Pneumatic Control Unit with integrated position feedback

8697

- Compact design
- Integrated pilot valve with manual override
- Integrated control air supply to the actuator
- Bright LED as a position indicator
- Automatic end position adjustment



The 8697 pneumatic control unit is optimised for integrated mounting on the ELEMENT 21XX process valve and CLASSIC 20xx series. Mechanical or inductive limit switches register the position of the valve. The integrated pilot valve controls single-acting actuators.

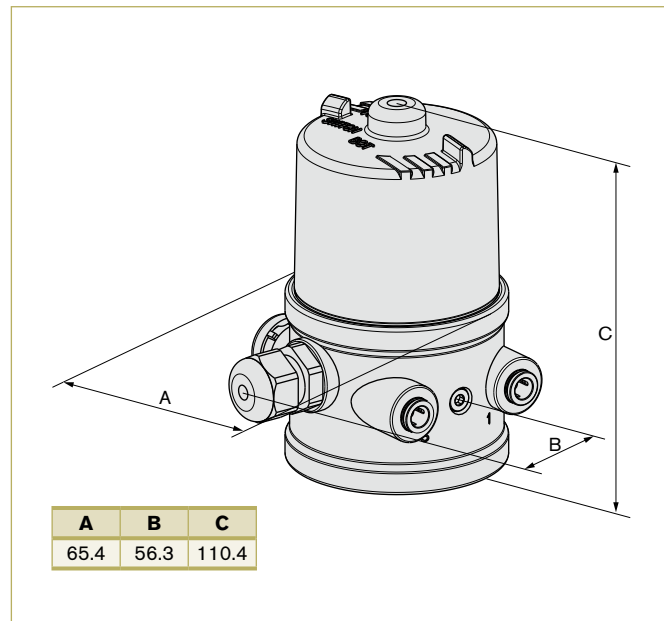
The design of the control unit and the actuator enables an internal control air routing without external tubings. Besides the electrical position feedback signal the status of the device is shown directly on the control head itself via LEDs.

The housing is easy to clean and features proven electrical 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

<b>Materials</b>	
Body	PPS
Cover	PC
Sealing	EPDM
<b>Operating voltage</b>	
Pilot valve	24 V DC $\pm$ 10% - residual ripple 10%, consumption 1 W
Micro switch	24 V-Version: 0-48 V AC/DC, max. 2 A 230 V-Version: 50-250 V AC/DC, max. 2 A
Initiator	10-30 V DC - max.100 mA per initiator
<b>Control medium</b>	
Dust concentration	neutral gases, air quality class DIN ISO 8573-1 Class 5: max. particle size 40 $\mu$ m
Particle density	Class 5: max. particle size 10 mg/m <sup>3</sup>
Pressure condensation point	Class 3: max. -20 °C or min. 10 °C below the lowest operating temperature
Oil concentration	Class 5: max. 25 mg/m <sup>3</sup>
<b>Supply pressure</b>	3-7 bar <sup>1)</sup>
<b>Pilot air ports</b>	Threaded ports G 1/8" or push-in connector (tube $\varnothing$ 6 mm / 1/4")
<b>Position feedback</b>	2x micro switch (0-48 V AC/DC, max. 2 A) 2x micro switch (50-250 V AC/DC, max. 2 A) 2x initiator (24 V DC), PNP shutter 3-wire 2x initiator NAMUR (8.2 V DC) (2-wire) 2x initiator (24 V DC), shutter (2-wire)
<b>Stroke range valve spindle</b>	2-36 mm

## Dimensions [mm] (see datasheet for more details)

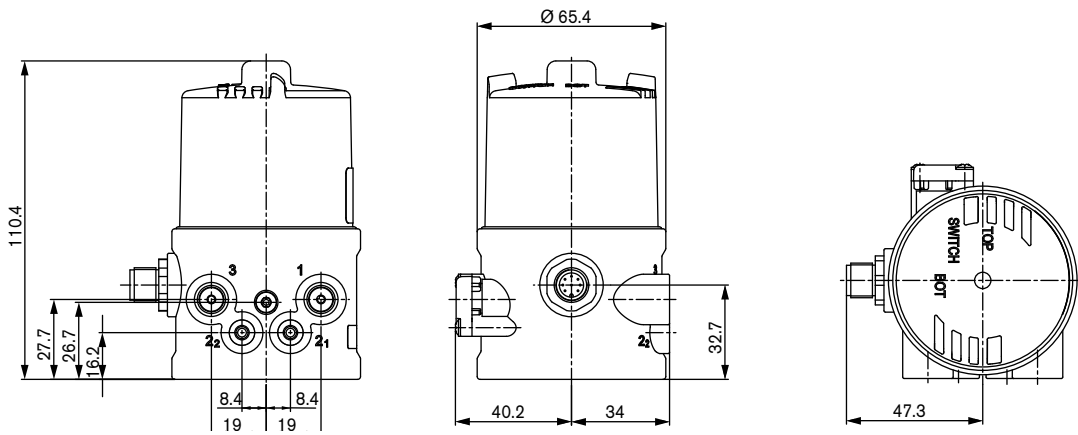


## Technical Data (cont.)

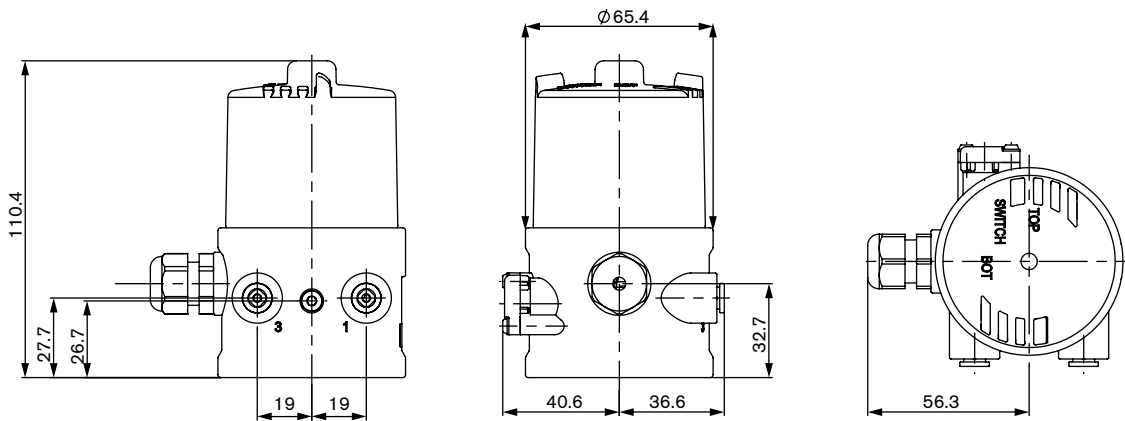
<b>Ambient temperature</b>	
with/without pilot valve	0 °C to +55 °C (II 3D Ex tc IIIC T135 °C Dc, II 3G Ex nA IIC T4 Gc)
with/without pilot valve	0 °C to +55 °C (II 2D Ex IIIC ia T135 °C Db, II 2G Ex ia IIC T4 Gb)
with pilot valve	-10 °C to +55 °C (II 2G Ex ia IIC T4 Gb)
without pilot valve	-20 °C to +60 °C (II 2G Ex ia IIC T4 Gb)
<b>Installation</b>	as required, preferably with actuator in upright position
<b>Type of protection</b>	IP65 and IP67 acc. to EN 60529
<b>Protection class</b>	3 acc. to VDE 0580
<b>Conformity</b>	acc. to CE in compliance with EMV 2004/108/EG
<b>Ignition protection</b>	II 3D Ex tc IIIC T135 °C Dc II 3G Ex nA IIC T4 Gc II 3D Ex tc IIIC T135 °C Dc II 2G Ex nA IIC T4 Gc
<b>Electrical connection</b>	
Multipole	M12, 8-pin
Cable gland	M16x1.5 SW22 (cable diameter 5-10 mm), terminal screws 0.14-1.5 mm <sup>2</sup>

<sup>1)</sup> The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator.

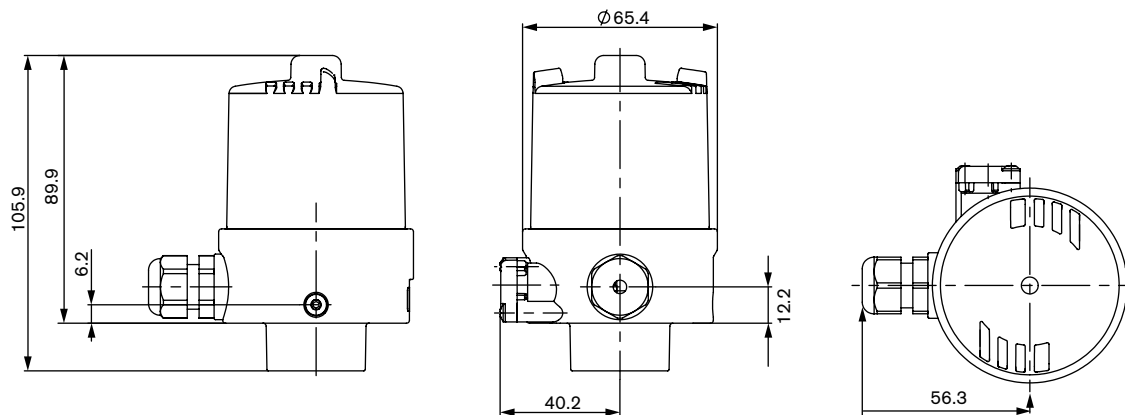
**Control Unit for mounting on process valve CLASSIC Types 20xx**



**For ELEMENT valves**



**Feedback for mounting on process valve CLASSIC Types 20xx**



Ordering chart

8697

End position feedback					Ex ia IIC T6	Electrical connection	Pilot air ports	Item no.	
Inductive Switch 3-wire PNP	Inductive Switch 2-wire NAMUR	Inductive Switch 2-wire 024/DC	Micro Switch 12 - 24 V DC	Micro Switch 50 - 250V AC/DC				Actuator series ELEMENT Types 21xx	Actuator series CLASSIC Types 20xx
<b>Pneumatic Control Unit (pilot valve 3/2-way, single-acting NO/NC)</b>									
2						Cable gland	Threaded ports G 1/8"	248 816	248 829
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 815	-
						M12 connector	Threaded ports G 1/8"	248 818	248 830
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 817	-
2					Yes	Cable gland	Threaded ports G 1/8"	248 822	248 832
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 821	-
		2				Cable gland	Threaded ports G 1/8"	248 814	248 828
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 813	-
<b>Feedback (without pilot valve)</b>									
2						Cable gland	Threaded ports G 1/8"	248 812	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 811	-
							without	-	248 827
						M12 connector	Threaded ports G 1/8"	250 471	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	250 469	-
							without	-	250 472
2					Yes	Cable gland	Threaded ports G 1/8"	248 820	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 819	-
							without	-	248 831
		2				Cable gland	Threaded ports G 1/8"	248 810	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 809	-
							without	-	248 826
			2			Cable gland	Threaded ports G 1/8"	248 824	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 823	-
							without	-	248 833
				2		Cable gland	Threaded ports G 1/8"	248 808	-
							Push-in pilot air ports (tube Ø 6 mm and 1/4")	248 807	-
							without	-	248 825

## Accessories

<b>Adapter kit</b>				
<b>Specifications</b>		<b>Actuator size</b>	<b>Control function</b>	<b>Item no.</b>
Adapter kit ELEMENT types 21xx	For Pneumatic Control Unit / Feedback	Ø 50 mm	single-acting / universal	682 259
Adapter kit CLASSIC types 20xx	For Pneumatic Control Unit	Ø 40 mm	single-acting	698 573
	For Pneumatic Control Unit	Ø 50 mm Seat valve types 2000 / 2012	single-acting	682 255
	For Pneumatic Control Unit	Ø 50 mm Diaphragm valve types 2030 / 2031	single-acting	682 258
	For Pneumatic Control Unit	Ø 63 mm	single-acting	682 256
	For Feedback	Ø 40 mm	universal	698 573
	For Feedback	Ø 50 / 63 / 80 mm	universal	682 264
	For Feedback	Ø 100 / 125 mm	universal	682 265
	For Feedback	Ø 175 / 225 mm	universal	683 265

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<b>Specifications</b>	<b>Item no.</b>
M12 socket, 8-pins, 2 m assembled cable	919 061
M12 socket, 8-pins, 5 m assembled cable	919 267
Silencer G 1/8"	780 779
Silencer, push-in connector	902 662
Stroke limitation actuator CLASSIC Ø 50 / 63 mm	551 868
Stroke limitation actuator CLASSIC Ø 80 mm	557 043
Stroke limitation actuator CLASSIC Ø 100 / 125 mm	552 360