Sanitary flow equipment

Type 8690 can be combined with...

Pneumatic Control Unit for the integrated mounting on process valves

- Compact design
- Pilot valve with high air flow rate
- Internal control air channel
- Visual position indicator
- With ATEX II cat. 3G/D and cat. 2D/G approval

The 8690 pneumatic control unit is optimised for integrated mounting on the 21XX process valve series. Mechanical or inductive limit switches register the position of the valve. The integrated pilot valve controls single or double-acting actuators.

The design of the control unit and the actuator 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.

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	
Material - Body	PPS
Cover	PC
Sealing	EPDM
Operating voltage	
Pilot valve	24 V DC ±10 % residual ripple 10 % DC Consumption 1W
Micro switch	max. 24 VDC, max. 2A
Initiator	10 to 24 VDC, max. 100mA ext. load per initiator
	According to Fieldbus specification
Control medium	Neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (<40µm particle size)
Particle density	Class 5 (<10mg/m³)
Pressure condensation point	Class 3 (<-20°C)
Oil concentration	Class 5 (<25mg/m³)
Supply pressure	3 to 7 bar [1]
Air input filter	Exchangeable
Mesh aperture	~0.1mm
Pilot air ports	Threaded ports G1/8, stainless steel or push-in connector (tube Ø 6 mm or 1/4")
Position feedback	1 or 2x micro switch (24 VDC)
	1 or 2x initiator 3-wires (24 VDC)
	1 or 2x initiator NAMUR (8 VDC) (ATEX II 2G Ex ia IIC T6)
Stroke range valve spindle	
Micro switch	7 to 28 mm
Initiator	2 to 28 mm
Ambient temperature	
with pilot valve	-10 to +55 °C
Without pilot valve	-20 to +60 °C
Installation	As required, preferably with actuator in upright position
Protection type	IP65 and IP67 acc. to EN 60529 (NEMA4x in preparation)
Protection class	3 acc. to VDE 0580
Conformity	According to CE in compliance with EMV2004/108/EG
Approvals	ATEX II cat. 3G/D and cat. 2D/G
Ignition protection:	II 3D Ex tc IIIC T135°C Dc
	II 3G Ex nA IIC T4 Gc
	II 2G Ex ia IIC T* Gb
	II 2D Ex ia IIIC T135°C Db IP64
Electrical connection	
Multipole	M12, 8-pole
Cable gland	M16x1,5 (cable-ø10mm), screw terminals (1,5mm²)

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

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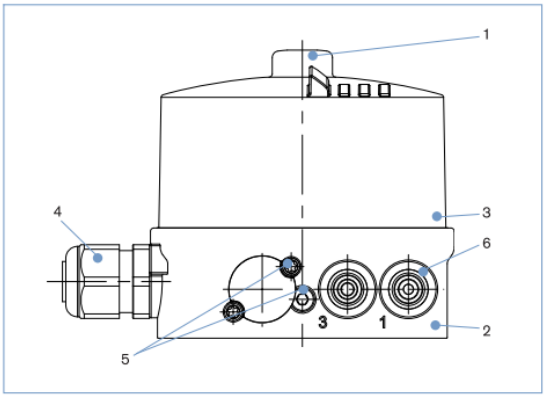
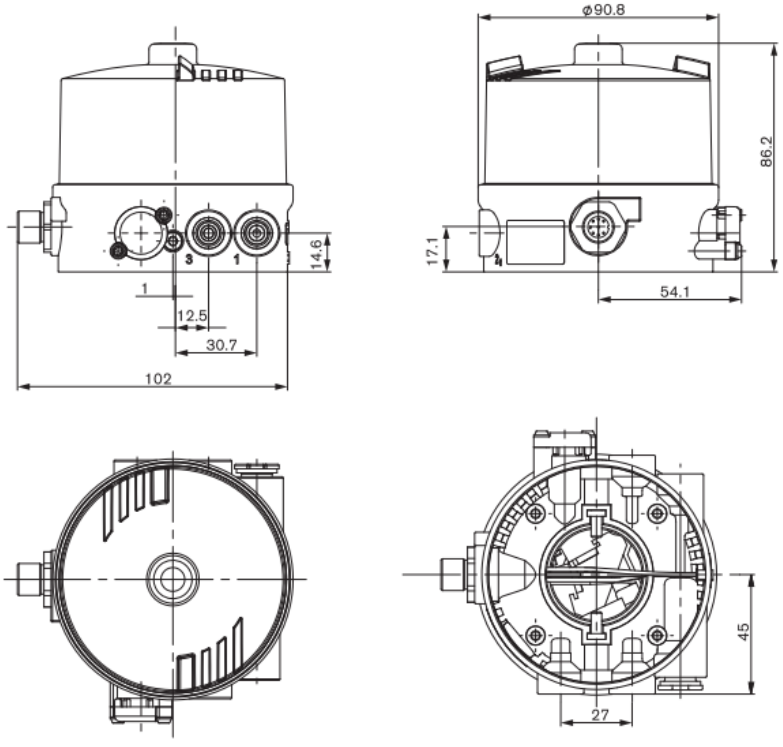
End position feedback						Item no.		
Inductive switch 24 VDC PNP	Inductive switch NAMUR 2-wire 8V DC Ex ia IIC T6	Micro switch 24V DC	Electrical connection	Control function	Pilot air ports threaded ports	Standard	ATEX II cat. 3G/D	ATEX II cat. 2G/D
		2	Cable gland			227 198		
2			Cable gland			227 192		
	2		Cable gland					265 145

Materials

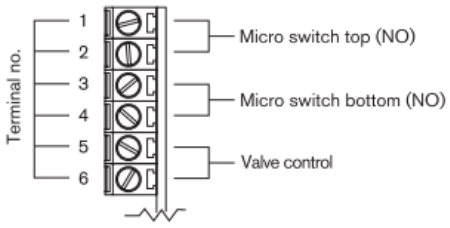


1	Transparent cap	PC
2	Basic body	PPS
3	Sealing	EPDM
4	Cable connection	PA
	Plug	M12 Stainless steel
5	Screws	Stainless steel
6	Push-in connector	POM/Stainless steel
	Threaded ports G1/8	Stainless steel



Cable gland

M16 x 1,5 (cable-ø 10 mm), screw terminals (1,5 mm²)



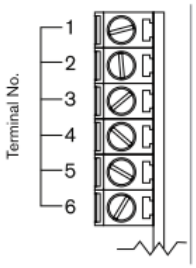
Port configuration 24 V with micro switch

Pin no.	Configuration	External Circuitry
1	Micro switch top (NO)	1 — Micro switch top (NO)
2		2 — Micro switch top (NO)
3	Micro switch bottom (NO)	3 — Micro switch bottom (NO)
4		4 — Micro switch bottom (NO)
5	Valve control 0/24 V	5 — 0/24 V DC ± 10 % Residual ripple 10 %
6	Valve control GND	6

Port configuration with initiator

Clamp no.	Configuration		
1	INI	- (GND)	Supply
2	INI	1 OUT	Output
3	INI	2 OUT	Output
4	INI	+ (24 V DC)	Supply
5	Valve control		0 / 24 V DC
6	Valve control		GND

Port configuration with 2-Wire inductive proximity switches NAMUR



Clamp no.	Configuration	External Switching
1	INI Top +	Ex protection area / non-explosive area; 1 / 3; 2 / 4; NAMUR-Sensor; +8,2 V DC; R; 0 V; 1)
2	INI Top -	
3	INI Bottom +	
4	INI Bottom -	
5	Valve control +	5; 6; 2)
6	Valve control GND	

Tab. 4: Pin Assignment with 2 Wire initiator

1) (acc. to Namur recommendation) also note the certificate of Fa. Turck KEMA 02 ATEX 1090X

2) Signal from barriers see PTB 07 ATEX 2048

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