

Type 8695 REV.3

Control Head



Operating Instructions

We reserve the right to make technical changes without notice.
Technische Änderungen vorbehalten.
Sous réserve de modifications techniques.

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Operating Instructions 2209/00_EU-EN_00815434 / Original DE

Control head Type 8695 REV.3

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1 ABOUT THESE INSTRUCTIONS

The operating instructions describe the entire life cycle of the device.

→ Keep these instructions ready to hand at the operation site.

Important safety information.

- ▶ Carefully read these instructions.
- ▶ Observe in particular the safety instructions, intended use and operating conditions.
- ▶ Persons, who work on the device, must read and understand these instructions.

1.1 Symbols



DANGER

Warns of an immediate danger.

- ▶ Failure to observe the warning will result in a fatal or serious injury.



WARNING

Warns of a potentially dangerous situation.

- ▶ Failure to observe the warning may result a fatal or serious injury.



CAUTION

Warns of a possible danger.

- ▶ Failure to observe the warning may result in moderate or minor injuries.

ATTENTION

Warns of damage to property.

- ▶ Failure to observe the warning may result in damage to device or system.



Indicates important additional information, tips and recommendations.



Refers to information in these operating instructions or in other documentation.

- ▶ Indicates an instruction for risk prevention.

→ Indicates a procedure which you must carry out.

- ✓ Indicates a result.

Menu Indicates a interface text.

1.2 Definition of terms

In these instructions the term “device” denotes the following device types:

Control head Type 8695 REV.3.

The term “bÜS” (Bürkert system bus) used in this instruction stands for the communication bus developed by Bürkert and based on the CANopen protocol.

In these instructions, the abbreviation “Ex” always refers to “potentially explosive atmosphere”.

2 INTENDED USE

The control head Type 8695 REV.3 is designed to be mounted on pneumatic actuators of process valves for the control of media. The permitted fluid media are listed in the technical data.

- ▶ Use the device for its intended purpose only. Non-intended use of the device may be dangerous to people, nearby equipment and the environment.
- ▶ Correct transportation, correct storage as well as correct installation, commissioning, operation and maintenance are essential for reliable and problem-free operation.
- ▶ When using the device, observe the permitted data, operating conditions and application conditions. This information can be found in the contractual documents, the operating instructions and on the type label.
- ▶ Use the device only in conjunction with third-party devices and components recommended and authorized by Bürkert.
- ▶ Do not use the device outdoors without protection from the weather.
- ▶ In potentially explosive atmosphere, only use devices approved for use in those areas. These devices are labeled with a separate Ex type label. For such use, note the information provided on the separate Ex type label and the additional explosion-related information or separate explosion-related operating instructions.

3 BASIC SAFETY INSTRUCTIONS

These safety instructions do not consider any contingencies or incidents which occur during installation, operation and maintenance.

The operator is responsible for observing the location-specific safety regulations, also with reference to the personnel.



DANGER

Risk of injury from high pressure and discharge of medium.

- ▶ Before working on the device or system, switch off the pressure. Vent or drain lines.



DANGER

Risk of injury from electric shock.

- ▶ Before working on the device or system, switch off the power supply. Secure against reactivation.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.



To prevent injury, ensure the following:

- ▶ Secure device or system to prevent unintentional activation.
- ▶ Only trained technicians may perform installation and maintenance work.
- ▶ Perform installation and maintenance with suitable tools only.
- ▶ Do not make any changes to the device and do not subject it to mechanical stress.
- ▶ Operate the device only in perfect state and in consideration of the operating instructions.
- ▶ Observe the general rules of technology.
- ▶ Install the device according to the regulations applicable in the respective country.
- ▶ Do not feed corrosive or flammable media into the device connections.
- ▶ Do not feed any fluids into the connections of the device.
- ▶ After the process is interrupted, restart in a controlled manner. Observe sequence:
 1. Connect electrical or pneumatic power supply.
 2. Charge the device with medium.
- ▶ Observe intended use.
- ▶ When unscrewing and screwing in the body casing or the transparent cap, do not hold the actuator of the process valve but the basic housing of the device.

4 GENERAL INFORMATION

4.1 Contact address

Germany

Bürkert Fluid Control System
Chr.-Bürkert-Str. 13-17
D-74653 Ingelfingen
E-mail: info@burkert.com

International

Contact addresses can be found on the final pages of the printed operating instructions.

And also on the Internet at:

www.burkert.com

4.2 Warranty

The warranty is only valid if the control head Type 8695 is used as intended in accordance with the specified application conditions.

4.3 Trademarks

Brands and trademarks listed below are trademarks of the corresponding companies / associations / organizations

Loctite Henkel Loctite Deutschland GmbH

4.4 Information on the internet

The operating instructions and data sheets for Type 8695 can be found on the Internet at:

www.burkert.com

5 SYSTEM DESCRIPTION

5.1 Structure and function

The control head Type 8695 can control single or double-acting process valves.

The control head Type 8695 has been optimized for the integrated modular fitting of series 21xx process valves (ELEMENT) with actuator size Ø 50. Various expansion stages are possible thanks to the modular design.

For installation on the 20xx series (CLASSIC) there is a special model which is described in chapter [“5.1.2”](#).

The valve position is recorded via a contactless, analog sensor element which automatically detects and saves the valve end positions by means of the teach function during start-up.

Variants:

- without fieldbus communication: 24 V device with digital inputs and outputs and büS service interface
- AS Interface
- IO-Link
- büS

5.1.1 Control head for integrated installation on 21xx series (ELEMENT)

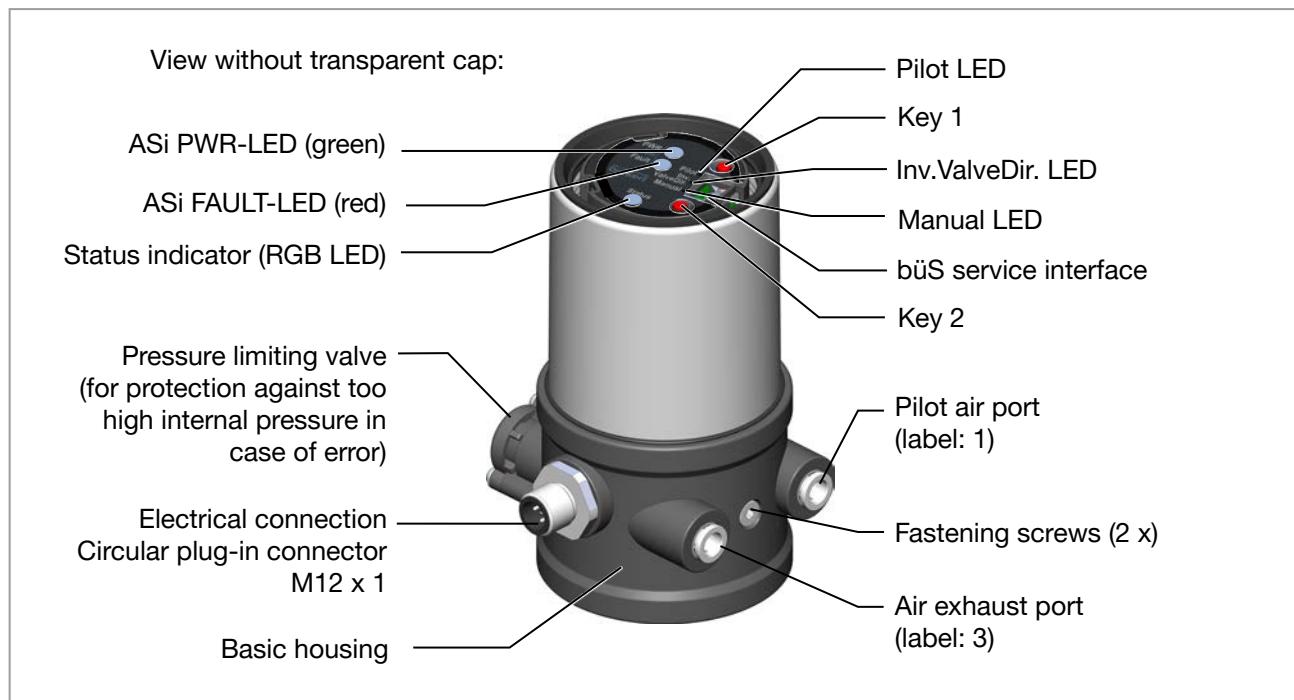


Figure 1: Structure

5.1.2 Model for control of process valves belonging to the 20xx series (CLASSIC)

A special model enables the control head Type 8695 to be attached to process valves belonging to the 20xx series.

This model has a different pneumatic connection module so that the pilot air ports can be connected to the outside of the actuator (see "Figure 2").

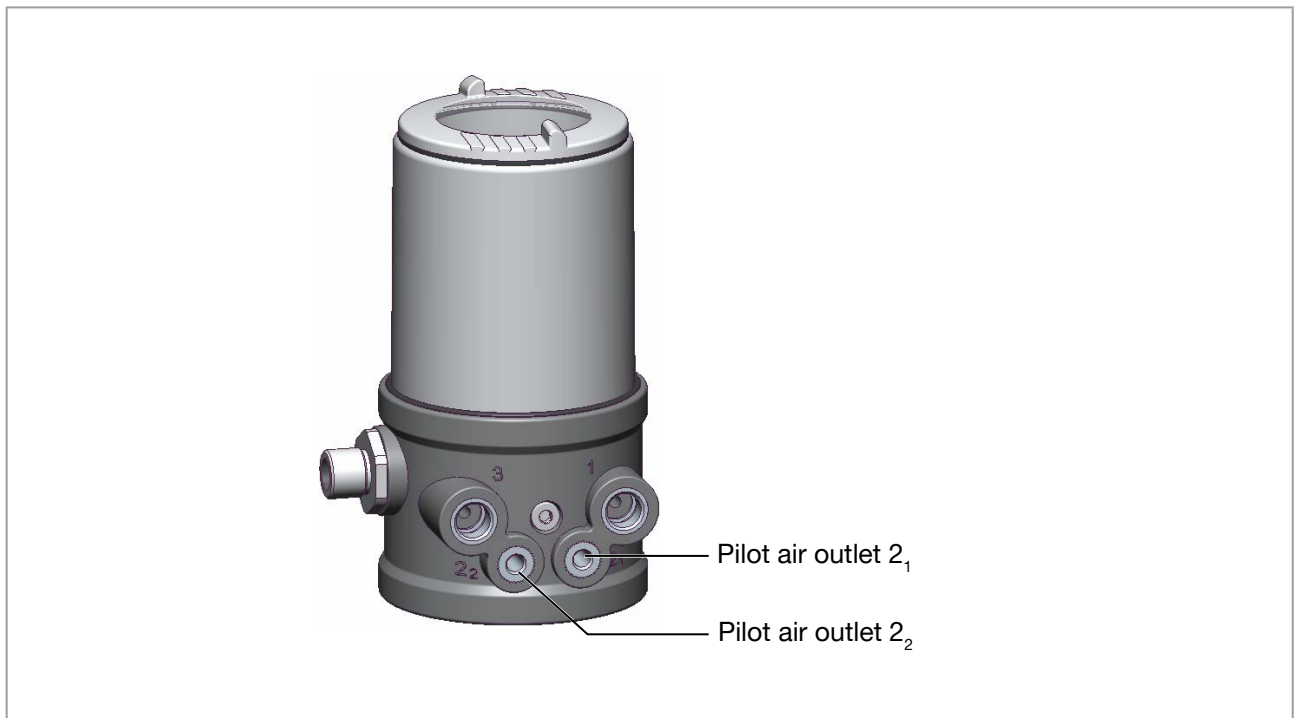


Figure 2: Model for control of process valves, 20xx series

6 TECHNICAL DATA

6.1 Standards and directives

The device complies with the relevant EU harmonisation legislation. In addition, the device also complies with the requirements of the laws of the United Kingdom.

The harmonised standards that have been applied for the conformity assessment procedure are listed in the current version of the EU Declaration of Conformity/UK Declaration of Conformity.

6.2 Licenses

The product is approved for use in zone 2 and 22 in accordance with ATEX directive 2014/34/EU category 3GD.



Observe instructions on operation in a potentially explosive atmosphere (Ex area).
Observe the ATEX additional instructions.

The product is cULus approved. Instructions for use in the UL area see chapter [“6.7 Electrical data”](#).

6.3 Operating conditions



WARNING!

Solar radiation and temperature fluctuations may cause malfunctions or leaks.

- ▶ If the device is used outdoors, do not expose it unprotected to the weather conditions.
- ▶ Ensure that the permitted ambient temperature does not exceed the maximum value or drop below the minimum value.

Ambient temperature see type label

Degree of protection

Evaluated by the manufacturer:	Evaluated by UL:
IP65 / IP67 according to EN 60529 ¹⁾	UL Type 4x Rating, indoor only ¹⁾

Operating altitude up to 2000 m above sea level

Relative air humidity max. 90% at 55 °C / 60 °C (non condensing)

¹⁾ Only if cables, plugs and sockets have been connected correctly and in compliance with the exhaust air concept see chapter [“8 Pneumatic installation”](#).

6.4 Mechanical data

Dimensions		See data sheet
Body material	exterior interior	PPS, PC, VA PA6; ABS
Sealing material	exterior	EPDM / FKM
Stroke range of valve spindle		
21xx series (ELEMENT) and 20xx series (CLASSIC)		2 – 35 mm
Third-party devices (modified guide element required)		2 – 44 mm

6.5 Type labels

6.5.1 Type label standard

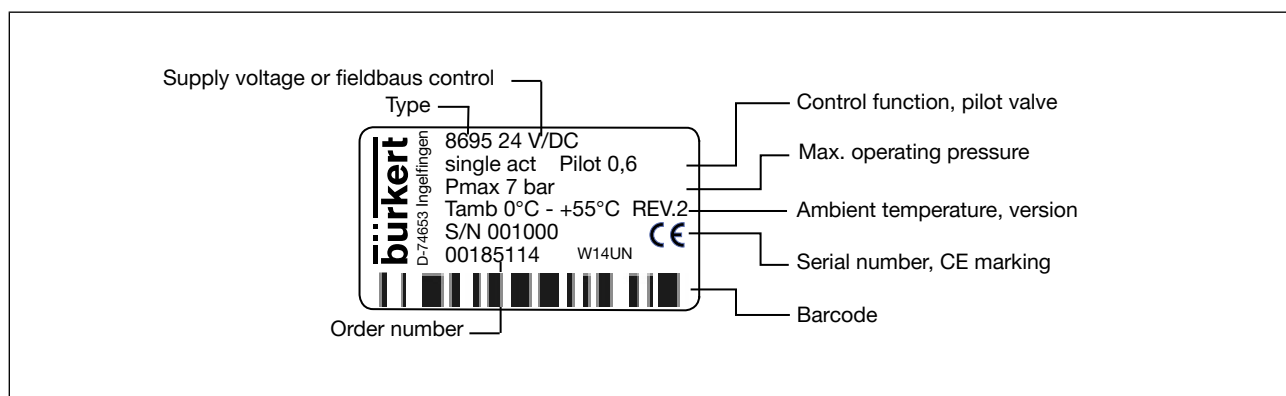


Figure 3: Type label (example)

6.5.2 UL type label

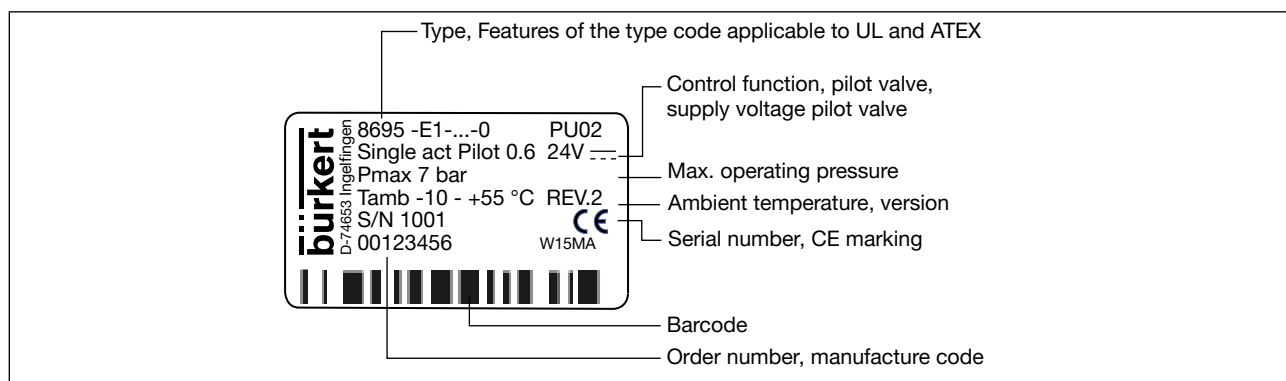


Figure 4: UL type label (example)

6.5.3 UL additional label



Degree of protection	Type 4X enclosure	 E238179
Circuit with limited power	NEC Class 2 only	
Communication, supply voltage	Power Supply: büS 24V ±25% ---	
Power consumption	 max. 3,5 W	

Figure 5: UL additional label (example)

6.6 Pneumatic data

Control medium	neutral gases, air Quality classes in accordance with ISO 8573-1	
Dust content	Class 7	max. particle size 40 µm, max. particle density 10 mg/m ³
Water content	Class 3	max. pressure dew point - 20 °C or min. 10 °C below the lowest operating temperature
Oil content	Class X	max. 25 mg/m ³
Temperature range	-10 – +50 °C	
Pressure range	3 – 7 bar	
Air output of pilot valve	7 l _N / min (for aeration and deaeration) (Q _{Nn} - value according to definition for pressure drop from 7 to 6 bar absolute)	
Connections	21xx (ELEMENT)	Plug-in hose connector Ø6 mm (1/4") Socket connection G 1/8
	20xx (CLASSIC)	Socket connection G 1/8 with M5 connection for connecting to the actuator

6.7 Electrical data



WARNING!

Only circuits with limited power may be used for UL approved components according to "NEC Class 2".

6.7.1 Electrical data without field bus communication

Protection class	III as per DIN EN 61140 (VDE 0140-1)
Connection	
Supply	Circular plug-in connector (M12 x 1, 8-pin)
Communication	büS service interface
Operating voltage	24 V \pm 25 %, max. residual ripple 10 %
Current consumption	90 mA @18 V + current load for an active digital output
Digital output	2 x 24V \pm PNP
Output current	max. 100 mA per output
Output voltage	Low = GND + max. 2 V and High = operating voltage – max. 2 V
Digital input	24 V \pm potential-free (suitable for PNP and NPN control)
Output current	max. 9 mA @30 V \pm (as per EN 61131-2 Type 1)
Output voltage	Low = 0...5 V \pm and High = 15...30 V \pm (as per EN 61131-2 Type 1)
Power consumption incl. load on one active digital output	2 W / 5 W
Communication software	Bürkert Communicator

6.7.2 Electrical data, IO-Link

Protection class	III as per DIN EN 61140 (VDE 0140-1)
Connection	
Supply, IO-Link	Circular plug-in connector M12 x 1, 5-pin, port class A
Communication	Circular plug-in connector M12 x 1, 5-pin, port class B büS service interface
Operating voltage	
System supply (Pin 1+3)	24 V \pm 25 % (according to specification)
Only for port class B:	
Actuator supply (Pin 2+5) ²⁾	24 V \pm 25 % (according to specification)
Current consumption	
System supply (Pin 1+3)	Port class A: max. 150 mA, only with installed pilot valves Port class B: max. 100 mA
Only for port class B:	
Actuator supply (Pin 2+5)	max. 50 mA
Total power consumption	max. 3.5 W

²⁾ Actuator supply is galvanically isolated from system supply in accordance with IEC 60664 and for electrical safety in accordance with SELV from IEC 61010-2-201

6.7.3 Electrical data, bÜS

Protection class	III as per DIN EN 61140 (VDE 0140-1)
Connection	Circular plug-in connector M12 x 1, 5-pin, A coded
Operating voltage	24 V === ±25 %
Current consumption	max. 150 mA, only with installed pilot valve
Total power consumption	max. 3.5 W

6.7.4 Electrical data, AS-Interface

Protection class	III as per DIN EN 61140 (VDE 0140-1)
Connection	
Supply, AS-Interface	Circular plug-in connector M12 x 1, 4-pin
Communication	bÜS service interface
Operating voltage	
System supply AS-Interface (Pin 1+3)	via AS-Interface power supply unit according to specification with 29.5 V...31.6 V ===
Power consumption	
Output pilot valve	approx. 0.8 W incl. integrated watchdog function
Current consumption	max. 110 mA, only with installed pilot valve
Communication software	Bürkert Communicator

6.8 Communication

6.8.1 IO-Link

Port class	A	B
IO-Link Specification	V1.1.2	
Supply	via IO-Link (M12 x 1, 5-pin, A-coded)	
SIO mode	No	
IODD file	see Internet	
VendorID	0x0078, 120	
DeviceID	see IODD file	
ProductID	8695 Class A	8695 Class B
Transmission speed	COM3 (230,4 kbit/s)	
PD Input Bits	56	
PD Output Bits	8	
M-sequence Cap.	0x0D	
Min. cycle time	5 ms	
Data Storage	Yes	
Max. cable length	20 m	

7 INSTALLATION

7.1 Safety instructions



DANGER!

Risk of injury from high pressure in the equipment/device.

- Before working on equipment or device, switch off the pressure and deaerate/drain lines.

Risk of electric shock.

- Before working on equipment or device, switch off the power supply and secure to prevent reactivation.
- Observe applicable accident prevention and safety regulations for electrical equipment.



WARNING!

Risk of injury from improper installation.

- Installation may be carried out by authorized technicians only and with the appropriate tools.

Risk of injury from unintentional activation of the system and an uncontrolled restart.

- Secure system from unintentional activation.
- Following assembly, ensure a controlled restart.

7.2 Installation of the control head Type 8695 on process valves of series 21xx (ELEMENT)

ATTENTION!

When mounting on process valves with a welded connection, follow the installation instructions in the operating instructions for the process valve.

Procedure:

1. Install switch spindle

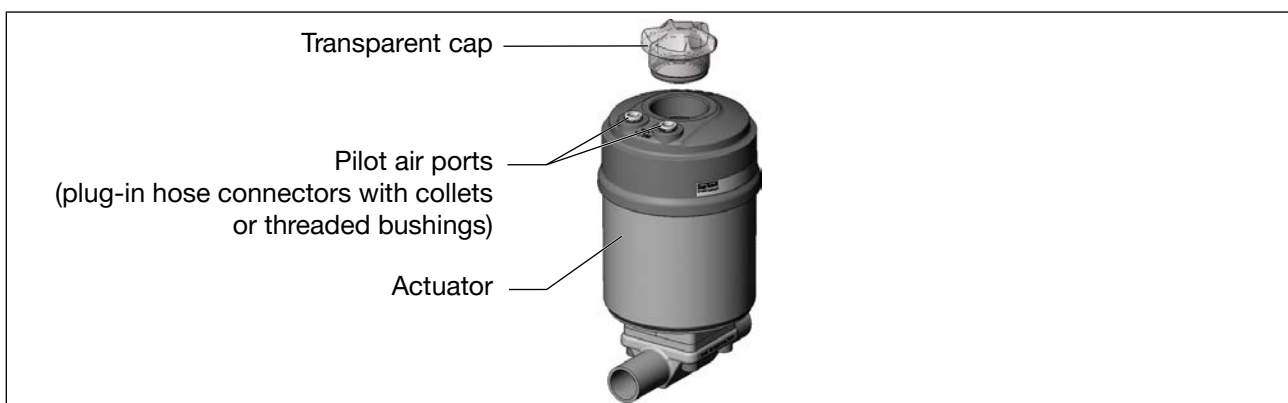


Figure 6: Installation of switch spindle (1), series 21xx

→ Unscrew the transparent cap on the actuator and unscrew the position display (yellow cap) on the spindle extension (if present).

→ For version with plug-in hose connector, remove the collets (white nozzles) from both pilot air ports (if present).

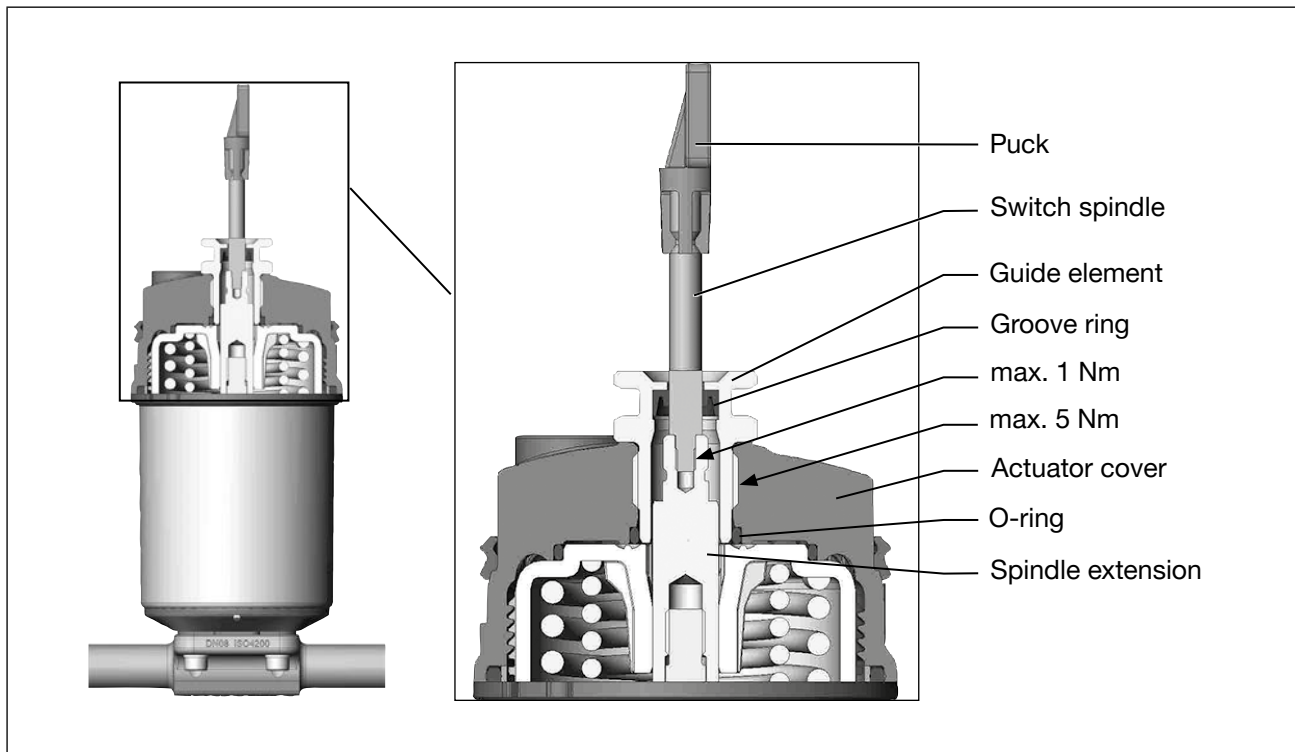


Figure 7: Installation of the switch spindle (2), series 21xx

ATTENTION!

Improper installation may damage the groove ring in the guide element.

The groove ring is already pre-assembled in the guide element and must be “locked into position” in the undercut.

- ▶ When installing the switch spindle, do not damage the groove ring.

→ Push the switch spindle through the guide element.

ATTENTION!

Screw locking paint may contaminate the groove ring.

- ▶ Do not apply any screw locking paint to the switch spindle.

→ To secure the switch spindle, apply some screw locking paint (Loctite 290) in the tapped bore of the spindle extension in the actuator.

→ Check that the O-ring is correctly positioned.

→ Screw the guide element to the actuator cover (maximum torque: 5 Nm).

→ Screw switch spindle onto the spindle extension. To do this, there is a slot on the upper side (maximum torque: 1 Nm).

→ Push puck onto the switch spindle and lock into position.

2. Install sealing rings

→ Pull the form seal onto the actuator cover (smaller diameter points upwards).

→ Check that the O-rings are correctly positioned in the pilot air ports.



When the control head is being installed, the collets of the pilot air ports must not be fitted to the actuator.

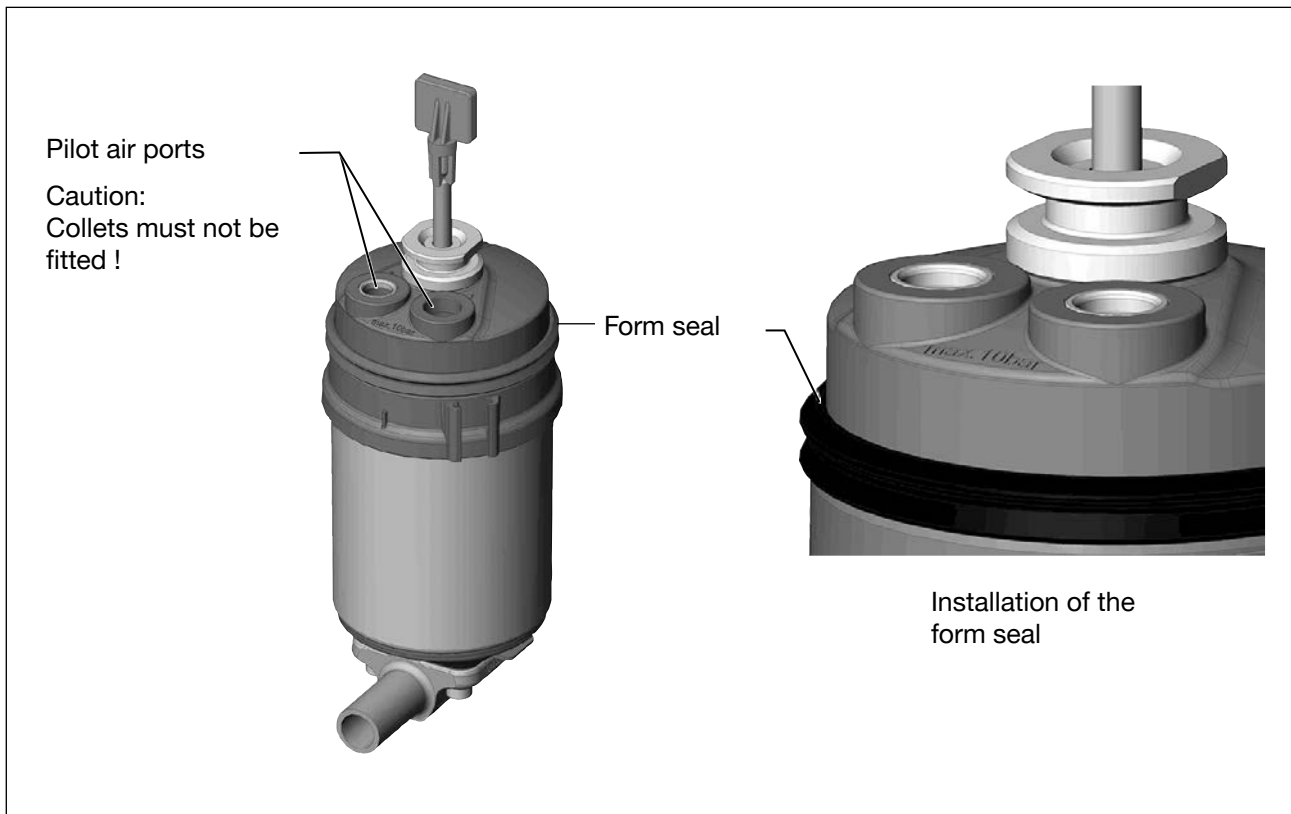


Figure 8: Installation of the sealing rings

3. Install control head

ATTENTION!

Damaged printed circuit board or malfunction.

- Ensure that the puck is situated flat on the guide rail.

→ Align the puck and the control head until

1. the puck can be inserted into the guide rail of the control head and
2. the connection pieces of the control head can be inserted into the pilot air ports of the actuator.

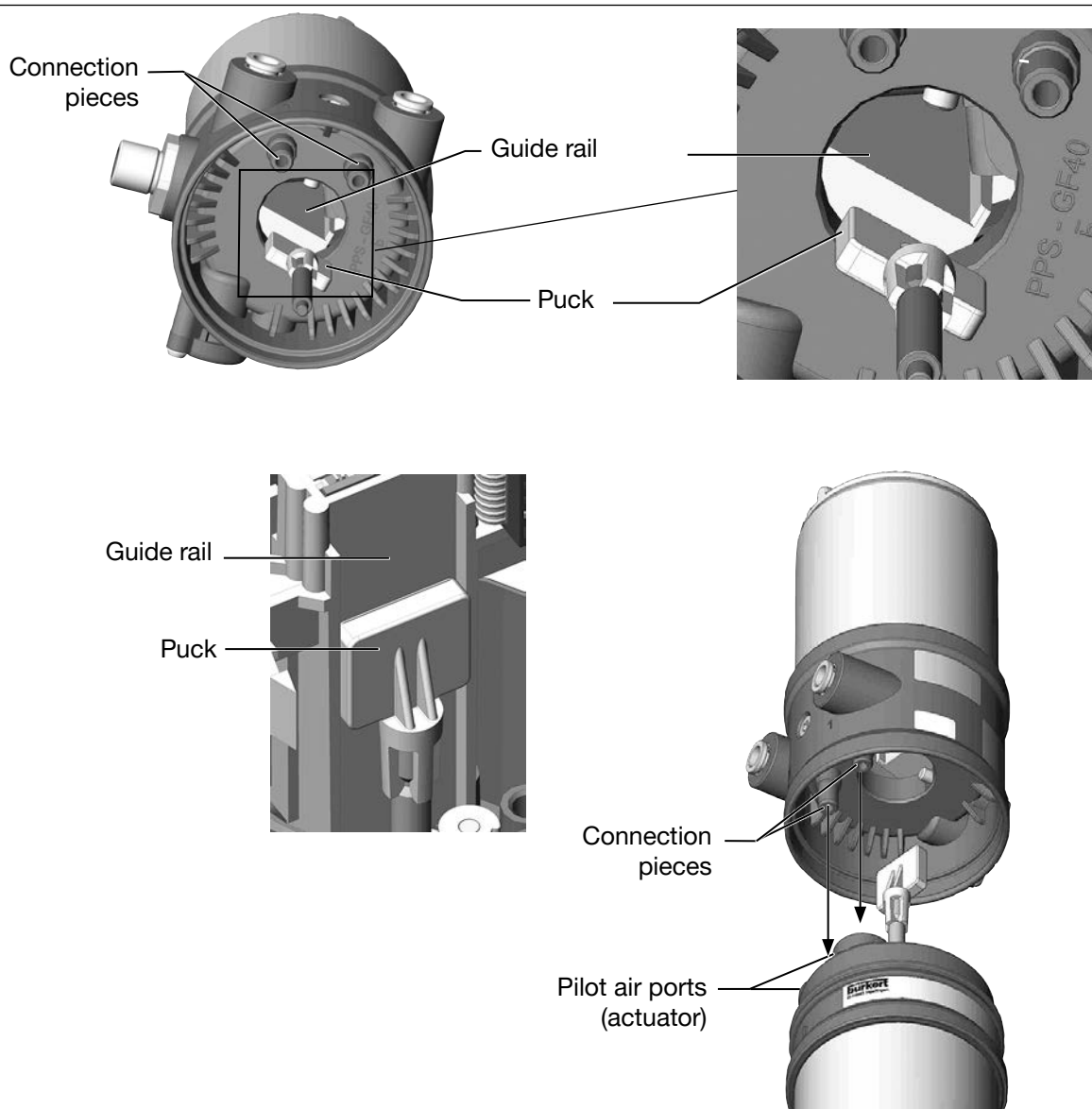


Figure 9: Aligning the puck and the connection pieces

→ Push the control head, without turning it, onto the actuator until no gap is visible on the form seal.

ATTENTION!

Too high torque when screwing in the fastening screw does not ensure degree of protection IP65 / IP67.

- ▶ The fastening screws may be tightened to a maximum torque of 1.5 Nm only.

→ Attach the control head to the actuator using the two side fastening screws. In doing so, tighten the screws only hand-tight (maximum torque: 1.5 Nm).

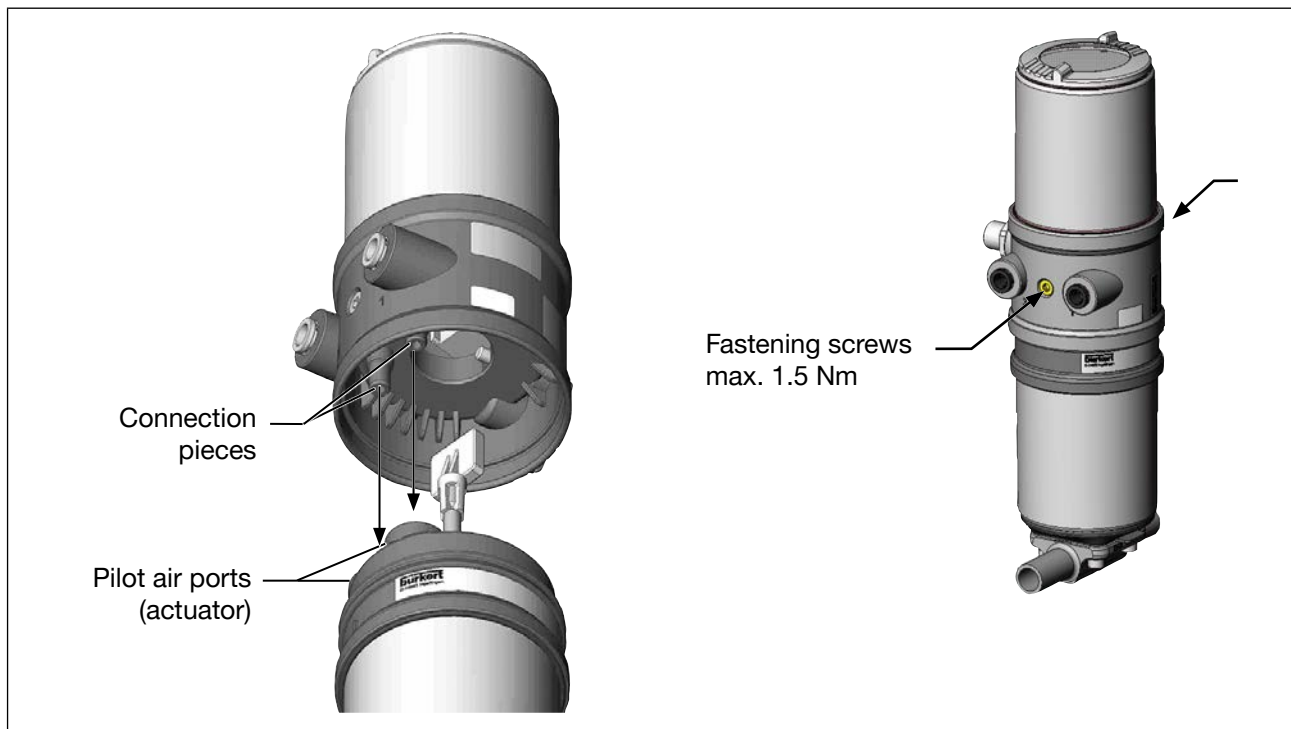


Figure 10: Installation of control head

7.3 Installation of the control head Type 8695 on process valves of series 20xx (CLASSIC)

Procedure:

1. Install switch spindle

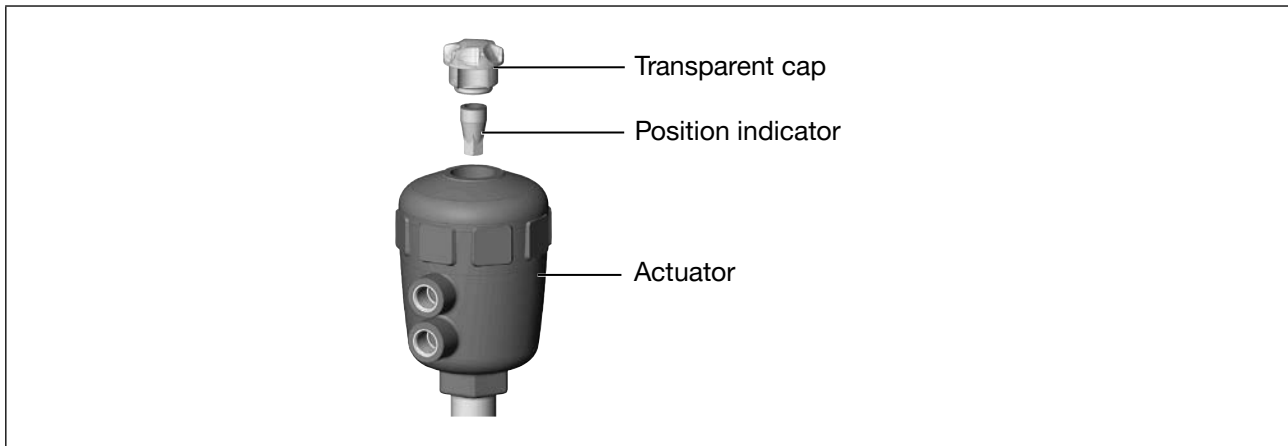


Figure 11: Installation of the switch spindle (1), series 20xx

→ Unscrew the transparent cap on the actuator.

→ Using a hexagon socket key, unscrew the orange/yellow position indicator from the inside of the actuator.

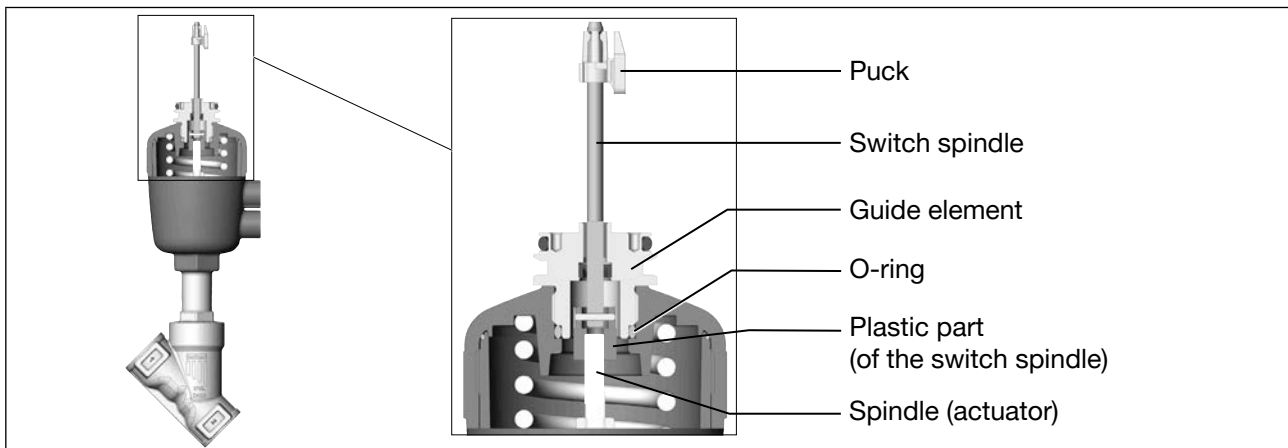


Figure 12: Installation of the switch spindle (2), series 20xx

→ Press the O-ring downwards into the cover of the actuator.

→ Manually screw the switch spindle (and the plugged-on guide element) together with the plastic part onto the spindle of the actuator, but do not tighten spindle yet.

→ Tighten the guide element with a face wrench³⁾ into the actuator cover (maximum torque: 8.0 Nm).

→ Tighten the switch spindle on the spindle of the actuator. To do this, there is a slot on the upper side (maximum torque: 1.0 Nm).

→ Push the puck onto the switch spindle until it engages.

2. Install control head

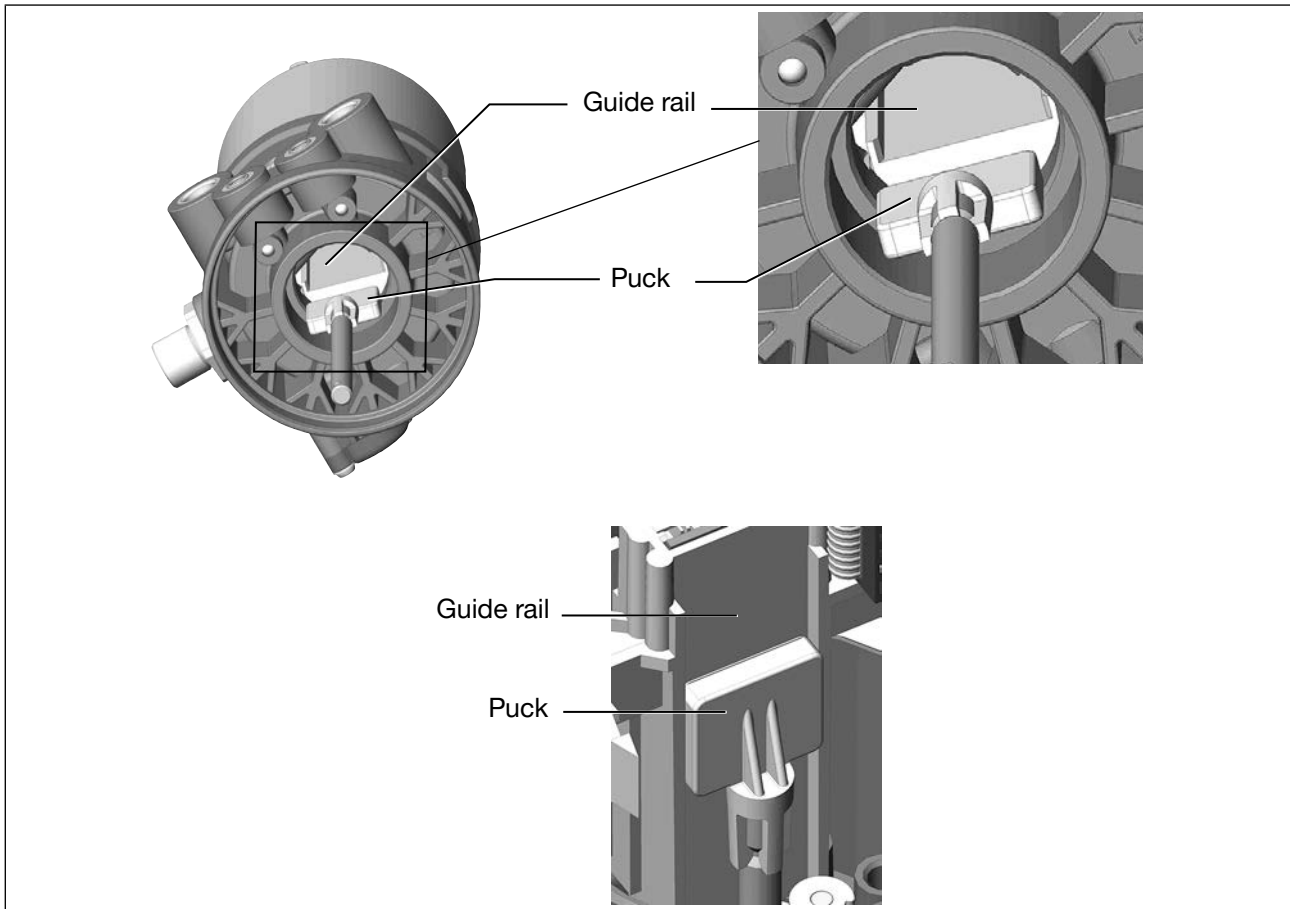


Figure 13: Aligning the puck, series 20xx

ATTENTION!

Damaged printed circuit board or malfunction.

- Ensure that the puck is situated flat on the guide rail.

- Push the control head onto the actuator. The puck must be aligned in such a way that it is inserted into the guide rail of the control head.
- Press the control head all the way down as far as the actuator and turn it into the required position.



Ensure that the pneumatic connections of the control head and those of the valve actuator are situated preferably vertically one above the other (see [“Figure 14: Installing the control head, series 20xx”](#)).

If they are positioned differently, longer hoses may be required other than those supplied in the accessory kit.

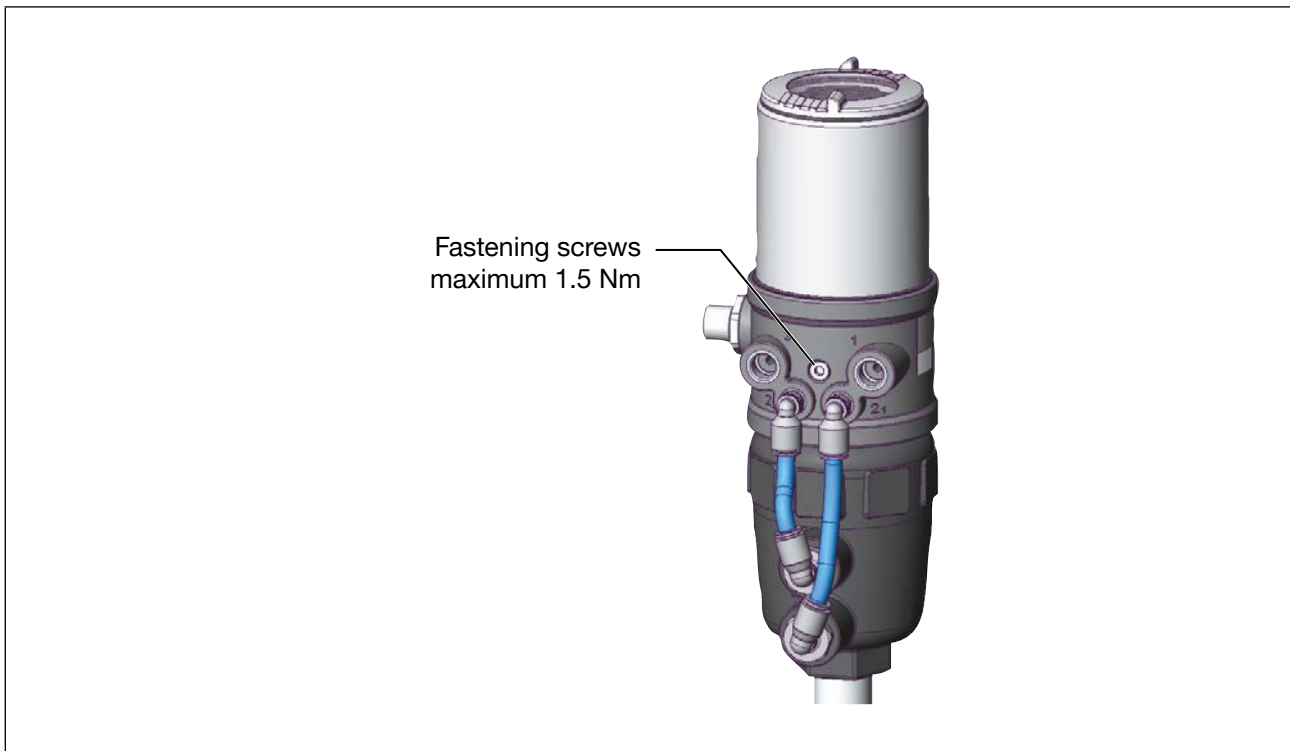


Figure 14: Installing the control head, series 20xx

ATTENTION!

Too high torque when screwing in the fastening screw does not ensure degree of protection IP65 / IP67.

- The fastening screws may be tightened to a maximum torque of 1.5 Nm only.

→ Attach the control head to the actuator using the two side fastening screws. In doing so, tighten the fastening screws hand-tight only (maximum torque: 1.5 Nm).

3. Install pneumatic connection between control head and actuator

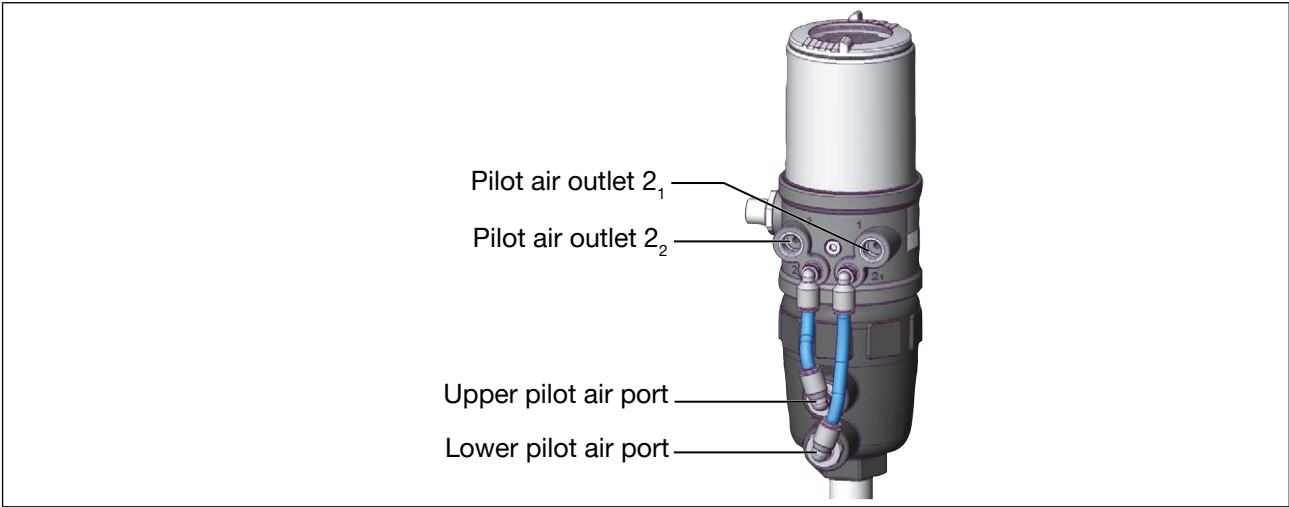


Figure 15: Installing the pneumatic connection between control head and actuator, series 20xx

- Screw the plug-in hose connectors onto the control head and the actuator.
- Using the hoses supplied in the accessory kit, make the pneumatic connection between the control head and actuator with the following “[Table 1: Pneumatic connection to actuator CFA and CFB](#)” or “[Table 2: Pneumatic connection to actuator CFI](#)”.

ATTENTION!

Damage or malfunction due to ingress of dirt and moisture.

- ▶ To comply with degree of protection IP65 / IP67, connect the pilot air outlet (only for CFA or CFB) which is not required to the free pilot air port of the actuator or seal with a plug.

! “In rest position” means that the pilot valves of the control head Type 8695 are isolated or not actuated.

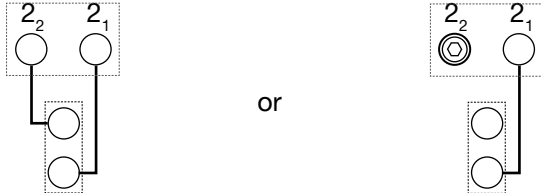
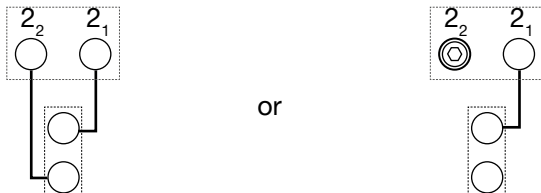
Control function A (CFA)			
Process valve closed in rest position (by spring force)			
Control head	Pilot air outlet		
Actuator	Upper pilot air port		
	Lower pilot air port		
Control function B (CFB)			
Process valve open in rest position (by spring force)			
Control head	Pilot air outlet		
Actuator	Upper pilot air port		
	Lower pilot air port		

Table 1: Pneumatic connection to actuator CFA and CFB

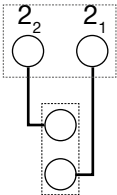
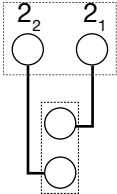
Control function I (CFI)		
Process valve closed in rest position		
Control head	Pilot air outlet	
Actuator	Upper pilot air port	
	Lower pilot air port	
Process valve open in rest position		
Control head	Pilot air outlet	
Actuator	Upper pilot air port	
	Lower pilot air port	

Table 2: Pneumatic connection to actuator CFI

! If the ambient air is humid, a hose can be connected between pilot air outlet 2₂ of the control head and the unconnected pilot air port of the actuator for control function A or control function B. As a result, the spring chamber of the actuator is supplied with dry air from the vent duct of the control head.

7.4 Rotating the actuator module on process valves of series 2100, 2101, 2000 and 2012

! The actuator module (control head and actuator) can be rotated for globe valves and angle-seat valves belonging to series 2100, 2101, 2000 and 2012 only.

The process valve must be in the open position for alignment of the actuator module.

The position of the ports can be aligned steplessly by rotating the actuator module (control head and actuator) through 360°.

! Series 2100 and 2101:
Only the entire actuator module can be rotated. The control head cannot be rotated contrary to the actuator.

**DANGER!**

Risk of injury from high pressure in the equipment/device.

- Before working on equipment or device, switch off the pressure and deaerate/drain lines.

Procedure:

- Clamp valve body in a holding device (only required if the process valve has not yet been installed).
- Control function A: Open process valve.

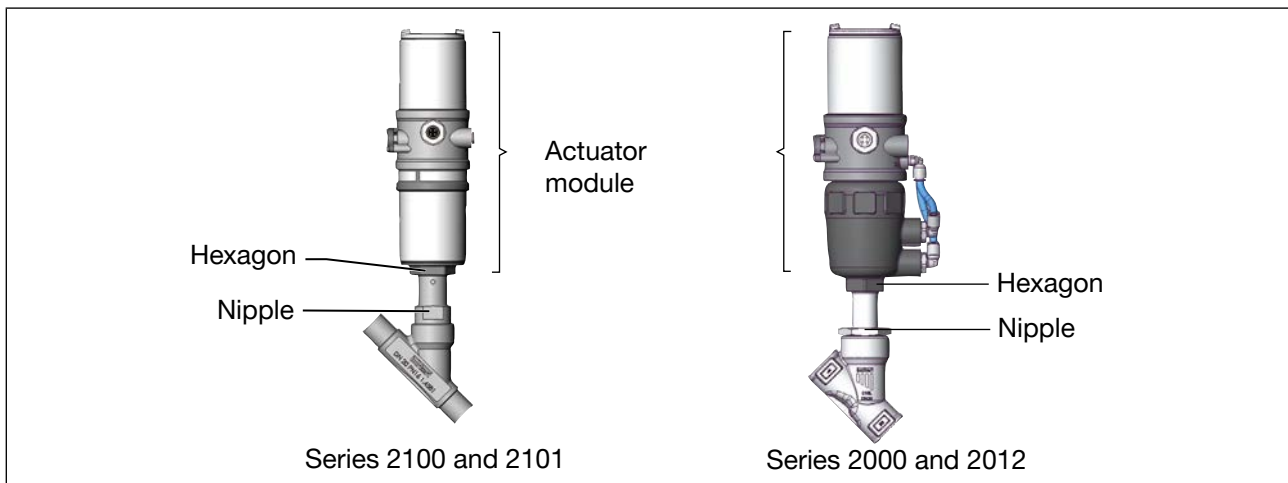


Figure 16: Rotating the actuator module

- Using a suitable open-end wrench, counter the wrench flat on the pipe.
- Place suitable open-end wrench on the hexagon of the actuator.

**WARNING!**

Risk of injury from discharge of medium and pressure.

If the direction of rotation is wrong, the body interface may become detached.

- Rotate the actuator module counter-clockwise only (see "Figure 17").

- Rotate counter-clockwise (as seen from below) to bring the actuator module into the required position.

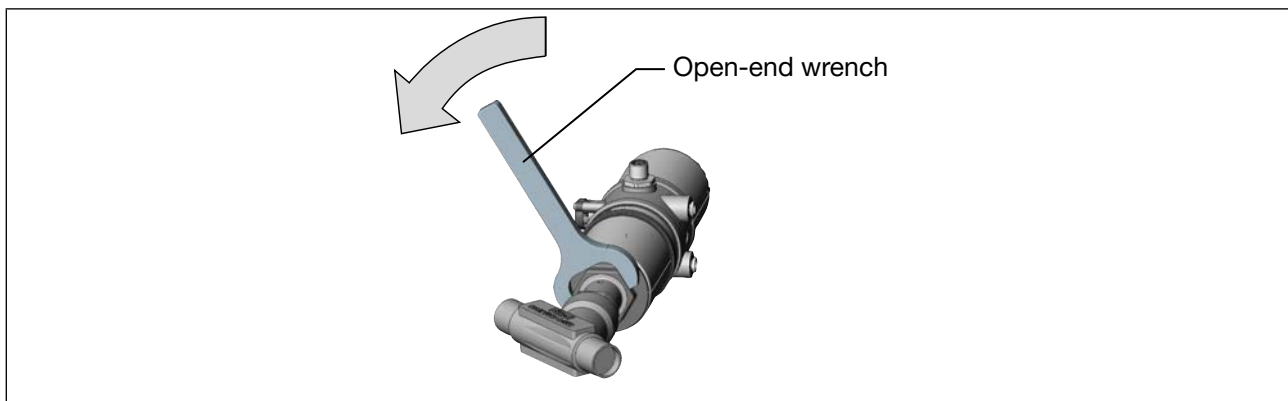


Figure 17: Rotating with open-end wrench

7.5 Rotating the control head for process valves belonging to series 20xx

If the connecting cables or hoses cannot be fitted properly following installation of the process valve, the control head can be rotated contrary to the actuator.

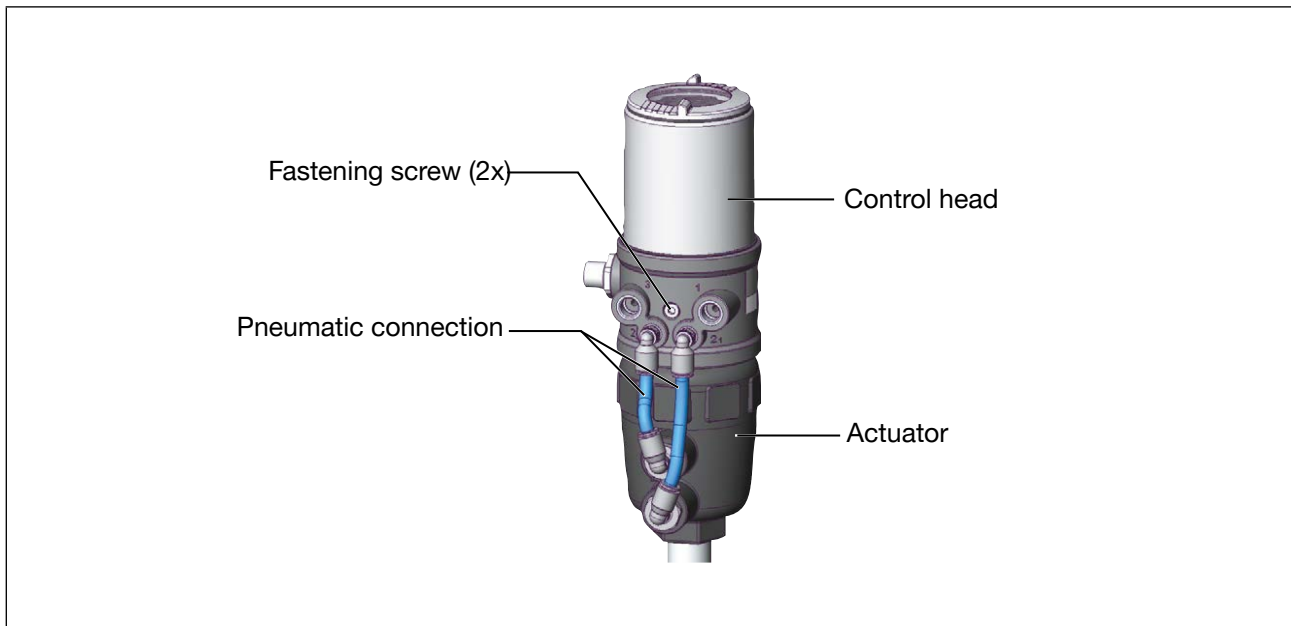


Figure 18: Rotating the control head, series 20xx

Procedure

- Loosen the pneumatic connection between the control head and the actuator.
- Loosen the fastening screws countersunk in the side of the body (hexagon socket wrench size 2.5).
- Rotate the control head into the required position.

ATTENTION!

Too high torque when screwing in the fastening screw does not ensure degree of protection IP65 / IP67.

- ▶ The fastening screws may be tightened to a maximum torque of 1.5 Nm only.

- Tighten the fastening screws hand-tight only (maximum torque: 1.5 Nm).
- Re-attach the pneumatic connections between the control head and the actuator. If required, use longer hoses.

8 PNEUMATIC INSTALLATION



DANGER!

Risk of injury from high pressure in the equipment/device.

- ▶ Before working on equipment or device, switch off the pressure and deaerate/drain lines.

Risk of electric shock.

- ▶ Before working on equipment or device, switch off the power supply and secure to prevent reactivation.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.



WARNING!

Risk of injury from improper installation.

- ▶ Installation may be carried out by authorized technicians only and with the appropriate tools.

Risk of injury from unintentional activation of the system and an uncontrolled restart.

- ▶ Secure system from unintentional activation.
- ▶ Following installation, ensure a controlled restart.

Procedure:

- Connect the control medium to the pilot air port (1)
(3 – 7 bar; instrument air, free of oil, water and dust).
- Attach the exhaust airline or a silencer to the exhaust air port (3).



Important information for the problem-free functioning of the device:

- ▶ The installation must not cause back pressure to build up.
- ▶ Select a hose for the connection with an adequate cross-section.
- ▶ The exhaust air line must be designed in such a way that no water or other liquid can get into the device through the exhaust air port.
- ▶ Keep the adjacent supply pressure **always** at least 0.5 – 1 bar above the pressure which is required to move the actuator to its end position.

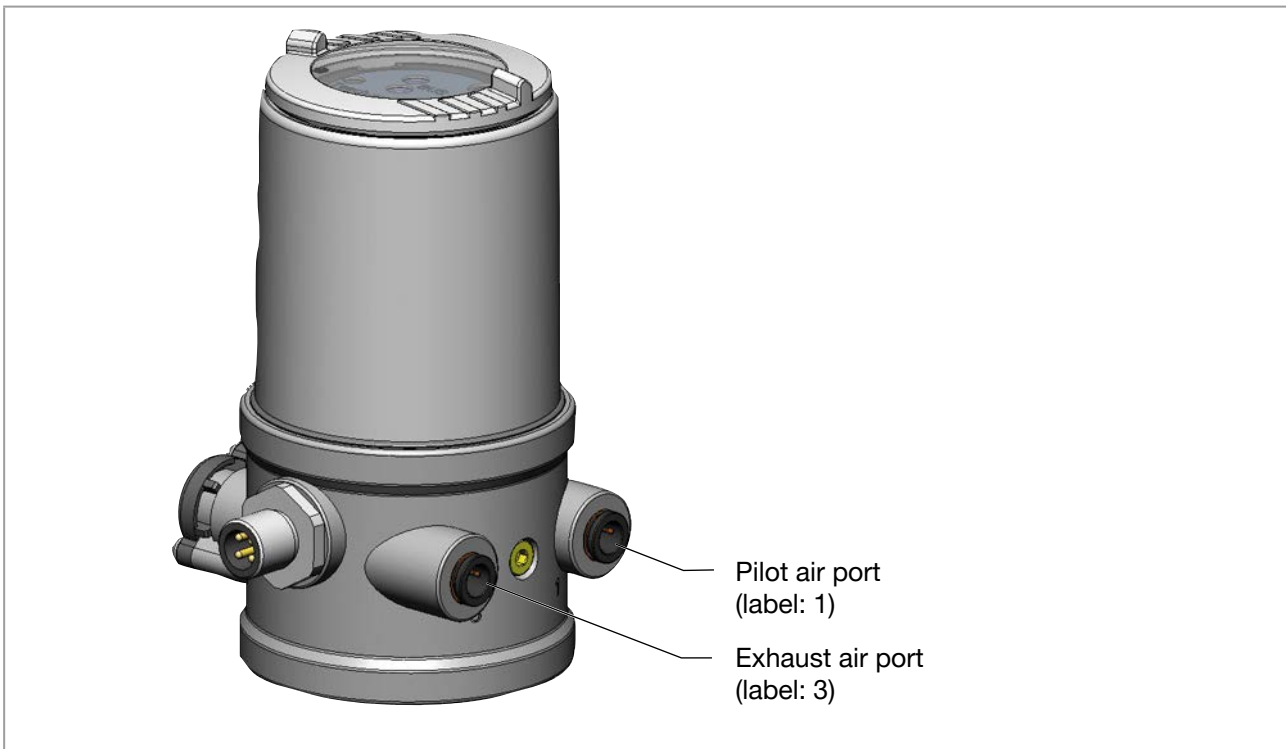


Figure 19: Pneumatic connection



Air exhaust concept:

- In compliance with degree of protection IP67, an air exhaust line must be installed in the dry area.

9 ELECTRICAL INSTALLATION

9.1 Safety instructions



DANGER!

Risk of electric shock.

- ▶ Before working on equipment or device, switch off the power supply and secure to prevent reactivation.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.



WARNING!

Risk of injury from improper installation.

- ▶ Installation may be carried out by authorized technicians only and with the appropriate tools.

Risk of injury from unintentional activation of the system and an uncontrolled restart.

- ▶ Secure system from unintentional activation.
- ▶ Following installation, ensure a controlled restart.

Minimum temperature rating of the cable to be connected to the field wiring terminals: 75 °C

9.2 Electrical installation, without fieldbus communication

Configuration circular plug (M12 x 1, 8-pin):

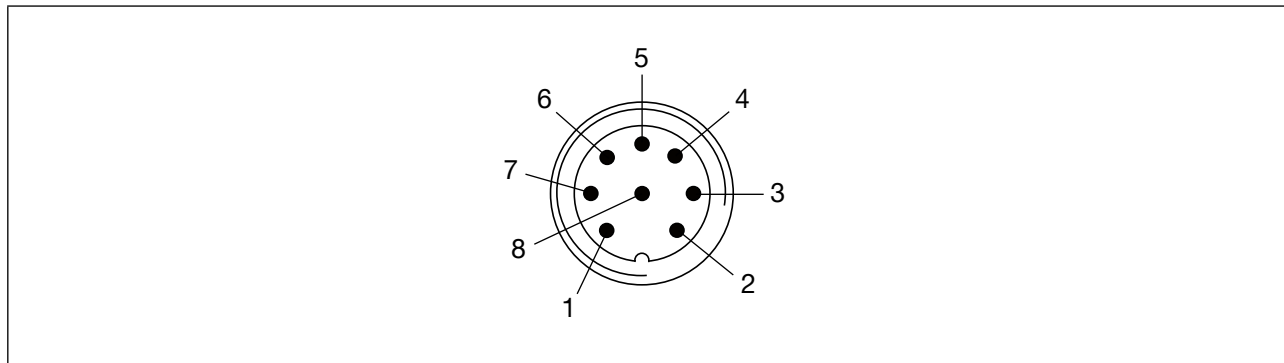


Figure 20: Circular plug M12 x 1, 8-pin

Pin	Wire color ⁴⁾	Designation	Configuration	External circuit / signal level
1	white	Digital output end position with actuator activated	DO2+	
2	brown	Digital output end position with actuator deactivated	DO1+	
3	green	Operating voltage	GND	3 → GND 4 → 24 V
4	yellow	Operating voltage +	24 V DC	
5	grey	Digital input, valve control +	Valve +	5 → 24 V 6 → GND
6	pink	Digital input, valve control -	Valve -	
7		-	not assigned	
8		-	not assigned	

Table 3: Connection with circular plug-in connector

→ Connect the control head according to the table.

⁴⁾ The indicated colors refer to the connecting cable available as an accessory (919061).

9.3 Electrical installation, IO-Link port class B and port class A

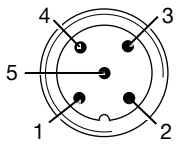
Port class B	Pin	Designation	Configuration	
	1	L +	24 V DC	System supply
	2	P24	24 V DC	Actuator supply
	3	L –	0 V (GND)	System supply
	4	C/Q	IO-Link	
	5	M24	0 V (GND)	Actuator supply

Table 4: Pin assignment, port class B

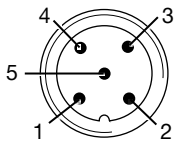
Port class A	Pin	Designation	Configuration	
	1	L +	24 V DC	System supply
	2	Not assigned		
	3	L –	0 V (GND)	System supply
	4	C/Q	IO-Link	
	5	Not assigned		

Table 5: Pin assignment, port class A

9.4 Electrical installation, bÜS

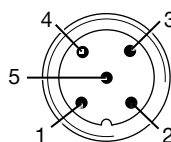


Figure 21: Pin assignment

Pin	Wire color	Configuration
1	CAN plate/shielding	CAN plate/shielding
2	red	+24 V DC $\pm 25\%$, max. residual ripple 10%
3	black	GND / CAN_GND
4	white	CAN_H
5	blue	CAN_L

Table 6: Pin assignment



For electrical installation with bÜS network, note:

Use a 5-pin round plug and shielded 5-core cable.

The shielding in the device is not connected to the functional earth.

9.5 Electrical installation, AS-Interface

9.5.1 Connection with circular plug-in connector M12 x 1, 4-pin

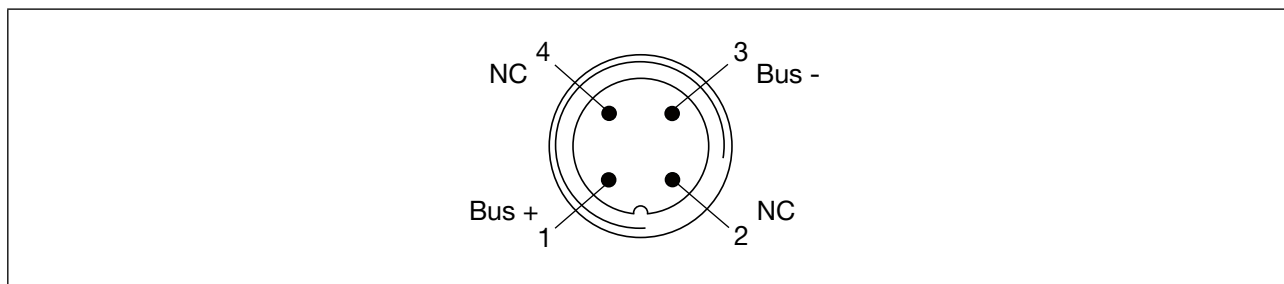


Table 7: Pin assignment

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

Table 8: Pin assignment of circular plug-in connector for AS-Interface

9.5.2 Connection with multi-pole cable and ribbon cable terminal

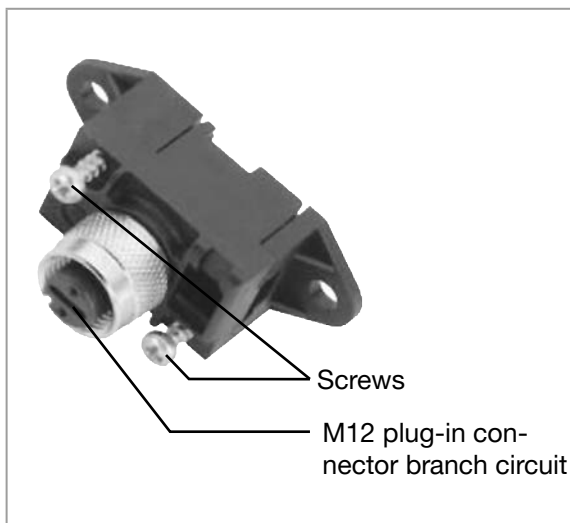
As an alternative to the bus connection model with 4-pole circular plug, there is the control head with multipole cable (M12 circular plug) and ribbon cable terminal. The wiring diagram of the circular plug corresponds to the bus connection of the M12 4-pole circular plug and can easily be connected to the ribbon cable terminal (see “Figure 23”)



Figure 22: Control head 8695 with multi-pole cable and ribbon cable terminal

Handling the ribbon cable terminal

The multi-pole cable features a ribbon cable terminal - with M12 plug-in connector branch circuit - for ASInterface cable harness. The ribbon cable terminal contacts the AS-Interface cable harness by means of penetration technology which allows installation by “clipping in” the AS-Interface cable harness without cutting and without removing insulation.



Work steps:

- Open the ribbon cable terminal (loosen screws and remove cover)
- Insert cable harness conclusively
- Close ribbon cable terminal again
- Tighten screws
Slightly undo thread-forming screws (approx. 3/4 turn to the left) and position them on the existing tapped bore and screw in.

Figure 23: Ribbon cable terminal

10 START-UP



WARNING!

Risk of injury from improper operation.

Improper operation may result in injuries as well as damage to the device and the area around it.

- ▶ Before start-up, ensure that the operating personnel are familiar with and completely understand the contents of the operating instructions.
- ▶ Observe the safety instructions and intended use.
- ▶ Only adequately trained personnel may operate the equipment/the device.

10.1 Invert process valve direction

In the factory settings, the following actuator end positions and colours of the status indicator are assigned to the valve positions:

Valve position	Status indicator	Actuator position
Valve open	is lit green	Actuator deactivated
Valve closed	is lit yellow	Actuator activated

Table 9: Factory settings

Depending on the device combination of actuator type and valve type, it follows whether the process valve direction must be inverted so that the valve position (closed/open) can be assigned to the actuator position:

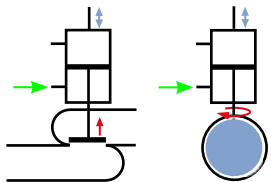
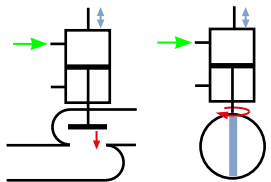
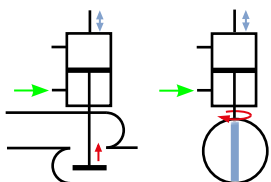
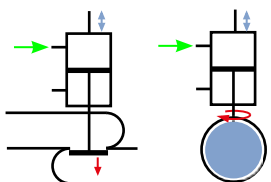
Actuator with stroke movement of the switch spindle	
 <p>Valve opens when pressurized below</p>	 <p>Valve closes when pressurized at the top</p>
→ No adjustment required.	
 <p>Valve closes when pressurized below</p>	 <p>Valve opens when pressurized at the top</p>
→ Invert process valve direction.	

Table 10: Device combination

Invert process valve direction:

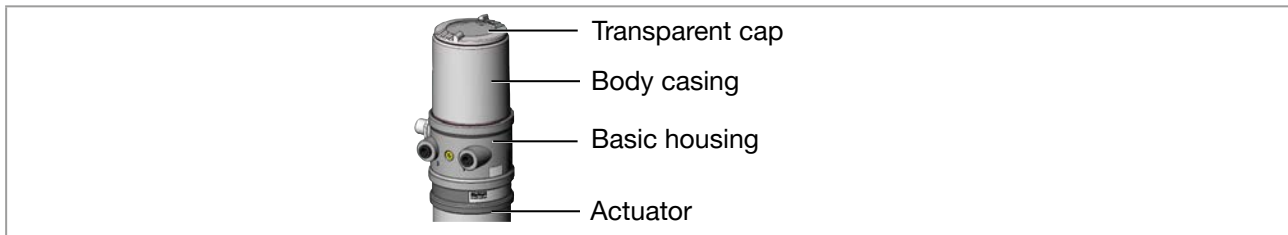


Figure 24: Open device

ATTENTION

Breakage of the pneumatic connection pieces due to rotational impact.

► When opening or closing the device, do not press against the actuator, but against the basic housing.

→ Open the device: turning the transparent cap anti-clockwise.

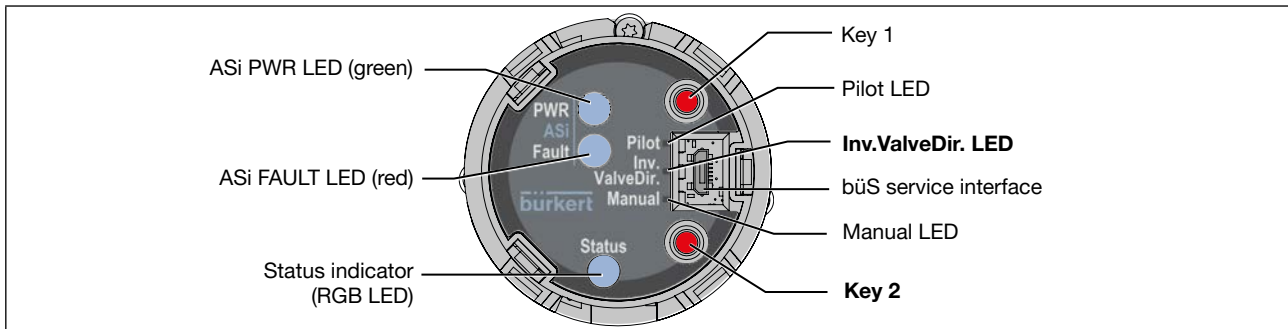


Figure 25: Operating and display elements

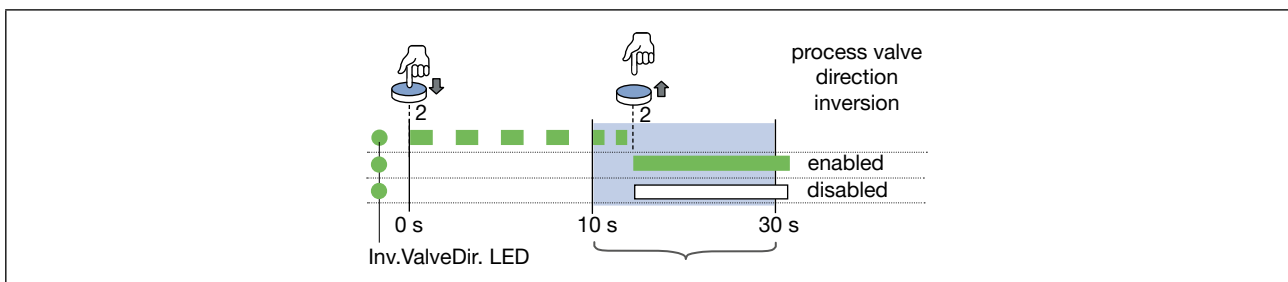


Figure 26: Invert process valve direction

→ Keep key 2 pressed for > 10 s. The green Inv.ValveDir. LED flashes for 10 s at 10 Hz.

→ When the green Inv.ValveDir. LED flashes for a shorter time, release key 2.

✓ The valve direction inversion is enabled: the green Inv.ValveDir. LED is lit.

✓ The valve direction inversion is disabled: the Inv.ValveDir. LED is not lit.

NOTE

Damage or malfunction due to ingress of dirt or moisture.

To observe the degree of protection IP65 or IP67:

► Screw in transparent cap to the stop.

→ Close the device (see accessories for assembly tool).

10.2 Teach function: Determine end positions and save these, REV.3

- **Automatic teach function:** For devices with pilot valve
The teach function automatically identifies and saves the end positions of the valve.
- **Manual teach function:** For devices without pilot valve
The end positions are captured and saved automatically.
- **Teach-in-operation function:** The teach-in operation function (if previously activated) identifies and saves the end positions during normal operation.



DANGER!

Danger due to the valve position changing when the teach function is running.

When the teach function is running under operating pressure, there is an acute risk of injury.

- ▶ Never run the teach function while a process is running.
- ▶ Secure system from unintentional activation.



Important:

When the automatic or manual teach function is activated the actuator cannot be actuated via the communication interface.

10.2.1 Automatic teach function

For devices with pilot valve:

The teach function automatically identifies and saves the end positions of the valve.



With the IO-Link and AS-Interface variant, the teach function can also be started via the bus communication (see respective parameter list) or with all variants of the REV.3 versions with the Bürkert Communicator.

Essential requirements:

- The device is mounted on the actuator.
- The supply voltage is connected.
- The compressed air supply is connected.
- So that the correct reference conditions are identified, the pilot pressure must correspond to the operating conditions.

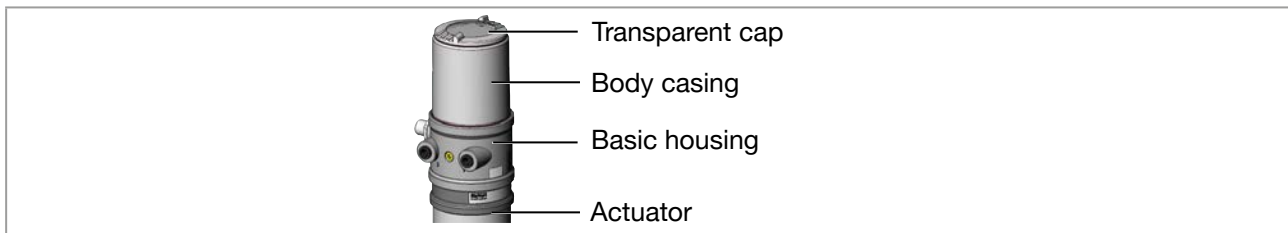


Figure 27: Open device

ATTENTION

Breakage of the pneumatic connection pieces due to rotational impact.

► When opening or closing the device, do not press against the actuator, but against the basic housing.

→ Open the device: turning the transparent cap anti-clockwise.

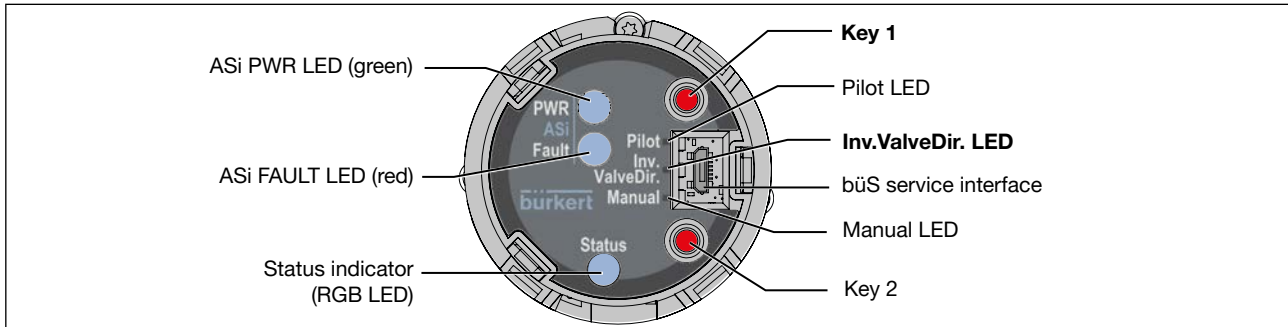


Figure 28: Operating and display elements

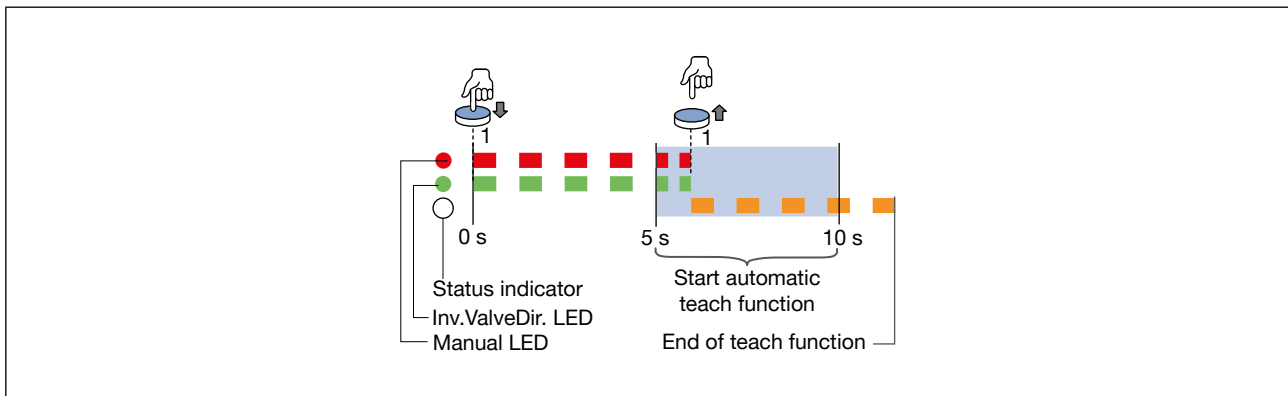


Figure 29: Start automatic teach function

→ Press and hold key 1 for > 5 s to start the automatic teach function. The red manual LED and the green Inv.ValveDir. LED flash for 5 s at 5 Hz.

→ When the red manual LED and the green Inv.ValveDir. LED start flashing faster (10 Hz), release key 1 within the next 5 s.

✓ The status indicator flashes orange while the automatic teach function is running (function check). When the status indicator stops flashing orange, the teach function is complete.

✓ The end positions of the valve have been identified and saved.

Note: If the status indicator is lit red, the teach function is faulty and must be repeated.

ATTENTION

Damage or malfunction due to ingress of dirt or moisture.

To observe the degree of protection IP65 or IP67:

► Screw in transparent cap to the stop.

→ Close the device (see accessories for assembly tool).

Description of workflow for automatic teach function:

The status indicator flashes orange when the teach function is running.

- The first end position (POS1 = pilot valve deactivated) is scanned in.
- The pilot valve switches.
- The actuator moves automatically to the second end position (POS2 = pilot valve activated).
- The second end position (POS2 = pilot valve activated) is scanned in.
- The pilot valve is switched off.
- The actuator moves to the first end position (POS1 = pilot valve deactivated).

10.2.2 Manual teach function

For devices without pilot valve:

The end positions are captured and saved manually by the user.



With the IO-Link and AS-Interface variant, the teach function can also be started via the bus communication (see respective parameter list) or with all variants of the REV.3 versions with the Bürkert Communicator.

Essential requirements:

- The device is mounted on the actuator.
- The supply voltage is connected.
- The compressed air supply is connected.
- So that the correct reference conditions are identified, the pilot pressure must correspond to the operating conditions.
- Provide the possibility for the user to switch the pneumatic actuator (open and closed).

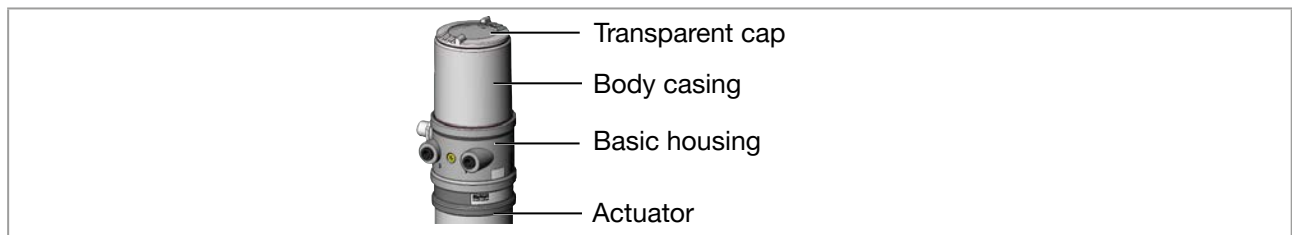


Figure 30: Opening or closing the device

ATTENTION

Breakage of the pneumatic connection pieces due to rotational impact.

- When opening or closing the device, do not press against the actuator, but against the basic housing.

→ Screw off the transparent cap by turning counterclockwise.

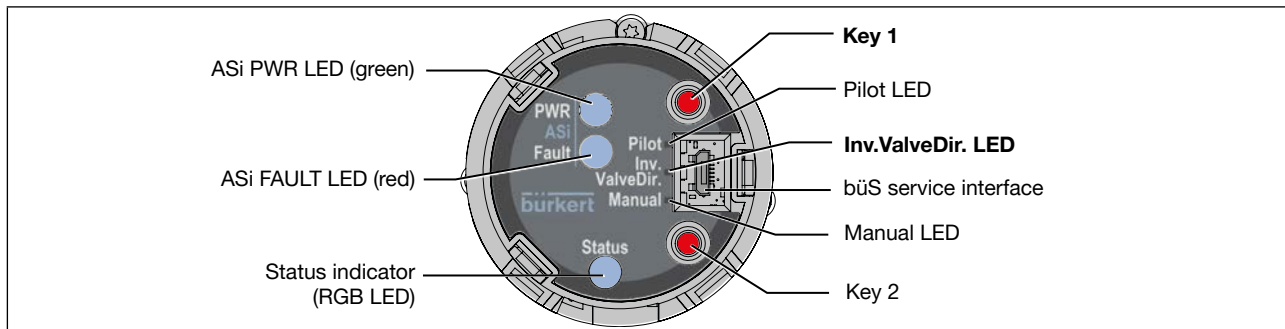


Figure 31: Operating and display elements

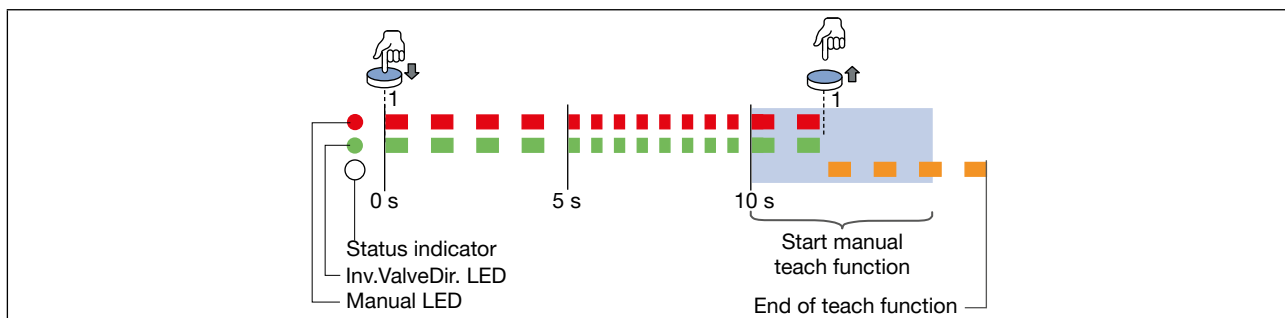


Figure 32: Start automatic teach function

- Air bleed the pneumatic actuator: move to the unactuated end position.
- Press and hold key 1 to start the manual teach function for >10 s (red manual LED + green Inv.ValveDir. LED flash together: the first 5 s slowly, the second 5 s quickly, >10 s slowly again, then release key 1).
- ✓ The status indicator flashes orange while the manual teach function is running (function check).
- Check whether the pneumatic actuator is in the deaerated, unactuated end position.
- Confirm this end position by briefly pressing key 1.
- ✓ Yellow Pilot LED is lit.
- Move the pneumatic actuator into the aerated, switched end position.
- Confirm this end position by briefly pressing key 1.
- ✓ Yellow Pilot LED is not lit.
- Air bleed the pneumatic actuator: move to the unactuated end position.
- ✓ When the status indicator stops flashing orange, the teach function is complete.
- ✓ The end positions of the valve have been identified and saved.

Note: If the status indicator is lit red, the teach function is faulty and must be repeated.

- Check that the seal (body casing) is in the correct position.

ATTENTION

Damage or malfunction due to ingress of dirt or moisture.

To observe the degree of protection IP65 or IP67:

- ▶ Screw in transparent cap to the stop.

- Close the device (see accessories for assembly tool).

10.2.3 Teach-in-operation function

The teach-in-operation function can be used if the device is to carry out the end positions of the process valve automatically during normal operation (once when the control unit is switched on for the first time).

This function may only be used for process valve actuators with control function A (normally closed).

The function must first be enabled via the büS service interface (Bürkert Communicator).

For devices that are delivered without a process valve, this function is already enabled because no other teach function has yet been carried out.

If the function is enabled, the device reports the device status „Warning“ (out of specification) until the first switching has been carried out properly, but it is ready for operation and outputs the end positions specified in the last properly carried out teach function via the digital outputs of the device.

Process description:

- Enable teach-in-operation function with the communicator.
- Device issues “Warning” until both end positions have been successfully determined.
- The first end position is determined when the pilot valve is deactivated for at least 5 s and no movement is detected.
- The second end position is determined when the pilot valve is activated for at least 5 s and no movement has been detected.
- Both end positions are saved and the „Warning“ device status is withdrawn.
- The enabling of this function is reset.

Note: the enabling of this function is also reset if one of the other two teach functions (automatic or manual teach function) was carried out before the first switching.

10.3 Setting with Bürkert Communicator

The Bürkert Communicator can be used to make all settings on the device.



The settings in the Bürkert Communicator can be found in the operating manual.

10.3.1 Connecting IO-Link device with Bürkert Communicator

Devices without fieldbus communication, devices with IO-Link or AS-Interface via bÜS service interface:

Required components:

- Communications software: Bürkert Communicator for PC
- USB-bÜS interface set (see accessories)
- bÜS adapter for communication interface (see accessories)
- If necessary, a bÜS cable extension (see accessories)

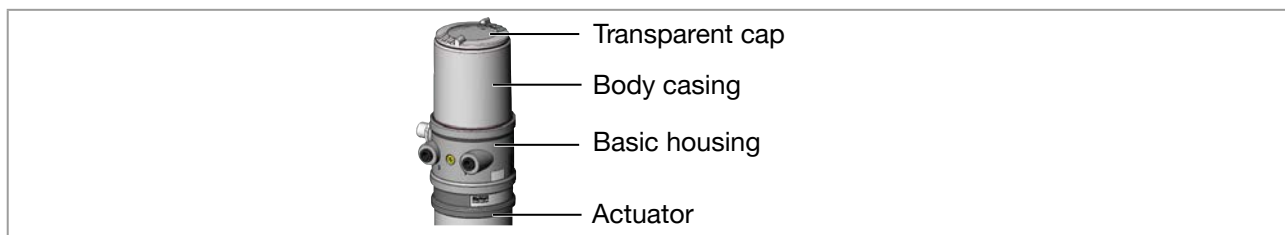


Figure 33: Opening or closing the device

ATTENTION

Breakage of the pneumatic connection pieces due to rotational impact.

- When opening or closing the device, do not press against the actuator, but against the basic housing.

→ Screw off the transparent cap by turning counterclockwise.

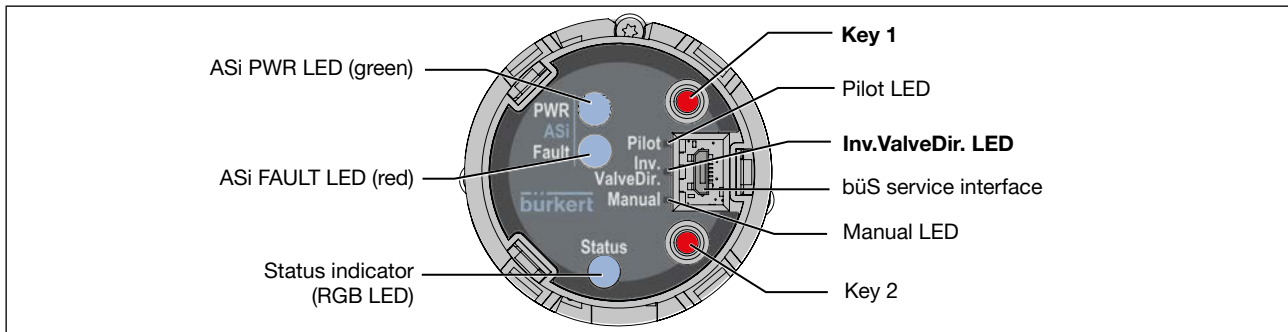


Figure 34: Communication interface

- Insert micro USB plug in büS service interface.
- Establish connection to PC with USB-büS interface set.
- Starting Bürkert Communicator.
- Implementing settings.

büS device

Required components:

- Communications software: Bürkert Communicator for PC
- USB-büS interface set (see accessories)

- Establish connection to PC with USB-büS interface set.
- Starting Bürkert Communicator.
- Implementing settings.

10.4 IO-Link

10.4.1 Information, IO-Link

IO-Link is an internationally standardized IO technology (IEC 61131-9) to enable sensors and actuators to communicate.

IO-Link is a point-to-point communication with 3-wire connection technology for sensors and actuators and unshielded standard sensor cables.

To ensure clear communication, the IO-Link devices should not be parameterised simultaneously by the higher-level controller (PLC) via the IO-Link master and with the Bürkert Communicator (via the communication interface).

10.5 Configuration of the fieldbus

The required start-up files and the description of the process data and acyclic parameters are available on the Internet.



Download from:

www.burkert.com / Type 8695 / Software

10.6 büS

10.6.1 Information, büS

büS is a system bus developed by Bürkert with a communication protocol based on CANopen.

10.6.2 Configuration of the fieldbus

The required start-up files and the description of objects are available on the Internet.



Download from:

www.burkert.com / Type 8695 / Software

10.7 AS-Interface

AS-Interface (Actuator Sensor Interface) is a field bus system which is used primarily for networking binary sensors and actuators (slaves) with a higher-level control (master). The unshielded two-wire line is used to transmit both the information (data) and the energy to supply the actuators and sensors.

10.7.1 Certification

The device is certified according to AS-Interface specification version 3.0.

Certificate No.: on request

10.7.2 Programming data

I/O-Konfiguration	B hex
ID code	A hex (bit configuration see above)
Extended ID code 1	7 hex
Extended ID code 2	E hex
Profile	S-B.A.E

Table 11: Programming data

Bit configuration

Data bit	D3	D2	D1	D0
Input	0 End position not reached when actuator activated 1 End position reached when actuator activated	0 End position not reached when actuator deactivated 1 End position reached when actuator deactivated	–	–
Output	–	–	"1 → 0" (falling edge) START automatic teach function	0 Pilot valve OFF 1 Pilot valve ON
Parameter bit	P3	P2	P1	P0
Output	not used	not used	not used	"1 → 0" (falling edge) START automatic teach function

Table 12: Bit configuration

11 CONTROL AND DISPLAY ELEMENTS

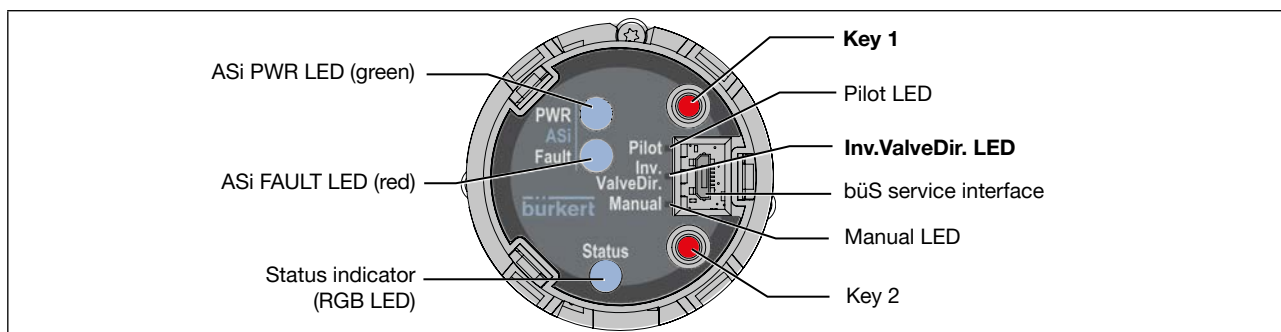


Figure 35: Operating and display elements

Key	Description of the functions
1	Press for 5–10 s: start automatic teach function Press for > 10 s: start manual teach function
2	Press briefly (only in MANUAL operating state): Switch pilot valve on/off Press for 10–30 s: Enable/disable process valve direction inversion
1 and 2	Press both for 2–10 s: Switch MANUAL ↔ AUTO Press both for 10–30 s: Start device restart Press both for > 30 s: Reset device to factory settings

Table 13: Operating elements

LED	Description of the displays
Status indicator RGB LED	Valve position, error, warning see chapter „Status indicator“
Pilot LED yellow	Is lit: pilot valve is actuated (on)
Manual LED red	Is lit: MANUAL operating state active Flashes at 10 Hz for 0–2 s: Switch MANUAL ↔ AUTO
Inv.ValveDir. green	Is lit: inversion of process valve direction active
Manual LED red and Inv.ValveDir. LED green	Both flash after pressing and holding key 1: Flash slowly for 5 s Flash quickly for 5–10 s → Release key: start automatic teach function. Flash slowly for > 10 s → Release key: start manual teach function.
Pilot LED yellow and Manual LED red and Inv.ValveDir. LED green	All flash at 5 Hz for 10–30 s: device restart started All flash at 10 Hz for > 30 s: the device is reset to factory settings
AS-Interface only:	
ASi PWR LED green	Display of ASi-Power
ASi FAULT LED red	Display of ASi-Fehler

Table 14: Display elements

11.1 Operating state



To operate the keys, make sure that the local control lock is deactivated/unlocked (factory setting): with communication software or fieldbus communication.

AUTOMATIC (AUTO)

In AUTOMATIC operating state, the device is in normal operation: the valve is controlled via the process interface.

MANUAL (MANU)

In MANUAL operating state the valve can be opened and closed manually via the key 2.

11.2 Functions of the operating and display elements



To operate the buttons, make sure that the local control lock is deactivated/unlocked (factory setting): with communication software or fieldbus communication.

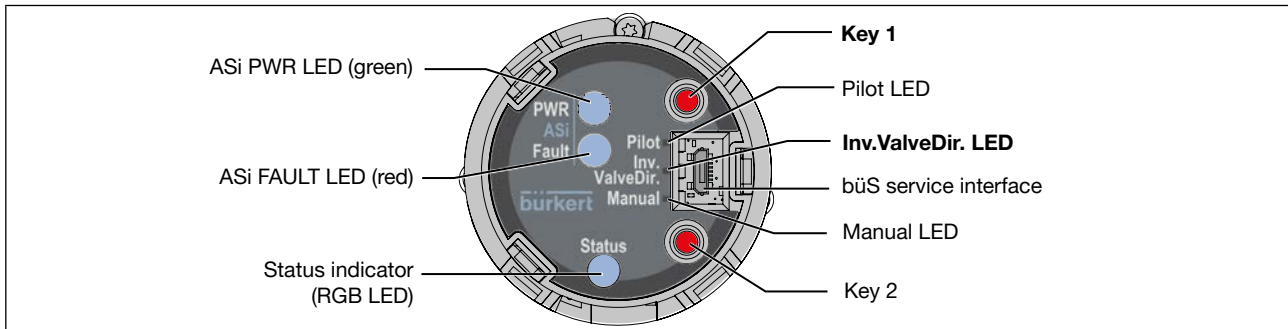


Figure 36: Operating and display elements

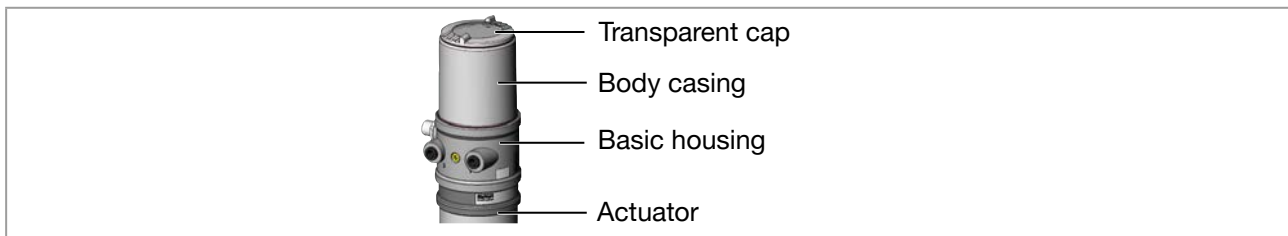


Figure 37: Open device

Open or close the device:

Open the device:

NOTE

Breakage of the pneumatic connection pieces due to rotational impact.

- When unscrewing and screwing in the body casing, do not hold the actuator of the process valve but the basic housing.

→ Unscrew the transparent cap in an anticlockwise direction.

Close the device:

NOTE

Damage or malfunction due to ingress of dirt or moisture.

To observe the degree of protection IP65 or IP67:

- Screw in body casing to the stop.

→ Close the device (see accessories for assembly tool).

Changing the operating state (MANU ↔ AUTO)

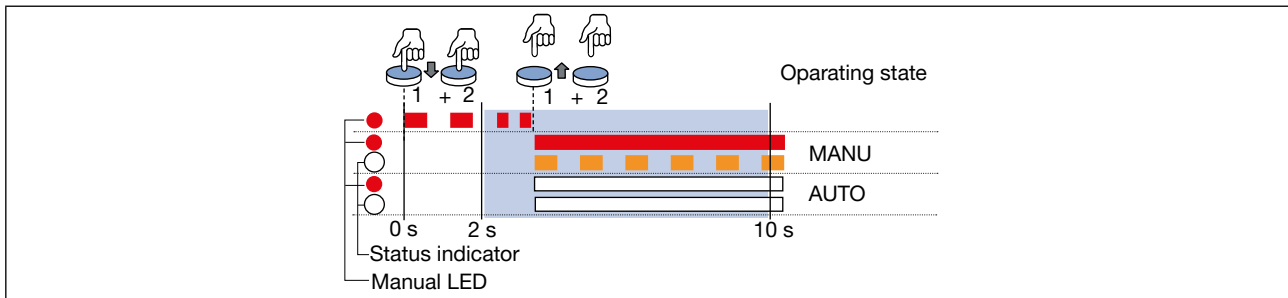


Figure 38: Changing the operating state

→ Press and hold keys 1 and 2 for > 2 s. The red manual LED flashes for approx. 2 s at 5 Hz.

→ When the red manual LED starts flashing faster (10 Hz), release keys 1 and 2 within the next 5 s.

- ✓ MANUAL operating state: the red manual LED is lit and the status indicator flashes orange.
- ✓ AUTO operating state: the red manual LED and the status indicator is not lit.

Switch pilot valve (only possible in MANUAL operating state)

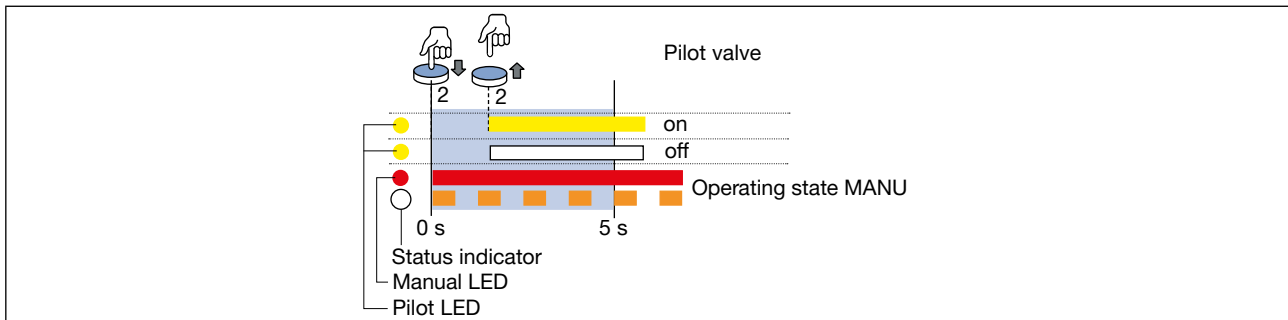


Figure 39: Switch pilot valve

→ Briefly press key 2.

- ✓ Pilot valve on: the yellow pilot LED is lit.
- ✓ Pilot valve off: the yellow pilot LED is not lit.

Perform device restart

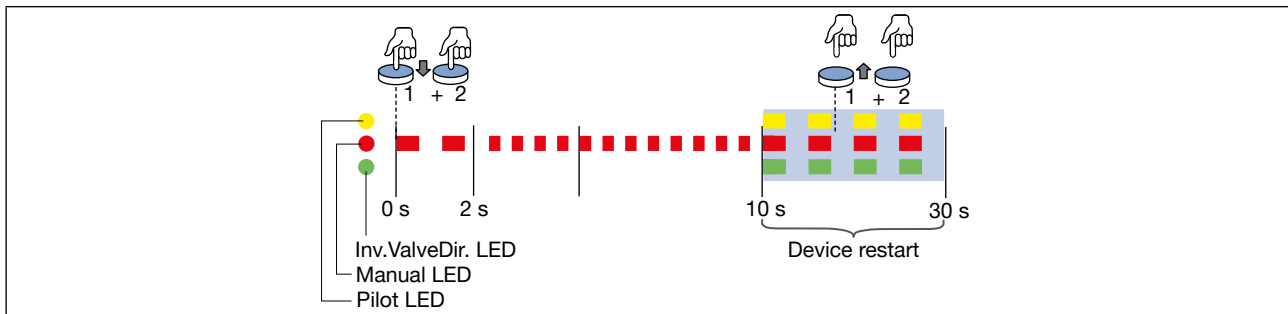


Figure 40: Perform device restart

→ Keep keys 1 and 2 pressed for 10–30 s. The red manual LED flashes for approx. 2 s at 5 Hz, then at 10 Hz.

→ When the red manual LED flashes more slowly again (5 Hz), release keys 1 and 2 within the next 20 s.

✓ The device will restart.

Factory reset

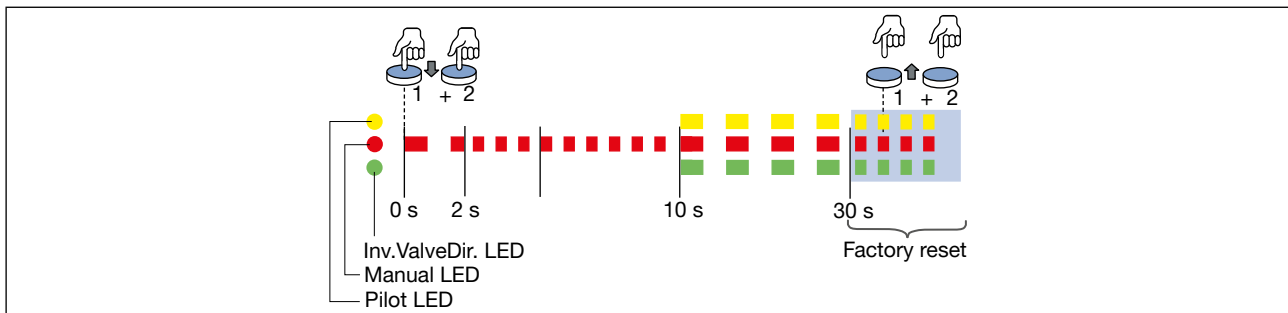


Figure 41: Factory reset

→ Keep keys 1 and 2 pressed for > 30 s. The red manual LED flashes for approx. 2 s at 5 Hz, then at 10 Hz, then again at 10 Hz.

→ When the red manual LED flashes faster again (10 Hz), release keys 1 and 2.

✓ The device is reset to factory settings.

11.3 Status indicator

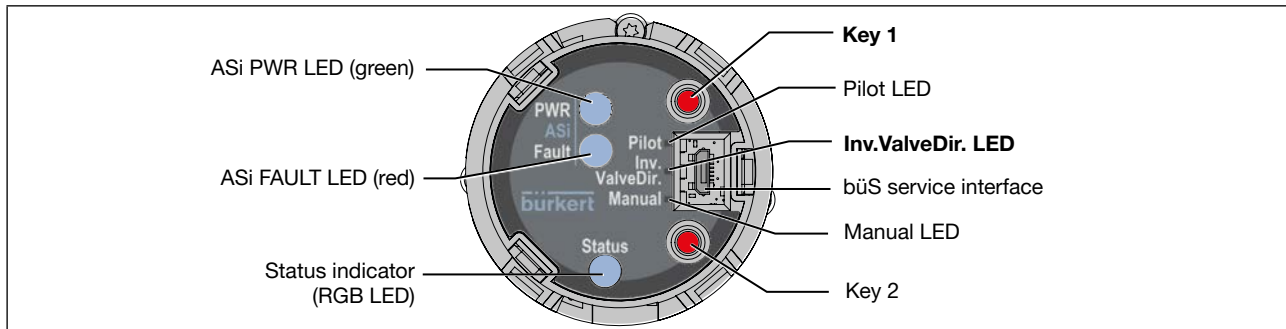


Figure 42: Operating and display elements

The status indicator (RGB LED) shows the device status and the valve position.

The user can set the following LED modes:

- Valve mode
- Valve mode with error messages
- Valve mode with warnings (factory setting)
- NAMUR mode
- Fixed color
- LED off



With the IO-Link and AS-Interface variant, the teach function can also be started via the bus communication (see respective parameter list) or with all variants of the REV.3 versions with the Bürkert Communicator.



The description for setting the LED mode can be found in the chapter [“11.6 Setting the LED mode, status indicator”](#), page 60.

11.4 Description of the LED modes

11.4.1 Valve mode

Displays in valve mode:

- Valve position: open, half-way, closed

Valve position	Valve position status, color
Open	is lit yellow*
Half-way	LED off*
Closed	is lit green*

Table 15: Valve mode

* Factory setting, selectable colors for the valve position: Off, white, pink, blue, turquoise, green, yellow, orange, red

11.4.2 Valve mode and error

Displays in valve mode and error:

- Valve position: open, half-way, closed
- Device status: error

Valve position	Valve position status, color	Device status: Error status, color	
Open	is lit yellow*	flashes red	alternately with yellow*
Half-way	LED off*	flashes red	alternately with LED off*
Closed	is lit green*	flashes red	alternately with green*

Table 16: Valve mode and error

* Factory setting, selectable colors for the valve position: Off, white, pink, blue, turquoise, green, yellow, orange, red

11.4.3 Valve mode and warnings

Displays in valve mode and warnings:

- Valve position: open, half-way, closed
- Device status: failure, function check, out of specification, maintenance required (according to NAMUR)

If several device statuses exist simultaneously, the device status with the highest priority is displayed.

Valve position		Device status
	Status, color	Normal operation
Open	is lit yellow*	--
Half-way	LED off*	--
Closed	is lit green*	--

Table 17: Valve mode and warnings, device status: Normal operation

Valve position	Valve position status, color	Device status: Error status, color	
Open	is lit yellow*	flashes red	alternately with yellow*
Half-way	LED off*	flashes red	alternately with LED off*
Closed	is lit green*	flashes red	alternately with green*

Table 18: Valve mode and warnings, device status: Error

Valve position	Valve position status, color	Device status: Function control status, color	
Open	is lit yellow*	flashes orange	alternately with yellow*
Half-way	LED off*	flashes orange	alternately with LED off*
Closed	is lit green*	flashes orange	alternately with green*

Table 19: Valve mode and warnings, device status: Function control

Valve position	Valve position status, color	Device status: Out of specification status, color	
Open	is lit yellow*	flashes yellow	alternately with yellow*
Half-way	LED off*	flashes yellow	alternately with LED off*
Closed	is lit green*	flashes yellow	alternately with green*

Table 20: Valve mode and warnings, device status: Out of specification

Valve position	Valve position status, color	Device status: Maintenance required status, color	
Open	is lit yellow*	flashes blue	alternately with yellow*
Half-way	LED off*	flashes blue	alternately with LED off*
Closed	is lit green*	flashes blue	alternately with green*

Table 21: Valve mode and warnings, device status: Maintenance required

For error messages and warning messages, the LEDs are briefly switched off between the change of the colors.

For localizations, the colors are only shown momentarily.

* Factory setting, selectable colors for the valve position: Off, white, pink, blue, turquoise, green, yellow, orange, red

11.4.4 NAMUR mode

Displays in NAMUR mode:

- Device status: failure, function check, out of specification, maintenance required, diagnostics active (according to NAMUR)

If several device statuses exist simultaneously, the device status with the highest priority is displayed. The priority is determined by the severity of the deviation from normal operation (red LED = failure = highest priority).

Device status indicator in accordance with NAMUR:

Status display in accordance with NE 107, edition 2006-06-12			
Colour	Colour code	Status	Description
Red	5	Failure, error or malfunction	Normal operation is not possible due to a malfunction in the device or on its peripheral equipment.
Orange	4	Function check	Work is being carried out on the device; normal operation is therefore temporarily not possible
Yellow	3	Out of specification	Ambient conditions or process conditions for the device are outside the specified area.
Blue	2	Maintenance required	The device is in normal operation, although a function is briefly restricted. →Service device.
Green	1	Diagnostics active	Device is operating perfectly. Status changes are indicated in different colors. Messages are transmitted via a fieldbus if connected.

Table 22: Description of the colors

11.4.5 Fixed colour

Displays in fixed colour:

- Status indicator is lit white*.

* Factory setting, selectable colors for the valve position: Off, white, pink, blue, turquoise, green, yellow, orange, red

11.4.6 LED off

Displays in LED off:

- Status indicator is not lit.

11.5 Manual actuation of the actuator with pilot valve

The actuator can be moved without a supply voltage from the rest position to its end position and back again *when pilot air is connected*.

To do this, the pilot valves must be actuated with a screwdriver.

Opening the device:

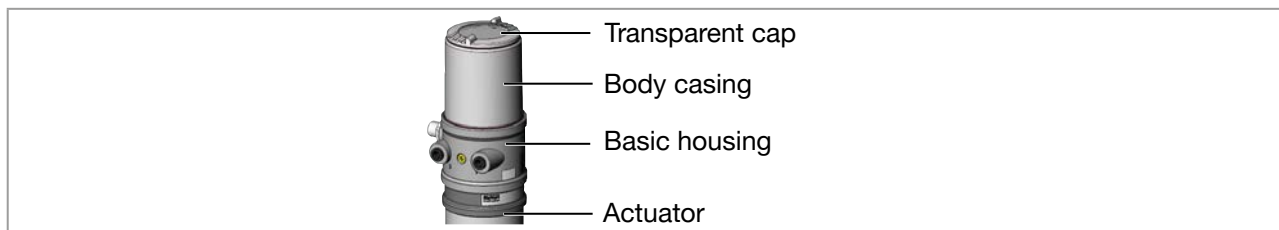


Figure 43: Opening the device

ATTENTION!

Breakage of the pneumatic connection pieces due to rotational impact.

- When unscrewing and screwing in the body casing or transparent cap, do not hold the actuator of the process valve but the basic housing.

→ To activate the device manually, unscrew the body casing.

Manual activation:

ATTENTION!

The manual override may be damaged if it is simultaneously pressed and turned.

- Do not press the manual override when turning it.

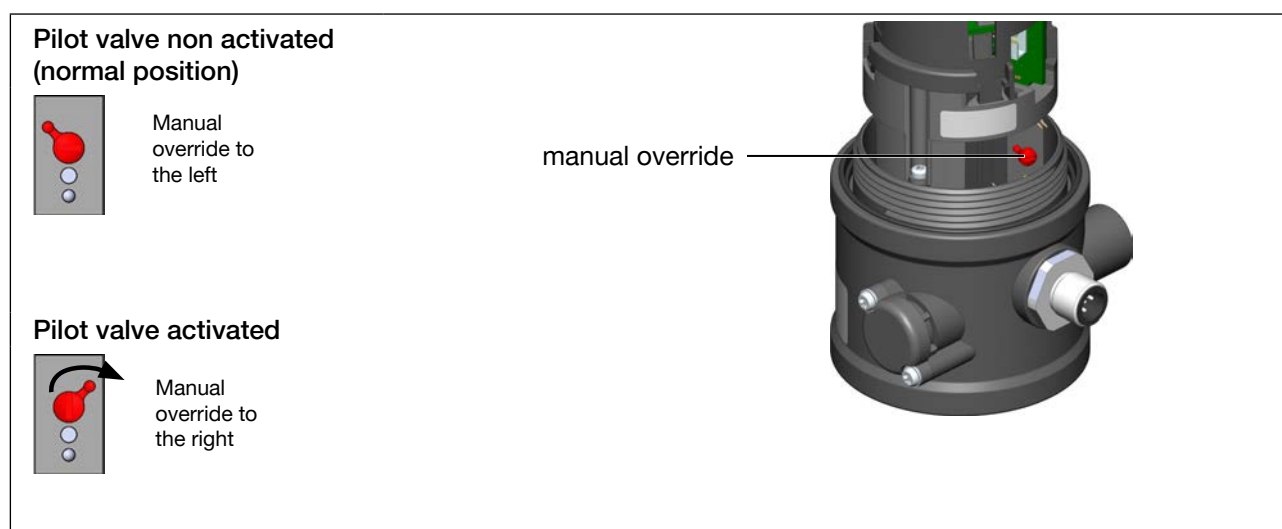


Figure 44: Pilot valves for aerate and deaerate the actuator

5)

Move actuator to end position

→ Turn the manual override to the right using a screwdriver.

Note: do not press the manual override when turning.

Move actuator back to the rest position

→ Turn the manual override to the left using a screwdriver.

Note: do not press the manual override when turning.



Caution:

If the pilot valves are actuated, electrical control is not possible.

- Move manual override to normal position before starting up the device.

Closing the device:

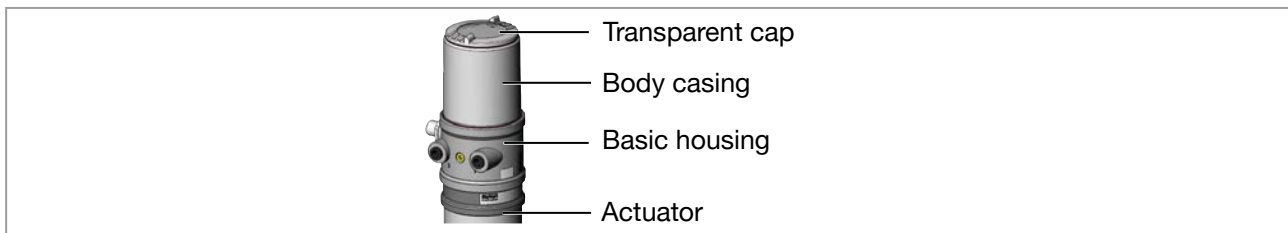


Figure 45: Closing the device

ATTENTION

Damage or malfunction due to ingress of dirt or moisture.

To observe the degree of protection IP65 or IP67:

- Screw in body casing to the stop.

→ Close the device (see accessories for assembly tool).

11.6 Setting the LED mode, status indicator

User level: installer

Factory setting: valve mode + warnings

Menu or function		Values or description	
Device			
	> General settings		
	> Parameter		
	> Status LED		
	Mode	<input type="radio"/> NAMUR mode <input type="radio"/> Valve mode <input type="radio"/> Valve mode + errors <input checked="" type="radio"/> Valve mode + Warnings <input type="radio"/> Fixed color <input type="radio"/> LED off	

Setting the LED mode, status indicator:

→ Status LED

→ Mode

Possible selection:

- ☐ NAMUR mode
- ☐ Valve mode
- ☐ Valve mode + error
- ☒ Valve mode + warnings
- ☐ Fixed color
- ☐ LED off

→ Select mode.

✓ The mode is set.

12 SAFETY END POSITIONS

Safety end positions after failure of the electrical or pneumatic auxiliary power:

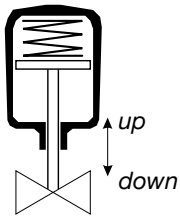
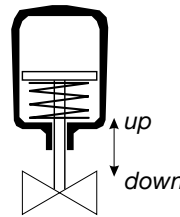
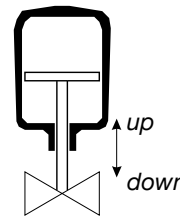
Actuator system	Designation	Safety end positions after failure of the auxiliary power	
		electrical	pneumatic
	single-acting Control function A	down	down
	single-acting Control function B	up	up
	double-acting Control function B	down	not defined

Table 23: Safety end positions

13 MAINTENANCE

The control head Type 8695 is maintenance-free when operated according to the instructions in this manual.

14 DISASSEMBLY

14.1 Safety instructions



DANGER!

Risk of injury from high pressure in the equipment/device.

- ▶ Before working on equipment or device, switch off the pressure and deaerate/drain lines.

Risk of electric shock.

- ▶ Before working on equipment or device, switch off the power supply and secure to prevent reactivation.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.



WARNING!

Risk of injury from improper disassembly.

- ▶ Disassembly may be carried out by authorized technicians only and with the appropriate tools.

Risk of injury from unintentional activation of the system and an uncontrolled restart.

- ▶ Secure system from unintentional activation.
- ▶ Following disassembly, ensure a controlled restart.

14.2 Disassembly the control head

Procedure:

1. Pneumatic connection



DANGER!

Risk of injury from high pressure in the equipment/device.

- ▶ Before working on equipment or device, switch off the pressure and deaerate/drain lines.

→ Loosen the pneumatic connection.

→ 20xx series:

Loosen the pneumatic connection to the actuator.

2. Electrical connection



DANGER!

Risk of electric shock.

- ▶ Before working on equipment or device, switch off the power supply and secure to prevent reactivation.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.

→ Loosen the circular plug-in connector.

3. Mechanical connection

→ Loosen the fastening screws.

→ Remove the control head upwards.

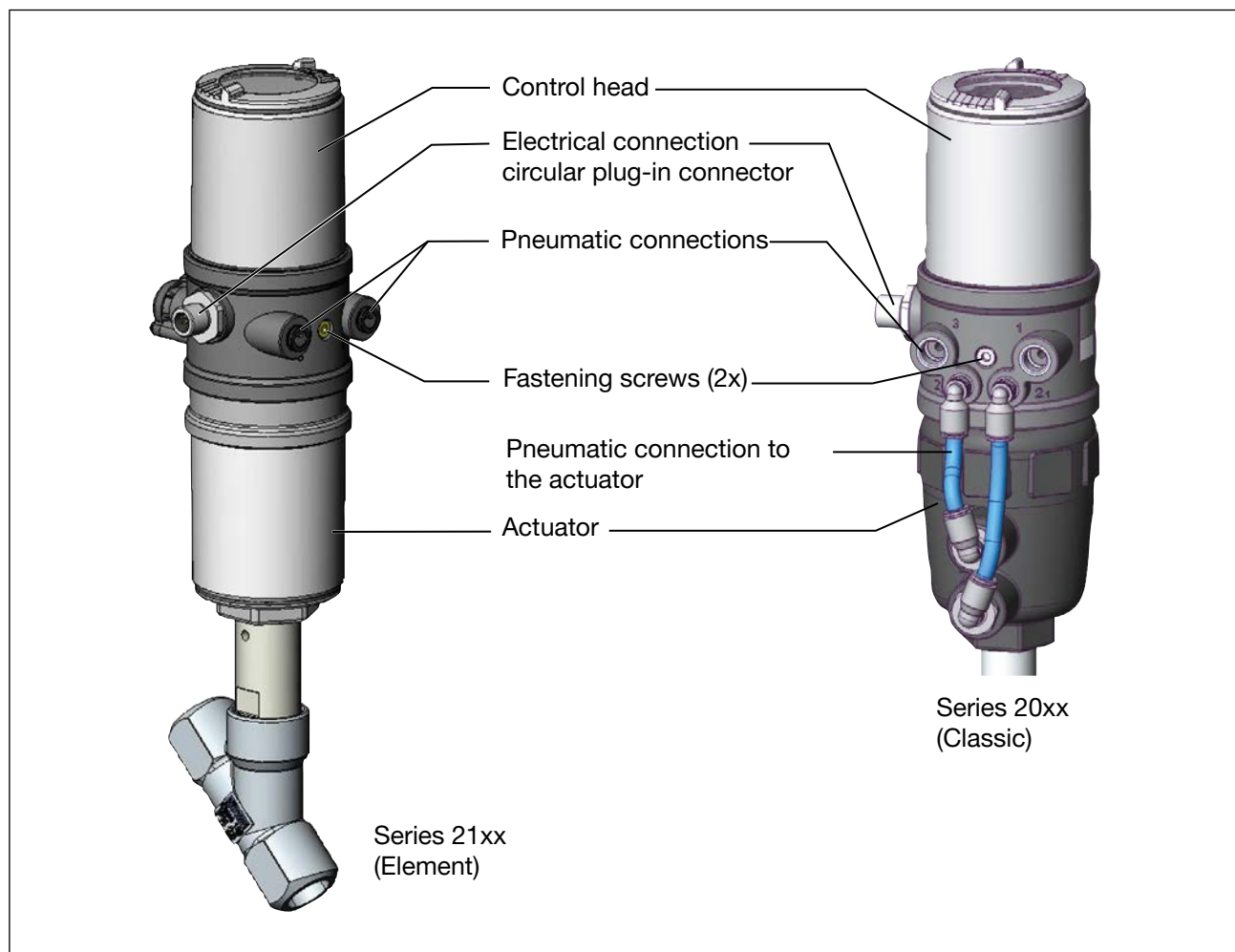


Figure 46: Disassembly the control head

15 ACCESSORIES

Designation	Order no.
Connection cable M12 x 1, 8-pin	919061
Wrench for opening/closing the transparent cap	674078
Communication software Bürkert Communicator	Information at www.burkert.com

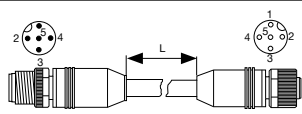
USB-büS interface set:	
USB-büS interface set (büS stick + 0.7 m cable with M12 plug)	772551
büS adapter for communication interface (M12 on büS service interface Micro-USB)	773254
	
büS cable extension (M12 pin to M12 socket), length 1 m	772404
büS cable extension (M12 pin to M12 socket), length 3 m	772405
büS cable extension (M12 pin to M12 socket), length 5 m	772406
büS cable extension (M12 pin to M12 socket), length 10 m	772407

Table 24: Accessories

15.1 Communications software

The PC operating program Bürkert Communicator is designed for communication with the devices Type 8695. If you have any questions regarding compatibility, please contact the Bürkert Sales Center.



A detailed description and precise schedule of the procedure for the installation and operation of the software can be found in the associated documentation.

Download the software at: www.burkert.com

16 PACKAGING AND TRANSPORT

ATTENTION!

Transport damages.

Inadequately protected equipment may be damaged during transport.

- ▶ During transportation protect the device against wet and dirt in shock-resistant packaging.
- ▶ Avoid the effects of heat and cold which could result in temperatures above or below the permitted storage temperature.

17 STORAGE

ATTENTION!

Incorrect storage may damage the device.

- ▶ Store the device in a dry and dust-free location.
- ▶ Storage temperature -20 – +65°C.

18 DISPOSAL



- ▶ Follow national regulations regarding disposal and the environment.
- ▶ Collect electrical and electronic devices separately and dispose of them as special waste.

Further information country.burkert.com.

