

Type 8635 Remote-Positioner

Installation on process valves with internal air flow (series 2103, 2300, 2301)

Anbau an Prozessventile mit interner Luftführung (Reihe 2103, 2300, 2301)

Intégration sur des vannes de process dotées d'un système interne de guidage d'air (séries 2103, 2300, 2301)



Zusatzanleitung

English Deutsch Français

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1 ADDITIONAL INSTRUCTIONS

The additional instructions describe the installation and start-up of the remote positioner for process valves with internal air flow (series 2103, 2300, 2301).

Important safety information.

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



The operating instructions for the process valves can be found on the Internet at: www.burkert.com

1.1 Symbols

- ▶ Highlights instructions to avoid a danger.
- Designates a procedure which you must carry out.

Warning of injuries:



DANGER!

Immediate danger! Serious or fatal injuries.



WARNING!

Possible danger! Serious or fatal injuries.



CAUTION!

Danger! Moderate or minor injuries.

NOTE!

(Warning of damage)

- ▶ Highlights instructions to avoid a danger.
- Designates a procedure which you must carry out.

2 REMOTE OPERATION

In the case of remote operation, the positioner has no position sensor in the form of a rotary position sensor, but is connected to an external position sensor. The 2.5 m long connection cable is pre-assembled on the positioner.

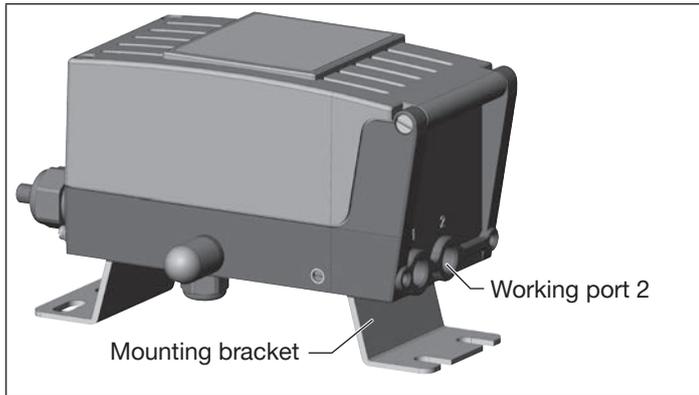


Fig. 1: Remote positioner with mounting bracket

2.1.1 Mounting accessories

The pre-assembled mounting bracket can be used to attach Type 8635 in remote operation.

2.1.2 Dimensions

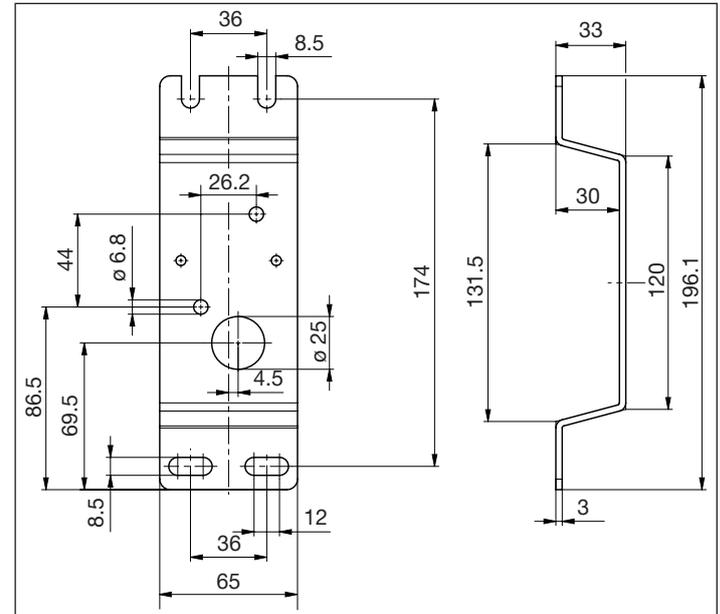


Fig. 2: Dimensions of the mounting bracket

3 ASSEMBLING THE POSITION SENSOR

! 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.

Risk of injury from electric shock.

- ▶ Before working on the device or system, switch off the power supply. Secure against reactivation.

! WARNING!

Risk of injury due to incorrect assembly.

- ▶ Assembly may be carried out only by authorized specialist personnel and using the appropriate tools.

Risk of injury due to unintentional switching on of the plant and uncontrolled start-up.

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

! CAUTION!

Risk of injury due to heavy device.

A heavy device can fall down and cause injury during transport or assembly work.

- ▶ Do not transport, install or remove a heavy device without the aid of a second person.
- ▶ Use suitable auxiliary tools.

3.1 Installing attachment kit on the actuator

NOTE!

To install process valves with welded body, follow the installation instructions in the operating instructions for the process valve.

1. Assembling switch spindle

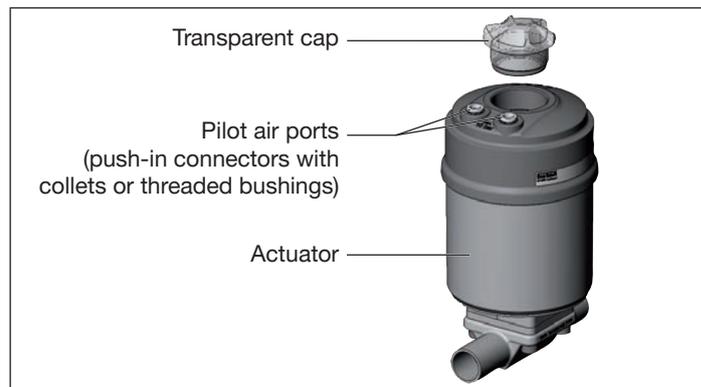


Fig. 3: Assembling switch spindle

- Unscrew the transparent cap on the actuator and the position indicator (yellow cap) on the spindle extension (if present).
- For version with push-in connector, remove the collets (white nozzles) from both pilot air ports (if present).

Type 8635, Remote-Positioner

Assembling the position sensor

NOTE!

Improper assembly may damage the lip seal in the guide element.

The lip seal is pre-mounted in the guide element and must be "locked into position" in the undercut.

▶ When assembling the switch spindle, do not damage the lip seal.

- Slide switch spindle through guide element.
- To secure the switch spindle, apply a little screw locking paint (Loctite 290) to the thread of the switch spindle.
- Screw guide element into the actuator cover. Ensure that the O-ring is positioned in the actuator cover.
- Tighten guide element to 5 Nm.
- Tighten switch spindle using a flat-tip screwdriver, maximum torque 1 Nm.

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 remote sensor is being installed, the collets of the pilot air ports must not be fitted to the actuator.

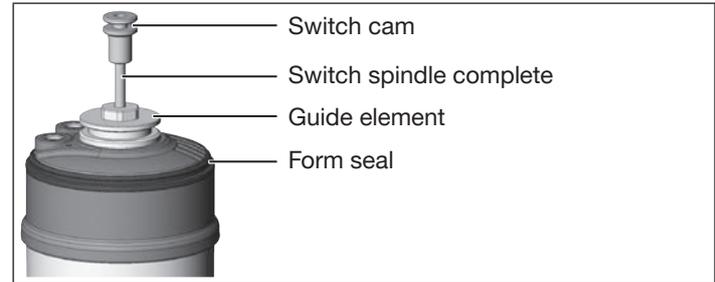


Fig. 4: Actuator with installed switch spindle

3.2 Mounting remote position sensor on the actuator

- Unscrew body casing from the position sensor in a counter-clockwise direction and remove.

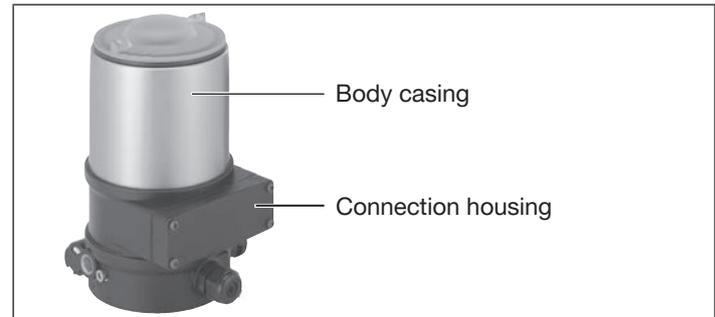


Fig. 5: Remote position sensor

→ Push potentiometer slide downwards.

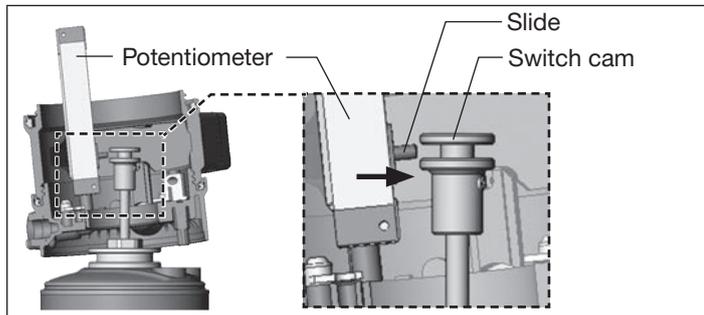


Fig. 6: Inserting slide into switch cam

→ Insert slide sideways into the switch cam; in doing so, connect the housing of the position sensor to the actuator and align.

NOTE!

- ▶ The potentiometer slide must be hooked into the switch cam.
- ▶ Align the connection pieces of the position sensor with the pilot air ports.

→ Push position sensor without turning it onto the actuator until no gap is visible on the form seal.

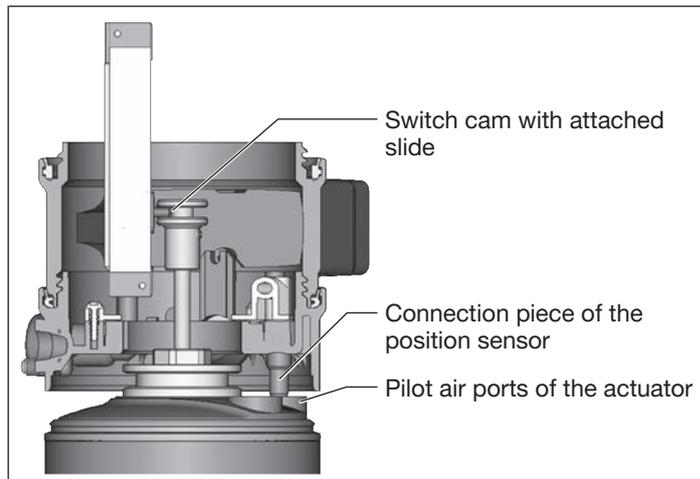


Fig. 7: Aligning position sensor with the actuator

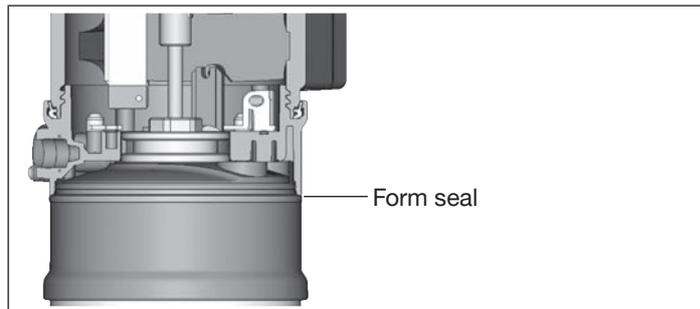


Fig. 8: Actuator with attached position sensor

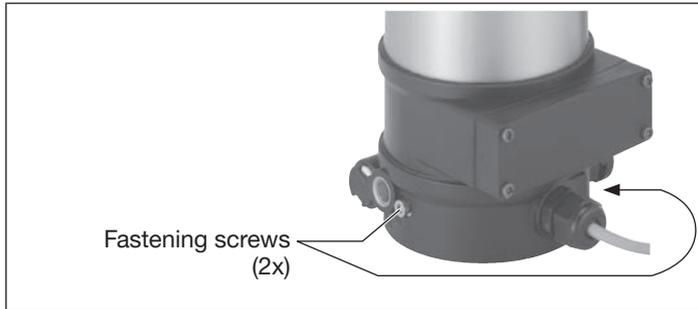


Fig. 9: Attachment of the position sensor

NOTE!

Observe tightening torque when attaching the position sensor.

If the fastening screws are tightened too tightly, the degree of protection IP65 and IP 67 is no longer guaranteed.

- ▶ Tighten the fastening screws to a maximum tightening torque of 1.5 Nm.

→ Attach position sensor to the actuator using the two side fastening screws. Observe maximum tightening torque of 1.5 Nm.

3.3 Pneumatic connection of the position sensor

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.

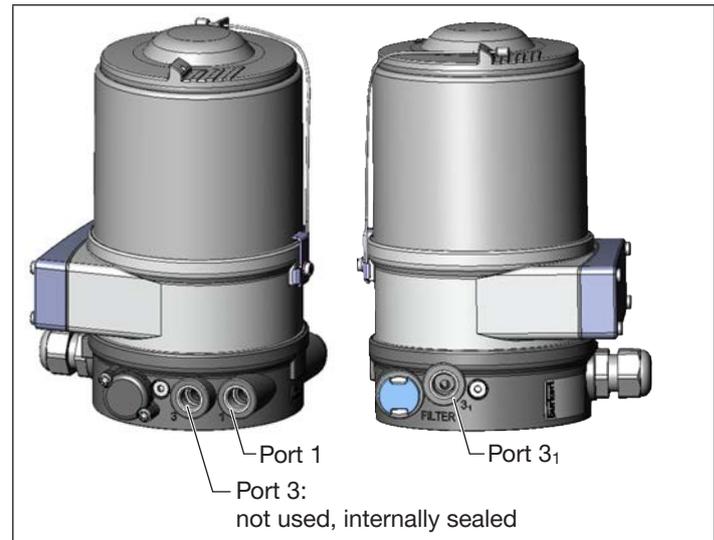


Fig. 10: Pneumatic connection



Length of the pilot air line:

The length of the pilot air line should be adjusted to the actuator size. The dead space volume which occurs due to the pilot air line may negatively affect the control characteristics.

In principle, the following applies: the smaller the actuator, the more sensitively the control system reacts to the length of the pilot air line.

Procedure for single-actuating actuators, control function A and B:

- Connect working port 2 of the positioner Type 8635 via a hose to port 1.
Working port 2, see "Fig. 1".
- Fit exhaust air line or a silencer to port 3₁.

The applied supply pressure must be 0.5 to 1 bar greater than the minimum control pressure specified on the control valve. This ensures that the control behavior is not very negatively affected in the upper stroke range due to too little pressure difference.

During operation keep the fluctuations of the supply pressure low (max. $\pm 10\%$). If fluctuations are greater, the control parameters measured with the X.TUNE function are not optimal.

3.4 Electrical connection of the position sensor



DANGER!

Danger due to electrical shock.

- ▶ Switch off the power supply and secure it against reactivation.

- Feed the cable of the positioner (with flat plug fitted) through the cable gland of the position sensor.
- Connect the 3-pin flat plug of the positioner to the counterpart of the potentiometer.

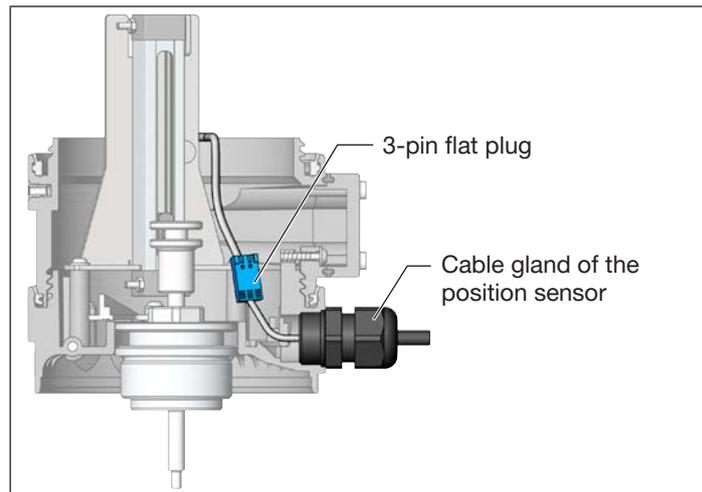


Fig. 11: Electrical connection

→ When tightening the cable gland, note the position of the plug-in connection. See marked area in the following "Fig. 12".

NOTE!

The cable in the housing must have a minimum length, but must not be under tension.

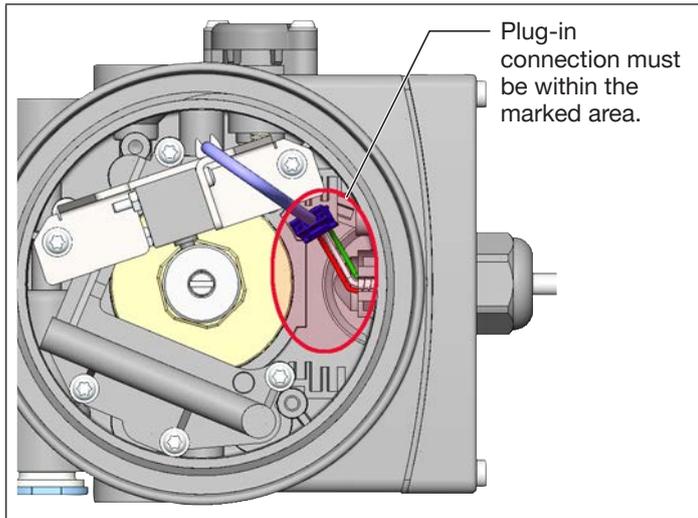


Fig. 12: Position of the electrical plug-in connection for position controller and position sensor

→ Attach body casing and screw in clockwise all the way.

4 START-UP



WARNING!

Risk of injury due to incorrect operation.

- ▶ Prior to start-up, make sure operating personnel are familiar with the operating instructions and have understood them.
- ▶ The device or system should be started up by fully trained personnel only.

Risk of injury due to unintentional switching on of the plant and uncontrolled start-up.

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

- Connect compressed air to the positioner.
- Connect positioner pneumatically to the position sensor.
- Switch on the operating voltage of Type 8635.
- Run the X.TUNE function.

5 REMOVAL

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.

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.

WARNING!

Risk of injury due to improper disassembly.

- ▶ Removal should be performed only by trained personnel using suitable tools.

Risk of injury from hazardous media.

- ▶ Before loosening lines or valves, flush out hazardous media, depressurize and drain the lines.

CAUTION!

Risk of injury due to heavy device.

A heavy device can fall down and cause injury during transport or assembly work.

- ▶ Do not transport, install or remove a heavy device without the aid of a second person.
- ▶ Use suitable auxiliary tools.

5.1 Removing the position sensor

- Disconnect the pneumatic connections.
- Switch off the power supply and secure it against reactivation.
- Unscrew body casing by rotating it in a counterclockwise direction.

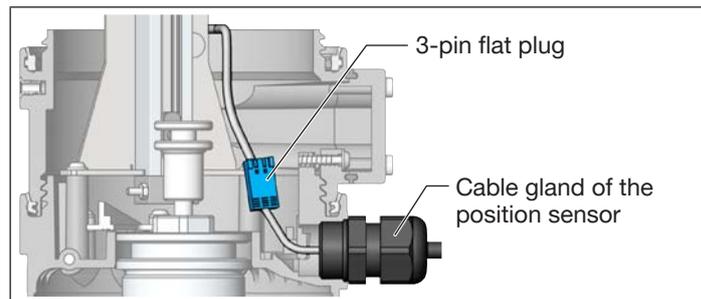


Fig. 13: Removing electrical connection

- Disconnect 3-pin flat plug from the counterpart of the potentiometer.
- Feed positioner cable outwards through the cable gland.

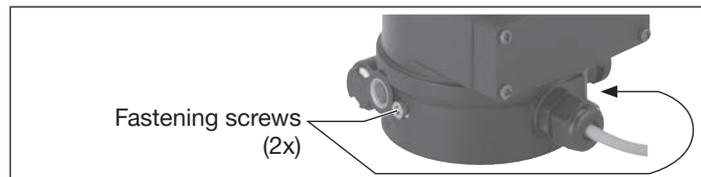


Fig. 14: Position sensor fastening screws

- Loosen side fastening screws.

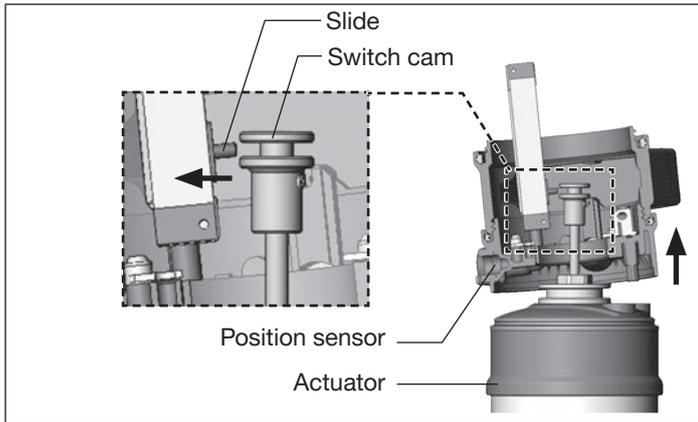


Fig. 15: Removing position sensor

- Slightly raise position sensor housing and tilt it to the side to move the slide away from the switch cam.
- Remove position sensor from the actuator.

6 TRANSPORTATION, STORAGE, DISPOSAL



CAUTION!

Risk of injury due to heavy device.

A heavy device can fall down and cause injury during transport or assembly work.

- ▶ Do not transport, install or remove a heavy device without the aid of a second person.
- ▶ Use suitable auxiliary tools.

NOTE!

Damage in transit due to inadequately protected devices.

- Protect the device against moisture and dirt in shock-resistant packaging during transportation.
- Observe permitted storage temperature.

Incorrect storage may damage the device.

- Store the device in a dry and dust-free location.
- Storage temperature. -25...+65 °C

Damage to the environment caused by device components contaminated with media.

- Dispose of the device and packaging in an environmentally friendly manner.
- Observe applicable disposal and environmental regulations.

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

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