

8 Connect drive electrically

NOTICE

Disturbance of the electronics
Other live cables may disturb the electronics.

→ Do not lay the connecting cable to drive together with cables that are carrying large electrical currents.

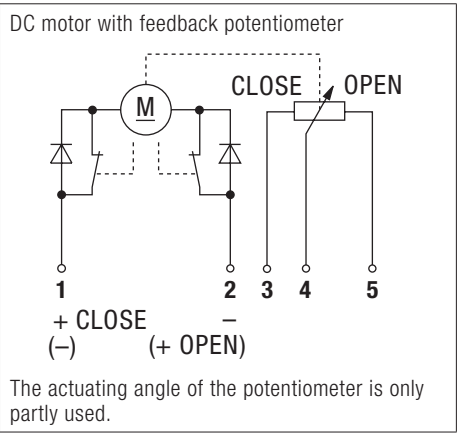
8.1 Open drive housing

1. Open valve cover **6** at the cover flap **1**. **NOTICE** You must not bend up the cover flap not more than 25°.
2. **NOTICE** Avoid damages through electrostatic discharge (ESD) by touching a grounded pipeline prior to touching the printed-circuit board. You must not directly touch the electronics components.

8.2 Connecting cable

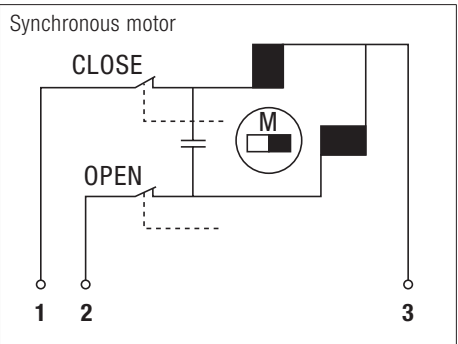
1. Lead the connecting cable through the pressure screw of cable gland **4**.
2. Connect flying leads according to wiring diagram to the terminals. Refer to following wiring diagrams for drives **9615**, **9636**, **9638**, **9651**.
3. Tighten pressure screw of cable gland **4**.

9615 – wiring diagram and terminal assignment



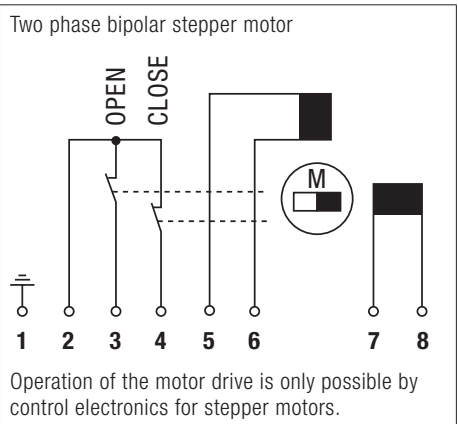
+ at 1 – at 2	Direction of movement CLOSED
+ at 2 – at 1	Direction of movement OPEN
End position disconnection via micro-switch	
Resistance between 3 and 4:	
Minimum value - Valve closed	
Maximum value - Valve open	

9636 – wiring diagram and terminal assignment



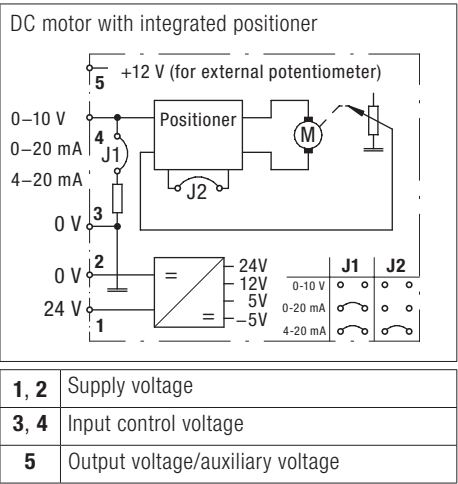
~ at 1 and 3; 2 remains free	Direction of movement CLOSED
~ at 2 and 3; 1 remains free	Direction of movement OPEN
End position disconnection via micro-switch	

9638 – wiring diagram and terminal assignment



1	Drive housing (for possible shielding)
2	Reference potential for contacts
3	End position feedback OPEN; contact open in end position
4	End position feedback CLOSED; contact open in end position
5, 6	Connections phase 1
7, 8	Connections phase 2

9651 – wiring diagram and terminal assignment



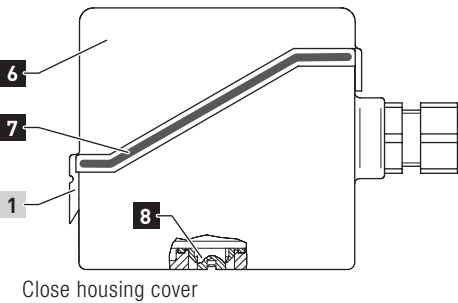
8.3 9651 – Adjusting set point input

→ Set the set point input through positioning the jumpers J2 and J2 at the circuit board:

Set position	Jumper J1	Jumper J2
0–10 V	without	without
0–20 mA	plugged	without
4–20 mA	plugged	plugged

8.4 Closing drive housing

→ Firmly close the drive housing cover **6** to restore protection of the terminal compartment. The sealing ring **7** must be placed between drive housing and drive housing cover. The cover flap **1** must firmly snap in.



9 Commissioning

1. Check whether the pipeline threads are properly sealed.
2. Check whether the cover **6** is properly seated on drive housing **5** and correctly sealed.
3. Switch off solenoid's power supply. **NOTICE** Brief dips of the supply voltage may lead to malfunctions of electronics. One reason may be that this voltage is applied by an electromechanical relay.
4. Check whether the motor control valve is properly controlled and the adjustment speed complies with operational requirements.

Drive	Adjustment speed
9615	90° within 10 to 14 seconds
9636 9638	90° within 10 seconds
9651	90° within 13 to 16 seconds

Recommended operating data – motor drives

Drive	Pulse length	Currentless interval during reversing the direction of rotation
9615	> 100 ms	> 600 ms
9636	> 100 ms	40 ms
9638	Step frequency 200 Hz	-
9651	-	-

info Refer to the product information for series 82880 for further technical data of motor drives.

10 Operation

Distance to sources of interference

Disturbance of the drive electronics
Electromagnetic sources of interference may affect the drive electronics of the valve and lead to blocking of the drive.

→ Do not operate the valve near to strong sources of interference (for example solenoid coils, transformers, frequency converters).

info The motor drives apply to standards EN 61000-6-3:2007 + A1:2011 and EN 61000-6-2:2005 to fulfill the EMC directive 2014/30/EU.

11 Maintenance

11.1 Preparing maintenance

- **WARNING** Disconnect motor drive from power supply.
- **WARNING** Depressurize the pipe system. Drain the pipe system or lock the pipe system before and behind the motor control valve.

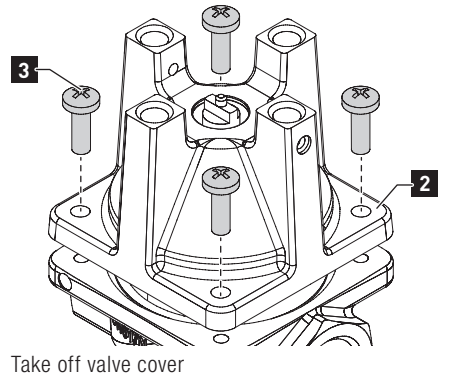
11.2 Replacing spare parts

CAUTION

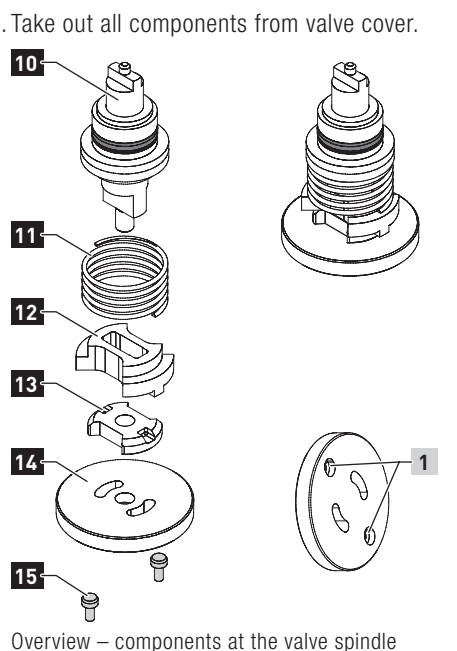
Risk of injury caused through the installation of wrong parts
Installation of wrong components may lead to early wear and early failure of the component. This increases the risk of injury.

- Ensure that only original spare parts are installed.
- Specify the valve number when ordering a spare part kit.

1. **CAUTION** Depressurize the pipe system. Disconnect drive from power supply.
2. Loosen fixing screws **9** and pull drive in upward direction.
3. Loosen cover screws **3** and take off valve cover **2**.

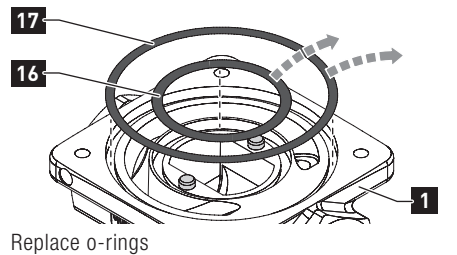


Take off valve cover



Overview – components at the valve spindle

5. Take out o-rings **16** and **17**. Clean the valve body **1** and put new o-rings.

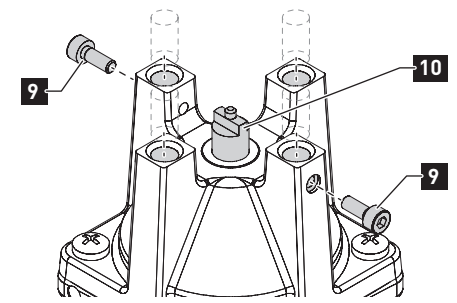


Replace o-rings

6. Replace the valve spindle **10** and compression spring **11**.
7. Put components **12** to **14** according to figure onto valve spindle.
8. Feed the preassembled valve spindle **10** into valve body **1**. Inside valve body are two pins **15**. These pins must be placed in the two holes **1** of the lower control disc **14**.
9. Put the valve cover **2** on valve body. Tighten four cover screws **3**.

11.3 Replacing drive

1. Disconnect drive from power supply and loosen junction box.
2. Loosen fixing screws **9** and pull drive in upward direction.
3. Manually turn valve **10** spindle parallel to the flow direction Use combination pliers where appropriate. **NOTICE** If the drive is mounted turned 90° the control signals have the opposite effect.
4. Put the new drive parallel to the flow direction on the valve cover **2**. The adjusting element **8** (mechanical interface) of the drive must interlink into valve spindle **10**. Valve cover **2** and drive must be mounted flush.



Fix drive to valve cover

5. Tighten both fixing screws **9**.

Tightening torque: 1 Nm

6. Connect drive electrically as described in chapter **8**.

11.4 Trouble shooting

→ Observe section **11.2** for disassembly and reassembly of valve parts.

Error table	
Standstill of the drive	Standstill of the drive
Possible cause: no supply voltage	Possible cause: cable damagedt
Remedy: check power supply; check connection cable	Remedy: check cable; replace defective cable
Spindle blocked	Spindle blocked
Possible cause: foreign particles inside valve body	Possible cause: control discs has been jammed
Remedy: unmount valve cover and clean valve parts	Remedy: unmount drive and turn valve spindle through 180° manually
Spindle will not turn	
Possible cause: drive does not interlink	
Remedy: loose both fixing screws; fix drive flush to the valve cover	

12 Disposal

1. Disassemble valve parts according to chapter **11** "Maintenance".
2. Unmount valve body from pipeline.
3. Dispose the individual parts of the motor control valve as follows, to return recyclables to the material cycle:

Component	Disposal
Valve body, spindle, compression spring	Metal recycling
Drive housing, control discs, o-rings	industrial waste (similar category to domestic refuse)
Printed-circuit board, motor drive	Electrical waste recycling



Buschjost GmbH
Detmolder Str. 256
D-32545 Bad Oeynhausen
P.O. Box 10 02 52-53
D-32502 Bad Oeynhausen

Phone: 0 57 31/7 91-0
Fax: 0 57 31/79 11 79
www.buschjost.com
www.imi-precision.com
buschjost@imi-precision.com

