Rotary actuators for butterfly valves

- Torque 90 Nm
- Nominal voltage AC 24 V
- Control: Open-close or 3-point
- Auxiliary switch

Technical data

### Electrical data
- Nominal voltage: AC 24 V, 50/60 Hz
- Power supply range: AC 19.2 ... 28.8 V
- Power consumption: 70 W at nominal torque
- Current consumption: 3.0 A
- Auxiliary switch: 2 x SPDT, 3 A, AC 250 V
- Switching points: 90°<-> adjustable
- Connection: Terminals, 2 x 1.5 mm² or 1 x 2.5 mm²
- Parallel connection: No

### Functional data
- Torque (nominal torque): Min. 90 Nm at nominal voltage
- Manual override: Temporary with handwheel
- Angle of rotation: 90°<-> (internal electrical stops)
- Running time: 15 s
- Position indication: Mechanical

### Safety
- Protection class: III Extra low voltage
- Degree of protection: IP67
- EMC: CE according to 89/336/EEC
- Mode of operation: Typ 1 (to EN 60730-1)
- Nominal current voltage: 0.8 kV (to EN 60730-1)
- Control pollution degree: 4 (to EN 60730-1)
- Ambient temperature range: −20 ... +65 °C (Duty cycle 15/4 s)
- Media temperature: −20 ... +100 °C (in the butterfly valve)
- Non-operating temperature: −30 ... +80 °C
- Ambient humidity range: 95% r.H., non-condensing (to EN 60730-1)
- Maintenance: Maintenance-free

### Mechanical data
- Connection flange / stem: ISO 5211 / F07
- Housing material: Cast aluminium

### Dimensions / Weight
- Dimensions: See «Dimensions» on page 2
- Weight: Approx. 11 kg (without butterfly valve)

### Safety notes

- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel. All applicable legal or institutional installation regulations must be complied with.
- The device may only be opened at the manufacturer’s site. It does not contain any parts that can be replaced or repaired by the user.
- Make sure that the maximum length of insulation removed does not exceed 50 mm.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
# Rotary actuator AC 24 V, 90 Nm

## Product features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple direct mounting</td>
<td>Simple direct mounting on the butterfly valve. The mounting position in relation to the butterfly valve can be selected in 90° steps.</td>
</tr>
<tr>
<td>Manual override</td>
<td>The butterfly valve can be closed (turn clockwise) and opened (turn anticlockwise) with the handwheel. The handwheel does not move while the motor is running. The butterfly valve remains in its position as long as no voltage is applied.</td>
</tr>
<tr>
<td>Internal heating</td>
<td>An internal heater prevents condensation buildup.</td>
</tr>
<tr>
<td>High functional reliability</td>
<td>Mechanical stops limit the actuator to -2° and 94°. The internal limit switches interrupt the voltage supply to the motor. In addition, a motor thermostat provides overload protection because at 135°C it interrupts the voltage supply.</td>
</tr>
<tr>
<td>Combination butterfly valve actuators</td>
<td>Refer to the butterfly valve documentation for suitable butterfly valves, their permitted media temperatures and closing pressures.</td>
</tr>
</tbody>
</table>

## Electrical installation

### Wiring diagram

#### Note

Connect via safety isolation transformer.

![Wiring diagram](image)

- **H** Internal heating
- **LS3** Auxiliary switch 100% (butterfly valve open)
- **LS4** Auxiliary switch 0% (butterfly valve closed)

### Dimensions [mm]

#### Dimensional diagrams

![Dimensional diagrams](image)

- 326 x 180 x 289 x 30
- 123 x 203
- 4 x M8
- SW 22
- F07 (Ø 70)
Settings

<table>
<thead>
<tr>
<th>Setting cam</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC4</td>
<td>for auxiliary switch position closed (factory setting 3° &lt;1).</td>
</tr>
<tr>
<td>TC3</td>
<td>for auxiliary switch position open (factory setting 87° &lt;1).</td>
</tr>
<tr>
<td>TC2</td>
<td>for limit switch closed (factory setting 0° &lt;1).</td>
</tr>
<tr>
<td>TC1</td>
<td>for limit switch open (factory setting 90° &lt;1).</td>
</tr>
</tbody>
</table>

Adjusting setting cams

1. Use a 2.5 mm Allen key to unscrew the corresponding setting cams TC..
2. Turn the setting cam using the Allen key
3. Set as shown in the illustration below
4. Use the Allen key to tighten the setting cams

Important! Settings are only allowed to be made by authorised specialist personnel.
Rotary actuator AC 24 V, 90 Nm

Settings (Continued)

**Mechanical angle of rotation limitation**

The mechanical angle of rotation is set at the factory to 92° and cannot be changed. The handwheel turns the planetary gear unit via a worm gear. The gear unit is mechanically stopped by the two setscrews 1 and 2 (1½ turns of the setscrews correspond to 2°). Both limit switches LS2/LS1 are set to 90° and must always switch off the motor before the mechanical angle of rotation limitation.

![Diagram of actuator with mechanical angle of rotation limitation](image)

1. Angle of rotation limiting OPEN
2. Angle of rotation limiting CLOSED
3. Connection of handwheel for angle of rotation limiting

**Relationship between mechanical angle of rotation limiting, limit and auxiliary switches**

<table>
<thead>
<tr>
<th>Mechanical angle of rotation limitation</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2°</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>0°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>87°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92°</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Auxiliary switch
2. Limit switch
3. Mechanical angle of rotation limitation

**Further documentations**

- Complete overview of actuators for water solutions
- Data sheets for butterfly valves
- Installation instructions for actuators and/or butterfly valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)
Rotary actuators for butterfly valves

- Torque 150 Nm
- Nominal voltage AC 24 V
- Control: Open-close or 3-point
- Auxiliary switch

### Technical data

<table>
<thead>
<tr>
<th>Category</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical data</strong></td>
<td></td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>AC 24 V, 50/60 Hz</td>
</tr>
<tr>
<td>Power supply range</td>
<td>AC 19.2 ... 28.8 V</td>
</tr>
<tr>
<td>Power consumption</td>
<td>70 W at nominal torque</td>
</tr>
<tr>
<td>Current consumption</td>
<td>3.0 A</td>
</tr>
<tr>
<td>Auxiliary switch</td>
<td>2 x SPDT, 3 A, AC 250 V III&lt;br&gt;Switching points: 90°&lt;-&gt; adjustable</td>
</tr>
<tr>
<td>Connection</td>
<td>Terminals, 2 x 1.5 mm² or 1 x 2.5 mm²</td>
</tr>
<tr>
<td>Parallel connection</td>
<td>No</td>
</tr>
<tr>
<td><strong>Functional data</strong></td>
<td></td>
</tr>
<tr>
<td>Torque (nominal torque)</td>
<td>Min. 150 Nm at nominal voltage</td>
</tr>
<tr>
<td>Manual override</td>
<td>Temporary with handwheel</td>
</tr>
<tr>
<td>Angle of rotation</td>
<td>90°&lt;-&gt; (internal electrical stops)</td>
</tr>
<tr>
<td>Running time</td>
<td>22 s</td>
</tr>
<tr>
<td>Position indication</td>
<td>Mechanical</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td></td>
</tr>
<tr>
<td>Protection class</td>
<td>III Extra low voltage</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP67</td>
</tr>
<tr>
<td>EMC</td>
<td>CE according to 89/336/EEC</td>
</tr>
<tr>
<td>Mode of operation</td>
<td>Typ 1 (to EN 60730-1)</td>
</tr>
<tr>
<td>Nominal current voltage</td>
<td>0.8 kV (to EN 60730-1)</td>
</tr>
<tr>
<td>Control pollution degree</td>
<td>4 (to EN 60730-1)</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>−20 ... +65°C (Duty cycle 22/7 s)</td>
</tr>
<tr>
<td>Media temperature</td>
<td>−20 ... +100°C (in the butterfly valve)</td>
</tr>
<tr>
<td>Non-operating temperature</td>
<td>−30 ... +80°C</td>
</tr>
<tr>
<td>Ambient humidity range</td>
<td>95% r.H., non-condensing (to EN 60730-1)</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Maintenance-free</td>
</tr>
<tr>
<td><strong>Mechanical data</strong></td>
<td></td>
</tr>
<tr>
<td>Connection flange / stem</td>
<td>ISO 5211 / F07</td>
</tr>
<tr>
<td>Housing material</td>
<td>Cast aluminium</td>
</tr>
<tr>
<td><strong>Dimensions / Weight</strong></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>See «Dimensions» on page 2</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 11 kg (without butterfly valve)</td>
</tr>
</tbody>
</table>

### Safety notes

- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel. All applicable legal or institutional installation regulations must be complied with.
- The device may only be opened at the manufacturer’s site. It does not contain any parts that can be replaced or repaired by the user.
- Make sure that the maximum length of insulation removed does not exceed 50 mm.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
Rotary actuator AC 24 V, 150 Nm

**Product features**

**Simple direct mounting**
Simple direct mounting on the butterfly valve. The mounting position in relation to the butterfly valve can be selected in 90° steps.

**Manual override**
The butterfly valve can be closed (turn clockwise) and opened (turn anticlockwise) with the handwheel. The handwheel does not move while the motor is running. The butterfly valve remains in its position as long as no voltage is applied.

**Internal heating**
An internal heater prevents condensation buildup.

**High functional reliability**
Mechanical stops limit the actuator to –2° and 94°. The internal limit switches interrupt the voltage supply to the motor. In addition, a motor thermostat provides overload protection because at 135°C it interrupts the voltage supply.

**Combination butterfly valve actuators**
Refer to the butterfly valve documentation for suitable butterfly valves, their permitted media temperatures and closing pressures.

**Electrical installation**

**Wiring diagram**

**Note**
Connect via safety isolation transformer.

![Wiring diagram](image)

**Dimensions [mm]**

**Dimensional diagrams**

![Dimensional diagrams](image)
Settings

The setting cams for limit and auxiliary switches can be accessed by removing the housing cover. Optionally, auxiliary switches LS4/LS3 can be connected for signalling. Limit switches LS2/LS1 interrupt the voltage to the motor and are controlled by setting cams TC.. . The setting cams turn with the spindle. The butterfly valve closes when the stem is turning clockwise (cw) and opens when the stem is turning counterclockwise (ccw).

Settings of setting cams TC..

- TC4 for auxiliary switch position closed (factory setting $3^\circ$).
- TC3 for auxiliary switch position open (factory setting $87^\circ$).
- TC2 for limit switch closed (factory setting $0^\circ$).
- TC1 for limit switch open (factory setting $90^\circ$).

Adjusting setting cams

1. Use a 2.5 mm Allen key to unscrew the corresponding setting cams TC..
2. Turn the setting cam using the Allen key
3. Set as shown in the illustration below
4. Use the Allen key to tighten the setting cams
Settings

Mechanical angle of rotation limitation

The mechanical angle of rotation is set at the factory to 92°-3 and cannot be changed.

The handwheel turns the planetary gear unit via a worm gear. The gear unit is mechanically stopped by the two setscrews 1 and 2 (1½ turns of the setscrews correspond to 2°−3). Both limit switches LS2/LS1 are set to 90°−3 and must always switch off the motor before the mechanical angle of rotation limitation.

1 Angle of rotation limiting OPEN
2 Angle of rotation limiting CLOSED
3 Connection of handwheel for angle of rotation limiting

Relationship between mechanical angle of rotation limiting, limit and auxiliary switches

-2° 0° 3° 87° 90° 92°

1 Auxiliary switch
2 Limit switch
3 Mechanical angle of rotation limitation

Further documents

- Complete overview of actuators for water solutions
- Data sheets for butterfly valves
- Installation instructions for actuators and/or butterfly valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)
Rotary actuators for butterfly valves

- Torque 400 Nm
- Nominal voltage AC 24 V
- Control: Open-close or 3-point
- Auxiliary switch

### Technical data

**Electrical data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage</td>
<td>AC 24 V, 50/60 Hz</td>
</tr>
<tr>
<td>Power supply range</td>
<td>AC 19.2 ... 28.8 V</td>
</tr>
<tr>
<td>Power consumption</td>
<td>180 W at nominal torque</td>
</tr>
<tr>
<td>Current consumption</td>
<td>6.0 A</td>
</tr>
<tr>
<td>Auxiliary switch</td>
<td>2 x SPDT, 3 A, AC 250 V II E</td>
</tr>
<tr>
<td></td>
<td>Switching points: 90° ± adjustable</td>
</tr>
<tr>
<td>Connection</td>
<td>Terminals, 2 x 1.5 mm² or 1 x 2.5 mm²</td>
</tr>
<tr>
<td>Parallel connection</td>
<td>No</td>
</tr>
</tbody>
</table>

**Functional data**

- Torque (nominal torque): Min. 400 Nm at nominal voltage
- Manual override: Temporary with handwheel
- Angle of rotation: 90° ± (internal electrical stops)
- Running time: 16 s
- Position indication: Mechanical

**Safety**

- Protection class: III Extra low voltage
- Degree of protection: IP67
- EMC: CE according to 89/336/EEC
- Mode of operation: Typ 1 (to EN 60730-1)
- Nominal current voltage: 0.8 kV (to EN 60730-1)
- Control pollution degree: 4 (to EN 60730-1)
- Ambient temperature range: −20 ... +65 °C (Duty cycle 16/5 s)
- Media temperature: −20 ... +100 °C (in the butterfly valve)
- Non-operating temperature: −30 ... +80 °C
- Ambient humidity range: 95% r.H., non-condensing (to EN 60730-1)
- Maintenance: Maintenance-free

**Mechanical data**

- Connection flange / stem: ISO 5211 / F10
- Housing material: Cast aluminium

**Dimensions / Weight**

- Dimensions: See «Dimensions» on page 2
- Weight: Approx. 22 kg (without butterfly valve)

### Safety notes

- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel. All applicable legal or institutional installation regulations must be complied with.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- Make sure that the maximum length of insulation removed does not exceed 50 mm.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
Rotary actuator AC 24 V, 400 Nm

**Product features**

**Simple direct mounting**
Simple direct mounting on the butterfly valve. The mounting position in relation to the butterfly valve can be selected in 90° steps.

**Manual override**
The butterfly valve can be closed (turn clockwise) and opened (turn anticlockwise) with the handwheel. The handwheel does not move while the motor is running. The butterfly valve remains in its position as long as no voltage is applied.

**Internal heating**
An internal heater prevents condensation buildup.

**High functional reliability**
Mechanical stops limit the actuator to –2° and 94°. The internal limit switches interrupt the voltage supply to the motor. In addition, a motor thermostat provides overload protection because at 135°C it interrupts the voltage supply.

**Combination butterfly valve actuators**
Refer to the butterfly valve documentation for suitable butterfly valves, their permitted media temperatures and closing pressures.

**Electrical installation**

**Wiring diagram**

**Note**
Connect via safety isolation transformer.

**Dimensions [mm]**

**Dimensional diagrams**

- [Diagram of dimensions]
The setting cams for limit and auxiliary switches can be accessed by removing the housing cover.

Optionally, auxiliary switches LS4/LS3 can be connected for signalling. Limit switches LS2/LS1 interrupt the voltage to the motor and are controlled by setting cams TC... The setting cams turn with the spindle. The butterfly valve closes when the stem is turning clockwise (cw) and opens when the stem is turning counterclockwise (ccw).

**Important**

Settings are only allowed to be made by authorised specialist personnel.

---

**Settings of setting cams TC..**

- TC4 for auxiliary switch position closed (factory setting 3°<c>).
- TC3 for auxiliary switch position open (factory setting 87°<c>).
- TC2 for limit switch closed (factory setting 0°<c>).
- TC1 for limit switch open (factory setting 90°<c>).

**Adjusting setting cams**

1. Use a 2.5 mm Allen key to unscrew the corresponding setting cams TC..
2. Turn the setting cam using the Allen key
3. Set as shown in the illustration below
4. Use the Allen key to tighten the setting cams

---

![Diagram of setting cams with labels TC1 to TC4 and directions for adjustment.](image-url)
Settings (Continued)

Mechanical angle of rotation limitation

The mechanical angle of rotation is set at the factory to 92° and cannot be changed. The handwheel turns the planetary gear unit via a worm gear. The gear unit is mechanically stopped by the two setscrews 1 and 2 (1½ turns of the setscrews correspond to 2°). Both limit switches LS2/LS1 are set to 90° and must always switch off the motor before the mechanical angle of rotation limitation.

![Diagram showing the mechanical angle of rotation limitation](image)

### Relationship between mechanical angle of rotation limiting, limit and auxiliary switches

<table>
<thead>
<tr>
<th>Angle</th>
<th>Switch Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2°</td>
<td>Auxiliary switch</td>
</tr>
<tr>
<td>0°</td>
<td>Limit switch</td>
</tr>
<tr>
<td>3°</td>
<td>Mechanical angle of rotation limitation</td>
</tr>
<tr>
<td>87°</td>
<td>Angle of rotation limiting OPEN</td>
</tr>
<tr>
<td>90°</td>
<td>Angle of rotation limiting CLOSED</td>
</tr>
<tr>
<td>92°</td>
<td>Connection of handwheel for angle of rotation limiting</td>
</tr>
</tbody>
</table>

Further documentations

- Complete overview of actuators for water solutions
- Data sheets for butterfly valves
- Installation instructions for actuators and/or butterfly valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)
Rotary actuators for butterfly valves

- Torque 500 Nm
- Nominal voltage AC 24 V
- Control: Open-close or 3-point
- Auxiliary switch

---

### Technical data

**Electrical data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage</td>
<td>AC 24 V, 50/60 Hz</td>
</tr>
<tr>
<td>Power supply range</td>
<td>AC 19.2 ... 28.8 V</td>
</tr>
<tr>
<td>Power consumption</td>
<td>180 W at nominal torque</td>
</tr>
<tr>
<td>Current consumption</td>
<td>6.5 A</td>
</tr>
<tr>
<td>Auxiliary switch</td>
<td>2 x SPDT, 3 A, AC 250 V II</td>
</tr>
<tr>
<td></td>
<td>Switching points: 90°&lt;–&gt; adjustabale</td>
</tr>
<tr>
<td>Connection</td>
<td>Terminals, 2 x 1.5 mm² or 1 x 2.5 mm²</td>
</tr>
<tr>
<td>Parallel connection</td>
<td>No</td>
</tr>
</tbody>
</table>

**Functional data**

- Torque (nominal torque): Min. 500 Nm at nominal voltage
- Manual override: Temporary with handwheel
- Angle of rotation: 90°<–> (internal electrical stops)
- Running time: 22 s
- Position indication: Mechanical

**Safety**

- Protection class: III Extra low voltage
- Degree of protection: IP67
- EMC: CE according to 89/336/EEC
- Mode of operation: Typ 1 (to EN 60730-1)
- Nominal current voltage: 0.8 kV (to EN 60730-1)
- Control pollution degree: 4 (to EN 60730-1)
- Ambient temperature range: –20 ... +65 °C (Duty cycle 22/7 s)
- Media temperature: –20 ... +100°C (in the butterfly valve)
- Non-operating temperature: –30 ... +80°C
- Ambient humidity range: 95% r.H., non-condensating (to EN 60730-1)
- Maintenance: Maintenance-free

**Mechanical data**

- Connection flange / stem: ISO 5211 / F10
- Housing material: Cast aluminium

**Dimensions / Weight**

- Dimensions: See «Dimensions» on page 2
- Weight: Approx. 22 kg (without butterfly valve)

---

### Safety notes

- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel.
  All applicable legal or institutional installation regulations must be complied with.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- Make sure that the maximum length of insulation removed does not exceed 50 mm.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
### Product features

**Simple direct mounting**  
Simple direct mounting on the butterfly valve. The mounting position in relation to the butterfly valve can be selected in 90° steps.

**Manual override**  
The butterfly valve can be closed (turn clockwise) and opened (turn anticlockwise) with the handwheel. The handwheel does not move while the motor is running. The butterfly valve remains in its position as long as no voltage is applied.

**Internal heating**  
An internal heater prevents condensation buildup.

**High functional reliability**  
Mechanical stops limit the actuator to –2° and 94°. The internal limit switches interrupt the voltage supply to the motor. In addition, a motor thermostat provides overload protection because at 135°C it interrupts the voltage supply.

**Combination butterfly valve actuators**  
Refer to the butterfly valve documentation for suitable butterfly valves, their permitted media temperatures and closing pressures.

### Electrical installation

#### Wiring diagram

**Note**  
Connect via safety isolation transformer.

---

[Diagram showing electrical connections]

**H**: Internal heating  
**LS3**: Auxiliary switch 100% (butterfly valve open)  
**LS4**: Auxiliary switch 0% (butterfly valve closed)

---

### Dimensions [mm]

#### Dimensional diagrams

- Width: 394 mm  
- Depth: 217 mm  
- Height: 317 mm  
- Height of valve: 194 mm  
- Diameter of valve: 290 mm  
- Diameter of mounting holes: 4 x M10
Settings

Setting cam

The setting cams for limit and auxiliary switches can be accessed by removing the housing cover. Optionally, auxiliary switches LS4/LS3 can be connected for signalling. Limit switches LS2/LS1 interrupt the voltage to the motor and are controlled by setting cams TC...

The setting cams turn with the spindle. The butterfly valve closes when the stem is turning clockwise (cw) and opens when the stem is turning counterclockwise (ccw).

Important!
Settings are only allowed to be made by authorised specialist personnel.

Settings of setting cams TC..

- TC4 for auxiliary switch position closed (factory setting $3^\circ$).
- TC3 for auxiliary switch position open (factory setting $87^\circ$).
- TC2 for limit switch closed (factory setting $0^\circ$).
- TC1 for limit switch open (factory setting $90^\circ$).

Adjusting setting cams

1. Use a 2.5 mm Allen key to unscrew the corresponding setting cams TC..
2. Turn the setting cam using the Allen key
3. Set as shown in the illustration below
4. Use the Allen key to tighten the setting cams
Settings (Continued)

**Mechanical angle of rotation limitation**

The mechanical angle of rotation is set at the factory to 92° and cannot be changed. The handwheel turns the planetary gear unit via a worm gear. The gear unit is mechanically stopped by the two setscrews 1 and 2 (1 1/2 turns of the setscrews correspond to 2°). Both limit switches LS2/LS1 are set to 90° and must always switch off the motor before the mechanical angle of rotation limitation.

1 Angle of rotation limiting OPEN
2 Angle of rotation limiting CLOSED
3 Connection of handwheel for angle of rotation limiting

**Relationship between mechanical angle of rotation limiting, limit and auxiliary switches**

-2° 0° 3° 87° 90° 92°

1 Auxiliary switch
2 Limit switch
3 Mechanical angle of rotation limitation

Further documentations

- Complete overview of actuators for water solutions
- Data sheets for butterfly valves
- Installation instructions for actuators and/or butterfly valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)
SY.---3-T

AC 24 V

AC 230 V