Open-close rotary actuator with emergency control function for 2- and 3-way ball valves

- Torque 1.6 Nm
- Nominal voltage AC 100 ... 240 V
- Control: Open-close
- Auxiliary switch

Overview of types

<table>
<thead>
<tr>
<th>Type</th>
<th>Direction of rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRFD230-S</td>
<td>Deenergised NC, ball valve closed (A – AB = 0%)</td>
</tr>
<tr>
<td>TRFD230-S-O</td>
<td>Deenergised NO, ball valve open (A – AB = 100%)</td>
</tr>
</tbody>
</table>

Technical data

**Electrical data**

- Nominal voltage: AC 100 ... 240 V, 50/60 Hz
- Nominal voltage range: AC 85 ... 265 V
- Power consumption:
  - Spring-return Holding position: 2.5 W @ nominal torque
  - Holding position: 1.5 W
  - For wire sizing: 5 VA
- Auxiliary switch: 1 x SPDT, 1 mA ... 3 (0.5) A, AC 250 V II (adjustable 0 ... 100%)
- Connection:
  - Motor: Cable 1 m, 2 x 0.75 mm²
  - Auxiliary switch: Cable 1 m, 3 x 0.75 mm²
- Parallel connection: Yes (note performance data for supply!)

**Functional data**

- Torque (nominal torque):
  - Motor: Min. 1.6 Nm @ nominal voltage
  - Spring-return: Min. 1.6 Nm
- Direction of rotation: see «Overview of types»
- Manual override: No
- Angle of rotation: Max. 95°
- Running time:
  - Motor: <75 s (0 ... 2 Nm)
  - Spring-return: 75 s
- Sound power level:
  - Motor: Max. 50 dB (A)
  - Spring-return: ~43 dB (A)
- Service life: Min. 60'000 emergency settings
- Position indication: Mechanical

**Safety**

- Protection class: III Safety extra-low voltage
- Degree of protection: IP42 in any mounting position
- EMC: CE according to 2004/108/EC
- Low-voltage directive: CE according to 2006/95/EC
- Mode of operation: Type 1 (EN 60730-1)
- Rated impulse voltage: 4 kV (EN 60730-1)
- Control pollution degree: 3 (EN 60730-1)
- Ambient temperature: –30 ... +50°C
- Media temperature: +5 ... +100°C (in ball valve)
- Non-operating temperature: –40 ... +80°C
- Ambient humidity: 95% r.H., non-condensing (EN 60730-1)
- Maintenance: Maintenance-free

**Dimensions / Weight**

- Dimensions: See «Dimensions» on page 2
- Weight: Approx. 600 g (without ball 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.
- Caution: Power supply voltage!
- It may only be installed by suitably trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly.
Safety notes

(continued)

- 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.
- The cable must not be removed from the device.
- 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

Mode of operation
The actuator moves the ball valve to the operating position at the same time as tensioning the return spring. The ball valve is turned back to the safety position by spring force if the supply voltage is interrupted.

Simple direct mounting
Straightforward direct mounting on the ball valve with only one screw. The mounting position in relation to the ball valve can be selected in 90° steps.

High functional reliability
The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

Flexible signalization
Flexible signalization with adjustable auxiliary switch (0 ... 100% <x>).

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

Electrical installation

Wiring diagram

Note
- Caution: Power supply voltage 1
- Other actuators can be connected in parallel.
  Note performance data for supply.

Dimensions [mm]

Dimensional drawings

Further documents

- Complete overview «The complete range of water solutions»
- Data sheets for ball valves
- Installation instructions for actuators resp. ball valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)
### Table: Dimensions

<table>
<thead>
<tr>
<th>DN</th>
<th>Rp</th>
<th>G</th>
<th>PN</th>
<th>TRFD..-S (-O) (-T)</th>
<th>TRF..-S (-O) (-T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>R2..K</td>
<td>R3..K</td>
<td>10</td>
<td>3/8</td>
<td>3/8</td>
<td>52</td>
</tr>
<tr>
<td>R4..K</td>
<td>R5..K</td>
<td>10</td>
<td>3/8</td>
<td>3/4</td>
<td>69</td>
</tr>
<tr>
<td>R2..</td>
<td>R3..</td>
<td>15</td>
<td>1/2</td>
<td>1/2</td>
<td>67</td>
</tr>
<tr>
<td>R4..</td>
<td>R5..</td>
<td>15</td>
<td>1/2</td>
<td>1</td>
<td>74</td>
</tr>
<tr>
<td>R6..R</td>
<td>R7..R</td>
<td>15</td>
<td>1/2</td>
<td>6</td>
<td>101.5</td>
</tr>
</tbody>
</table>

- **DN**: Diameter of the pipe connection
- **Rp**: Pipe thread size
- **G**: Outer pipe thread size
- **PN**: Pressure
- **L**: Minimum distance X
- **H**: Minimum distance Y
- **M**: Minimum distance Z
- **X**: Min. distance X
- **Y**: Min. distance Y

*Products no longer available*
Products no longer available