

**Modulating rotary actuator for ball valves**

- Torque motor 5 Nm
- Nominal voltage AC/DC 24 V
- Control modulating 2...10 V
- Position feedback 2...10 V
- Running time motor 35 s


**Technical data**

|                        |  |   |
|------------------------|--|---|
| <b>Electrical data</b> | Nominal voltage                        | AC/DC 24 V  |
|                        | Nominal voltage frequency              | 50/60 Hz  |
|                        | Nominal voltage range                  | AC 19.2...28.8 V / DC 19.2...28.8 V   |
|                        | Power consumption in operation         | 1.5 W   |
|                        | Power consumption in rest position     | 0.4 W   |
|                        | Power consumption for wire sizing      | 3 VA  |
|                        | Connection supply / control            | Cable 1 m, 4 x 0.75 mm <sup>2</sup>   |
|                        | Parallel operation                     | Yes (note the performance data)   |
| <b>Functional data</b> | Torque motor                           | 5 Nm  |
|                        | Operating range Y                      | 2...10 V  |
|                        | Input Impedance                        | 100 kΩ  |
|                        | Position feedback U                    | 2...10 V  |
|                        | Position feedback U note               | Max. 1 mA   |
|                        | Position accuracy                      | ±5%   |
|                        | Manual override                        | with push-button, can be locked   |
|                        | Running time motor                     | 35 s / 90°  |
|                        | Sound power level, motor               | 55 dB(A)  |
|                        | Position indication                    | Mechanically, pluggable   |
| <b>Safety data</b>     | Protection class IEC/EN                | III, Safety Extra-Low Voltage (SELV)  |
|                        | Power source UL                        | Class 2 Supply  |
|                        | Degree of protection IEC/EN            | IP54  |
|                        | Degree of protection NEMA/UL           | NEMA 2  |
|                        | Enclosure                              | UL Enclosure Type 2   |
|                        | EMC                                    | CE according to 2014/30/EU  |
|                        | Certification IEC/EN                   | IEC/EN 60730-1 and IEC/EN 60730-2-14  |
|                        | Certification UL                       | cULus according to UL60730-1A, UL60730-2-14 and CAN/CSA E60730-1<br>The UL marking on the actuator depends on the production site, the device is UL-compliant in any case |
|                        | Mode of operation                      | Type 1  |
|                        | Rated impulse voltage supply / control | 0.8 kV  |
|                        | Pollution degree                       | 3   |
|                        | Ambient temperature                    | -30...50°C  |
|                        | Storage temperature                    | -40...80°C  |
|                        | Ambient humidity                       | Max. 95% RH, non-condensing   |
|                        | Servicing                              | maintenance-free  |
| <b>Weight</b>          | Weight                                 | 0.44 kg   |

**Safety notes**


- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Outdoor application: only possible in case that no (sea) water, snow, ice, insulation or aggressive gases interfere directly with the device and that it is ensured that the ambient conditions remain within the thresholds according to the data sheet at any time.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The switch for changing the direction of rotation may only be operated by authorised specialists. The direction of rotation must not in particular be reversed in a frost protection circuit.
- 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.
- Cables must not be removed from the device.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

**Product features**

|                                     |   |
|-------------------------------------|---|
| <b>Mode of operation</b>            | The actuator is connected with a standard modulating signal of 0...10 V and drives to the position defined by the positioning signal. Measuring voltage U serves for the electrical display of the valve position 0.5...100% and as slave control signal for other actuators. |
| <b>Simple direct mounting</b>       | Straightforward direct mounting on the ball valve with only one central screw. The assembly tool is integrated in the plug-in position indication. The mounting orientation in relation to the ball valve can be selected in 90° steps.                                       |
| <b>Manual override</b>              | Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).  |
| <b>Adjustable angle of rotation</b> | Adjustable angle of rotation with mechanical end stops.   |
| <b>High functional reliability</b>  | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.  |

**Accessories**

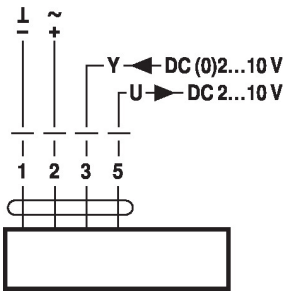
| Electrical accessories | Description                          | Type    |
|------------------------|--------------------------------------|---------|
|                        | Feedback potentiometer 10 kΩ add-on  | P10000A |
|                        | Feedback potentiometer 1 kΩ add-on   | P1000A  |
|                        | Feedback potentiometer 140 Ω add-on  | P140A   |
|                        | Feedback potentiometer 200 Ω add-on  | P200A   |
|                        | Feedback potentiometer 2.8 kΩ add-on | P2800A  |
|                        | Feedback potentiometer 5 kΩ add-on   | P5000A  |
|                        | Feedback potentiometer 500 Ω add-on  | P500A   |
|                        | Auxiliary switch 1 x SPDT add-on     | S1A     |
|                        | Auxiliary switch 2 x SPDT add-on     | S2A     |

**Electrical installation**


- Supply from isolating transformer.**
- Parallel connection of other actuators possible. Observe the performance data.**
- Direction of rotation switch is covered. Factory setting: Direction of rotation Y2.**

**Wiring diagrams**

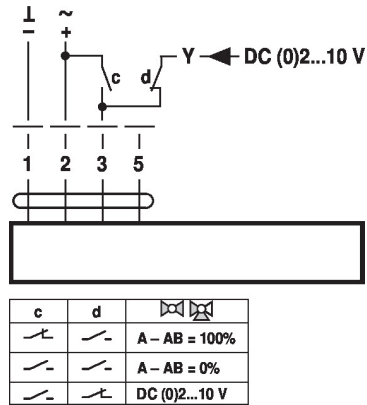
AC/DC 24 V, modulating



**Cable colours:**

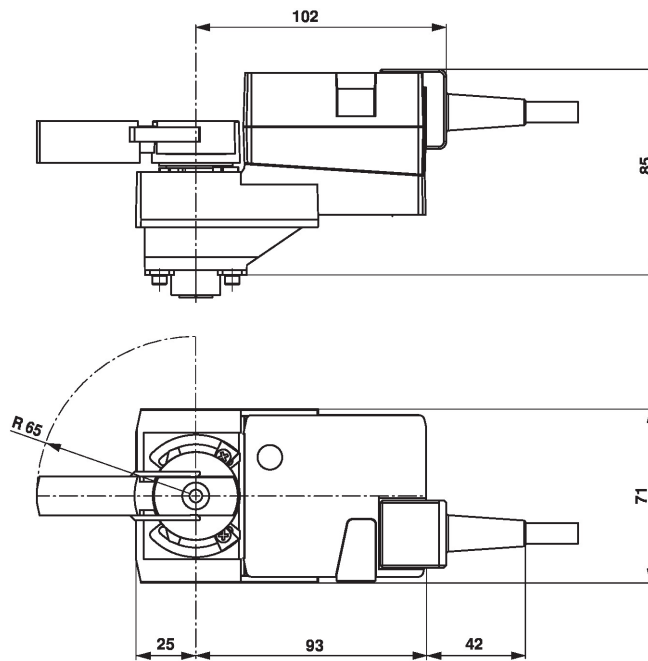
- 1 = black
- 2 = red
- 3 = white
- 5 = orange

**Override control (frost protection circuit)**



**Dimensions**

**Dimensional drawings**



**Further documentation**

- The complete product range for water applications
- Data sheets for ball valves
- Installation instructions for actuators and/or ball valves
- General notes for project planning