

Modulating rotary actuator with emergency control function for ball valves

- Nominal torque 20 Nm
- Nominal voltage AC/DC 24 V
- Control Modulating DC (0)2...10 V
- Position feedback DC 2...10 V
- with 2 integrated auxiliary switches
- Deenergised closed (NC)


**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 21.6...28.8 V                                   |
|   | Power consumption in operation           | 5.5 W   |
|   | Power consumption in rest position       | 3 W   |
|   | Power consumption for wire sizing        | 8.5 VA  |
|   | Auxiliary switch                         | 2 x SPDT, 1 x 10% / 1 x 11...90%                                      |
|   | Switching capacity auxiliary switch      | 1 mA...3 (0.5) A, AC 250 V  |
|   | Connection supply / control              | Cable 1 m, 4 x 0.75 mm <sup>2</sup>                                   |
|   | Connection auxiliary switch              | Cable 1 m, 6 x 0.75 mm <sup>2</sup>                                   |
|   | Parallel operation                       | Yes (note the performance data)                                       |
|   | <b>Functional data</b>                   | Torque motor  |
| Torque spring return                    |  | Min. 20 Nm  |
| Positioning signal Y                    |  | DC 0...10 V   |
| Positioning signal Y note               |  | Input impedance 100 kΩ  |
| Operating range Y                       |  | DC 2...10 V   |
| Position feedback U                     |  | DC 2...10 V   |
| Position feedback U note                |  | Max. 0.5 mA   |
| Position accuracy                       |  | ±5%   |
| Direction of rotation motor             |  | Y=0 (0V = A - AB = 0%)  |
| Direction of rotation spring-return     |  | Deenergised NC, valve closed (A - AB = 0%)                            |
| Manual override                         |  | By means of hand crank and locking switch                             |
| Angle of rotation                       |  | 90°   |
| Running time motor                      |  | 90 s / 90°  |
| Running time emergency setting position |  | <20 s / 90°   |
| Sound power level motor max.            |  | 45 dB(A)  |
| Position indication                     |  | Mechanical  |
| Service life                            |  | Min. 60,000 emergency positions                                       |
| <b>Safety</b>                           |  | Protection class IEC/EN   |
|   | Protection class UL                      | UL Class 2 Supply   |
|   | Protection class auxiliary switch IEC/EN | II Protective insulated   |
|   | Degree of protection IEC/EN              | IP54  |
|   | Degree of protection NEMA/UL             | NEMA 2, UL Enclosure Type 2   |
|   | EMC                                      | CE according to 2004/108/EC   |
|   | Low voltage directive                    | CE according to 2006/95/EC  |
|   | Certification IEC/EN                     | IEC/EN 60730-1 and IEC/EN 60730-2-14                                  |
|   | Certification UL                         | cULus according to UL 60730-1A, UL 60730-2-14 and CAN/CSA E60730-1:02 |
|   | Mode of operation                        | Type 1.AA.B   |
|   | Rated impulse voltage supply / control   | 0.8 kV  |
|   | Rated impulse voltage auxiliary switch   | 2.5 kV  |
| Control pollution degree                | 3  |   |
| Ambient temperature                     | -30...50°C                               |   |
| Non-operating temperature               | -40...80°C                               |   |
| Ambient humidity                        | 95% r.h., non-condensing                 |   |
| Maintenance                             | Maintenance-free                         |   |
| <b>Weight</b>                           | Weight approx.                           | 2.5 kg  |

**Safety notes**



- This device 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.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- 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 is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
- The two switches integrated in the actuator are to be operated either on power supply voltage or at safety extra-low voltage. The combination power supply voltage/ safety extra-low voltage is not permitted.

**Product features**

- Mode of operation** The actuator is connected with a standard modulating signal DC 0...10 V. The actuator moves the valve to the operating position at the same time as tensioning the return spring. The valve is turned back to the emergency position by spring force when the supply voltage is interrupted.
- Direct mounting** Simple direct mounting on the ball valve with only one screw. The mounting orientation in relation to the ball valve can be selected in 90° steps.
- Manual override** Manual actuation of the valve with manual elevator crank, engagement with the locking switch at any position. Unlocking is manual or automatic by applying the operating voltage.
- High functional reliability** The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.
- Adjustable angle of rotation** Adjustable angle of rotation with mechanical end stop.
- Flexible signalization** The actuator has one auxiliary switch with a fixed setting and one adjustable auxiliary switch. They permit a 10% or 11...90% angle of rotation to be signaled.

**Electrical installation**

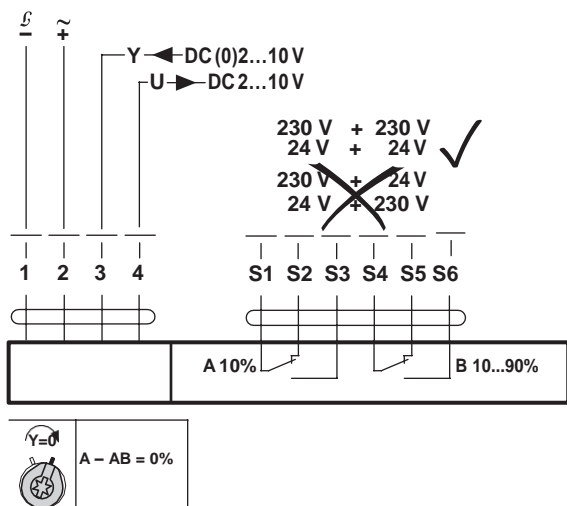


**Notes**

- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Observe the performance data.

**Wiring diagrams**

AC/DC 24 V, modulating

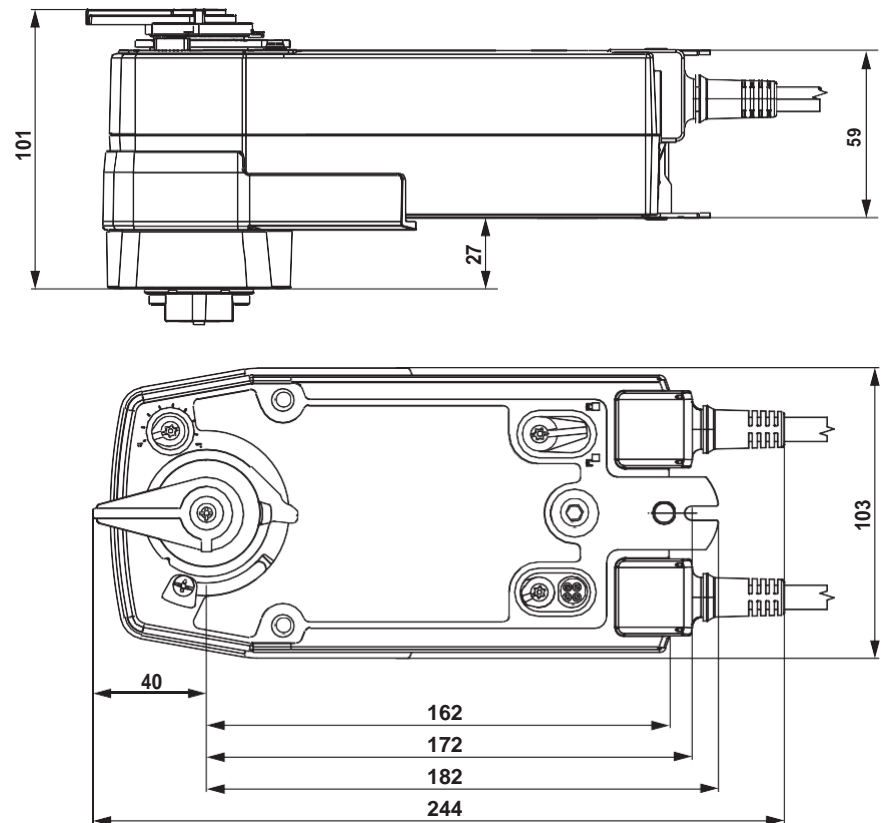


**Cable colours:**

- 1 = black
- 2 = red
- 3 = white
- 5 = orange
- S1 = violet
- S2 = red
- S3 = white
- S4 = orange
- S5 = pink
- S6 = grey

## Dimensions [mm]

## Dimensional drawings



## Further documentation

- Overview Valve-actuator combinations
- Data sheets for ball valves
- Installation instructions for actuators and/or ball valves
- General notes for project planning