

**Modulating rotary actuator with fail-safe for ball valves**

- Torque motor 20 Nm
- Nominal voltage AC/DC 24 V
- Control modulating 0.5...10 V
- Position feedback 0.5...10 V
- Deenergised closed (NC)



Picture may differ from product

**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
Connection supply / control	Cable 1 m, 4x 0.75 mm <sup>2</sup>
Parallel operation	Yes (note the performance data)
<b>Functional data</b>	
Torque motor	20 Nm
Torque fail-safe	20 Nm
Operating range Y	0.5...10 V
Input impedance	100 kΩ
Position feedback U	0.5...10 V
Position feedback U note	Max. 0.5 mA
Position accuracy	±5%
Direction of motion motor	Y = 0 (0 V = A – AB = 0%)
Direction of motion fail-safe	Deenergised NC, valve closed (A – AB = 0%)
Direction of motion note	for valves with L-bore (A – AB = 100%)
Manual override	by means of hand crank and locking switch
Running time motor	90 s / 90°
Running time fail-safe	<20 s @ -20...50°C, <60 s @ -30°C
Sound power level, motor	45 dB(A)
Position indication	Mechanical
Service life	Min. 60'000 fail-safe positions
<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
Housing	UL Enclosure Type 2
EMC	CE according to 2014/30/EU
Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14

<b>Safety data</b>	UL Approval	cULus according to UL60730-1A, UL60730-2-14 and CAN/CSA E60730-1 The UL marking on the actuator depends on the production site, the device is UL-compliant in any case
Type of action	Type 1.AA	
Rated impulse voltage supply / control	0.8 kV	
Pollution degree	3	
Ambient humidity	Max. 95% RH, non-condensing	
Ambient temperature	-30...50°C [-22...122°F]	
Storage temperature	-40...80°C [-40...176°F]	
Servicing	maintenance-free	
<b>Weight</b>	Weight	2.2 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, insolation 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 with 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 must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

## Product features

<b>Operating mode</b>	The actuator is controlled with a control signal Y (note the operating range). 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 fail-safe position by spring force when the supply voltage is interrupted.
<b>Simple direct mounting</b>	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.
<b>Manual override</b>	By using the hand crank the valve can be operated manually and engaged with the locking switch at any position. Unlocking is carried out manually or automatically by applying the operating voltage.
<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.

## Electrical installation



Supply from isolating transformer.

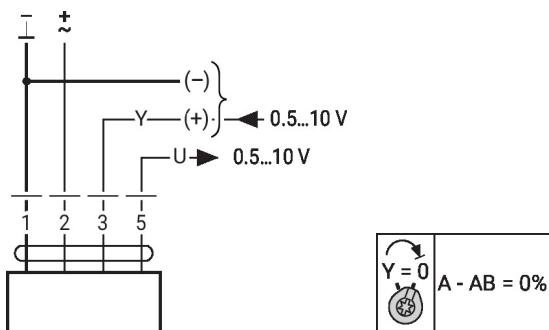
Parallel connection of other actuators possible. Observe the performance data.

## Electrical installation

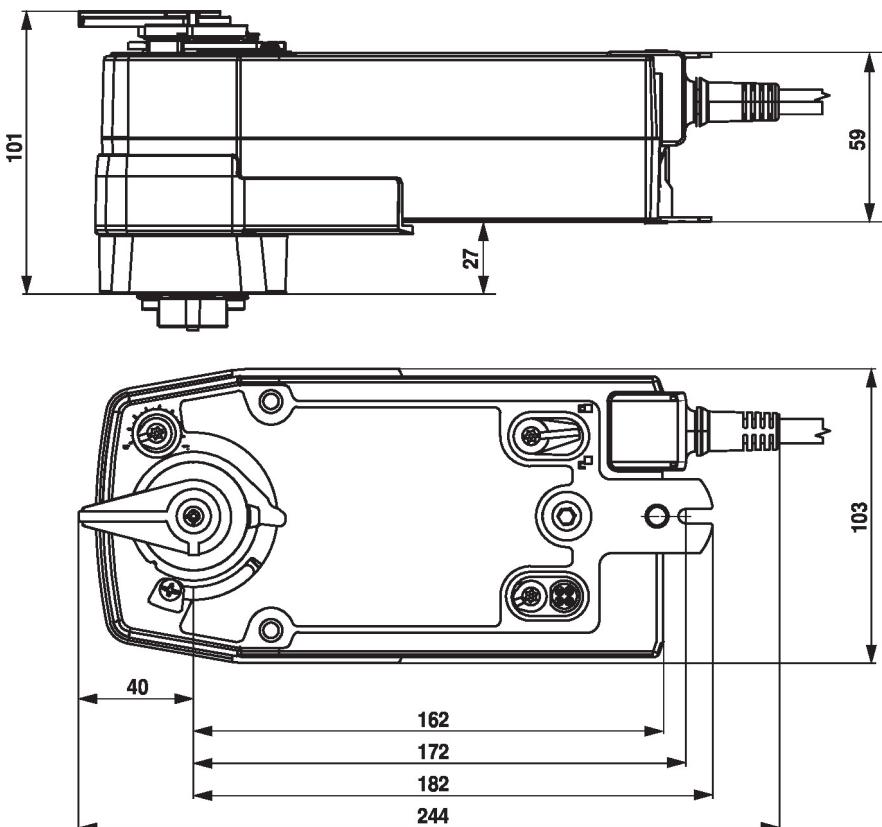
## Wire colours:

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

AC/DC 24 V, modulating



## Dimensions



## 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