

Modulating rotary actuator for 2 and 3-way ball valves

- Torque 10 Nm
- Nominal voltage AC/DC 24 V
- · Control: Modulating



echnical data		
Electrical data	Nominal voltage	AC 24 V, 50/60 Hz / DC 24 V
	Power supply range	AC 19.2 28.8 V / DC 21.6 28.8 V
	Power consumption In operation	2.5 W at nominal torque
	For wire sizing	4 VA
	Connecting cable	1 m, 4 x 0,75 mm <sup>2</sup>
	Parallel connection	Yes (Note performance data for supply!)
Functional data	Torque (nominal torque)	Min. 10 Nm at nominal voltage
	Control control signal Y	DC 0 10 V, Input resistance 100 kΩ
	operating range	DC 0 10 V for 0 90°
		(can be switched to DC 2 10 V)
	Position response (measuring voltage U)	DC 0 10 V, max. 1 mA, for 0 90°<>)
		(can be switched to DC 2 10 V)
	Position accuracy	±5%
	Manual override	Temporary and permanent disengagement of the
		gearing latch by means of the rotary knob on the
		housing
	Running time	35 s / 90°⊲
	Sound power level	Max. 35 dB (A)
	Position indication	Scale plate 0 1
Safety	Protection class	III Extra low voltage
	Degree of protection	IP40
	EMC	CE according to 89/336/EEC
	Mode of operation	Type 1 (to EN 60730-1)
	Rated impulse voltage	0.8 kV (to EN 60730-1)
	Control pollution degree	3 (to EN 60730-1)
	Ambient temperature range	0 +50°C
	Media temperature	+5 +120°C (in ball valve)
	Non-operating temperature	−30 +80°C
	Ambient humidity range	95% r.H., non-condensating (to EN 60730-1)
	Maintenance	Maintenance-free
Dimensions / Weight	Dimensions	See «Dimensions» on page 2
Ç	Weight	Approx. 500 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.
- It may only be installed by suitably trained personnel.
   All applicable legal or institutional installation regulations must be complied with.
- The device does not contain any parts that can be replaced or repaired by the user.
- 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 switch for changing the direction of rotation may only be operated by trained personnel.
   The direction of rotation may not be reversed in a frost protection circuit.



### **Product features**

Mode of operation The actuator is controlled with a standard signal of DC 0 ... 10 V and moves into the position

defined by the control signal.

Simple direct mounting Straightforward direct mounting on the ball valve with only one screw. The mounting position in

relation to the mixing valve can be selected in 90° ≤ steps.

Manual operation Manual operation possible by lever (temporary disengagement of the gearing latch by pressing,

permanent disengagement by means of the rotary knob on the housing).

Functional reliability The actuator switches off automatically when the end stops are reached.

The actuator switches off for seven seconds in the case of blocking, then attempts to restart. If the blocked condition persists, the actuator attempts to restart once every two minutes a total of 15 times and subsequently once every two hours.

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

closing pressures.

Standard

### **Electrical installation**

### Wiring diagram

# Notes

• Connect via safety isolation transformer.

Parallel connection of several actuators possible.
 Power consumption must be observed!

# 

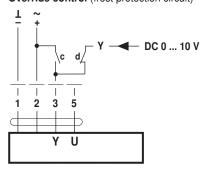
U

Cable colours: 1 = black

2 = red3 = white

5 = white

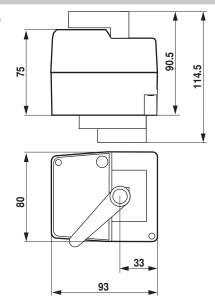
# Override control (frost protection circuit)



С	d	Rotary actuator	Rotary valve
Ł	<i>-</i> -	14	A – AB = 100%
/-	/-	~ <b>&gt;</b> 0	A – AB = 0%

### Dimensions [mm]

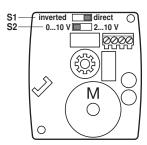
### **Dimensional diagrams**





# Adjusting switch S1 and S2

The S1 and S2 switches for setting the direction of rotation and the operating range/position feedback are located underneath the housing cover.



Switch S1	Direction of rotation	
Signal direct *	<b>&gt;</b> 0	A – AB = 0%
Signal inverted	14	A – AB = 0%

Switch S2	Operating range
0 10 V *	10V 0 10V
2 10 V	10V 4 2 10V

\* Factory setting

Dismounting the housing cover

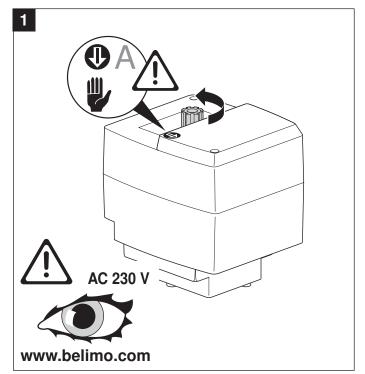
Loosen the central screw at the black lever and remove the two Phillips screws of the housing cover.

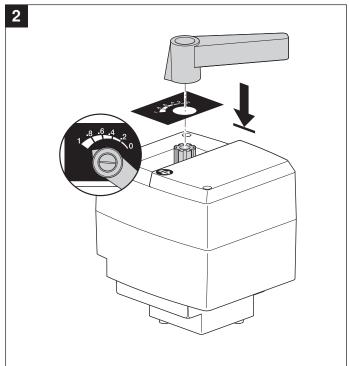
# Further documentations

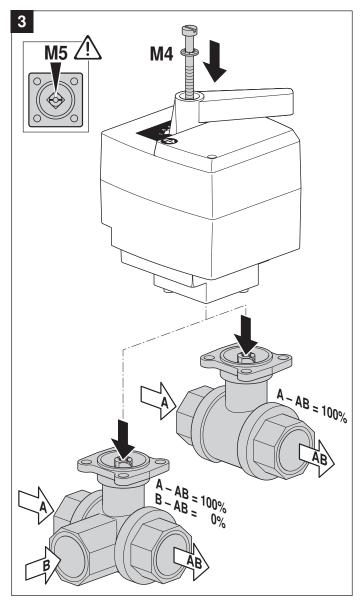
- · Complete overview of actuators for water solutions
- · Data sheets for ball valves
- Installation instructions for actuators and/or ball valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)

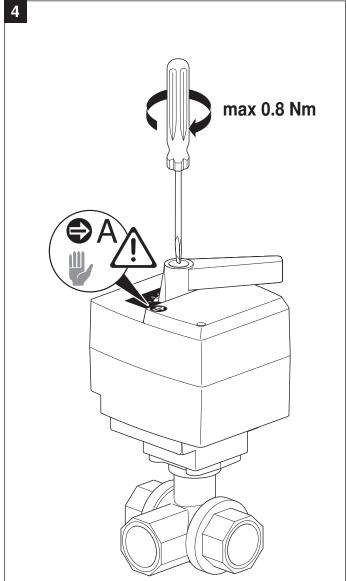


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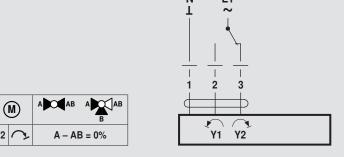


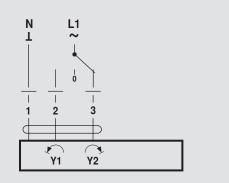


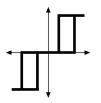




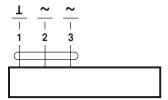






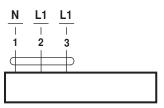


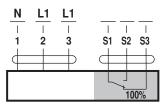
**AC 24 V** 





AC 230 V





HR..230-3

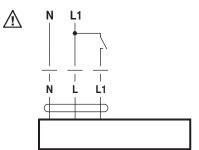
HR..24-3

 $\overline{\mathbb{V}}$ 

HR..230-3-S



AC 230 V



HR..230-1-T



AC 24 V / DC 24 V

