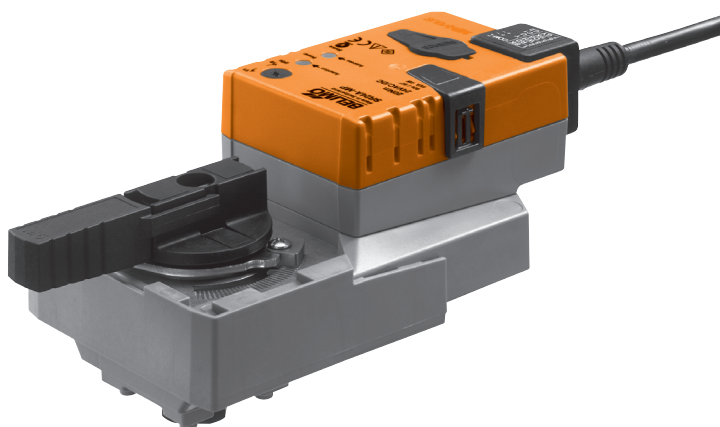


Modulating rotary actuator  
for 2- and 3-way control ball valves

- Torque 20 Nm
- Nominal voltage AC/DC 24 V
- Control: modulating DC 0 ... 10 V
- Position feedback DC 2 ... 10 V
- Running time 35 s



## Technical data

<b>Electrical data</b>	Nominal voltage	AC 24 V, 50/60 Hz / DC 24 V
	Nominal voltage range	AC 19.2 ... 28.8 V / DC 21.6 ... 28.8 V
	Power consumption	In operation 4 W @ nominal torque At rest 1.5 W For wire sizing 7 VA
	Connection	Cable 1m , 4 x 0.75 mm <sup>2</sup>
	Parallel connection	Possible, note performance data
<b>Functional data</b>	Torque (nominal torque)	Min. 20 Nm @ nominal voltage
	Control Control Signal Y	DC 0 ... 10 V, typical input impedance 100kΩ
	Operating range	DC 2 ... 10 V
	Position feedback (Measuring voltage U)	DC 2 ... 10 V, max. 1 mA
	Position accuracy	±5%
	Manual override	Gearing latch disengaged with pushbutton, can be locked
	Running time	35 s / 90°↔
	Sound power level	Max. 45 dB (A) (without the control ball valve)
	Position indication	Mechanical, pluggable
<b>Safety</b>	Protection class	III Safety extra-low voltage / UL Class 2 Supply
	Degree of protection	IP54 NEMA 2, UL Enclosure Type 2
	EMC	CE according to 2004/108/EC
	Certification	cULus according to UL 60730-1A and UL 60730-2-14 and CAN/CSA E60730-1:02 Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14
	Mode of operation	Type 1
	Rated impulse voltage	0.8 kV
	Control pollution degree	3
	Ambient temperature	0 ... +50 °C
	Media temperature	+5 ... +100 °C in control ball valve -10 °C with stem heating upon request
	Non-operating temperature	-40 ... +80 °C
	Ambient humidity	95% r.h., non-condensating
	Maintenance	Maintenance-free
<b>Dimensions / Weight</b>	Dimensions	See «Dimensions» on page 3
	Weight	ca. 850 g

## 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 switch for changing the direction of rotation may only be operated by authorized personnel. The direction of rotation must not 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.
- 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 is controlled by means of a standard control signal DC 0 ... 10 V. It opens to the position dictated by this signal. The measuring voltage U allows the damper position (0 ... 100%) to be electrically indicated and serves as a follow-up control signal for other actuators.
- Simple direct mounting** Straightforward direct mounting on the ball valve with only one screw. The assembly tool is integrated in the plug-on position indicator. The mounting position in relation to the ball valve can be selected in 90° steps.
- Manual override** Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).
- Adjustable angle of rotation** Adjustable angle of rotation with mechanical end stops.
- High functional reliability** The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.
- Position feedback U5** Operation of the ball valve is optimised by a limiting ring. This ring reduces the angle of rotation from 95 to 90°, i.e. U5 will deviate from Y by approximately 0.4 V when the valve is opened.

**Accessories**

	Description	Data sheet
Electrical Accessories	Auxiliary switch S..A..	T2 - S..A..
	Feedback potentiometer P..A..	T2 - P..A..

**Electrical installation**

**Wiring diagram**

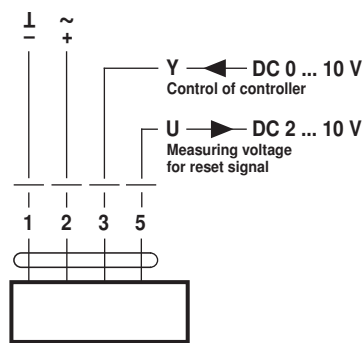
- Notes**
- Connect via safety isolation transformer.
  - Parallel connection of other actuators possible. Note performance data.
  - Direction of rotation switch is covered. Factory setting: Direction of rotation Y2.



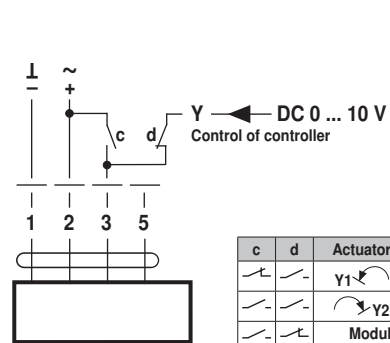
Direction of rotation



**Standard connection**



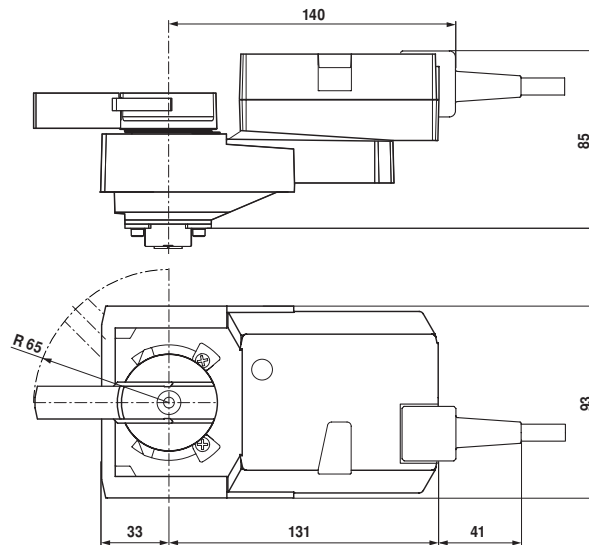
**Override control (frost protection circuit)**



c	d	Actuator	Valve
		Y1	A - AB = 100%
		Y2	A - AB = 0%
		Modulating operation	

**Dimensions [mm]**

**Dimensional drawings**



**Further documentations**

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