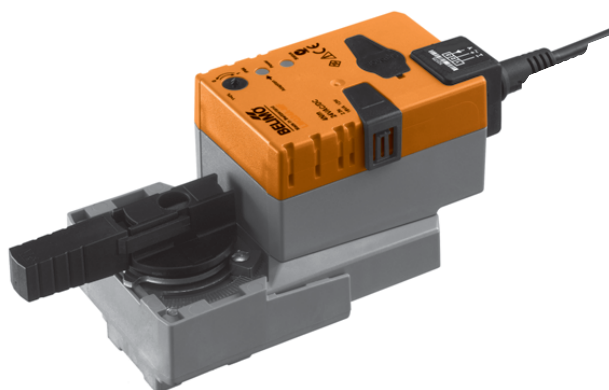



Rotary actuator: for 2 way ball valves DN15...40
3 way ball valves DN15...32

- Torque 4 Nm
- Nominal voltage AC/DC 24 V
- Open-close control LRQU24
- Modulating control LRQU24-SR
- Running time: 5s



Technical data

Basic technical data	Nominal voltage	AC 24 V, 50/60 Hz / DC 24 V	
	Nominal voltage range	AC/DC 19.2 ... 28.8 V / DC 21.6 ... 28.8 V	
	Power consumption	In operation	12 W @ nominal torque / 1.5 W @ rest
		For wire sizing	18 VA (I max. 20 A @ 5 ms)
	Parallel connection	Possible, note the performance data	
	Torque (nominal torque)	Min. 4 Nm @ nominal voltage	
	Manual override	Gearing latch disengaged with push-button, can be locked	
	Running time	5 s / 90° \triangleleft	
	Sound power level	Max. 52 dB (A)	
	Position indication	Mechanical, pluggable	
	Protection class	III Safety extra-low voltage	
	Degree of protection	IP54 in any mounting position, UL/NEMA 2	
	EMC	CE according to 2004/108/EC	
	Certification	cULus according to UL 60730-1A and UL 60730-2-14 and CAN/CSA E60730-01:02	
		Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14	
	Mode of operation	Type 1 (EN 60730-1)	
	Rated impulse voltage	0.8 kV (EN 60730-1)	
	Control pollution degree	3 (EN 60730-1)	
	Ambient temperature	0 ... +40 °C (no restrictions)	
			+40 ... +50 °C (Caution: can only be used with restrictions. Please contact your Belimo representative.)
Non-operating temperature	-40 ... +80 °C		
Ambient humidity	95% RH, non condensing (EN 60730-1)		
Maintenance	Maintenance-free		
Dimensions	See «Dimensions» on page 3		
Weight	Approx. 950 g		
LRQU24	Connection	Cable 1 m, 3 x 0.75 mm ²	
	Control	Open/Close	
LRQU24-SR	Connection	Cable 1 m, 4 x 0.75 mm ²	
	Control signal	DC 2(0) ... 10 V, input impedance 100 kΩ	
	Feedback signal	DC 2 ... 10 V, max. 0.5 mA	
	Override control	MAX (maximum position)	= 100%
		MIN (minimum position)	= 0%
ZS (intermediate position, only AC)		= 50%	

Product features

- 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 fitting 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.
- Home position** When the supply voltage is switched on for the first time, i.e. at commissioning or after pressing the «gear disengagement» switch, the actuator moves to the home position. Factory setting: Y2 (counter-clockwise rotation)

Rotary actuator	Rotary valve
	Close
	Open

The actuator then moves into the position defined by the control signal.

- Mode of operation LRQU24-SR** The actuator is controlled with a standard modulating signal of DC 2(0)... 10V and moves to the position defined by the control signal. The measuring voltage U serves for the electrical display of the damper position 0 ... 100% and as slave control signal for other actuators.
- Adaption LRQU24-SR** Automatic adjustment of operating range and measuring signal U to match the mechanical angle of rotation. Manual triggering of the adaption by pressing the «Adaption» button.

Accessories

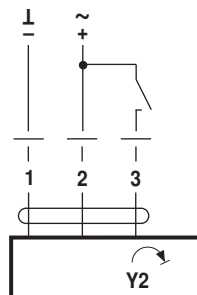
	Description
Electrical accessories	Auxiliary switch S..A..
	Feedback potentiometer P..A..

Electrical installation

LRQU24

Note

- Connect via safety isolation transformer.
- Parallel connection of other actuators possible. Note performance data for supply.



Direction of rotation



Rotary actuator	Rotary valve
Y2	Close

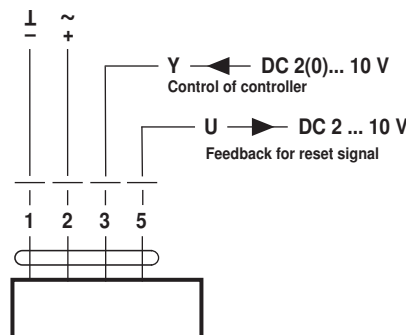
LRQU24-SR

Note

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



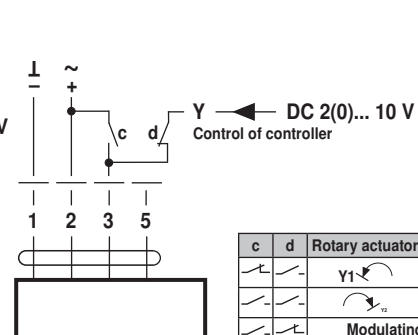
Standard connection



Direction of rotation



Override control (frost protection circuit)

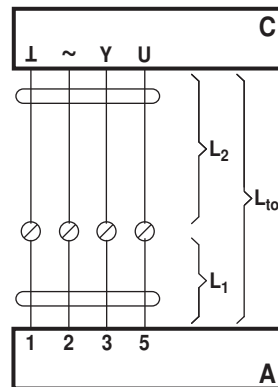


c	d	Rotary actuator	Rotary valve
		Y1	Open
		Y2	Close
		Modulating operation	

Electrical installation(LRQU24-SR)

(continued)

Cable lengths



- A = Actuator
- C = Control unit
- L₁ = Belimo connecting cable, 1 m (4 x 0.75 mm²)
- L₂ = Customer cable
- L_{tot} = Maximum cable length

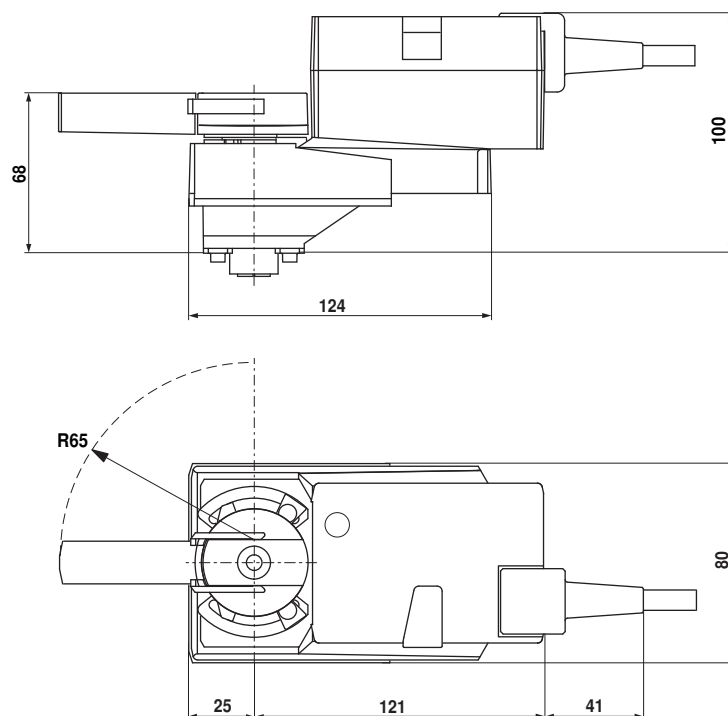
Cross section L ₂ I / ~	Max. cable length L _{tot} = L ₁ + L ₂		Example for DC
	AC	DC	
0.75 mm ²	≤30 m	≤5 m	1 m (L ₁) + 4 m (L ₂)
1.00 mm ²	≤40 m	≤8 m	1 m (L ₁) + 7 m (L ₂)
1.50 mm ²	≤70 m	≤12 m	1 m (L ₁) + 11 m (L ₂)
2.50 mm ²	≤100 m	≤20 m	1 m (L ₁) + 19 m (L ₂)

Note

When several actuators are connected in parallel, the maximum cable length must be divided by the number of actuators.

Dimensions [mm]

Dimensional drawings



- ① **Direction of rotation switch**
Switching over: Direction of rotation changes
- ② **Push-button and green LED display**
Off: No voltage supply or fault
On: In operation
Press button: Switches on angle of rotation adaptation followed by standard operation
- ③ **Push-button and yellow LED display**
Off: Standard operation
On: Adaptation or synchronising process active
Press button: No function
- ④ **Gear disengagement switch**
Press button: Gear disengaged, motor stops, manual override possible
Release button: Gear engaged, synchronisation starts, followed by standard operation