BELIMO

Technical data sheet KR24-SR

Modulating rotary actuator for ball valves

- **Nominal torque 2 Nm**
- **Nominal voltage AC/DC 24 V**
- **Control Modulating DC (0)2...10 V**
- **Position feedback DC 2...10 V**
- **kv setting (angle of rotation limiting)**

Technical data

Electrical data	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	1 W
	Power consumption in rest position	0.5 W
	Power consumption for wire sizing	2 VA
	Connection supply / control	Cable 1 m, 4 x 0.75 mm²
	Parallel operation	Yes (note the performance data)
Functional data	Torque motor	Min. 2 Nm
	Positioning signal Y	DC 0...10 V
	Positioning signal Y note	Typical input impedance 100 kΩ
	Operating range Y	DC 2...10 V
	Position feedback U	DC 2...10 V
	Position feedback U note	Max. 1 mA
	Position accuracy	±5%
	Manual override	Gear disengagement with magnet
	Running time motor	75 s / 90°
	Sound power level motor	35 dB(A)
	Position indication	Mechanically, pluggable
	Flow setting	Angle of rotation limitation starting with 90° (A - AB = 100%) in 2.5° steps (Scale: 25…100% of kvs)
Safety	Protection class IEC/EN	III Safety extra-low voltage
	Protection class UL	UL Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2, UL Enclosure Type 2
	EMC	CE according to 2004/108/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
	Rated impulse voltage supply / control	0.8 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
Weight	Weight approx.	0.25 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.

Safety notes

- 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 connected with a standard modulating signal of DC 2...10 V and travels to the position defined by the positioning signal. Measuring voltage U serves for the electrical display of the valve position 0...100% and as slave control signal for other actuators.

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 override with magnet possible (gear disengagement as long as the magnet adheres to the magnet symbol). The Z-MA magnet for the gear disengagement is enclosed.

High functional reliability The actuator is overload protected, requires no limit switches in intermediate positions and automatically stops when the end stop is reached (at rest).

Adjustable angle of rotation The rotary actuator can be adjusted beginning with 90° (A – AB = 100%) in 2.5° increments. The scale corresponds to 25...100% of the kvs value.

Accessories

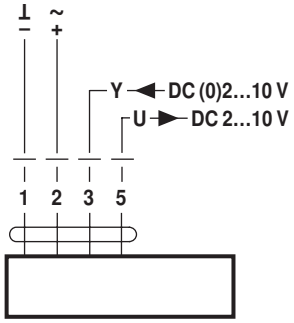
Electrical installation

Notes

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

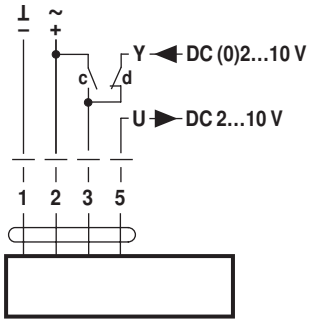
Wiring diagrams

AC/DC 24 V, modulating



Cable colours:
1 = black
2 = red
3 = white
5 = orange

AC/DC 24 V, modulating, override control



c	d	Y1/Y2	
⏚	⏚	Y1	A – AB = 100%
⏚	⏚	Y2	A – AB = 0%
⏚	⏚	DC (0)2...10 V	

Cable colours:

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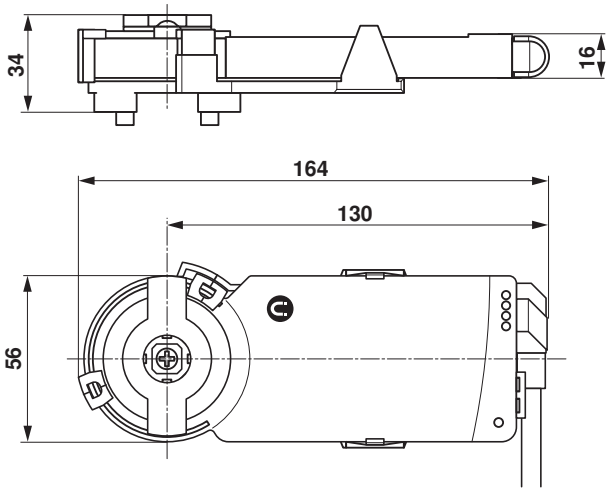
Dimensions [mm]

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