

Modulating rotary actuator for ball valves

- Torque motor 2 Nm
- Nominal voltage AC/DC 24 V
- Control modulating 2...10 V
- Position feedback 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 mm ²
	Parallel operation	Yes (note the performance data)
Functional data	Torque motor	2 Nm
	Operating range Y	2...10 V
	Input impedance	100 kΩ
	Position feedback U	2...10 V
	Position feedback U note	Max. 1 mA
	Position accuracy	±5%
	Manual override	with magnet
	Running time motor	75 s / 90°
	Sound power level, motor	35 dB(A)
	Position indication	Mechanical, pluggable
	Flow setting	Angle of rotation limitation starting with 90° (A - AB = 100%) in 2.5° steps (Scale: 25...100% of kvs)
Safety data	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
	Enclosure	UL Enclosure Type 2
	EMC	CE according to 2014/30/EU
	Low voltage directive	CE according to 2006/95/EC
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	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
	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

Weight Weight 0.25 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 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.
- 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

Mode of operation	The actuator is connected with a standard control signal of 2...10 V and drives to the position defined by the control signal. Measuring voltage U serves for the electrical display of the valve position 0.5...100% and as control signal for other actuators.
Simple 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 train disengagement as long as the magnet adheres to the magnet symbol). The Z-MA magnet for the gear train disengagement is enclosed.
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.
High functional reliability	The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

Accessories

Mechanical accessories	Description	Type
	Gear train disengagement magnet, Multipack 20 pcs.	Z-MA

Electrical installation



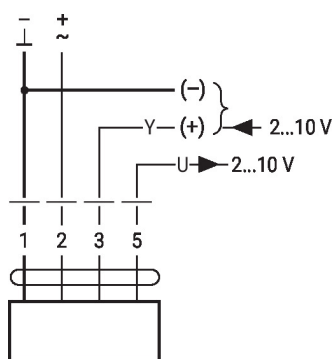
Supply from isolating transformer.
Parallel connection of other actuators possible. Observe the performance data.

Wire colours:

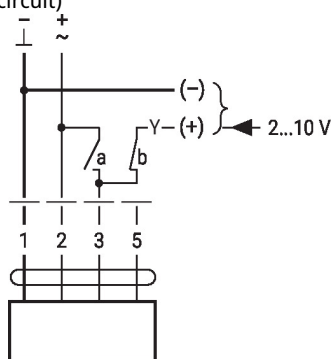
1 = black
2 = red
3 = white
5 = orange

Wiring diagrams

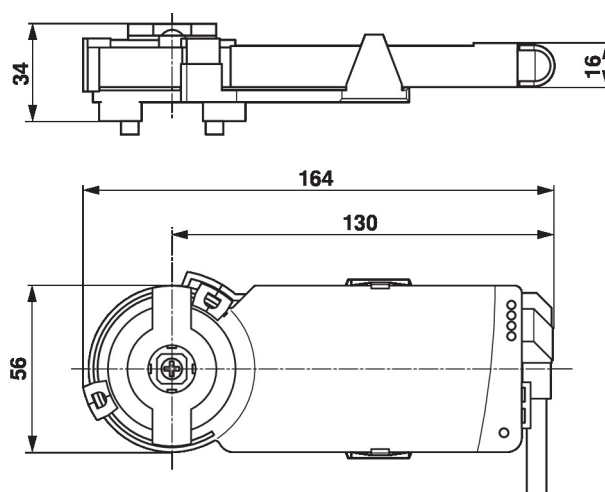
AC/DC 24 V, modulating



Override control (frost protection circuit)



1	2	3 (a)	3 (b)	Y1 / Y2	
				Y1 	A - AB = 100%
				2...10 V	
				 Y2	A - AB = 0%
				2...10 V	

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