

**Rotary actuators for the motorisation of mixing valves**

- Torque 5 Nm / 10 Nm
- Nominal voltage AC/DC 24 V
- Control: modulating



Design A



Design B

## Type overview

Type	Control	Torque (@ nominal voltage)	Power consumption (@ nominal torque) with running time (50 Hz)			
			35 s	70 s	140 s	280 s
NR24-SR-..	modulating	5 Nm	2.5 W	2.5 W	2.0 W	—
		10 Nm	2.5 W	—	2.0 W	1.5 W

Additional combinations on request

## 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	See «Type overview»
	Connection	Cable 1 m, 4 x 0.75 mm <sup>2</sup>
	Parallel operation	Yes (Note performance data for supply!)
<b>Functional data</b>	Torque (nominal torque)	See «Type overview»
	Control Control signal Y Operating range	DC 0 ... 10 V, Input resistance 100 kΩ DC 2 ... 10 V for 0 ... 90°↔ (can be switched to DC 0 ... 10 V)
	Position response (measuring voltage U)	DC 2 ... 10 V, max. 1 mA for 0 ... 90°↔ (can be switched to DC 0 ... 10 V)
	Position accuracy	±5%
	Angle of rotation	90°↔ electrically limited
	Running time	See «Type overview»
	Sound power level	Max. 35 dB (A)
	Position indication	Reversible display label
	Manual override	Temporary and permanent gear disengagement with rotary knob on the housing
	<b>Safety</b>	Protection class
Degree of protection		IP40
EMC		CE according to 2004/108/EC
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 ... +50 °C (Duty cycle 140/35 s)
Medium temperature		+5 ... +120 °C (in the mixing valve)
Non-operating temperature		-30 ... +80 °C
Ambient humidity		95% r.h., non-condensating (EN 60730-1)
Maintenance	Maintenance-free	
<b>Dimensions / Weight</b>	Dimensions	See «Dimensions» on page 3
	Weight	Approx. 400 g / 500 g (without mixing valve)

## Safety notes



- The actuators have 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. Any legal regulations or regulations issued by authorities must be observed during installation.
- The devices do not contain any parts that can be replaced or repaired by the user.
- The devices contain electrical and electronic components and are not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
- The installer must check for correct principle of operation after installation.
- To calculate the torque required, the specifications supplied by the mixing valve manufacturer must be observed.
- When determining the flow rate characteristic of controlled devices, the recognised directives must be observed.

## Product features

<b>Applications</b>	The actuators are utilised in conjunction with a corresponding mounting kit as an actuator for the motorisation of the most common mixing valves in HVAC systems
<b>Mode of operation</b>	The actuator is controlled with a standard signal of DC 0 ... 10 V and moves into the position defined by the control signal.
<b>Simple direct mounting</b>	Simple direct mounting with only one screw. The stud bolt included in delivery serves as a universal mounting bracket. The mounting position can be freely selected in steps of 90° . Thanks to its small, compact design, the actuators fit in most of the cutouts found in the fitting insulation.
<b>Manual operation</b>	Manual operation possible with lever (temporary gear disengagement by pressing, permanent disengagement using rotary knob on the housing).
<b>Functional safety</b>	The angle of rotation is limited to 90°. Once the end stops are reached, the actuators are switched off electrically, thus rendering them deenergised.

## Accessories

	Description
<b>Electrical accessories</b>	Potential-free auxiliary switch with 1-pin change-over switch

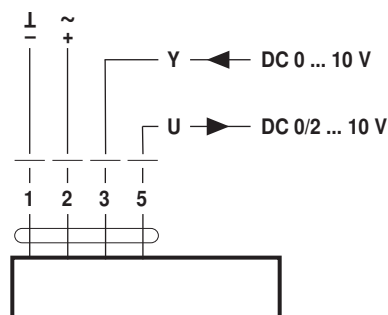
## Electrical installation

## Wiring diagram

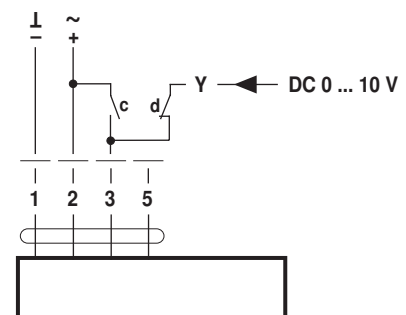
**Note**  
Connect via safety isolation transformer.



## Standard



## Override control (frost protection circuit)

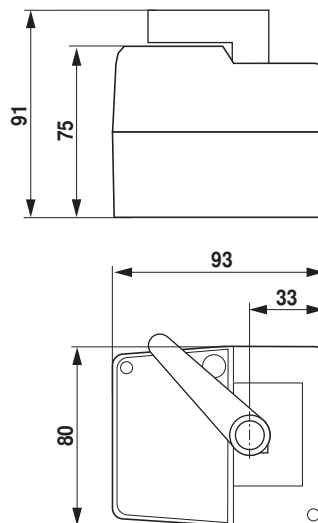


c	d	Rotary actuator	Rotary valve
			A - AB = 100%
			A - AB = 0%

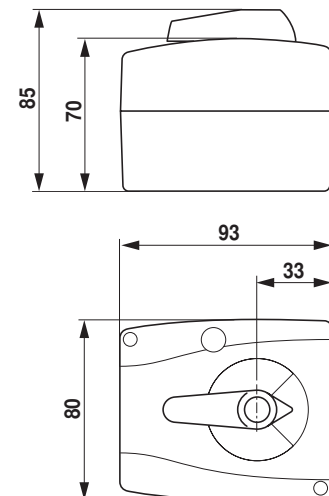
## Dimensions [mm]

## Dimensional drawings

## Design A

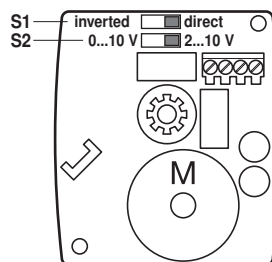




## Design B

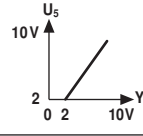
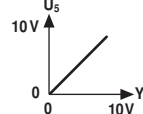


## Adjusting switch S1 and S2

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 *	 0	Y = 0%
Signal inverted	 1	Y = 0%

Switch S2	Operating range/Position feedback
2 ... 10 V *	
0 ... 10 V	

\* Factory setting

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