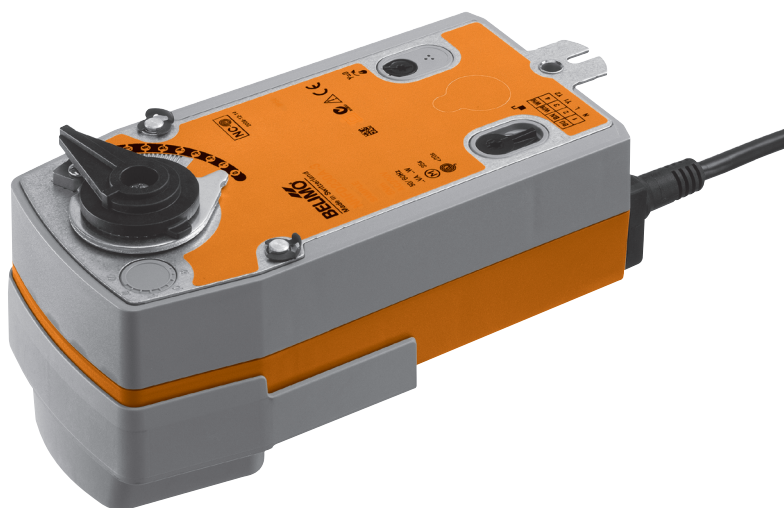


3-point rotary actuator with emergency function for control ball valves

- Torque 10 Nm
- Nominal voltage AC 230 V
- Control: 3-point
- NRF230A-3: Deenergised NC
- NRF230A-3-O: Deenergised NO


Technical data

Electrical data	Nominal voltage	AC 230 V, 50/60 Hz	
	Nominal voltage range	AC 198 ... 264 V	
	Power consumption	In operation 4 W @ nominal torque At rest 3 W For wire sizing 15 VA	
	Connection	Cable 1 m, 4 x 0.75 mm ²	
	Parallel connection	Yes (Note performance data for supply!)	
Functional data	Torque	Motor Min. 10 Nm @ nominal voltage Spring return Min. 10 Nm	
	Direction of rotation	Motor Reversible with switch ↻ / ↻ Spring return – NRF230A-3 Deenergised NC, ball valve closed (A – AB = 0%) – NRF230A-3-O Deenergised NO, ball valve open (A – AB = 100%)	
	Angle of rotation	Max. 90° ±	
	Running time	Motor 90 s / 90° ± Spring return ≤20 s @ –20 ... 50°C / max. 60s @ –30°C	
	Sound power level	Motor ≤45 dB (A) Spring return ≤62 dB (A)	
	Position indication	Mechanical	
	Safety	Protection class	II totally insulated ☐
		Degree of protection	IP54
		EMC	CE according to 2004/108/EC
		Low-voltage directive	CE according to 2006/95/EC
Certification		Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14	
Mode of operation		Type 1.AA	
Rated impulse voltage		4 kV	
Control pollution degree		3	
Ambient temperature		–30 ... +50°C	
Media temperature		+5 ... +130°C (in 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		
Dimensions / Weight	Dimensions	See «Dimensions» on page 3	
	Weight	Approx. 2 kg (without ball valve)	

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.
- **Caution: Power supply voltage!**
- It may only be installed by suitably trained personnel.
- All applicable legal or institutional installation regulations must be complied with.
- 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 cable must not be removed from the device.
- 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

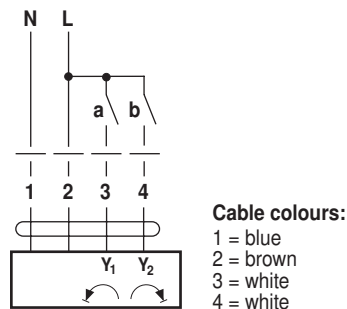
- Mode of operation** The actuator moves the ball valve to the operating position at the same time as tensioning the return spring. The damper is turned back to the safety position by spring force if the supply voltage is interrupted.
- Simple direct mounting** Straightforward direct mounting on the ball valve with only one screw. The mounting position in relation to the ball valve can be selected in 90° steps.
- High operational reliability** The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.
- Combination valve actuators** Refer to the valve documentation for suitable valves, their permitted media temperatures and closing pressures.

Electrical installation

Wiring diagram

Notes

- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Note the performance data.

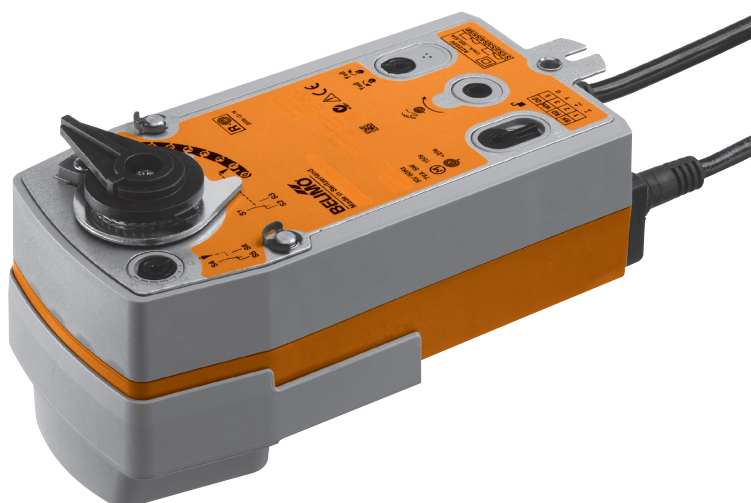


Direction of rotation

		NO L	NC R	
		Reversing switch		
a (Y ₁)	b (Y ₂)			
				A - AB = 100%
		stop	stop	
				A - AB = 0%

3-point rotary actuator with emergency function for control ball valves

- Torque 10 Nm
- Nominal voltage AC 230 V
- Control: 3-point
- Two integrated auxiliary switches
- NRF230A-3-S2: Deenergised NC
- NRF230A-3-S2-O: Deenergised NO



Technical data

Electrical data	Nominal voltage	AC 230 V, 50/60 Hz		
	Nominal voltage range	AC 198 ... 264 V		
	Power consumption	In operation	4 W @ nominal torque	
		At rest	3 W	
		For wire sizing	15 VA	
	Auxiliary switch	2 x SPDT, 6 (3) A, AC 250 V <input type="checkbox"/> (1 x fix 10% / 1 x adjustable 11 ... 100%)		
	Connection	Motor	Cable 1 m, 4 x 0.75 mm ²	
Auxiliary switch		Cable 1 m, 6 x 0.75 mm ²		
Parallel connection	Yes (Note performance data for supply!)			
Functional data	Torque	Motor	Min. 10 Nm @ nominal voltage	
		Spring return	Min. 10 Nm	
	Direction of rotation	Motor	Reversible with switch ↺ / ↻	
		Spring return		
		– NRF230A-3-S2	Deenergised NC, ball valve closed (A – AB = 0%)	
	– NRF230A-3-S2-O	Deenergised NO, ball valve open (A – AB = 100%)		
	Angle of rotation	Max. 90° $\overleftarrow{\curvearrowright}$		
Running time	Motor	90 s / 90° $\overleftarrow{\curvearrowright}$		
	Spring return	≤20 s @ –20 ... 50°C / max. 60s @ –30°C		
Sound power level	Motor	≤45 dB (A)		
	Spring return	≤62 dB (A)		
Position indication	Mechanical			
Safety	Protection class	II totally insulated <input type="checkbox"/>		
	Degree of protection	IP54		
	EMC	CE according to 2004/108/EC		
	Low-voltage directive	CE according to 2006/95/EC		
	Certification	Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14		
	Mode of operation	Type 1.AA.B		
	Rated impulse voltage	Actuator	4 kV	
		Auxiliary switch	2.5 kV	
	Control pollution degree	3		
	Ambient temperature	–30 ... +50°C		
Media temperature	+5 ... +130°C (in 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			
Dimensions / Weight	Dimensions	See «Dimensions» on page 3		
	Weight	Approx. 2.2 kg (without ball valve)		

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.
- **Caution: Power supply voltage!**
- It may only be installed by suitably trained personnel.
- All applicable legal or institutional installation regulations must be complied with.
- 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 cable must not be removed from the device.
- The integrated switches of this actuator have to be connected either to Power supply voltage or safety extra low voltage. The combination Power supply voltage / safety extra low voltage is not allowed.
- 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

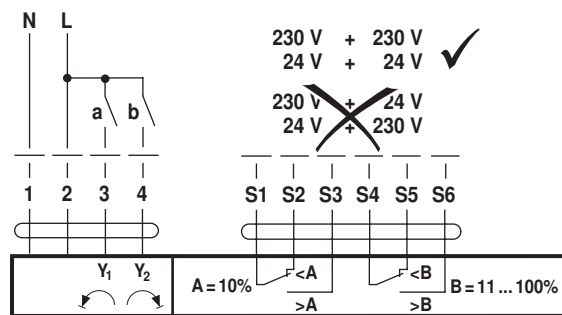
- Mode of operation** The actuator moves the ball valve to the operating position at the same time as tensioning the return spring. The damper is turned back to the safety position by spring force if the supply voltage is interrupted.
- Simple direct mounting** Straightforward direct mounting on the ball valve with only one screw. The mounting position in relation to the ball valve can be selected in 90° steps.
- High operational reliability** The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.
- Flexible signalization** The actuator has one auxiliary switch with a fixed setting and one adjustable auxiliary switch. They permit a 10% or 11 ... 100% angle of rotation to be signalled.
- Combination valve actuators** Refer to the valve documentation for suitable valves, their permitted media temperatures and closing pressures.

Electrical installation

Wiring diagram

Notes

- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Note the performance data.



Cable colours:

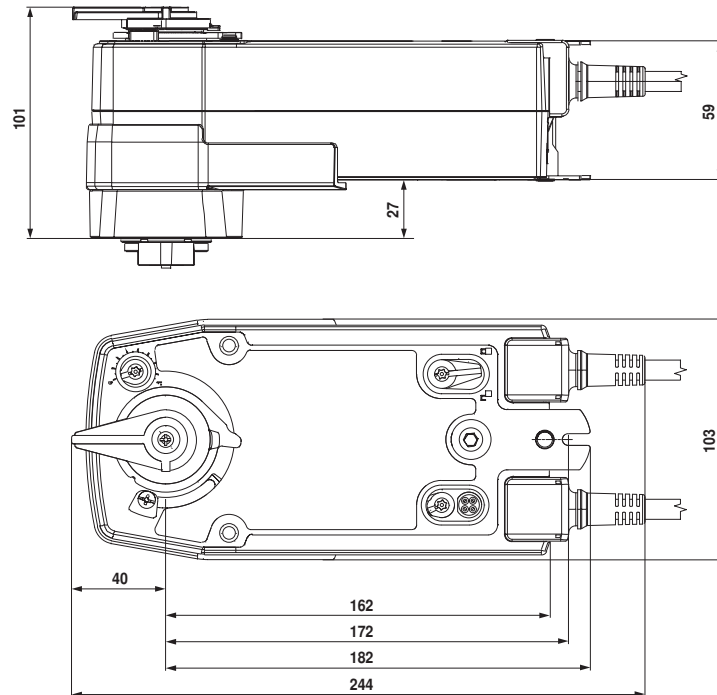
- 1 = blue
- 2 = brown
- 3 = white
- 4 = white
- S1 = violet
- S2 = red
- S3 = white
- S4 = orange
- S5 = pink
- S6 = grey

Direction of rotation

		NO L	NC R	
		Reversing switch		
a (Y ₁)	b (Y ₂)			
				A - AB = 100%
		stop	stop	
				A - AB = 0%

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.)