

Rotary actuator with emergency function for 2- and 3-way ball valves

- Torque 10Nm
- Nominal voltage AC 24...240V / DC 24...125V
- Control: Open-close
- NRFA: Deenergised NC


Technical data

Electrical data	Nominal voltage	AC 24...240V, 50/60Hz / DC 24...125V	
	Nominal voltage range	AC 19.2...264V / DC 21.6...137.5V	
	Power consumption	In operation	6W @ nominal torque
		At rest	2.5W
	For wire sizing	9.5VA	
	Connection	Cable 1m, 2 x 0.75mm ²	
	Parallel connection	Yes (Note performance data for supply!)	
Functional data	Torque	Motor	Min. 10Nm @ nominal voltage
		Spring return	Min. 10Nm
	Direction of rotation	Spring return	Deenergised NC, ball valve closed (A – AB = 0%)
		– NRFA	
	Manual override	With hand crank and interlocking switch	
	Angle of rotation	Max. 90°	
	Running time	Motor	75s / 90°
		Spring return	≤20s @ –20...50°C / max. 60s @ –30°C
	Sound power level	Motor	≤45dB(A)
		Spring return	≤62dB(A)
Position indication	Mechanical		
Safety	Protection class	III Extra low voltage	
	Degree of protection	IP54	
		NEMA 2, UL Enclosure Type 2	
	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	4kV	
	Control pollution degree	3	
	Ambient temperature	–30...+50°C	
Non-operating temperature	–40...+80°C		
Ambient humidity	95% r.h., non-condensating		
Maintenance	Maintenance-free		
Dimensions / Weight	Dimensions	See «Dimensions»	
	Weight	Approx. 2kg (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 possible!
- It may only be installed by suitably trained personnel. Any legal regulations or regulations issued by authorities must be observed 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 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 is equipped with a universal power module and can process supply voltages from AC 24...240V plus DC 24...125V. The actuator moves the ball valve to the operating position at the same time as tensioning the return spring. The ball valve 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.
Manual override	Manual operation of the valve with the hand crank, locking in any position with the interlocking switch. Unlocking is manual or automatic by applying the operating voltage.
Adjustable angle of rotation	Adjustable angle of rotation with mechanical end stop.
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



AC 24...240V
DC 24...125V

Notes

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

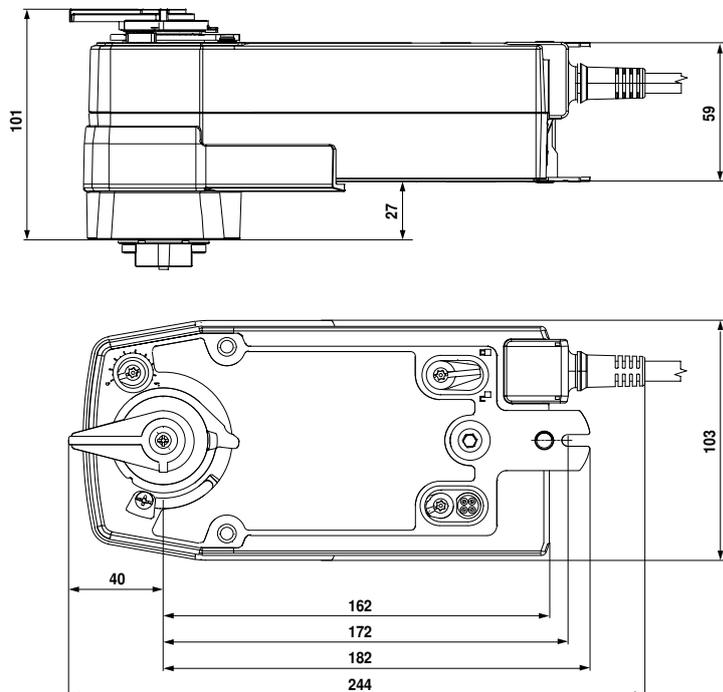


Cable colours:

- 1 = blue
- 2 = brown

Dimensions [mm]

Dimensional drawings



Modulating rotary actuator with emergency function for 2- and 3-way ball valves

- Torque 10Nm
- Nominal voltage AC/DC 24V
- Control: modulating DC (0)2...10V
- Position feedback DC 2...10V
- NRF24A-SR: Deenergised NC



Technical data

Electrical data	Nominal voltage	AC 24V, 50/60Hz / DC 24V	
	Nominal voltage range	AC 19.2...28.8V / DC 21.6...28.8V	
	Power consumption	In operation 3.5W @ nominal torque At rest 2.5W For wire sizing 6VA	
	Connection	Cable 1m, 4 x 0.75mm ²	
	Parallel connection	Yes (Note performance data for supply!)	
Functional data	Torque	Motor Min. 10Nm @ nominal voltage Spring return Min. 10Nm	
	Control	Control signal Y DC (0)2...10V, input impedance 100kΩ Operating range DC 2...10V	
	Position feedback (measuring voltage U)	DC 2...10V, max. 0.5mA	
	Position accuracy	±5%	
	Direction of rotation	Motor Reversible with switch ↻ / ↻ Spring return – NRF24A-SR Deenergised NC, ball valve closed (A – AB = 0%)	
	Manual override	With hand crank and interlocking switch	
	Angle of rotation	Max. 90°	
	Running time	Motor 90s / 90° Spring return ≤20s @ –20...50°C / max. 60s @ –30°C	
	Sound power level	Motor ≤45dB(A) Spring return ≤62dB(A)	
	Position indication	Mechanical	
	Safety	Protection class	III Extra low voltage / UL Class 2 Supply
		Degree of protection	IP54 NEMA 2, UL Enclosure Type 2
EMC		CE according to 2004/108/EC	
Certification		Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14	
Mode of operation		Type 1.AA	
Rated impulse voltage		0.8kV	
Control pollution degree		3	
Ambient temperature		–30...+50°C	
Non-operating temperature		–40...+80°C	
Ambient humidity		95% r.h., non-condensating	
Dimensions / Weight	Maintenance	Maintenance-free	
	Dimensions	See «Dimensions»	
	Weight	Approx. 2kg (without ball valve)	

Safety notes



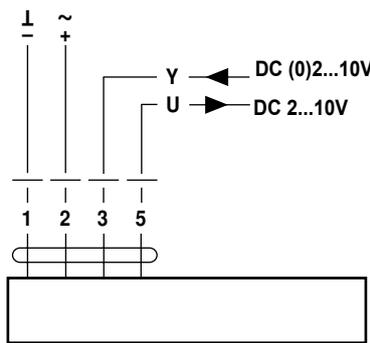
- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel.
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 is controlled with a standard signal of DC (0)2...10V and moves the ball valve to the operating position at the same time as tensioning the return spring. The ball valve is turned back to the emergency 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.
- Manual override** Manual operation of the valve with the hand crank, locking in any position with the interlocking switch. Unlocking is manual or automatic by applying the operating voltage.
- Adjustable angle of rotation** Adjustable angle of rotation with mechanical end stop.
- 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

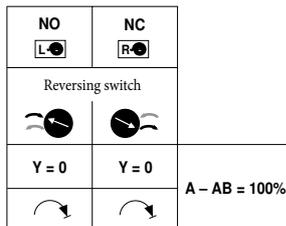
- Connect via safety isolation transformer.
- Parallel connection of other actuators possible. Note the performance data.



Cable colours:

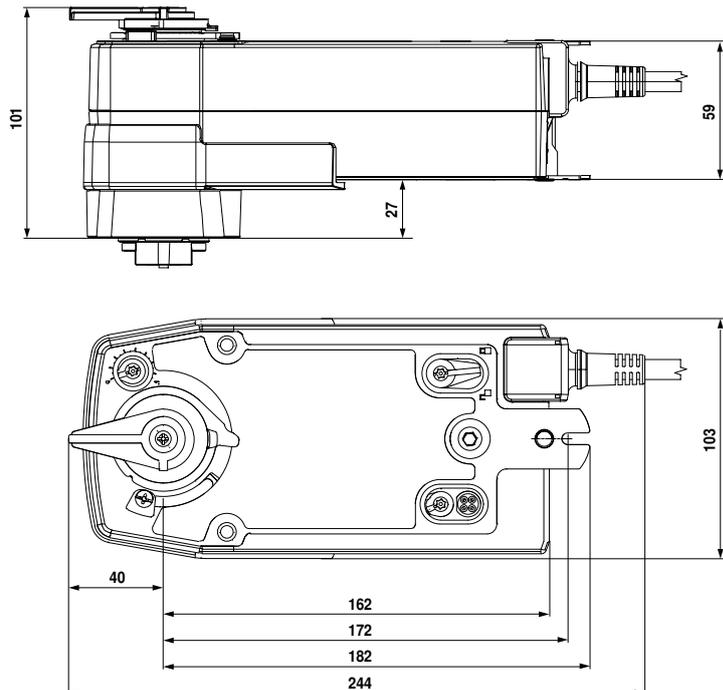
- 1 = black
- 2 = red
- 3 = white
- 5 = orange

Direction of rotation



Dimensions [mm]

Dimensional drawings



Rotary actuator with emergency function for 2- and 3-way ball valves

- Torque 10Nm
- Nominal voltage AC 24...240V / DC 24...125V
- Control: Open-close
- Two integrated auxiliary switches
- NRFA-S2: Deenergised NC


Technical data

Electrical data	Nominal voltage	AC 24...240V / DC 24...125V		
	Nominal voltage range	AC 19.2...264V / DC 21.6...137.5V		
	Power consumption	In operation	6W @ nominal torque	
		At rest	2.5W	
For wire sizing		9.5VA		
Auxiliary switch	2 x SPDT, 1 x 10% / 1 x 11...90%			
Connection	Motor	Cable 1m, 2 x 0.75mm ²		
	Auxiliary switch	Cable 1m, 6 x 0.75mm ²		
Parallel connection	Yes (Note performance data for supply!)			
Functional data	Torque	Motor	Min. 10Nm @ nominal voltage	
		Spring return	Min. 10Nm	
	Direction of rotation	Spring return	Deenergised NC, ball valve closed (A – AB = 0%)	
		– NRFA-S2		
	Manual override	With hand crank and interlocking switch		
	Angle of rotation	Max. 90°		
	Running time	Motor	75s / 90°	
		Spring return	≤20s @ –20...50°C / max. 60s @ –30°C	
	Sound power level	Motor	≤45dB(A)	
		Spring return	≤62dB(A)	
Position indication	Mechanical			
Safety	Protection class	II Protective insulated		
	Degree of protection	IP54		
		NEMA 2, UL Enclosure Type 2		
	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	4kV	
		Auxiliary switch	2.5kV	
	Control pollution degree	3		
Ambient temperature	–30...+50°C			
Media temperature	+5...+100°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»		
	Weight	Approx. 2.3kg (without ball valve)		

Safety notes

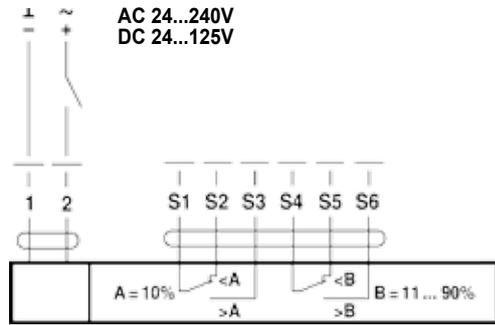

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- The cable must not be removed from the device.
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Product features

- Mode of operation** The actuator moves the ball valve to the operating position at the same time as tensioning the return spring. The ball valve 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.
- Manual override** Manual operation of the valve with the hand crank, locking in any position with the interlocking switch. Unlocking is manual or automatic by applying the operating voltage.
- Adjustable angle of rotation** Adjustable angle of rotation with mechanical end stop.
- 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...90% 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



Cable colours:

- 1 = black
- 2 = red
- S1 = violet
- S2 = red
- S3 = white
- S4 = orange
- S5 = pink
- S6 = grey

Notes

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

Dimensions [mm]

Dimensional drawings

