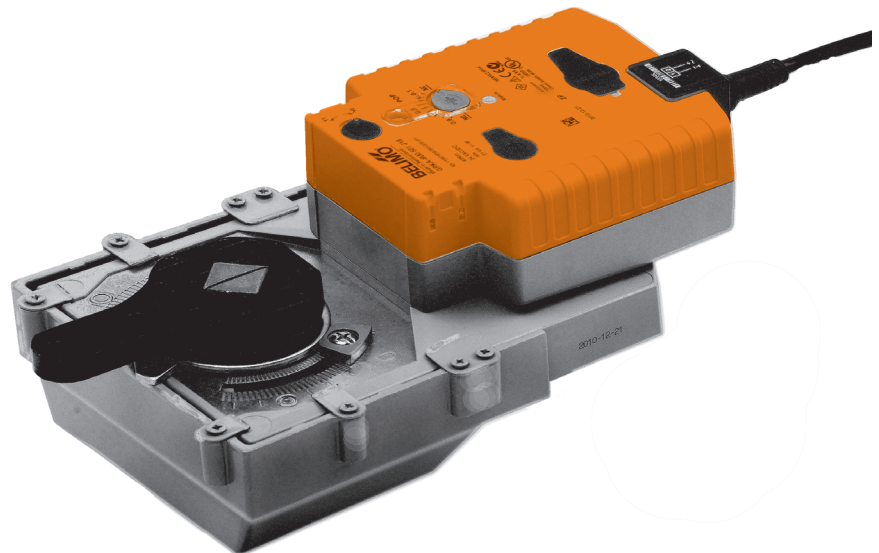


Rotary actuator with capacitor technology for rotary valves with emergency control function and extended functionalities

- Torque 40 Nm
- Nominal voltage AC/DC 24V
- Control: Open-close
- Design life SuperCaps 15 years


Technical data

Electrical data	Nominal voltage	AC 24V, 50/60 Hz / DC 24V	
	Nominal voltage range	AC 19.2 ... 28.8V / DC 21.6 ... 28.8V	
	Power consumption	In operation 11 W @ nominal torque At rest <3 W For wire sizing ≤21 VA	
	Connection	Cable 1 m, 2 x 0.75 mm ²	
	Parallel operation	Yes (note the performance data)	
Functional data	Torque	≥40 Nm	
	Emergency setting position (POP)	NC / NO or adjustable 0...100% (POP rotary button)	
	Position accuracy	±5%	
	Direction of rotation	At switch position Y2 ↻ and Y1 ↻, respectively	
	Manual override	Gearing latch disengaged with push button	
	Running time	Motor 150 s / 90° ↻ Emergency setting position 35 s @ 0 ... 50 °C	
	Sound power level	Motor ≤52 dB (A) @ 150 s Emergency setting position ≤61 dB (A)	
	Position indication	Mechanical	
	Safety	Protection class	III Safety extra-low voltage UL Class 2 Supply
		Degree of protection	IP54 NEMA 2, UL Enclosure Type 2
EMC		CE according to 2004/108/EC	
Dimensions / Weight	Certification	Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14 cULus according to UL 60730-1A and UL 60730-2-14 and CAN/CSA E60730-1:02	
	Principle of operation	Type 1.AA	
	Rated impulse voltage	0.8 kV	
	Control pollution degree	3	
	Ambient temperature	0 ... +50 °C	
	Media temperature	-20 ... +100 °C (in valve)	
	Non-operating temperature	-40 ... +80 °C	
	Ambient humidity	95% r.h., non-condensing	
	Maintenance	Maintenance-free	
		Dimensions	See «Dimensions» on page 4
	Weight	Approx. 2.8 kg	

Terms and abbreviations CPO = Controlled power off / controlled emergency control function
POP = Power off position / emergency setting position
PF = Power fail delay time / bridging time

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. Any legal regulations or regulations issued by authorities must be observed during installation.
- The switch for changing the direction of rotation may only be operated by authorised personnel. The direction of rotation must not in particular be reversed in a frost protection circuit.
- 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.

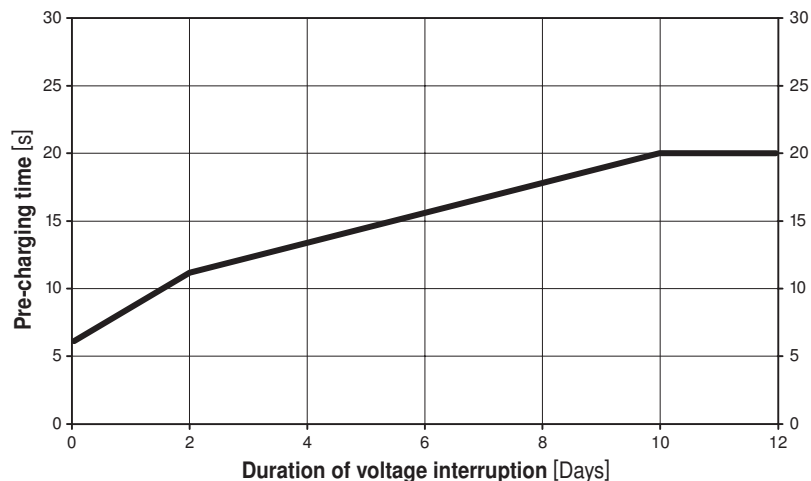
Product features

Mode of operation The actuator moves the valve to the desired operating position at the same time as the integrated capacitors are loaded. Interrupting the supply voltage causes the valve to be rotated back into the emergency setting position by means of stored electrical energy.

Pre-charging time (start up) The capacitor actuators require a pre-charging time. This time is used for charging the capacitors up to a usable voltage level. This ensures that, in the event of an electricity interruption, the actuator can be moved at any time from its current position into the preset emergency setting position (POP).
The duration of the pre-charging time depends mainly on how long the power was interrupted.

Typical pre-charging times

	Duration of voltage interruption [Days]				
	0	1	2	7	≥10
Pre-charging time [s]	6	9	11	16	20



Delivery condition (capacitors) The actuator is completely discharged after delivery from the factory, which is why the actuator requires approximately 20 s pre-charging time before initial commissioning in order to bring the capacitors up to the required voltage level.

Simple direct mounting Simple direct mounting on a valve with ISO 5211-F05 mounting flange. The mounting orientation in relation to the valve can be selected in 90° steps.

Manual override Manual override with push button possible (the gear is disengaged for as long as the button remains pressed down).

High functional reliability The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

Product features

(continued)

- Direction of rotation switch** When actuated, the direction of rotation switch changes the running direction in normal operation.
The direction of rotation switch has no influence on the emergency setting position (POP) which has been set.
In case of changing the emergency position from NC to NO, it is mandatory necessary to also change the direction of rotation switch.
- Emergency setting position (POP) rotary button** The «Emergency setting position» rotary button can be used to adjust the desired emergency setting position (POP). The POP range is in reference to the maximum angle of rotation of the actuator.
In the event of a voltage interruption, the actuator will move into the selected emergency setting position, taking into account the bridging time (PF) of 2 s which was set ex-works.
- Combination valve/actuator** Für Ventile mit folgenden mechanischen Spezifikationen nach ISO 5211 - F05:
– Square stem head (14 mm) for form-fit attachment of the rotary actuator.
– Hole circle d = 50 mm for installation with the butterfly valve.


Accessories

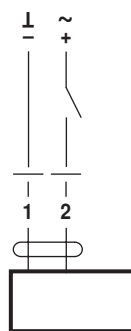
	Description	Data sheet
Electrical accessories	Auxiliary switch S..A..	T2/T5 - S..A..
	Feedback potentiometer P..A..	T2/T5 - P..A..

Electrical installation

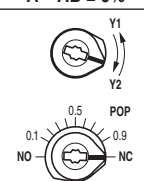
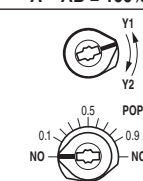
Wiring diagram

Notes

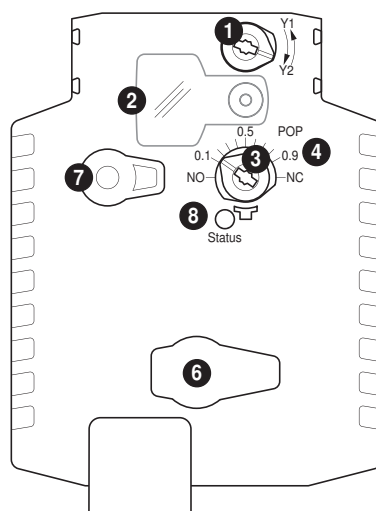
- Connection via safety isolation transformer. 
- Parallel connection of other actuators possible.
Note the performance data.



Cable colours:
1 = black
2 = red

NC	NO
A – AB = 0%	A – AB = 100%
	

Operating controls and indicators

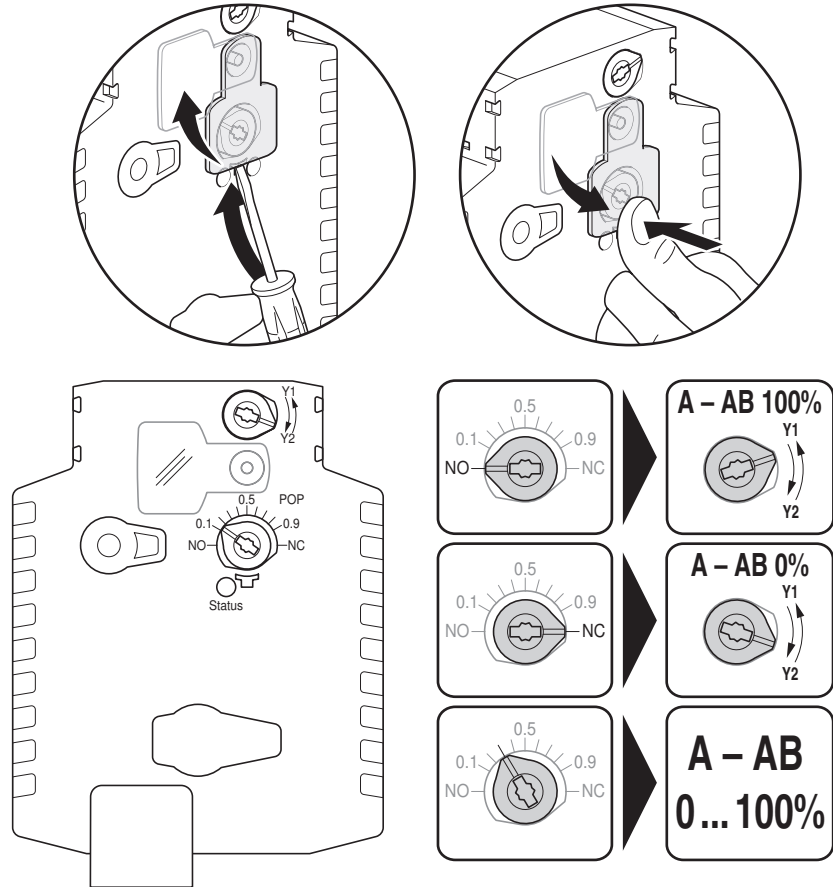


- 1 Direction of rotation switch
- 2 Cover, POP button
- 3 POP button
- 4 Scale for manual adjustment
- 6 (no function)
- 7 Disengagement button
- 8 LED display yellow

Off: No voltage or fault
Illuminated: Operation

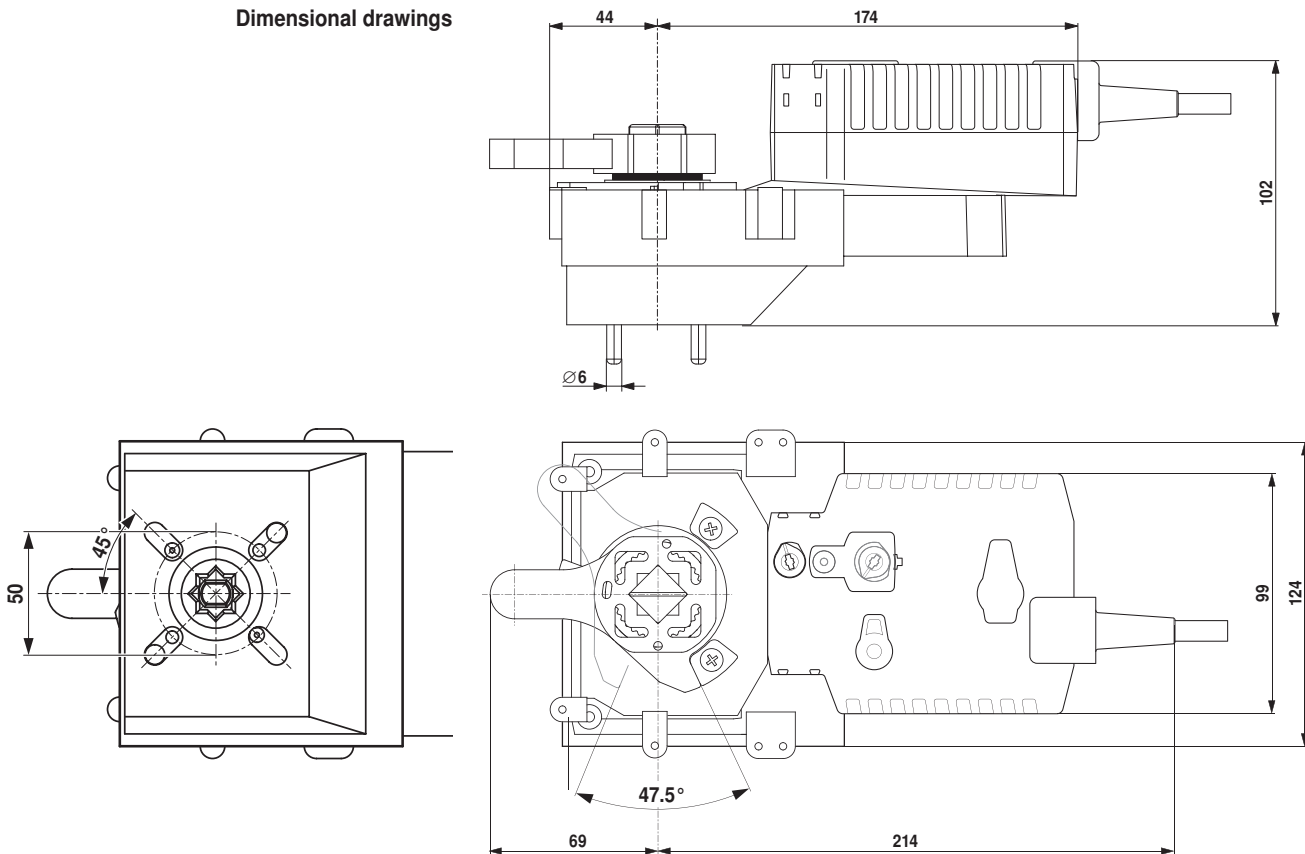
Operating controls and indicators (continued)

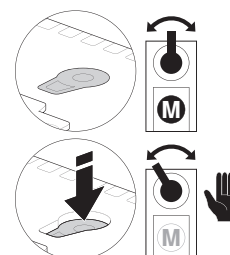
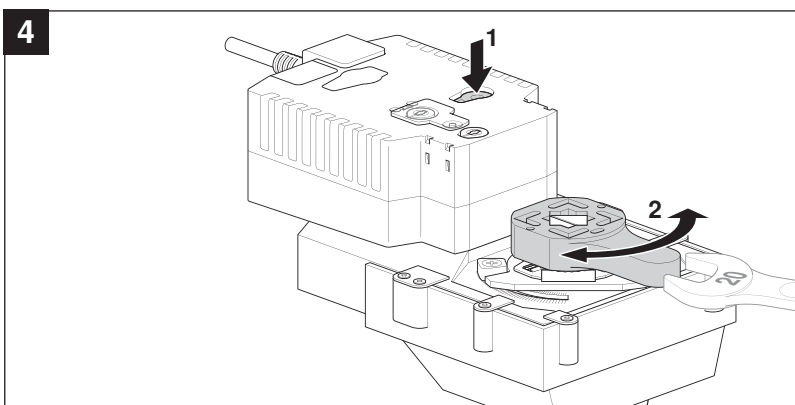
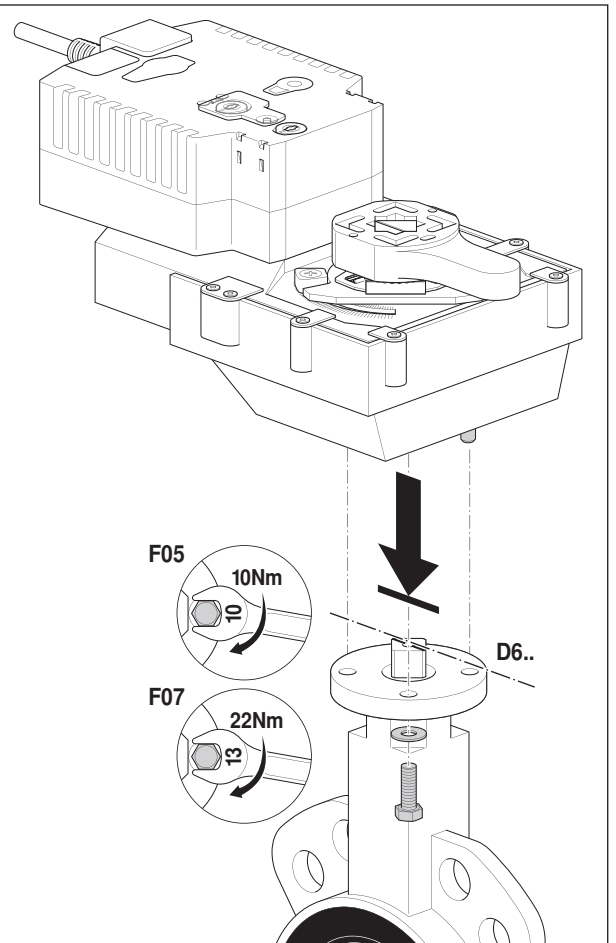
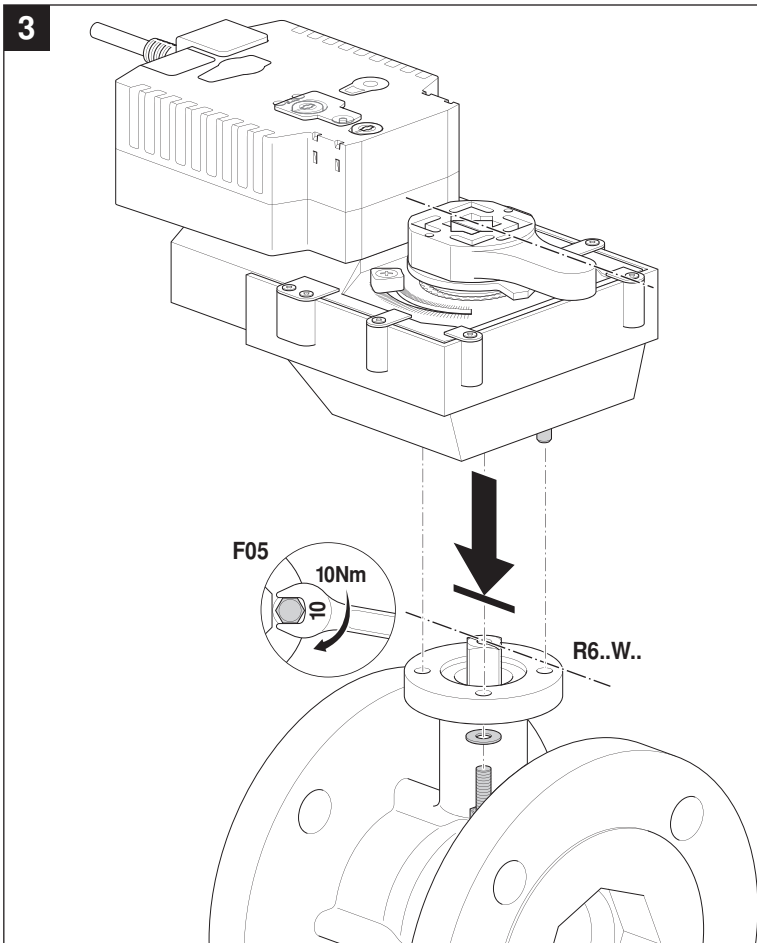
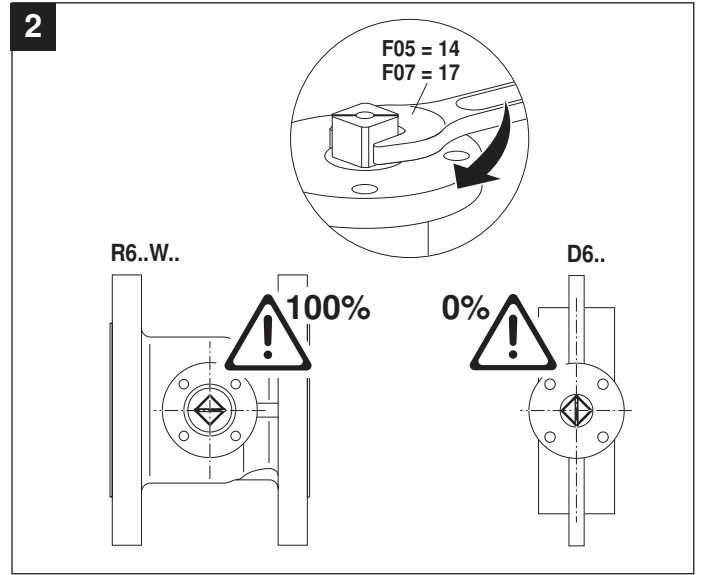
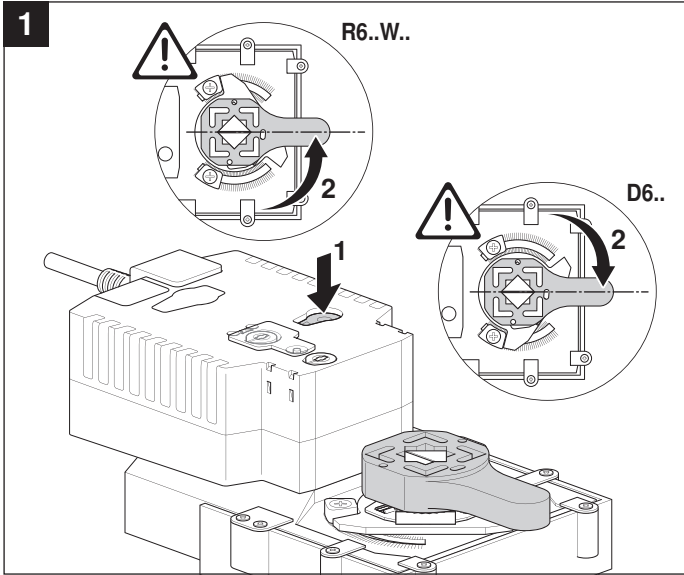
Setting the POP Power off position

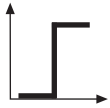


Dimensions [mm]

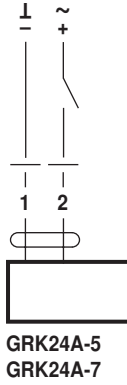
Dimensional drawings



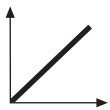




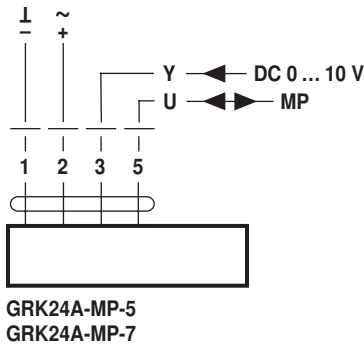
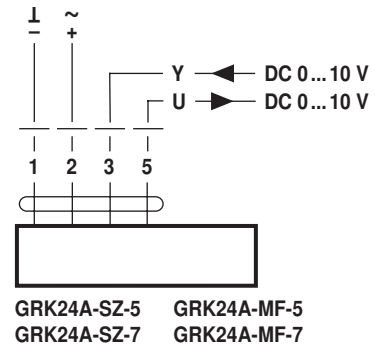
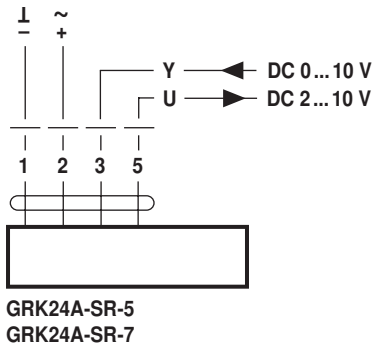
AC 24 V / DC 24 V



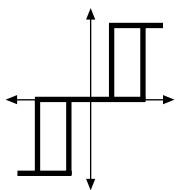
NC	NO
A - AB = 0%	A - AB = 100%



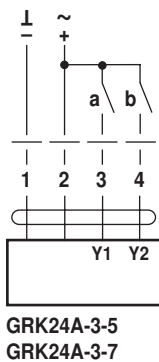
AC 24 V / DC 24 V



NC	NO
A - AB = 0%	A - AB = 100%



AC 24 V / DC 24 V



		NC	NO
		A - AB = 0%	A - AB = 100%
3 a (Y1)	4 b (Y2)		