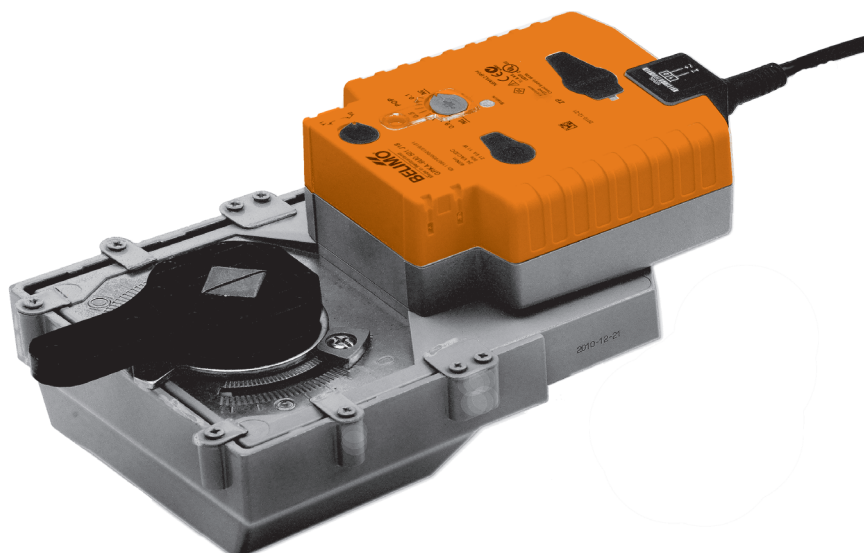


SuperCap rotary actuator
with emergency setting function and
extended functionalities for butterfly valves
and ball valves with mounting flange
ISO 5211-F05

- 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 (I_{max} 20 A @ 5 ms)
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	
	Position accuracy	±5%	
	Manual override	Gearing latch disengaged with push button	
	Running time	Motor	150 s / 90° \leq
		Emergency setting function	35 s @ 0 ... 50 °C
	Sound power level	Motor	≤52 dB (A) @ 150 s
		Emergency setting function	≤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	
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	-30 ... +50 °C		
Non-operating temperature	-40 ... +80 °C		
Ambient humidity	95% r.h., non-condensing		
Maintenance	Maintenance-free		
Dimensions / Weight	Dimensions	See «Dimensions» on page 4	
	Weight	Approx. 2.8 kg	

Terms and abbreviations 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.

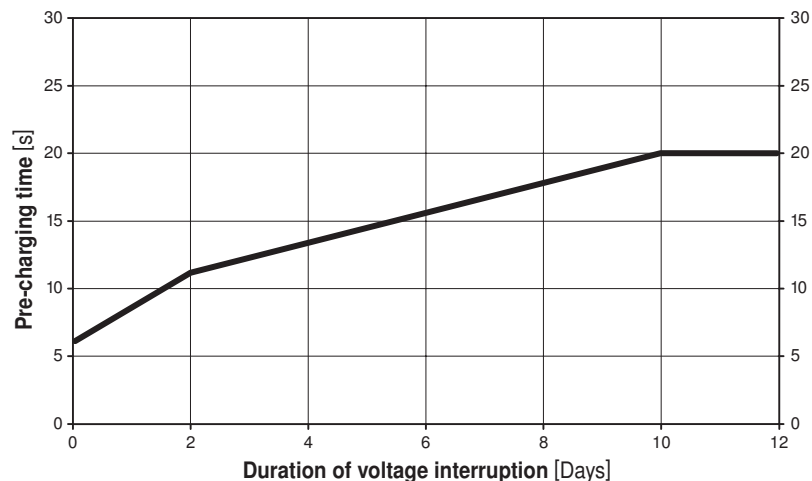
Product features

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

Pre-charging time [s]	Duration of voltage interruption [Days]				
	0	1	2	7	≥10
	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

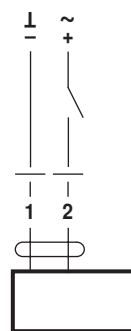
	Description	Data sheet
Electrical accessories	Auxiliary switch S..A..	T2/T5 - S..A..
	Feedback potentiometer P..A..	T2/T5 - P..A..

Electrical installation



Wiring diagram

Notes

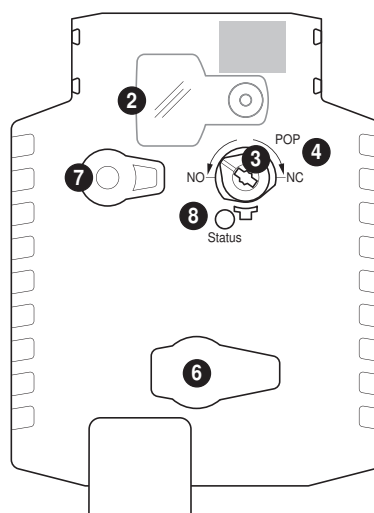
- Connection via safety isolation transformer. 
- Parallel connection of other actuators possible.
Note the performance data.



Cable colours:
1 = black
2 = red

NC	NO
A – AB = 0%	A – AB = 100%
	

Operating controls and indicators



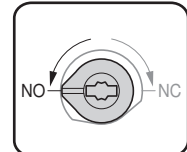
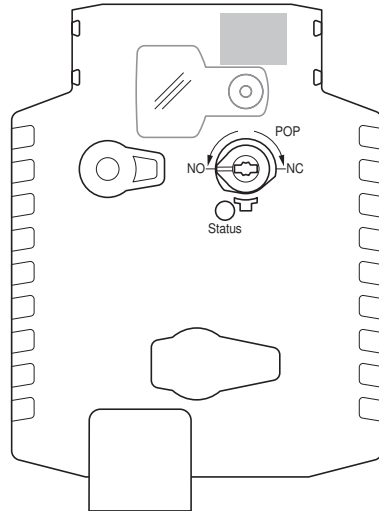
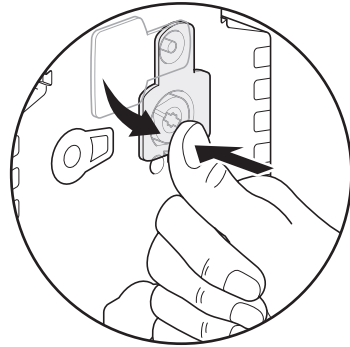
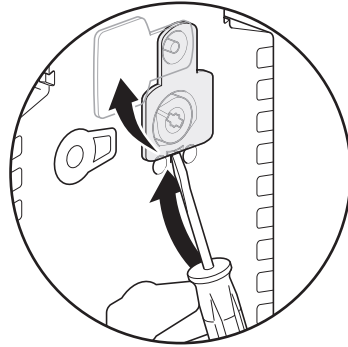
- ② Cover, POP button
- ③ POP button
- ④ Scale for manual adjustment
- ⑥ (no function)
- ⑦ Disengagement button

LED display ⑧ green	Meaning / function
Illuminated	Operation OK / without fault
Blinking	POP function active
Off	– Not in operation – Pre-charging time SuperCap – Fault SuperCap

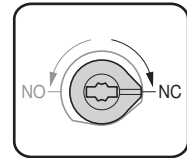
Operating controls and indicators

(continued)

Setting the POP Power off position



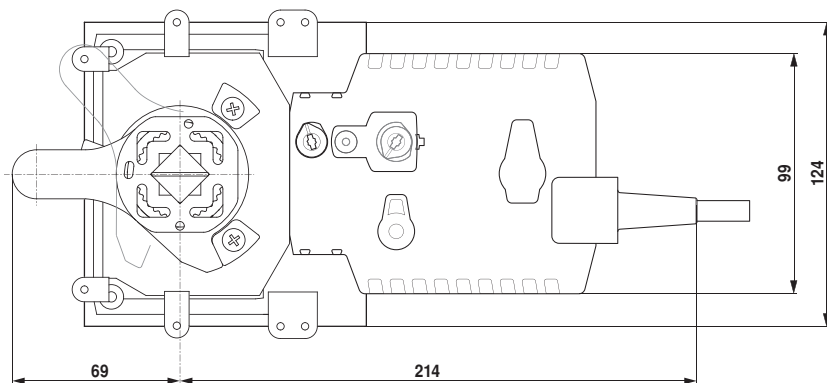
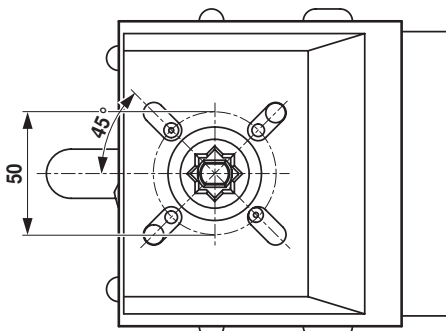
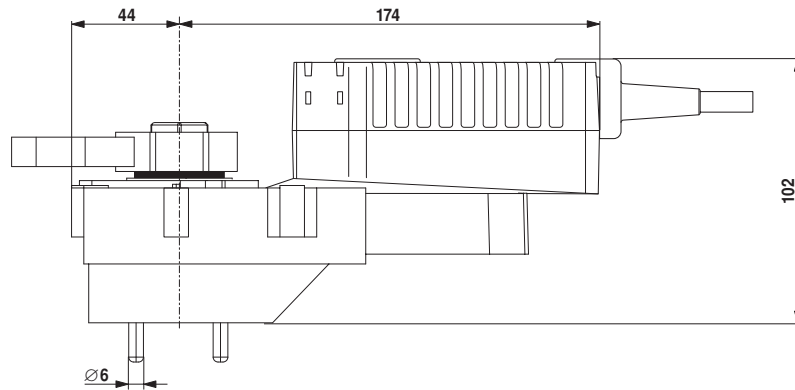
A - AB
100 %

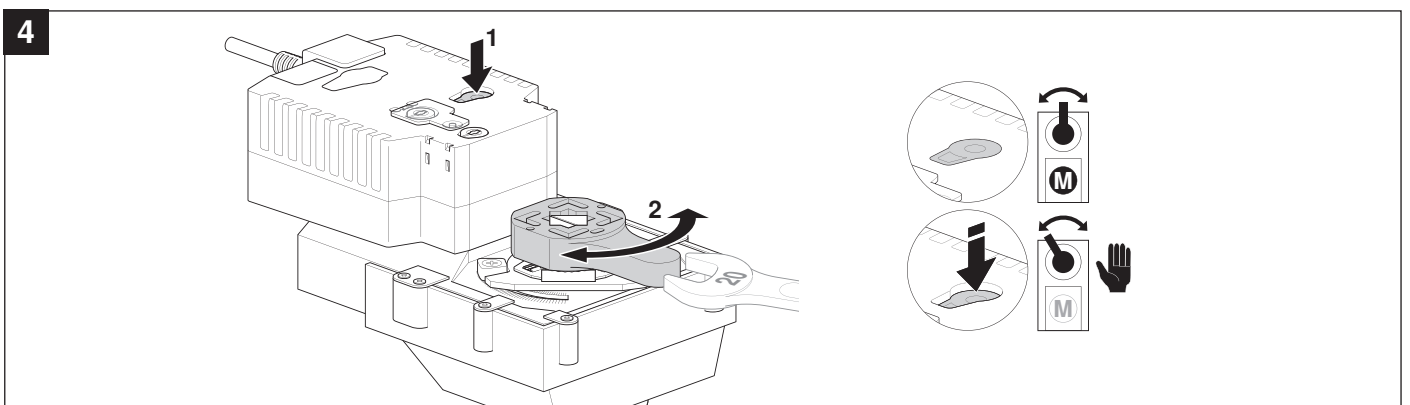
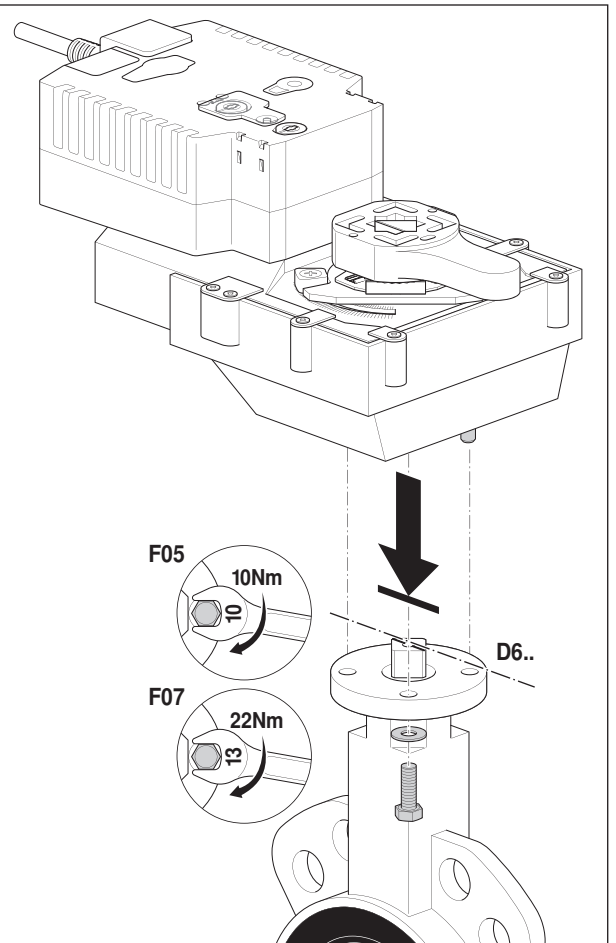
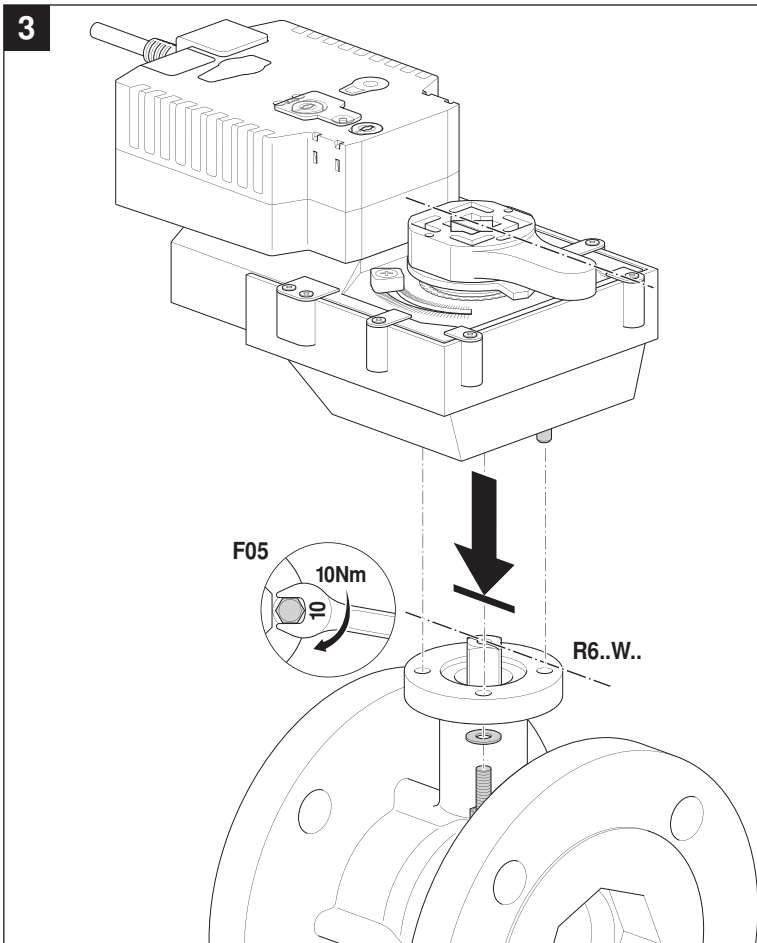
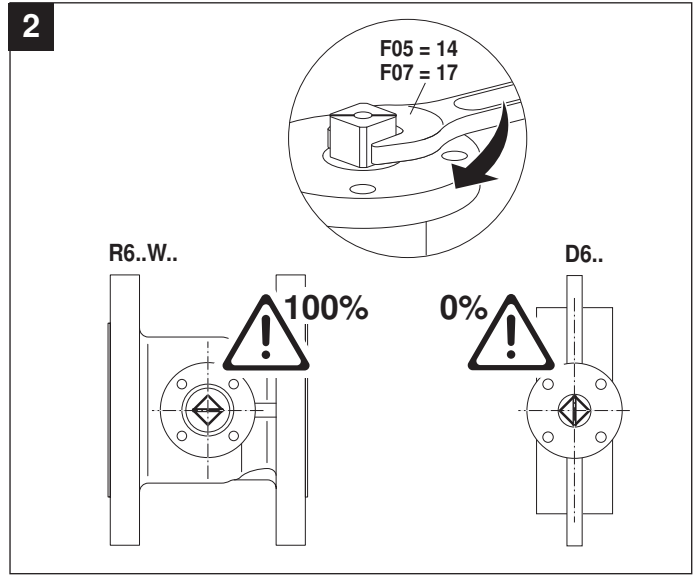
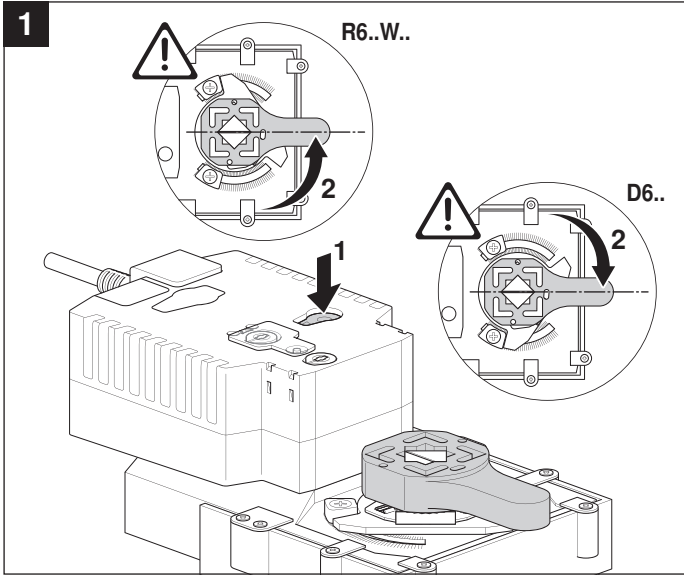


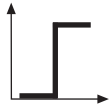
A - AB
0 %

Dimensions [mm]

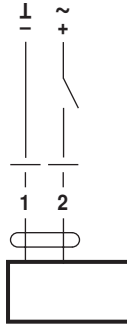
Dimensional drawings





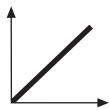


AC 24 V / DC 24 V

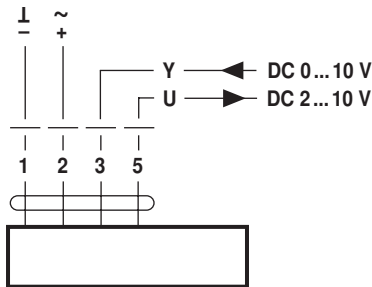


GRK24A-5
GRK24A-7

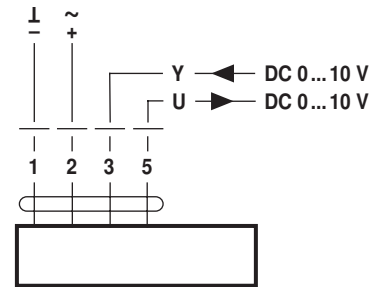
NC	NO
A - AB = 0%	A - AB = 100%



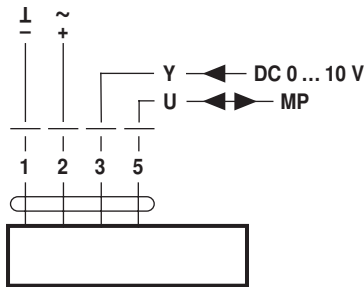
AC 24 V / DC 24 V



GRK24A-SR-5
GRK24A-SR-7

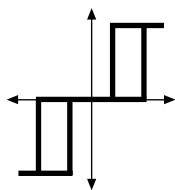


GRK24A-SZ-5 GRK24A-MF-5
GRK24A-SZ-7 GRK24A-MF-7

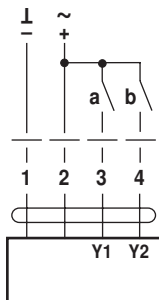


GRK24A-MP-5
GRK24A-MP-7

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



AC 24 V / DC 24 V



GRK24A-3-5
GRK24A-3-7

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