

Modulating rotary actuator for rotary valves
GR24A-SR-5 with mounting flange ISO 5211-F05
GR24A-SR-7 with mounting flange ISO 5211-F07

- Torque 40Nm
- Nominal voltage AC/DC 24V
- Control: modulating DC(0) 2...10V
- Position feedback DC 2...10V


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 4.5W @ nominal torque At rest 1.5W For wire sizing 6.5VA	
	Connection	Cable 1m, 4 x 0.75mm ²	
Functional data	Parallel operation	Possible, note the performance data	
	Torque (nominal torque)	Min. 40Nm @ nominal voltage	
	Control	Control signal Y DC (0)2...10V, typical input impedance 100kΩ Operating range Y DC 2...10V	
	Position feedback	DC 2...10V, max. 1mA	
	Position accuracy	±5%	
	Manual override	Gearing latch disengaged with pushbutton, can be locked	
	Running time	150s / 90°	
	Sound power level	Max. 45dB(A)	
	Position indication	Mechanical, pluggable	
	Safety	Protection class IEC/EN	III Safety extra-low voltage
		Protection class UL	UL Class 2 Supply
Degree of protection IEC/EN		IP54	
Degree of protection EMA/UL		NEMA 2, UL Enclosure Type 2	
EMC		CE in accordance with 2004/108/EU	
Certification		Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14	
Mode of operation		Type 1	
Rated impulse voltage		0.8kV	
Control pollution degree		3	
Ambient temperature		0...+50°C	
Non-operating temperature	-40...+80°C		
Ambient humidity	95% r.h., non-condensating		
Maintenance	Maintenance-free		
Mechanical data	Connection flange	GR24A-SR-5 F05 GR24A-SR-7 F07	
	Dimensions / Weight	Dimensions See «Dimensions» Weight Approx. 2.5kg	

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 assembly.
- The switch for changing the direction of rotation may only be operated by authorised personnel. The direction of rotation must not 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 is controlled with a standard modulating signal of DC (0)2...10V and travels to the position defined by the control signal. Measuring voltage U serves for the electrical display of the actuator position 0...100% and as slave control signal for other actuators.
- Simple direct mounting** Simple direct mounting on the rotary valve with mounting flange. The mounting position in relation to the fitting can be selected in 90° steps.
- Manual override** Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).
- Adjustable angle of rotation** Adjustable angle of rotation with mechanical end stops.
- High functional reliability** The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.
- Combination valve/actuator** For valves with the following mechanical specifications in accordance with ISO 5211 F05:
 - Square stem head SW = 14mm for form-fit coupling of the rotary actuator.
 - Hole circle d = 50mm
 For valves with the following mechanical specifications in accordance with ISO 5211 F07:
 - Square stem head SW = 17mm for form-fit coupling of the rotary actuator.
 - Hole circle d = 70mm

Accessories

Electrical accessories	Description	Type
	Auxiliary switch, add-on, 1 x SPDT	S1A
	Auxiliary switch, add-on, 2 x SPDT	S2A
	Feedback potentiometer 140 Ohm, add-on	P140A
	Feedback potentiometer 200 Ohm, add-on	P200A
	Feedback potentiometer 500 Ohm, add-on	P500A
	Feedback potentiometer 1 kOhm, add-on	P1000A
	Feedback potentiometer 2.8 kOhm, add-on	P2800A
	Feedback potentiometer 5 kOhm, add-on	P5000A
	Feedback potentiometer 10 kOhm, add-on	P10000A


Wiring diagram

GR24A-SR-5

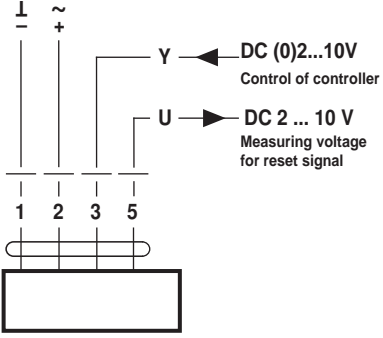
Notes

- Connect via safety isolation transformer.
- Other actuators can be connected in parallel.
- Direction of rotation switch is covered.

Factory setting: Direction of rotation Y2



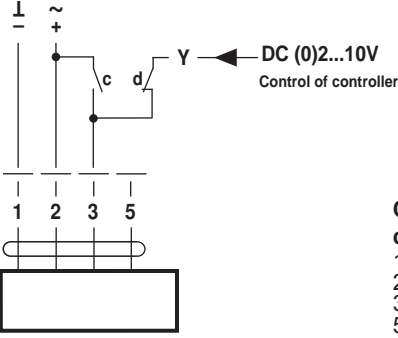
Standard connection



Y ← DC (0)2...10V
Control of controller


U → DC 2 ... 10 V
Measuring voltage for reset signal

Override control (Frost protection circuit)



Y ← DC (0)2...10V
Control of controller

Direction of rotation



Cable colours:

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


c	d	Actuator	Butterfly valve
↗	↘	Y1	A - AB = 100%
↘	↗	Y2	A - AB = 0%
↖	↙	Modulating operation	

GR24A-SR-7

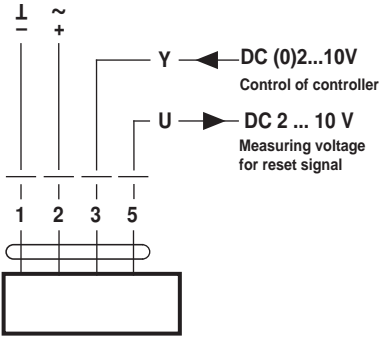
Notes

- Connect via safety isolation transformer.
- Other actuators can be connected in parallel.
- Direction of rotation switch is covered.

Factory setting: Direction of rotation Y2



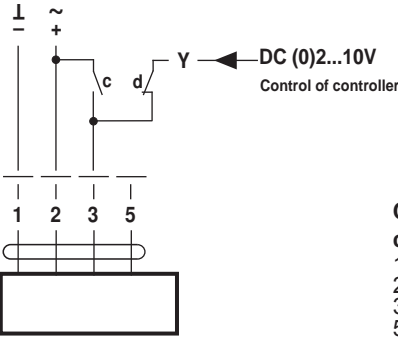
Standard connection



Y ← DC (0)2...10V
Control of controller


U → DC 2 ... 10 V
Measuring voltage for reset signal

Override control (Frost protection circuit)



Y ← DC (0)2...10V
Control of controller

Direction of rotation



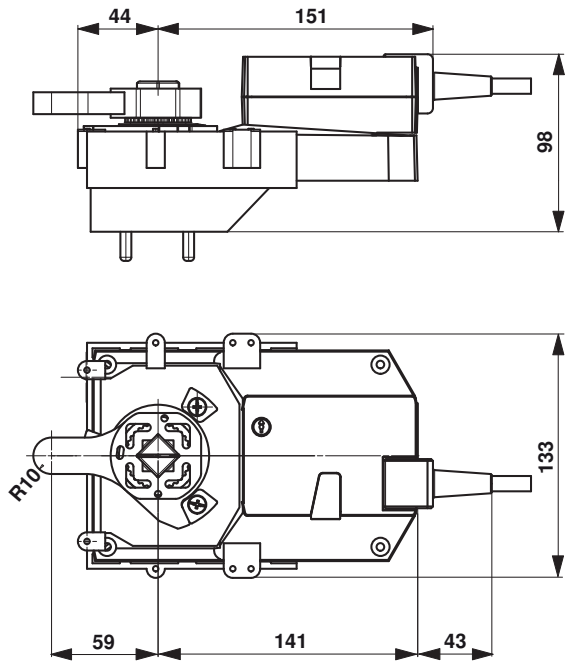
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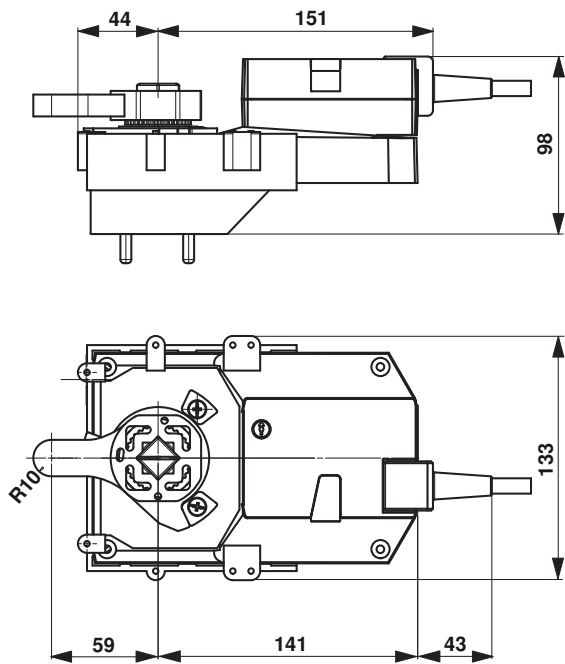
c	d	Actuator	Butterfly valve
↗	↘	Y1	A - AB = 100%
↘	↗	Y2	A - AB = 0%
↖	↙	Modulating operation	

Dimensions [mm]

GR24A-SR-5



GR24A-SR-7



GR230A-5 Rotary actuator for rotary valves
GR230A-7 Rotary actuator for rotary valves

- Nominal torque 40Nm
- Nominal voltage AC 230V
- Control Open-close


Technical data

Electrical data	Nominal voltage	AC 230V	
	Nominal voltage frequency	50/60Hz	
	Nominal voltage range	AC 85...265V	
	Power consumption in operation	5W	
	Power consumption at rest	2W	
	Power consumption for wire sizing	9VA	
	Connection supply / control	Cable 1m, 3 x 0.75mm ²	
	Parallel operation	Yes (note the performance data)	
Functional data	Torque motor	GR230A-5 GR230A-7	min. 40Nm min. 40Nm
	Manual override	Gear disengagement with push-button, can be locked	
	Running time motor	150s / 90°	
	Sound power level motor max.	45dB(A)	
	Position indication	Mechanical, pluggable	
	Safety	Protection class IEC/EN	II protective insulated
Protection class UL		II protective insulated	
Degree of protection IEC/EN		IP54	
Degree of protection NEMA/UL		NEMA 2, UL Enclosure Type 2	
Electromagnetic compatibility		CE according to 2004/108/EC	
Low-voltage directive		CE according to 2006/95/EC	
Certification IEC/EN		Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14	
Mode of operation		Type 1	
Rated current voltage motor		4kV	
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	
Mechanical data	Connection flange	GR230A-5 GR230A-7	F05 F07
	Weight	Weight	Approx. 1.85kg

Safety notes


- This device 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.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The switch for changing the direction of rotation may only be operated by authorised specialists. 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 cables 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

- Manual override** Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).
- High functional reliability** The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.
- Simple direct mounting** Simple direct mounting on the rotary valve with mounting flange. The mounting position in relation to the fitting can be selected in 90° steps.
- Combination valve/actuator** For valves with the following mechanical specifications in accordance with ISO 5211 F05:
 - Square stem head SW = 14mm for form-fit coupling of the rotary actuator.
 - Hole circle d = 50mm
 For valves with the following mechanical specifications in accordance with ISO 5211 F07:
 - Square stem head SW = 17mm for form-fit coupling of the rotary actuator.
 - Hole circle d = 70mm

Accessories

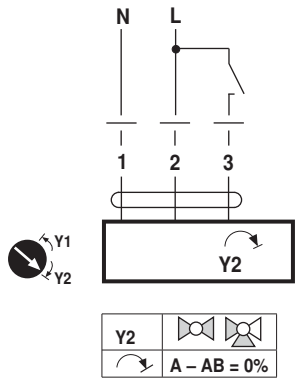
	Description	Type
Electrical accessories	Auxiliary switch, add-on, 1 x SPDT	S1A
	Auxiliary switch, add-on, 2 x SPDT	S2A
	Feedback potentiometer 140 Ohm, add-on	P140A
	Feedback potentiometer 200 Ohm, add-on	P200A
	Feedback potentiometer 500 Ohm, add-on	P500A
	Feedback potentiometer 1 kOhm, add-on	P1000A
	Feedback potentiometer 2.8 kOhm, add-on	P2800A
	Feedback potentiometer 5 kOhm, add-on	P5000A
	Feedback potentiometer 10 kOhm, add-on	P10000A

Wiring diagram

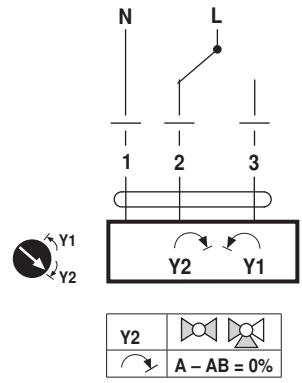
Notes

- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Observe the performance data.
- Direction of rotation switch is covered. Factory setting: Direction of rotation Y2.


GR230A-5
AC 230V, open-close



Cable colours:
1 = blue
2 = brown
3 = white

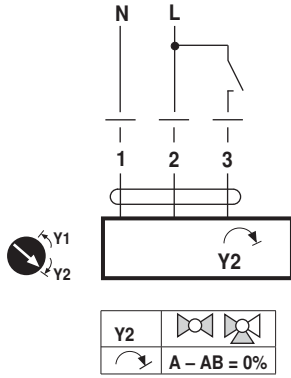


Wiring diagram

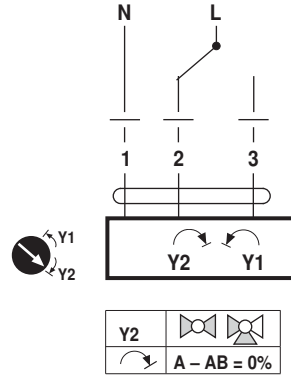
	<p>Notes</p> <ul style="list-style-type: none"> • Caution: Power supply voltage! • Parallel connection of other actuators possible. Observe the performance data. • Direction of rotation switch is covered. Factory setting: Direction of rotation Y2.
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GR230A-7

AC 230V, open-close

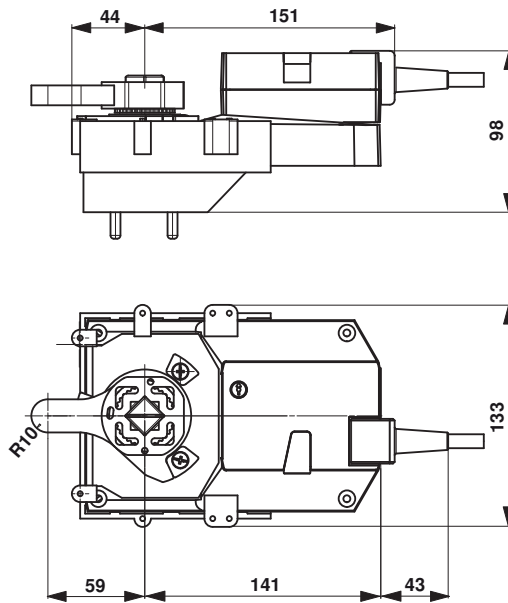


Cable colours:
 1 = blue
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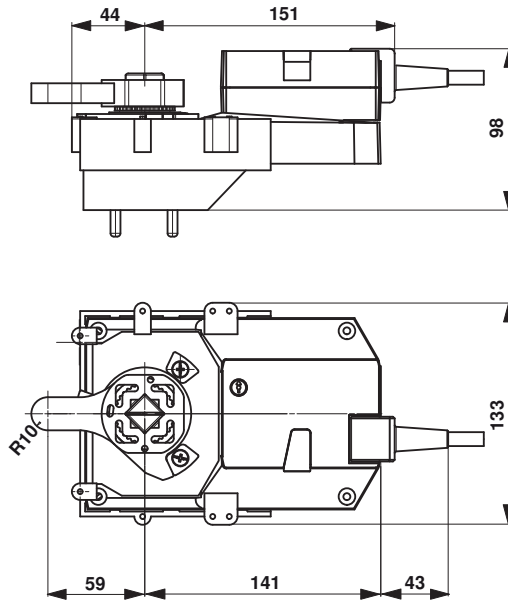


Dimensions [mm]

GR230A-5



GR230A-7



**GR24A-5 Rotary actuator for rotary valves
GR24A-7 Rotary actuator for rotary valves**

- Nominal torque 40Nm
- Nominal voltage AC/DC 24V
- Control Open-close


Technical data

Electrical data	Nominal voltage	AC/DC 24V		
	Nominal voltage frequency	50/60Hz		
	Nominal voltage range	AC 19.2...28.8V / DC 19.2...28.8V		
	Power consumption in operation	4W		
	Power consumption at rest	2W		
	Power consumption for wire sizing	6VA		
	Connection supply / control	Cable 1m, 3 x 0.75mm ²		
	Parallel operation	Yes (note the performance data)		
Functional data	Torque motor	GR24A-5 GR24A-7	min. 40Nm min. 40Nm	
	Manual override	Gear disengagement with push-button, can be locked		
	Running time motor	150s / 90°		
	Sound power level motor max.	45dB(A)		
	Position indication	Mechanical, pluggable		
	Safety	Protection class IEC/EN	III Safety extra-low voltage	
		Protection class UL	UL Class 2 Supply	
Degree of protection IEC/EN		IP54		
Degree of protection NEMA/UL		NEMA 2, UL Enclosure Type 2		
EMC		CE according to 2004/108/EC		
Certification IEC/EN		Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14		
Mode of operation		Type 1		
Rated current voltage motor		0.8kV		
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			
Mechanical data	Connection flange	GR24A-5 GR24A-7	F05 F07	
	Weight	Weight	Approx. 1.85kg	

Safety notes


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- Simple direct mounting** Simple direct mounting on the rotary valve with mounting flange. The mounting position in relation to the fitting can be selected in 90° steps.
- Manual override** Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).
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	Feedback potentiometer 5 kOhm, add-on	P5000A
	Feedback potentiometer 10 kOhm, add-on	P10000A

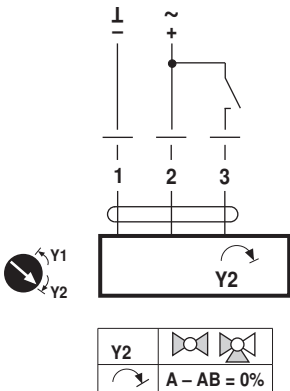
Wiring diagram



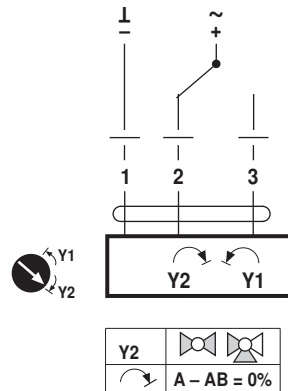
Notes

- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Observe the performance data.
- Direction of rotation switch is covered. Factory setting: Direction of rotation Y2.

**GR24A-5
AC/DC 24V, open-close**



Cable colours:
1 = black
2 = red
3 = white



Wiring diagram

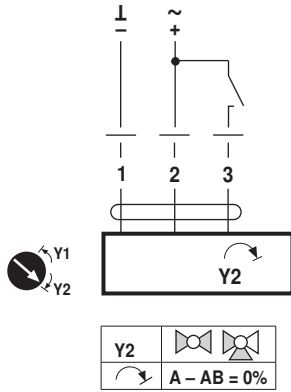
GR24A-7



Notes

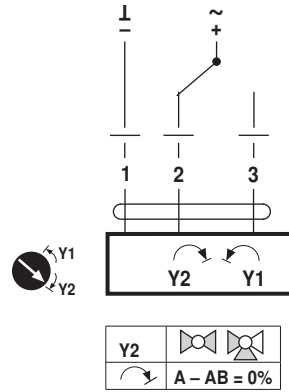
- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Observe the performance data.
- Direction of rotation switch is covered. Factory setting: Direction of rotation Y2.

AC/DC 24V, open-close



Cable colours:

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- 3 = white



Dimensions [mm]

GR24A-5/-7

