BELIMO

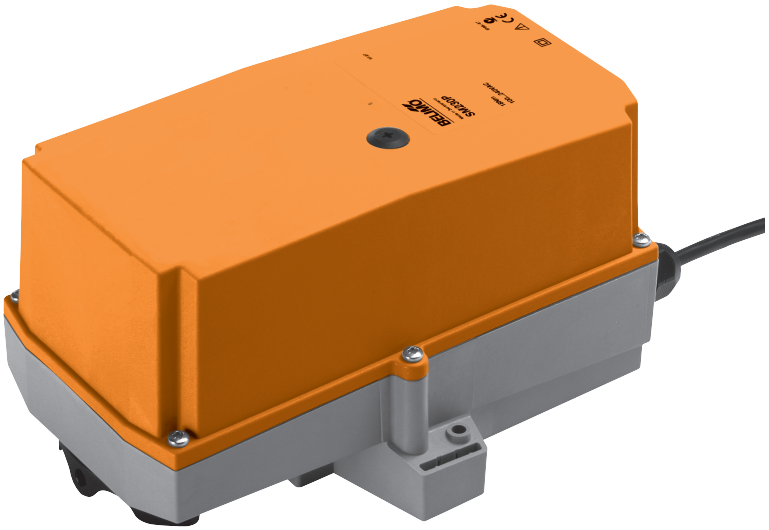
Technical data sheet NM24P-P5

Robustline damper actuator for operating air dampers in industrial plants and in the technical building installations

- **For air dampers up to approx. 1.6 m²**
- **Torque 8 Nm**
- **Nominal voltage AC/DC 24 V**
- **Control: Open-close or 3-point**
- **Feedback potentiometer**

Optimum protection against

- **Corrosion and chemical influences**
- **UV radiation**
- **Damp and condensation**



Technical data

Electrical data	Nominal voltage		AC 24 V, 50/60 Hz / DC 24 V
	Nominal voltage range		AC/DC 19.2 ... 28.8 V
	Power consumption	Operation	1.5 W @ nominal torque
		At rest	0.2 W
		Wire sizing	4 VA
	Feedback potentiometer		5 kΩ ±5% 1 W
	Connection	Motor	Halogen-free cable 1 m, 3 x 0.75 mm²
		Feedback potentiometer	Halogen-free cable 1 m, 3 x 0.75 mm²
Functional data	Torque (nominal torque)		Min. 8 Nm @ nominal voltage
	Direction of rotation		Reversible with switch 0 ↶ resp. 1 ↷
	Manual override		Gearing latch disengaged with pushbutton, can be locked
	Angle of rotation		Max. 95°∢, can be limited at both ends with adjustable mechanical end stops
	Running time		150 s / 90°∢
	Sound power level		Max. 35 dB (A)
	Position indication		Mechanical, pluggable
Safety	Protection class		**III** Safety extra-low voltage
	Degree of protection		IP66 + IP67
	EMC		CE according to 2004/108/EC
	Mode of operation		Typ 1 (EN 60730-1)
	Rated impulse voltage		0.8 kV (EN 60730-1)
	Control pollution degree		4 (EN 60730-1)
	Ambient temperature		–30 ... +50°C
	Non-operating temperature range		–40 ... +50°C
	Ambient humidity		100% r.H.
	Maintenance		Maintenance-free
Dimensions / Weight	Dimensions		See «Dimensions» on page 3
	Weight		Approx. 1.3 kg

Safety notes

⚠

- **The actuator 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 cover of the protective housing may be opened for adjustment and servicing. When it is closed afterwards, the housing must seal tight (see installation instructions).**
- **The device on the inside may only be opened up in the factory. It does not contain any parts that can be replaced or repaired by the user.**
- **The cable must not be removed from the device.**
- **When calculating the required torque, the specifications supplied by the damper manufacturers (cross section, design, installation site), and the air flow conditions must be observed.**
- **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.**

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Safety notes

(continued)

- **The information on chemical resistance refers to laboratory tests with raw materials and finished products and to trials in the field in the areas of application indicated.**
- **The materials used may be subjected to external influences (temperature, pressure, constructional fixture, effect of chemical substances etc.), that cannot be simulated in laboratory test or field trials.**
- **The information regarding areas of application and resistance can therefore only serve as a guideline. In case of doubt, we recommend that you definitely carry out a test. This information does not imply any legal entitlement. Belimo will not be held liable and will provide no warranty. The chemical or mechanical resistance of the materials used is not alone sufficient for judging the suitability of a product. Regulations pertaining to combustible liquids such as solvents etc. must be taken into account with special reference to explosion protection.**

Product features

Fields of application

The actuator is particularly suited for use in difficult conditions, e.g. in the field of:
– Wood drying
– Animal breeding
– Food processing
– Agricultural
– Swimming baths / Bathrooms
– Rooftop units
– General outdoor applications
– Changing atmosphere

Resistances

Test	Test standard	Testing body
Noxious gas tests	EN 60068-2-60	Fraunhofer Institute ICT / DE
Salt fog spray test	EN 60068-2-52	Fraunhofer Institute ICT / DE
Ammoniac test	DIN 50916-2	Fraunhofer Institute ICT / DE
Climatic test	IEC 60068-2-30	Trikon Solutions AG / CH
Disinfectants (animals)		Trikon Solutions AG / CH
UV test (Solar radiation at ground level)	EN 60068-2-5 EN 60068-2-63	Quinel / Zug CH

Used materials

Actuator parts	Material
Actuator housing	Polypropylene (PP)
Cable glands / hollow shaft	Polyamide (PA)
Connection cable	FRNC
Clamp / screws in general	Steel 1.4404
seals	EPDM
Form-fit insert	Anodised aluminium

Simple direct mounting

Simple direct mounting on the damper spindle with a universal spindle clamp, supplied with an anti-rotation strap to prevent

Manual override

Manual override with pushbutton 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. Standard setting 0 ... 90°∢.
The housing cover must be removed to set the angle of rotation.

High functional reliability

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

Position feedback

Position feedback with integrated feedback potentiometer 0 ... 100%.

Accessories

	Description	Data sheet
Mechanical accessories	Various form-fit inserts	T2 - Z-NM..

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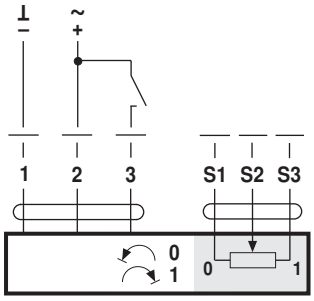
Electrical installation

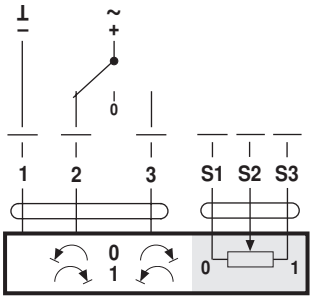
Wiring diagrams

Note
- Connect via safety isolation transformer.
- Other actuators can be connected in parallel. Note the performance data

Open-close control



3-point control

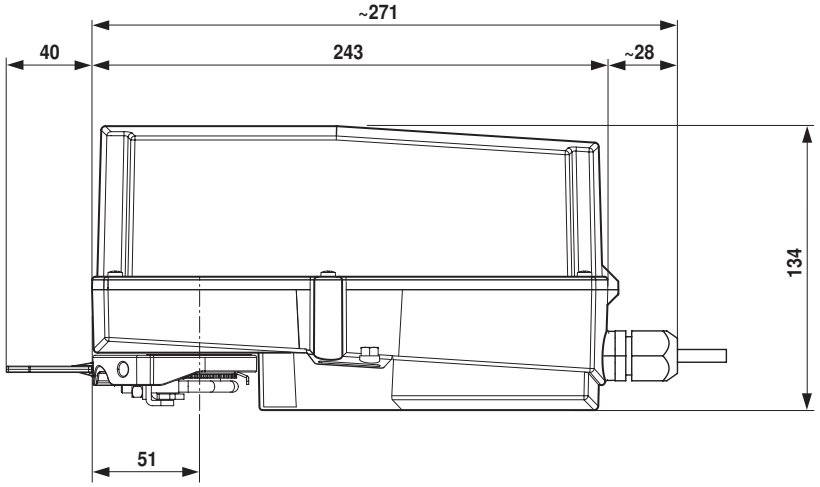


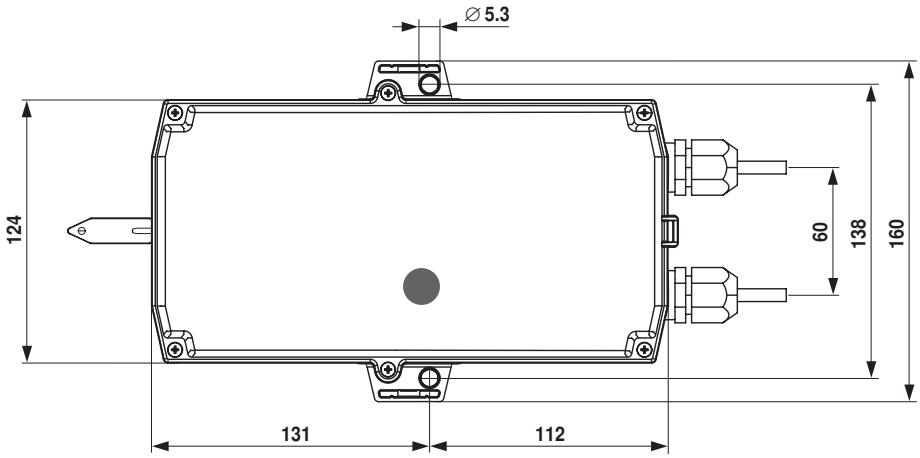
Direction of rotation

Cable colours:
1 = black
2 = red
3 = white
S1 = violet
S2 = red
S3 = white

Dimensions [mm]

Dimensional drawings





Damper spindle	Length			
	20...58	8...20	8...14	10...20

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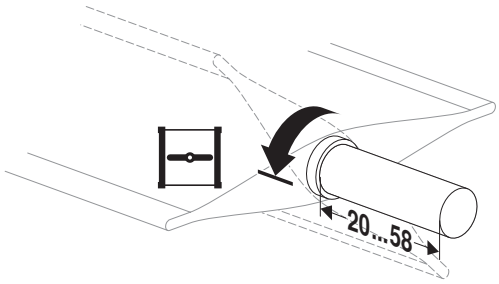
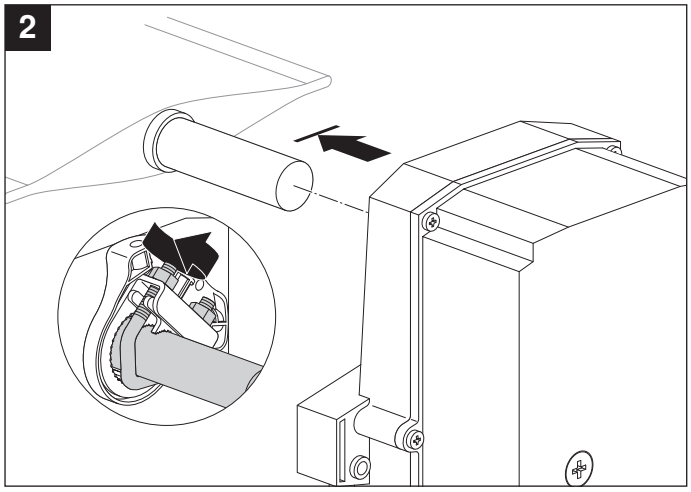


	●	■	◆
NM..P..	10 ... 20	8 ... 14	10 ... 20
SM..P..	14 ... 20	10 ... 14	14 ... 20

2



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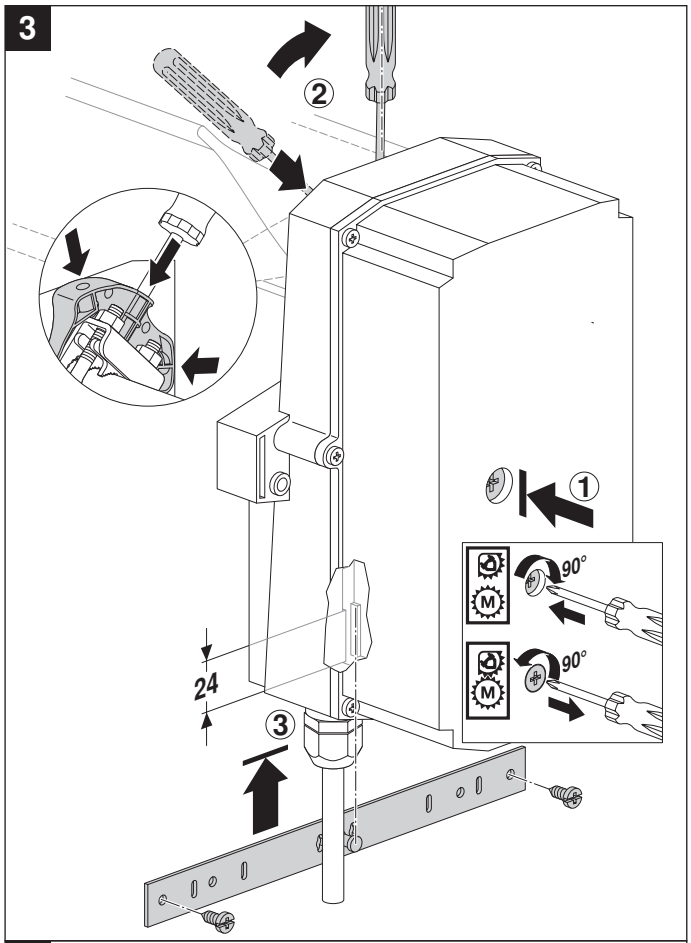
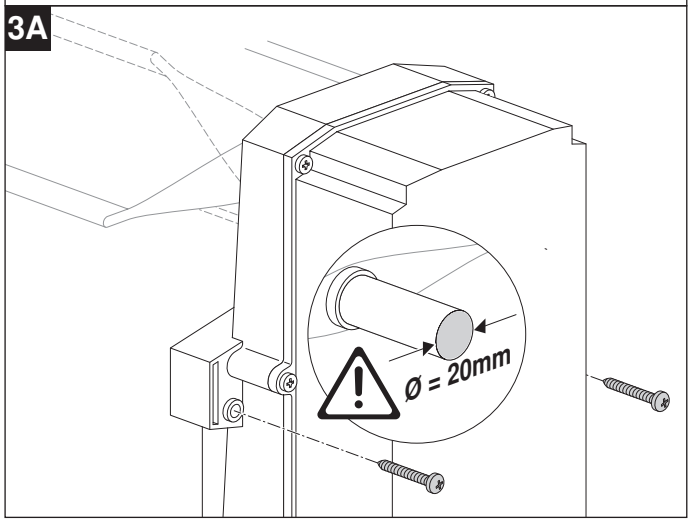


3A



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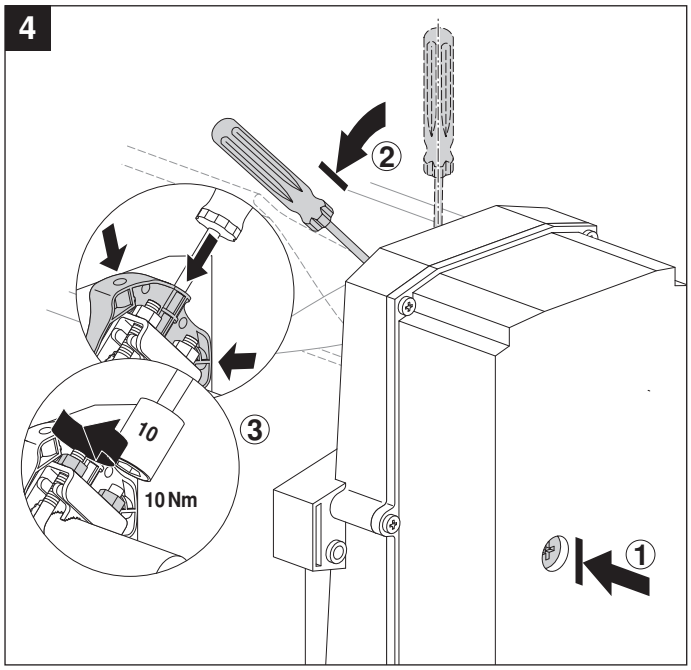

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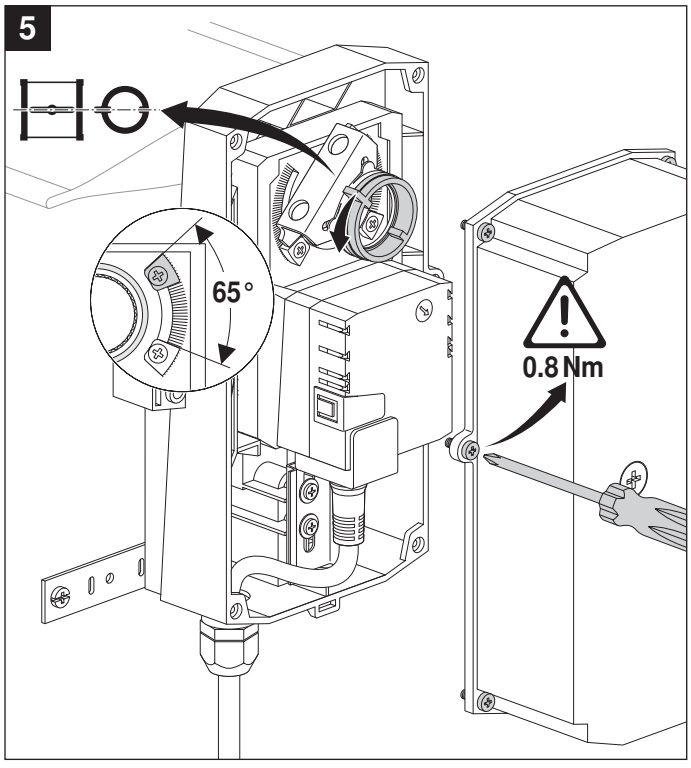

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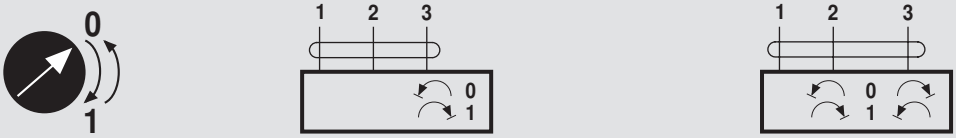
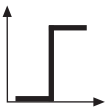
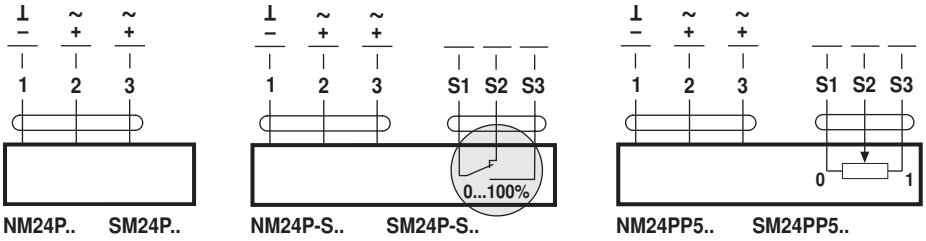




AC 24 V / DC 24 V

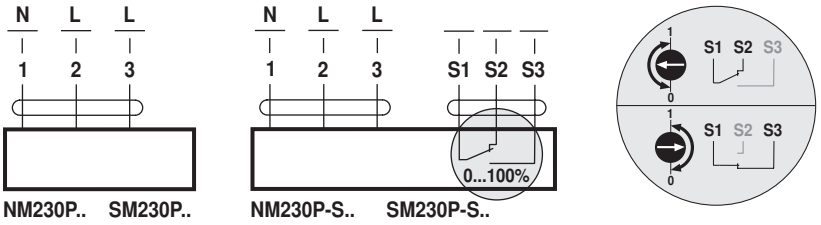


NM24P.. SM24P..

NM24P-S.. SM24P-S..

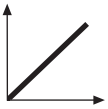
NM24PP5.. SM24PP5..

AC 100 ... 240 V ⚠

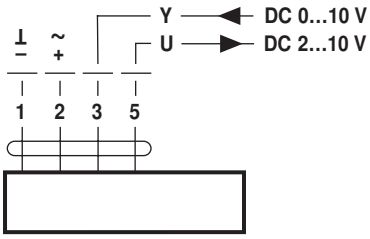


NM230P.. SM230P..

NM230P-S.. SM230P-S..

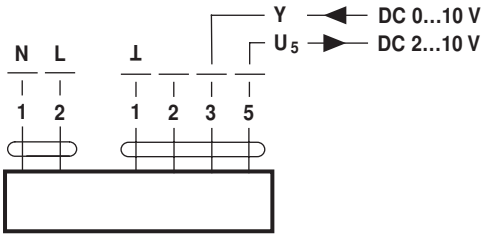


AC 24 V / DC 24 V



NM24P-SR.. SM24P-SR..
NM24P-MF.. SM24P-MF..

AC 100 ... 240 V ⚠



NM230PSR.. SM230PSR..

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