

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

- For air dampers up to approx. 3.2 m<sup>2</sup>
- Torque 18 Nm
- Nominal voltage AC/DC 24 V
- · Control: Open-close or 3-point

### **Optimum protection against**

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



| Technical data      |                             |   |
|---------------------|-----------------------------|---|
| Electrical data     | Nominal voltage             | AC 24 V, 50/60 Hz<br>DC 24 V                            |
|                     | Nominal voltage range       | AC/DC 19.2 28.8 V                                       |
|                     | Power consumption Operation | 2 W @ nominal torque                                    |
|                     | At rest                     | 0.2 W   |
|                     | For wire sizing             | 4 VA  |
|                     | Connection                  | Halogen-free cable 1 m, 3 x 0.75 mm <sup>2</sup>        |
| Functional data     | Torque (nominal torque)     | Min. 18 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°  |
|                     |                             | mechanical end stops                                    |
|                     | Running time                | 150 s / 90°⊲  |
|                     | Sound power level           | Max. 45 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           | Type 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   | −40 +80°C   |
|                     | Ambient humidity            | 100% r.H.   |
|                     | Maintenance                 | Maintenance-free  |
| Dimensions / Weight | Dimensions                  | See «Dimensions» on page 3                              |

## Safety notes



Weight

 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.

Approx. 1.55 kg

- 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.



### 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 climate

| -  |     | - 1 |    |   | _ |    |
|----|-----|-----|----|---|---|----|
| Re | 261 | c   | ra | n | ^ | ΔC |
|    |     |     |    |   |   |    |

| 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                           | EN 60068-2-5   | Ovinal / Zua CII              |
| (Solar radiation at ground level) | 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.

## **Accessories**

|                        | Description               | Data sheet |
|------------------------|---------------------------|------------|
| Electrical accessories | Auxiliary switch SA       | T2 - SA    |
|                        | Feedback potentiometer PA | T2 - PA    |
| Mechanical accessories | Various form-fit inserts  | T2 - Z-SM  |



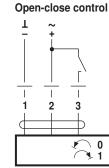
# **Electrical installation**

Dimensions [mm]

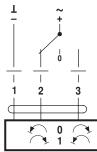
## Wiring diagrams

## Notes

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







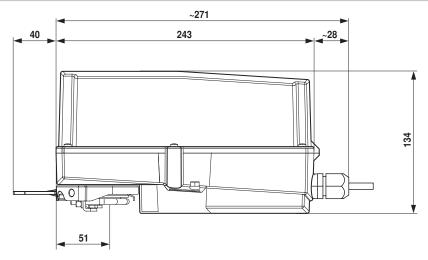
## Cable colours:

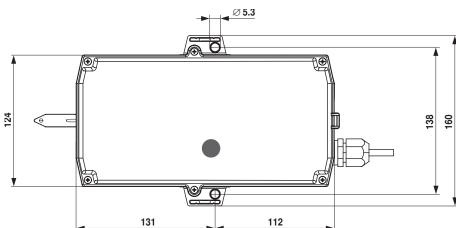
- 1 = black 2 = red 3 = white

# **Direction of rotation**



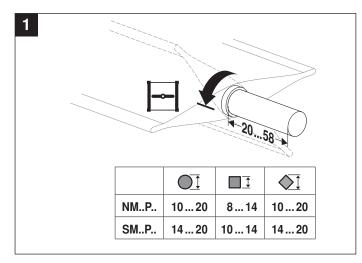
## **Dimensional drawings**

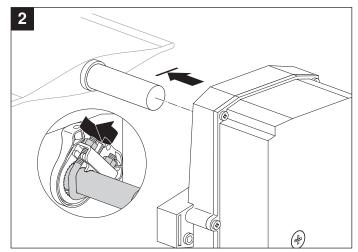


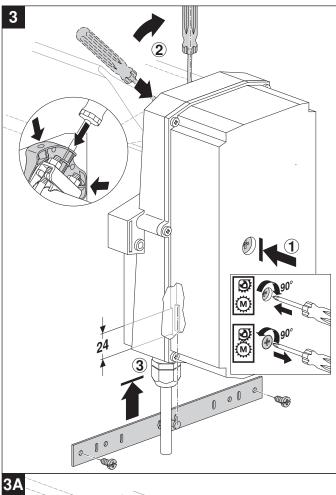


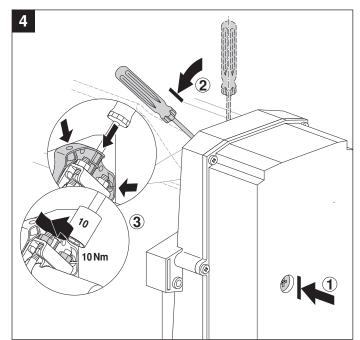
| Damper spindle | Length | $\mathbf{O}\overline{1}$ |      | <u>♦</u> <u>ī</u> |
|----------------|--------|--------------------------|------|-------------------|
|                | 2058   | 1420                     | 1014 | 1420              |

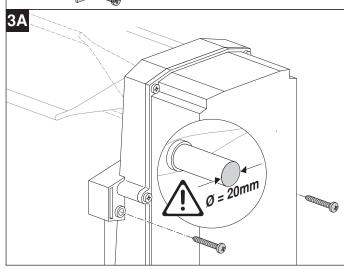


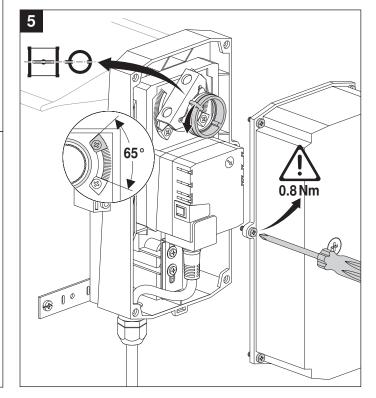




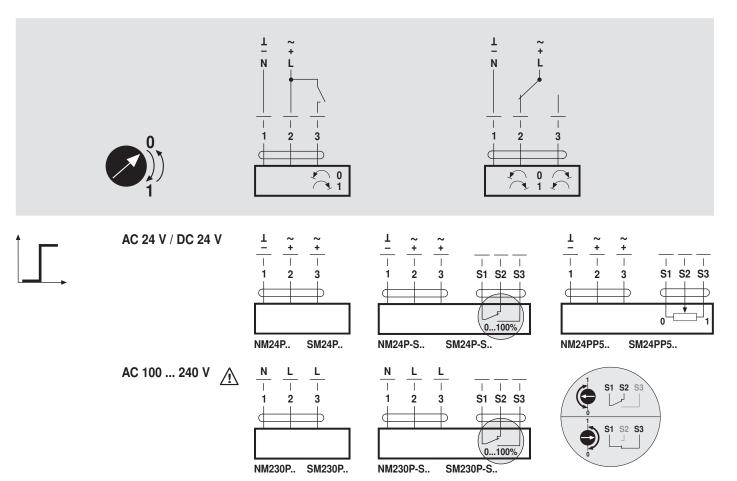






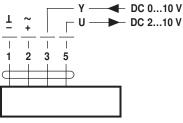








AC 24 V / DC 24 V



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



