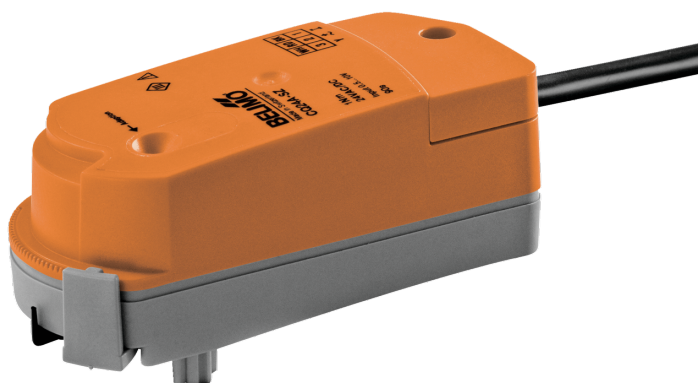


# Rotary actuator for zone valves

- Torque motor 1 Nm
- Nominal voltage AC/DC 24 V
- Control modulating 2...10 V
- Position feedback 2...10 V
- Snap-assembly of the actuator
- Flow setting variable



Picture may differ from product

## Technical data

|                 |                                        |                                      |
|-----------------|----------------------------------------|--------------------------------------|
| Electrical data | Nominal voltage                        | AC/DC 24 V                           |
|                 | Nominal voltage frequency              | 50/60 Hz                             |
|                 | Nominal voltage range                  | AC 19.2...28.8 V / DC 21.6...28.8 V  |
|                 | Power consumption in operation         | 1 W                                  |
|                 | Power consumption in rest position     | 0.3 W                                |
|                 | Power consumption for wire sizing      | 1.5 VA                               |
|                 | Connection supply / control            | Cable 1 m, 4x 0.34 mm <sup>2</sup>   |
|                 | Parallel operation                     | Yes (note the performance data)      |
| Functional data | Torque motor                           | 1 Nm                                 |
|                 | Operating range Y                      | 2...10 V                             |
|                 | Input impedance                        | 100 kΩ                               |
|                 | Position feedback U                    | 2...10 V                             |
|                 | Manual override                        | with actuator (clicked out)          |
|                 | Running time motor                     | 15 s / 90°                           |
|                 | Sound power level, motor               | 55 dB(A)                             |
|                 | Position indication                    | Mechanical                           |
| Safety data     | Flow setting                           | see product features                 |
|                 | Protection class IEC/EN                | III, Safety Extra-Low Voltage (SELV) |
|                 | Degree of protection IEC/EN            | IP40                                 |
|                 | EMC                                    | CE according to 2014/30/EU           |
|                 | Certification IEC/EN                   | IEC/EN 60730-1 and IEC/EN 60730-2-14 |
|                 | Type of action                         | Type 1                               |
|                 | Rated impulse voltage supply / control | 0.8 kV                               |
|                 | Pollution degree                       | 2                                    |
|                 | Ambient humidity                       | Max. 95% RH, non-condensing          |
|                 | Ambient temperature                    | 5...40°C [41...104°F]                |
|                 | Storage temperature                    | -40...80°C [-40...176°F]             |
| Weight          | Servicing                              | maintenance-free                     |
|                 | Weight                                 | 0.21 kg                              |

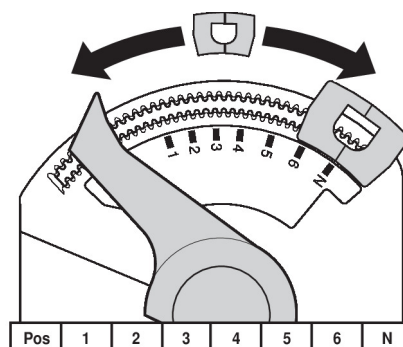
## Safety notes



- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Outdoor application: only possible in case that no (sea) water, snow, ice, insolation or aggressive gases interfere directly with the device and that it is ensured that the ambient conditions remain within the thresholds according to the data sheet at any time.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.
- 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.
- Cables must not be removed from the device.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

## Product features

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating mode</b>               | The actuator is controlled with a control signal Y (note the operating range) and drives to the position defined by the control signal. Measuring voltage U serves for the electrical display of the valve position 0...100% and as control signal for other actuators.                                                                                                                                                                                                                          |
| <b>Simple direct mounting</b>       | <p>Tool-free snap assembly.</p> <p>The actuator can be plugged on the valve by hand (Caution! Just vertical movements). Pins must match the holes on the flange.</p> <p>The mounting orientation in relation to the valve can be selected in 180° increments. (Possible two times)</p>                                                                                                                                                                                                           |
| <b>Manual override</b>              | Click out the actuator and rotate the valve spindle with the help of the actuator.                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Adjustable angle of rotation</b> | The angle of rotation of the actuator can be changed by clip in 2.5° increments. This is used to set the maximum flow rate of the valve.                                                                                                                                                                                                                                                                                                                                                         |
| <b>High functional reliability</b>  | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Flow setting</b>                 | <p>Adjustable Kv values (C2..Q-.., C4..Q-..) / V'max values (C2..QP(T)-..) are given in the respective zone valve data sheets.</p> <p>2-way valve: Remove end stop clip and place at desired position.</p> <p>3-way valve: Remove end stop clip (change-over application).</p> <p>6-way valve: Remove end stop clip (cooling and heating application).</p> <p>After every change of the flow setting by means of end stop clip, an adaptation must be triggered on the modulating actuators.</p> |



## Accessories

| Mechanical accessories | Description                                | Type   |
|------------------------|--------------------------------------------|--------|
|                        | Spindle extension CQ                       | ZCQ-E  |
|                        | Housing cover CQ, Colour: white (RAL 9010) | ZCQ-W  |
|                        | End stop clip, Multipack 5 pcs.            | ZCQ-C  |
|                        | End stop clip, Multipack 20 pcs.           | Z-ESCM |

## Electrical installation



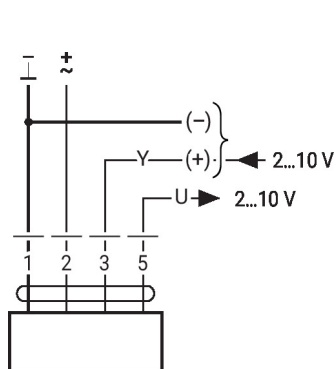
Supply from isolating transformer.

Parallel connection of other actuators possible. Observe the performance data.

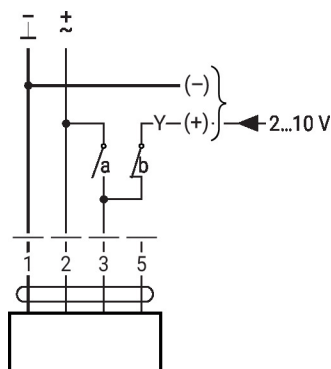
### Wire colours:

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

AC/DC 24 V, modulating

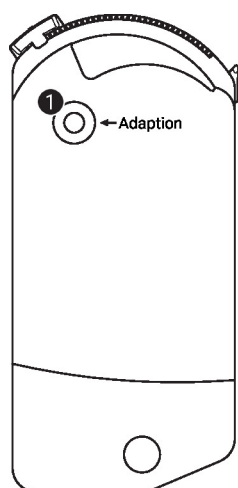


Override control (frost protection circuit)



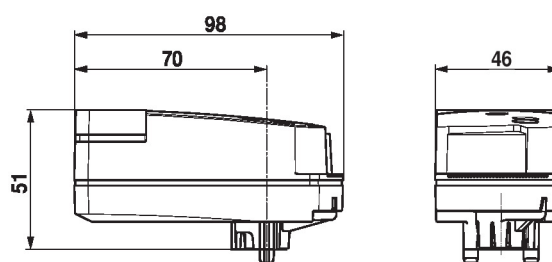
| 1 | 2 | 3 (a) | 3 (b) |               |
|---|---|-------|-------|---------------|
|   |   |       |       | A - AB = 100% |
|   |   |       |       | A - AB = 0%   |
|   |   |       | 2 V   | A - AB = 0%   |
|   |   |       | 10 V  | A - AB = 100% |

## Operating controls and indicators



### 1 Push-button

Press button: Triggers angle of rotation adaptation, followed by standard mode

**Dimensions****Further documentation**

- The complete product range for water applications
- Data sheet for zone valves
- Installation instructions for zone valves and actuators
- General notes for project planning