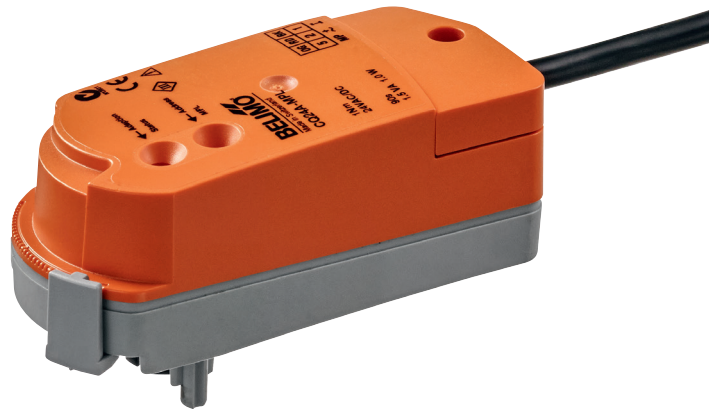


Communicative rotary actuator for zone valves

- Nominal voltage AC/DC 24 V
- Snap-assembly of the actuator
- Flow setting variable
- Communication via Belimo MP-Bus


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 | 0.6 W |
| | Power consumption in rest position | 0.4 W |
| | Power consumption for wire sizing | 1.1 VA |
| | Connection supply / control | Cable 1 m, 3 x 0.75 mm ² |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Torque motor | 1 Nm |
| | Positioning signal Y | via BELIMO MP-Bus |
| | Manual override | With actuator (clicked out) adjustable |
| | Running time motor | 75 s / 90° |
| | Sound power level motor | 35 dB(A) |
| | Position indication | Yes |
| | Flow setting | see product features |
| Safety | Protection class IEC/EN | III Safety extra-low voltage |
| | Degree of protection IEC/EN | IP40 |
| | EMC | CE according to 2004/108/EC |
| | Certification IEC/EN | IEC/EN 60730-1 and IEC/EN 60730-2-14 |
| | Mode of operation | Type 1 |
| | Rated impulse voltage supply / control | 0.8 kV |
| | Control pollution degree | 3 |
| | Ambient temperature | 10...40 °C |
| | Non-operating temperature | -7...50 °C |
| | Ambient humidity | 95% r.h., non-condensing |
| | Maintenance | Maintenance-free |
| | Weight | Weight |

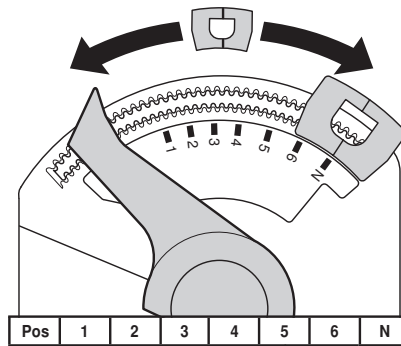
Safety notes


- 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.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied 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

- Mode of operation** The actuator receives its digital positioning signal from the higher level controller via the MP-Bus and drives to the position defined. Connection U serves as communication interface and does not supply an analogue measuring voltage.
Note: Neither a conventional operation with a standard signal nor a parametrisation of signals (e.g. running time) is possible. With the parameterising devices a functional check can be executed and the MP adress can be assigned.
- Simple direct mounting** Tool-free snap assembly.
The actuator can be plugged on the valve by hand (Caution! Just vertical movements). Pins must match the holes on the flange.
The mounting orientation in relation to the valve can be selected in 180° increments. (Possible two times)
- Manual override** Click out the actuator and rotate the valve stem with the help of the actuator.
- High functional reliability** The actuator is overload protected, requires no limit switches in intermediate positions and automatically stops when the end stop is reached (at rest).
- Adjustable angle of rotation** 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.
- kv setting** Adjustable kv-values (C2..Q- ..) / Vmax-values (C2..QP (T) - ..) are given in the respective zone valve data sheets.

2-way valve: Remove end stop clip and place at desired position.
3-way valve: Remove end stop clip (change-over application).



Accessories

| | Description | Type |
|-------------------------------|---|-------------|
| Gateways | Gateway MP for BACnet MS/TP, AC/DC 24 V | UK24BAC |
| | Gateway MP to Modbus RTU, AC/DC 24 V | UK24MOD |
| | Gateway MP to LonWorks, AC/DC 24 V, LonMark certified | UK24LON |
| Electrical accessories | Description | Type |
| | Connection cable 5 m, A: RJ11 6/4, B: Free wire end, To ZTH/ZIP-USB-MP | ZK2-GEN |
| | Connecting board MP bus suitable for wiring boxes EXT-WR-FP...MP | ZFP2-MP |
| Mechanical accessories | MP-Bus power supply for MP actuators, AC 230/24V for local power supply | ZN230-24MP |
| | Description | Type |
| | Spindle extension CQ, for cooling applications only | ZCQ-E |
| Service Tools | Housing cover white | ZCQ-W |
| | Description | Type |
| | Service Tool, for MF/MP/Modbus/LonWorks actuators and VAV-Controller | ZTH EU |
| | Belimo PC-Tool, software for adjustments and diagnostics | MFT-P |
| | Adapter to Service Tool ZTH | MFT-C |

Electrical installation

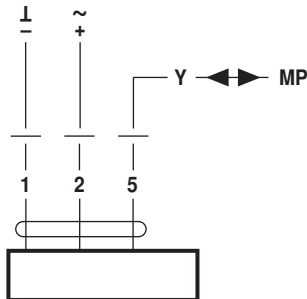


Notes

- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC/DC 24 V, MPL

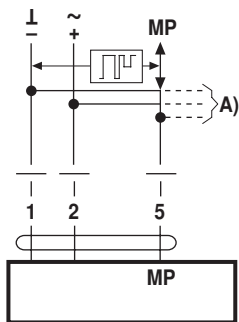


Cable colours:
 1 = black
 2 = red
 5 = orange

Functions

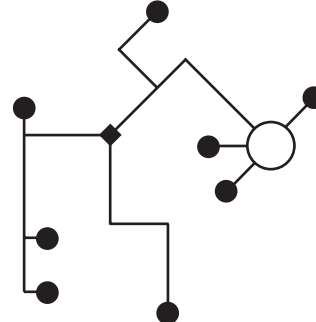
Functions when operated on MP-Bus

Connection on the MP-Bus



A) more actuators (max.8)

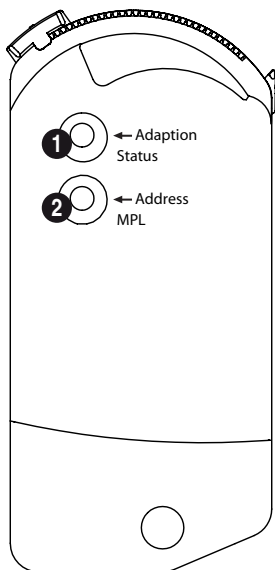
Network topology



There are no restrictions for the network topology (star, ring, tree or mixed forms are permitted). Supply and communication in one and the same 3-wire cable

- no shielding or twisting necessary
- no terminating resistors required

Operating controls and indicators



1 Push-button and LED display yellow

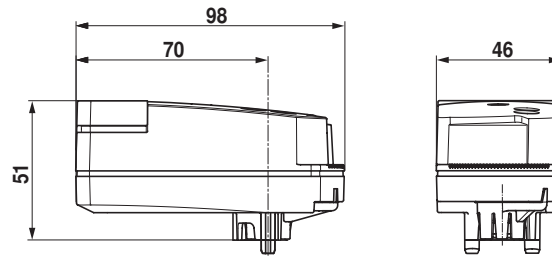
- On: Angle of rotation adaptation active
- Press button: Triggers angle of rotation adaptation, followed by standard mode

2 Push-button and LED display green

- Off: No power supply or no MP-Bus level
- On: Power supply and MP-Bus level OK
- Flickering: MP communication active
- Flashing: Depiction of MP address (Command from MP master)
- continuous: No MP address set
- with breaks: Pulse in accordance with MP address (e.g. 5=MP5)
- Press button: Confirmation of addressing

Installation notes

Maintenance Ball valves and rotary actuators are maintenance-free. In the event of any service work on the final controlling device, it is essential to isolate the rotary actuator from the power supply (by unplugging the electrical cable). Any pumps in the part of the piping system concerned must also be switched off and the appropriate slide valves closed (allow everything to cool down first if necessary and reduce the system pressure to ambient pressure level). The system must not be returned to service until the ball valve and the rotary actuator have been properly reassembled in accordance with the instructions and the pipeline has been refilled in the proper manner.

Dimensions [mm]**Dimensional drawings****Further documentation**

- Overview MP Cooperation Partners
- Tool connections
- Overview Valve-actuator combinations
- Data sheet for zone valves
- Installation instruction for zone valves and actuators
- General notes for project planning