

- AC/DC 24 V, modulating
- Communication MP-Bus
- Running Time (Motor) 70 s
- Operating range 2...10 V Variable
- Feedback volume/position 2...10 V Variable
- IP00, Manual override disengage with magnet



5-year warranty



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 19.2...28.8 V |
| | Power consumption in operation | 1.5 W |
| | Power consumption in rest position | 1 W |
| | Power consumption for wire sizing | 2.5 VA |
| | Connection supply / control | cable 3 ft. [1 m], 4 x 0.34 mm ² |
| Functional data | Torque motor | 18 in-lb [2 Nm] |
| | Pipe diameter | 6" [DN 150] |
| | Communicative control | MP-Bus |
| | Operating range Y | 2...10 V |
| | Input Impedance | 100 kΩ |
| | Options positioning signal | modulating |
| | Position feedback U | 2...10 V |
| | Position feedback U note | Max. 0.5 mA |
| | Position feedback U variable | VDC variable |
| | Manual override | disengage with magnet |
| | Running Time (Motor) | 70 s |
| | Noise level, motor | 35 dB(A) |
| | Position indication | Mechanically, pluggable (with integrated magnet for gear disengagement) |
| Airtightness | Class 2 (DIN EN 1751) | |
| Safety data | Fire behaviour group | Damper blade RF3 (CH) |
| | Protection class IEC/EN | III, Safety Extra-Low Voltage (SELV) |
| | Degree of protection IEC/EN | IP00 |
| | Degree of protection NEMA/UL | NEMA 1 |
| | Enclosure | UL Enclosure Type 1 |
| | EMC | CE according to 2014/30/EU |
| | Certification IEC/EN | IEC/EN 60730-1 and IEC/EN 60730-2-14 |
| | Agency Listing | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU Listed to UL 2043 - suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC |
| | Quality Standard | ISO 9001 |
| | Mode of operation | Type 1 |
| | Rated impulse voltage supply / control | 0.8 kV |
| | Pollution degree | 2 |
| | Ambient temperature | 32...122°F [0...50°C] |
| | Storage temperature | -40...176°F [-40...80°C] |

| | | |
|--------------------|------------------|-----------------------------|
| Safety data | Ambient humidity | Max. 95% RH, non-condensing |
| | Servicing | maintenance-free |
| Materials | Housing material | UL94-5VA |

Safety notes


- The device must not be used outside the specified field of application, especially not in aircraft or in any other airborne means of transport.
- Only authorized 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.

Product features

| | |
|-------------------------------------|---|
| Mode of operation | <p>Conventional operation:</p> <p>The actuator is connected with a standard modulating signal of 0...10 V and drives to the position defined by the positioning signal. The measuring voltage U serves for the electrical display of the actuator position 0.5...100% and as slave control signal for other actuators.</p> <p>Operation on Bus:</p> <p>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 analog measuring voltage.</p> |
| Converter for sensors | Connection option for a sensor (active sensor or switching contact). The MP actuator serves as an analog/digital converter for the transmission of the sensor signal via MP-Bus to the higher level system. |
| Parametrisable actuators | The factory settings cover the most common applications. Single parameters can be modified with the Belimo Service Tools MFT-P or ZTH EU. |
| Application | Variable volumetric flow with a modulating reference variable, e.g. room temperature controller direct digital control or bus system, enables demand-related, energy-saving ventilation of individual rooms or zones. The input for the operating range V_{min} ... V_{max} can be adapted at the reference controller (mode switching). |
| Simple direct mounting | The actuator is mounted directly on the damper shaft (\varnothing 6...12.7 mm) with a universal shaft clamp and then secured with the anti-rotation clip, to prevent it from revolving. |
| Manual override | Manual override with magnet possible (the gear is disengaged as long as the magnet adheres to the magnet symbol). The magnet for gear disengagement is integrated in the position indication. |
| Adjustable angle of rotation | Adjustable angle of rotation with mechanical end stops. |
| High functional reliability | The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached. |

Accessories

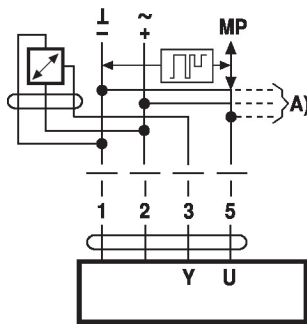
| Gateways | Description | Type |
|----------|----------------------------|---------|
| | Gateway MP to BACnet MS/TP | UK24BAC |
| | Gateway MP to Modbus RTU | UK24MOD |

| Service tools | Description | Type |
|---------------|---|---------|
| | Belimo PC-Tool, Software for adjustments and diagnostics | MFT-P |
| | Connection cable 16 ft [5 m], A: RJ11 6/4 ZTH EU, B: free wire end for connection to MP/PP terminal | ZK2-GEN |
| | Service Tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices | ZTH US |

Electrical installation

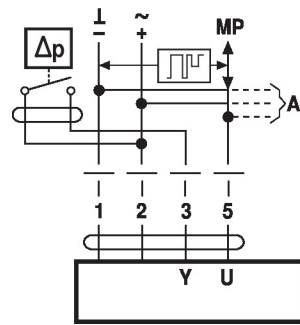
Supply from isolating transformer.
Parallel connection of other actuators possible. Observe the performance data.
Wiring diagrams

Connection of active sensors



- A) additional MP-Bus nodes (max. 8)
- Supply AC/DC 24 V
 - Output signal DC 0...10 V (max. DC 0...32 V)
 - Resolution 30 mV

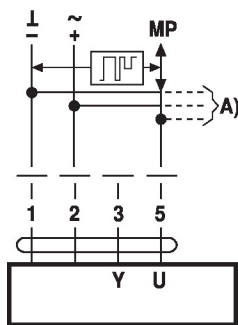
Connection of external switching contact



- A) additional MP-Bus nodes (max. 8)
- Switching current 16 mA @ 24 V
 - Start point of the operating range must be parametrised on the MP actuator as ≥ 0.5 V

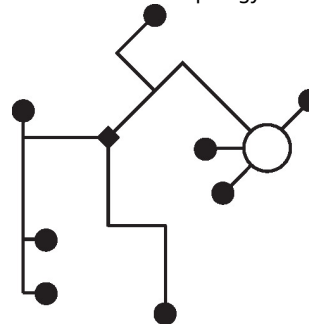
Functions
Functions when operated on MP-Bus

Connection on the MP-Bus



- A) additional MP-Bus nodes (max. 8)

MP-Bus 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

Service

- Service tools connection** The actuator can be configured by ZTH EU via terminal connection. For extended configuration the PC tool can be connected.

Dimensions

