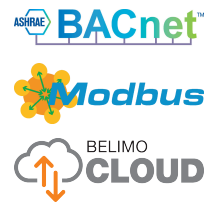


Cloud capable and communicative rotary actuator for ball valves

- Torque motor 20 Nm
- Nominal voltage AC/DC 24 V
- Control modulating, communicative, hybrid, Cloud
- Conversion of sensor signals
- Ethernet 10/100 Mbit/s, TCP/IP, integrated web server
- Communication via BACnet IP, Modbus TCP and Cloud



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	8.5 W
	Power consumption in rest position	3.5 W
	Power consumption for wire sizing	11 VA
	Connection supply / control	Cable 1 m, 6 x 0.5 mm ²
	Connection Ethernet	RJ45 socket
	Parallel operation	Yes (note the performance data)
Functional data	Torque motor	20 Nm
	Torque fail-safe	20 Nm
	Communicative control	Cloud BACnet IP Modbus TCP
	Operating range Y	2...10 V
	Input Impedance	34 kΩ
	Operating range Y variable	0.5...10 V
	Position accuracy	±5%
	Direction of motion motor	Y = 0 (0 V = A – AB = 0%)
	Direction of motion fail-safe	Deenergised NC, valve closed (A – AB = 0%)
	Manual override	by means of hand crank and locking switch
	Running time motor	90 s / 90°
	Running time motor variable	40...150 s
	Running time fail-safe	<20 s / 90°
	Running time fail-safe note	@ -20...50°C / <60 s @ -30°C
	Adaptation setting range	manual
Sound power level, motor	45 dB(A)	
Position indication	Mechanical	
Service life	Min. 60'000 fail-safe positions	
Safety data	Protection class IEC/EN	III Safety Extra-Low Voltage (SELV)
	Degree of protection IEC/EN	IP40
	Degree of protection note	IP54 when using protective cap or protective grommet for RJ45 socket
	EMC	CE according to 2014/30/EU
	Mode of operation	Type 1.AA
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature	-30...50°C
	Storage temperature	-40...80°C

Ambient humidity	Max. 95% r.H., non-condensing
Servicing	maintenance-free
Weight	Weight 2.3 kg

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.
- Outdoor application: only possible in case that no (sea) water, snow, ice, insulation 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 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.
- To calculate the torque required, the specifications supplied by the damper manufacturers concerning the cross-section, the design, the installation site and the ventilation conditions must be observed.
- 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

Converter for sensors Connection option for two sensors (passive sensor, active sensor or switching contact). The actuator serves as an analogue/digital converter for the transmission of the sensor signal to the higher level system.

Communication The parametrisation can be carried out through the integrated web server (RJ45 connection to the web browser), by communicative means or via the Cloud.
Additional information regarding the integrated web server can be found in the separate documentation.

"Peer to Peer" connection

http://belimo.local:8080

The Notebook must be set to "DHCP".

Make sure that only one network connection is active.

Standard IP address:

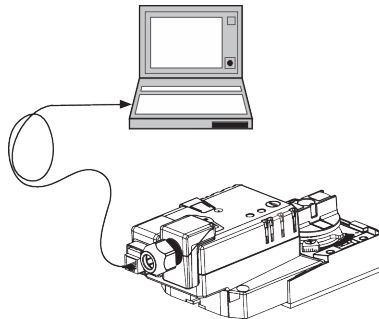
http://192.168.0.10:8080

Static IP address

Password (read-only):

User name: «guest»

Password: «guest»



Simple direct mounting Simple direct mounting on the ball valve with only one screw. The mounting orientation in relation to the ball valve can be selected in 90° steps.

Data recording The recorded data (integrated data recording for 13 months) can be used for analytical purposes.
Download csv files via web browser.

Manual override By using the hand crank the valve can be operated manually and engaged with the locking switch at any position. Unlocking is carried out manually or automatically by applying the operating voltage.

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.

Adaptation and synchronisation An adaption can be triggered manually by pressing the "Adaption" button. Both mechanical end stops are detected during the adaption (entire setting range).
The actuator then moves into the position defined by the positioning signal.

Accessories

Electrical accessories	Description	Type
	Grommet for RJ connection module, 50 pcs.	Z-STRJ.1
	Connection cable 5 m, A: RJ11 6/4 ZTH EU, B: 6-pin for connection to service socket	ZK1-GEN
Service tools	Description	Type
	Service Tool, with ZIP-USB function, for parametrisable and communicative Belimo actuators / VAV controller and HVAC performance devices	ZTH EU

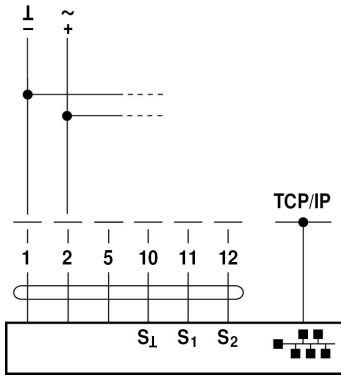
Electrical installation



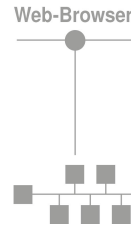
Supply from safety isolating transformer.
Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC/DC 24 V



Cable colours:
1 = black
2 = red
5 = orange
10 = yellow-black
11 = yellow-pink
12 = yellow-grey



Connection of a notebook for parametrisation and manual control via RJ45.

Optional connection via RJ45 (direct connection Notebook / connection via Intranet or Internet) for access to the integrated web server

Functions



The connection diagrams shows connections for the first sensor on terminal S1, while the second sensor can be connected identically on terminal S2.
Parallel use of different sensor types is permitted.
For hybrid operation, S1 is used for the control signal Y and must be configured as an active sensor.

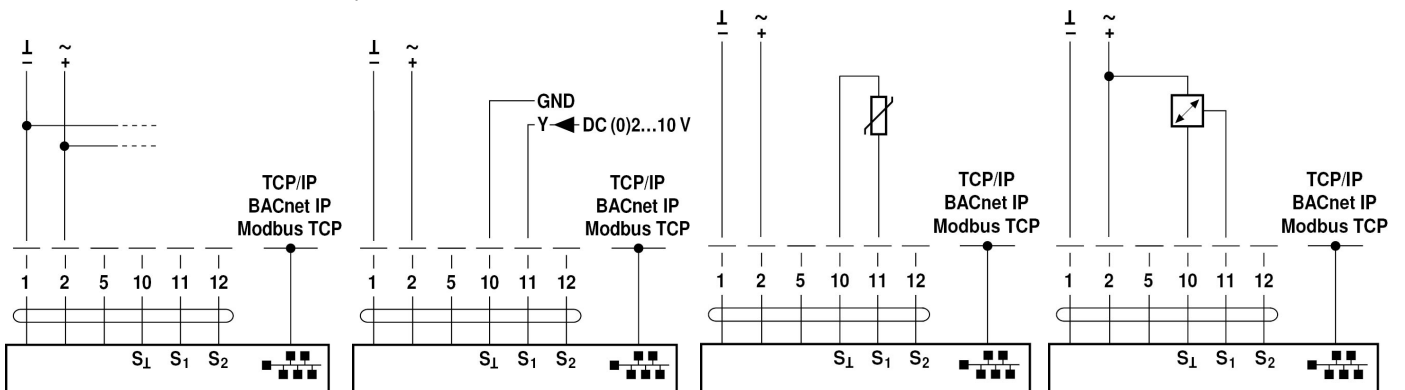
Functions for actuators with specific parameters (Parametrisation necessary)

TCP/IP (Cloud) / BACnet IP / Modbus TCP

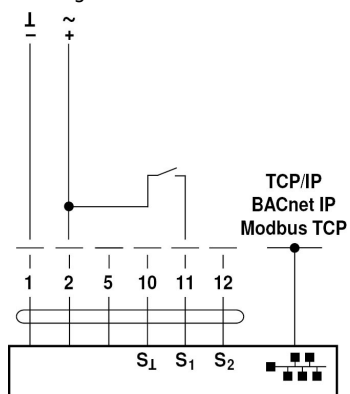
TCP/IP (Cloud) / BACnet IP / Modbus TCP with analogue setpoint (Hybrid operation)

Connection of passive sensors

Connection of active sensors

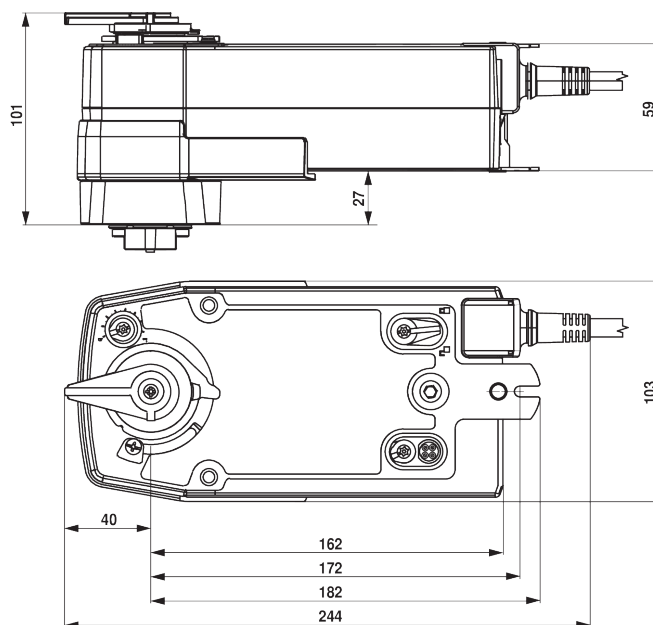


Switching contact connection



Dimensions

Dimensional drawings



Further documentation

- General notes for project planning
- Instruction Webserver
- Description Protocol Implementation Conformance Statement PICS
- Description Modbus register
- Description clientAPI