

5-year warranty




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...35.0 V
	Power consumption in operation	2.5 W
	Power consumption in rest position	1.5 W
	Power consumption for wire sizing	4.5 VA
	Overload Protection	electronic throughout full stroke
Data bus communication	Communicative control	MP-Bus
	Number of nodes	MP-Bus max. 8
Functional data	Actuating force motor	150 N [35 lbf]
	Operating range Y	2...10 V
	Input impedance	100 kΩ
	Operating modes optional	modulating
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	Position feedback U variable	VDC variable
	Manual override	with push-button, can be locked
	Stroke	100 mm
	Running time motor	150 s
Safety data	Position indication	Mechanical, pluggable
	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Housing	UL Enclosure Type 2
	EMC	CE according to 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
Type of action	Type 1	

Technical data

Safety data	Rated impulse voltage supply	0.8 kV
	Pollution degree	2
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-30...50°C [-22...122°F]
	Storage temperature	-20...50°C [-4...122°F]
	Servicing	maintenance-free
Weight	Weight	0.74 kg
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.
- 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

Operating mode	<p>Conventional operation:</p> <p>The actuator is connected with a standard control signal of 0...10 V and drives to the position defined by the control signal. The measuring voltage U serves for the electrical display of the actuator position 0.5...100% and as control signal for other actuators.</p> <p>Operation on Bus:</p> <p>The actuator receives its digital control 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.</p>
Converter for sensors	Connection option for a sensor (passive or active sensor or switching contact). The MP actuator serves as an analogue/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 Belimo Assistant 2 or ZTH EU.
Manual override	Manual override with push-button possible (the gear train is disengaged for as long as the button is pressed or remains locked).
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

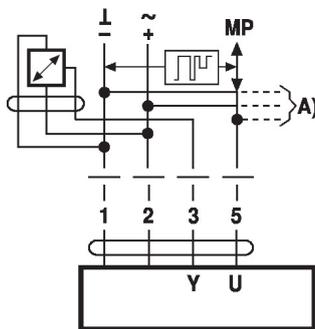
Accessories

Electrical accessories	Description	Type
	MP-Bus power supply for MP actuators	ZN230-24MP
	Positioner for wall mounting	CRP24-B1
	Positioner for wall mounting	SGA24
	Positioner for front-panel mounting	SGF24
	Positioner for built-in mounting	SGE24
Mechanical accessories	Description	Type
	Adapter for 1/4" tubing, Multipack 10 pcs.	ZPD-TA
	Differential pressure pickup device for VAV-RetroFIT+	ZPD-RE2-SET
Tools	Description	Type
	Service tool for wired and wireless setup, on-site operation, and troubleshooting.	Belimo Assistant 2
	Converter Bluetooth / NFC	ZIP-BT-NFC
	Adapter for Service-Tool ZTH	MFT-C
	Service tool, with ZIP-USB function, for parametrisable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
	Connecting cable 5 m, A: RJ11 6/4 ZTH EU, B: 6-pin for connection to service socket	ZK1-GEN
	Connecting cable 5 m, A: RJ11 6/4 ZTH EU, B: free wire end for connection to MP/PP terminal	ZK2-GEN
	Signal simulator, Power supply AC 120 V	PS-100

Electrical installation

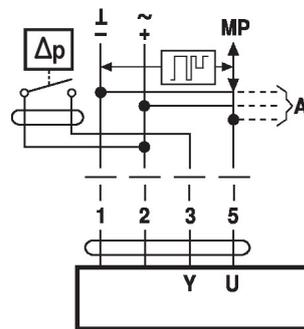
Wiring diagrams

Connection of active sensors



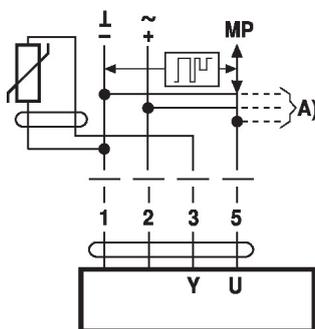
- A) additional MP-Bus nodes (max. 8)
- Supply AC/DC 24 V
 - Output signal DC 0...10 V (max. DC 0...32 V)
 - Resolution 30 mV

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

Connection of passive sensors



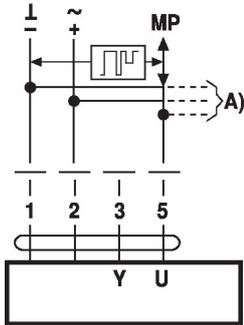
NH1000	-28...+98°C	850...1600 Ω^2)
PT1000	-35...+155°C	850...1600 Ω^2)
NTC	-10...+160°C ¹⁾	200 Ω ...60 k Ω^2)

- A) additional MP-Bus nodes (max. 8)
- 1) Depending on the type
 - 2) Resolution 1 Ohm
- Compensation of the measured value is recommended

Functions

Functions when operated on MP-Bus

Connection on the MP-Bus

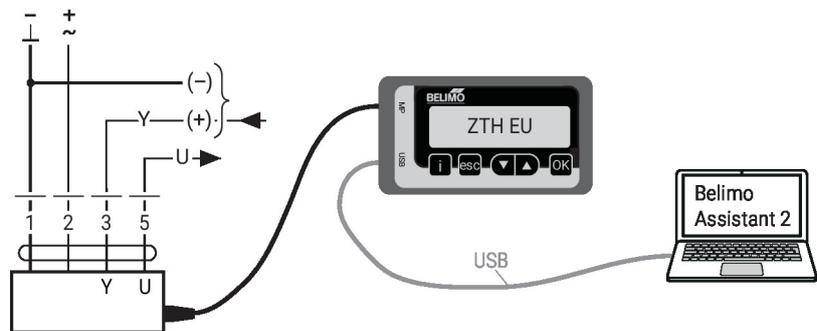


A) additional MP-Bus nodes
(max. 8)

Service

Tools connection The device can be parametrised by ZTH EU via the service socket.
For an extended parametrisation, Belimo Assistant 2 can be connected.

Connection ZTH EU / Belimo Assistant 2



Further documentation

- Quick Guide – Belimo Assistant 2