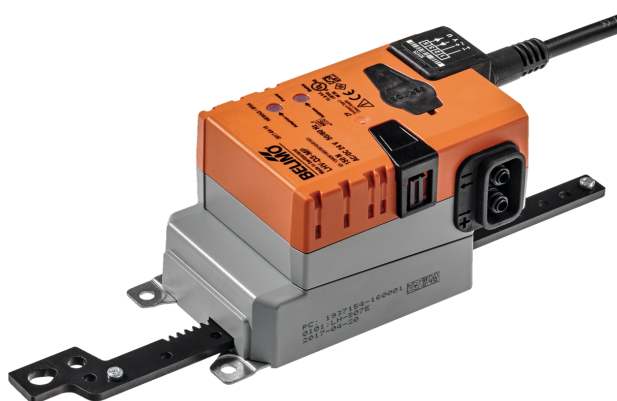


Communicating Non Fail-Safe actuator for controlling dampers in typical commercial HVAC applications.

- Actuating force motor 150 N [35 lbf]
- Nominal voltage AC/DC 24 V
- Control Modulating, Communicative
- Position feedback 2...10 V



Picture may differ from product



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 21.6...35.0 V
	Power consumption in operation	2.5 W
	Power consumption in rest position	1.5 W
	Transformer 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	4" [100 mm]
	Running Time (Motor)	150 s
	Position indication	Mechanical, pluggable
Safety data	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Power source UL	Class 2 Supply
	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
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU
	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
	Rated impulse voltage supply	0.8 kV
	Pollution degree	2
	Ambient humidity	Max. 95% RH, non-condensing

Technical data

Safety data	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-4...122°F [-40...70°C]
	Servicing	maintenance-free
Weight	Weight	1.6 lb [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 actuator and that is ensured that the ambient conditions remain at any time within the thresholds according to the data sheet.
- Only authorized 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 controlled with a standard control signal of DC 0...10 V (note the operating range) and moves to the position defined by the control signal. The measuring voltage U is used for the electrical display of the actuator position 0.5...100% and as the 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 analog/digital converter for the transmission of the sensor signal via MP-Bus to the higher level system.
Configurable Device	The factory settings cover the most common applications. Single parameters can be modified with the 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

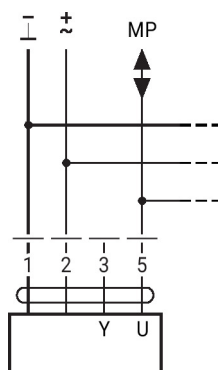
Tools	Description	Type
	Service tool for wired and wireless setup, on-site operation and troubleshooting.	Belimo Assistant 2
	Adapter for Service-Tool ZTH	MFT-C
	Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
	Connecting cable 16 ft [5 m], A: RJ11 6/4 LINK.10, B: 6-pin for connection to service socket	ZK1-GEN
	Connecting cable 16 ft [5 m], A: RJ11 6/4 LINK.10, B: free wire end for connection to MP/PP terminal	ZK2-GEN
	Signal simulator, Power supply AC 120 V	PS-100

Accessories

	Description	Type
Electrical accessories	Belimo Assistant Link Bluetooth and USB to NFC and MP-Bus converter for configurable and communicative devices	LINK.10
	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
Gateways	Positioner for built-in mounting	SGE24
	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
Mechanical accessories	Adapter for 1/4" tubing, Multipack 10 pcs.	ZPD-TA
	Differential pressure pickup device for VAV RetroFIT+	ZPD-RE2-SET

Electrical installation

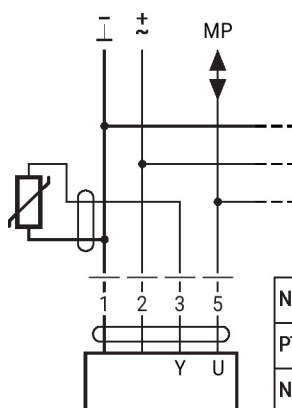
Connection on the MP-Bus



Max. 8 MP-Bus nodes

Converter for sensors

Connection of passive sensors



Ni1000	-28...+98°C	850...1600 Ω ²⁾
PT1000	-35...+155°C	850...1600 Ω ²⁾
NTC	-10...+160°C ¹⁾	200 Ω...60 kΩ ²⁾

1) Depending on the type

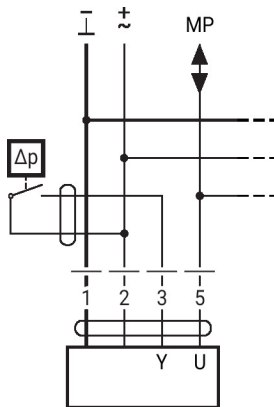
2) Resolution 1 Ohm

Compensation of the measured value is recommended

Electrical installation

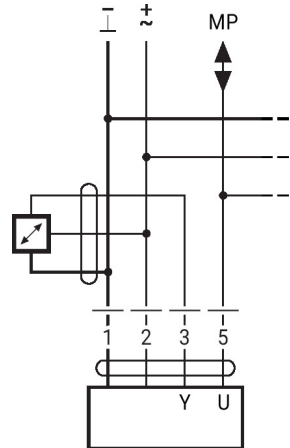
Converter for sensors

Connection of external switching contact



- Switching current 16 mA @ 24 V
- Start point of the operating range must be configured on the MP actuator as ≥ 0.5 V

Connection of active sensors

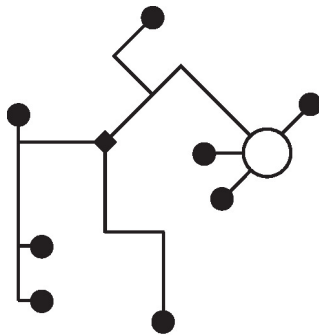


- Supply AC/DC 24 V
- Output signal 0...10 V (max. 0...32 V)
- Resolution 30 mV

Further electrical installations

Functions with basic values (conventional mode)

MP-Bus Network topology

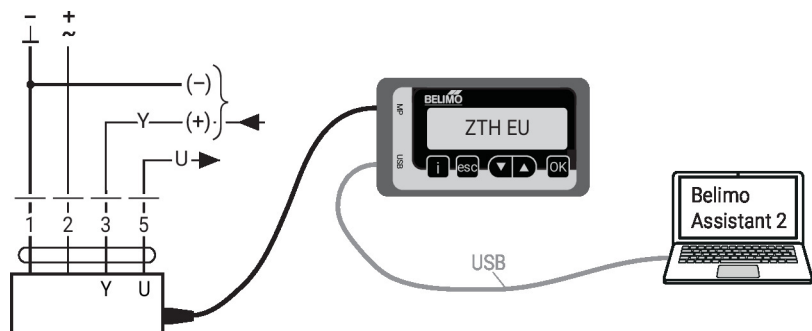


- There are no restrictions for the network topology (star, ring, tree or mixed forms are permitted). Supply and communication in one and the same 3-wire cable
- no shielding or twisting necessary
 - no terminating resistors required

Service

- Wired connection** The device can be configured by ZTH EU via the service socket. The Belimo Assistant 2 can be connected for an extended configuration.

Connection ZTH EU / Belimo Assistant 2



Further documentation

- Quick Guide – Belimo Assistant 2