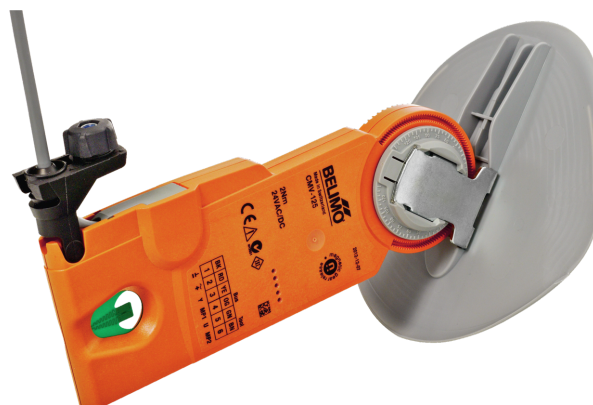


Basic Non Fail-Safe multifunction technology actuator for controlling dampers in typical commercial HVAC applications.

- Torque motor 18 in-lb [2 Nm]
- Nominal voltage AC/DC 24 V
- Control Modulating, Communicative
- Position feedback 2...10 V



5-year warranty



MP  **BUS**

Picture may differ from product

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
	Transformer sizing	2 VA
	Connection supply/control	cable 3 ft. [1 m], 4x 0.34 mm ²
	Electrical Connection	18 AWG plenum cable, 1 m
	Overload Protection	electronic throughout full rotation
Data bus communication	Communicative control	MP-Bus
Functional data	Torque motor	18 in-lb [2 Nm]
	Round duct diameter	4" [DN 100]
	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 Configurable for Volumetric Flow or Damper Position
	Position feedback U variable	VDC variable
	Manual override	disengage with magnet
	Running Time (Motor)	70 s
	Noise level, motor	35 dB(A)
	Position indication	Mechanical, pluggable (with integrated magnet for gear train disengagement)
	Airtightness	Class 3 (DIN EN 1751)
Safety data	Fire behaviour group	Damper blade RF3 (CH)
	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP00
	Degree of protection NEMA/UL	NEMA 1
	Housing	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
	Quality Standard	ISO 9001

Technical data

Safety data	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 / control	0.8 kV
	Pollution degree	2
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	32...122°F [0...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	0.88 lb [0.40 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.
- 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	Conventional operation: The actuator is connected with an analog control signal Y (note the operating range) and drives to the position defined. The measuring voltage U is used for the electrical display of the actuator position 0...100% and as the control signal for other actuators.
	Operation on Bus: 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.
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.
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 Vmin...Vmax can be adapted at the reference controller (mode switching).
Configurable Device	The factory settings cover the most common applications. Single parameters can be modified with the Belimo Assistant 2 or ZTH EU.
Simple direct mounting	The actuator is mounted directly on the damper shaft (ø6...12.7 mm) with a universal shaft clamp and then secured with the anti-rotation clip, to prevent it from rotating.
Manual override	Manual override with magnet possible (the gear train is disengaged as long as the magnet adheres to the magnet symbol). The magnet for gear train disengagement is integrated in the position indication.

Product features

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

Tools	Description	Type
	Service tool for wired and wireless setup, on-site operation and troubleshooting.	Belimo Assistant 2
	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
	Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
	Gear train disengagement magnet, Multipack 20 pcs.	Z-MA
	Signal simulator, Power supply AC 120 V	PS-100
	Adapter for Service-Tool ZTH	MFT-C
Electrical accessories	Description	Type
	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
	Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
Gateways	Description	Type
	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
Mechanical accessories	Description	Type
	Adapter for 1/4" tubing, Multipack 10 pcs.	ZPD-TA
	Differential pressure pickup device for VAV RetroFIT+	ZPD-RE2-SET

Electrical installation

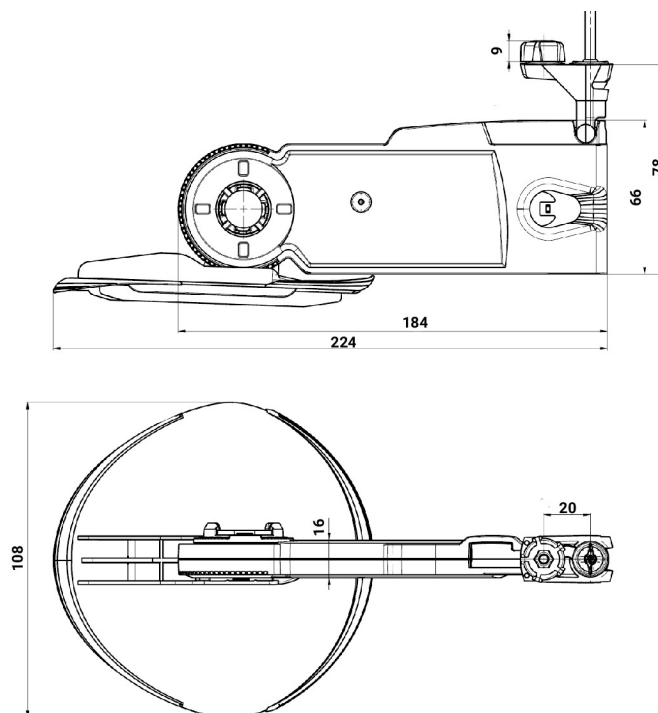


Supply from isolating transformer.
Parallel connection of other actuators possible. Observe the performance data.

Service

Wired connection	The actuator can be configured by ZTH EU via terminal connection. The PC-Tool can be connected for extended configuration.
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Dimensions



Further documentation

- Quick Guide – Belimo Assistant 2