

Damper Actuators

Non-Spring Return CMU... series



Technical Databook



New Generation Non-spring return actuator	CMU..	LMU..	NMU..	SMU..	GMU..
Open/Close, 3-point	2 Nm	5 Nm	10 Nm	20 Nm	40 Nm
AC 24 V 50/60 Hz, DC 24 V	CMU24(-F8/-F10)(-T)	LMU24(-F/-T)	NMU24(-F/-T)	SMU24(-F/-T)	GMU24*
Auxiliary switch build-in 1 SPDT		LMU24-S	NMU24-S	SMU24-S	
AC 100..240 V 50/60 Hz	CMU230(-F8/-F10)	LMU230	NMU230	SMU230	GMU230*
AC 230 V 50 Hz (Open/Close)	CMU230(-F8/-F10)-RES*				
Auxiliary switch build-in 1 SPDT		LMU230-S	NMU230-S	SMU230-S	
Modulating					
Control signal DC 2(0)..10 V, feedback DC 2...10 V					
AC 24 V 50/60 Hz, DC 24 V	CMU24-SR-R**	LMU24-SR	NMU24-SR	SMU24-SR	GMU24-SR
AC 100..240 V 50/60 Hz		LMU230SR	NMU230SR	SMU230SR	
Running time	75s	150s			
Shaft diameter	6...12.7mm	6... 20mm	8... 26mm	10... 20mm	14... 26mm
Sound power level	Max. 35 dB(A)	Max. 35 dB(A)	Max. 35 dB(A)	Max. 48 dB(A)	Max. 48 dB(A)
Manual override	Disengaging the gearing latch by means of a pushbutton, self-resetting				
Electrical connection	Cable 1 m (-T: Terminal)				
Direction of rotation	Selected by switch				
Angle of rotation	Max. 95°, can be limited at both ends with mechanical adjustable end stops				
Position indication	Mechanical, plug-on				
Degree of protection	IP54 in any direction (-T: IP20)				
EMC	CE according to 89/336/EEC				
Ambient temperature	- 30°C... + 50°C				
Non-operation temperature	- 40°C... + 80°C				
Humidity test	95% RH, non condensing (to EN 60730-1)				

* Only Open/Close, no 3-point, and AC 230 V, 50Hz.

** CMU24-SR-R: control signal 2(0) V at the right side, and the left side is available if request.

Note:

Using Belimo Damper actuators:

- The actuators listed in this catalogue are intended for the operation of air dampers in HVAC systems.
- The damper actuator is not allowed to be used outside the specified field of application, especially in aircraft.
- The enclosure of the actuator equipment may only be opened by the manufacturer. It contains no components which the user can replace or repair.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Torque requirements:

- When calculating the torque required to operate dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, mounting and air flow condition.

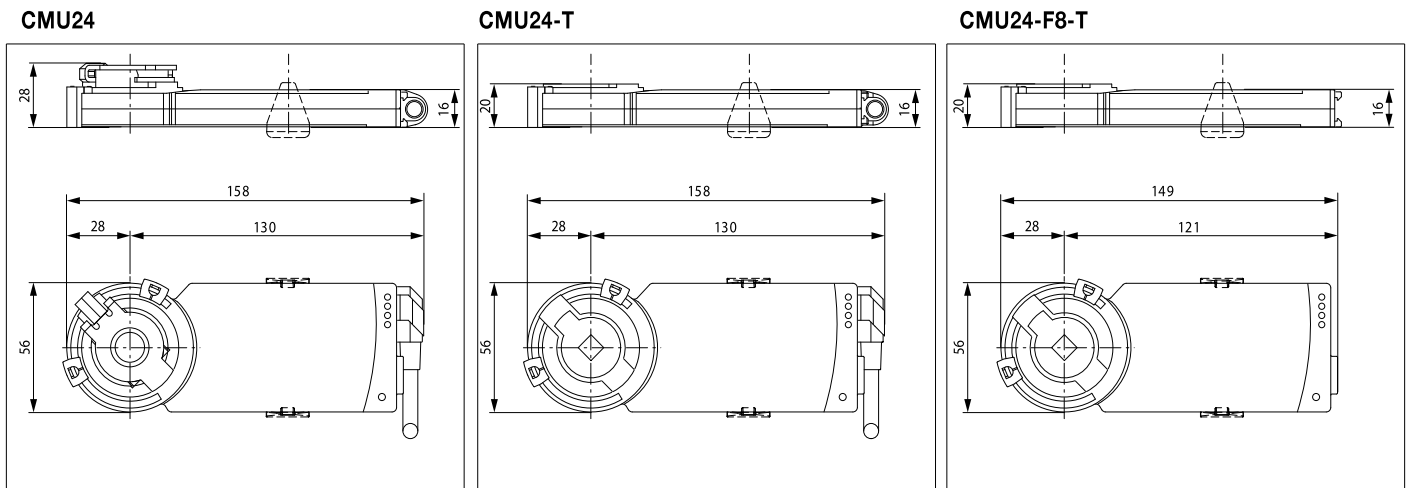
Non-spring return actuators CMU..

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- For operation of air control dampers in HVAC system.
- Torque 2 Nm
- Nominal voltage AC/DC 24 V
- Control: Open / Close or 3-point


Technical data

Electrical data	Nominal voltage	AC 24 V, 50/60 Hz, DC 24 V	
	Nominal voltage range	AC/DC 19.2...28.8 V	
	Power consumption	0.5 W @ running/0.2 W @ holding	
	Wire/transformer sizing	1 VA	
Functional data	Connection: -T Cable	Terminals for 3 x 1.5mm ² CU wire or 3 x 1.5mm ² CU litz wires 1m, 3 x 0.75mm ²	
	Torque	2 Nm	
	Direction of rotation	Dependent on electrical installation	
	Manual override	Gear disengagement with magnet	
	Angle of rotation Without limiters With limiters	Endless Fixed 315° ↺ or 0... 287.5° ↺ with mechanical end stops, can be adjusted in 2.5° ↺ -increments	
	Running time	75s / 90° ↺	
	Sound power level	Max. 35 dB (A)	
	Position indication	Mechanical, pluggable with integrated magnet for gear disengagement	
	Working conditions	Protection class	III (Safety extra-low voltage)
		Degree of protection: Terminal(-T) Cable	IP20 IP54 in any direction
EMC		CE according to 89/336/EEC	
Mode of operation		Type 1 to EN 60730-1	
Ambient temperature		-30... + 50°C	
Non-operation temperature		-40... + 80°C	
Humidity test		95% RH, non condensing (EN 60730-1)	
Maintenance		Maintenance free	
Dimensions / weight	Dimensions (L x W x H)	See "Dimensions"	
	Shaft	⌀ 6...12.7mm	
	Form fit (-F8) (-F10)	8 x 8mm 10 x 10mm	
	Weight	Approx. 130g ~ 220g	

Dimensions [mm]


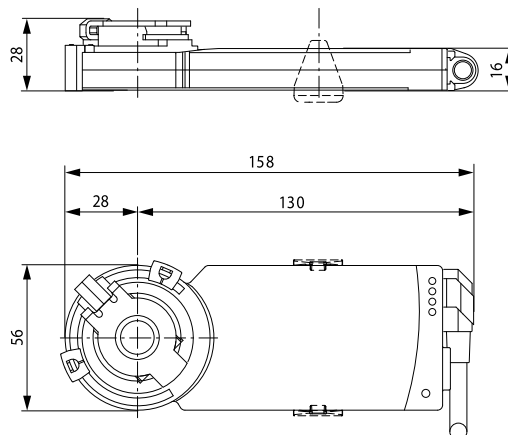
- For operation of air control dampers in HVAC system.
- Torque 2 Nm
- Nominal voltage AC/DC 24 V
- Control signal: DC 2 (0) ... 10 V
- Position feedback: DC 2 ... 10 V



Technical data

Electrical data	Nominal voltage	AC 24 V, 50/60 Hz, DC 24 V
	Nominal voltage range	AC/DC 19.2... 28.8 V
	Power consumption	1W @ running /0.5W @ holding
	Wire/transformer sizing	2 VA
	Connection	Cable 1m, 4 x 0.75mm ²
Functional data	Torque	2 Nm
	Control signal	DC 2(0)...10 V (input impedance 100k Ω)
	Feedback signal	DC 2...10 V
	Direction of rotation	Y= 0V right end stop position
	Manual override	Gear disengagement with magnet
	Angle of rotation	Max. 95°, adjustable by mechanical steps
	Running time	75s / 90° ↯
	Sound power level	Max. 35 dB (A)
	Position indication	Mechanical, pluggable with integrated magnet for gear disengagement
	Working conditions	Protection class
Degree of protection: Cable		IP54 in any direction
EMC		CE according to 89/336/EEC
Mode of operation		Type 1 to EN 60730-1
Ambient temperature		-30 ... + 50°C
Non-operation temperature		-40 ... + 80°C
Humidity test		95% RH, non condensing (EN 60730-1)
Dimensions / weight	Maintenance	Maintenance free
	Dimensions (L x W x H)	158 x 56 x 28mm
	Shaft diameter	⌀ I 6...12.7mm
	Weight	Approx. 220g

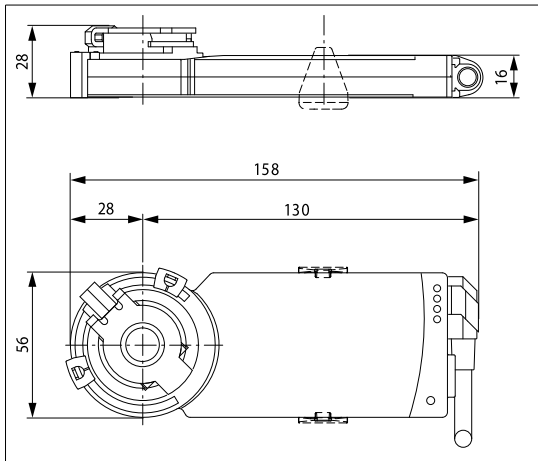
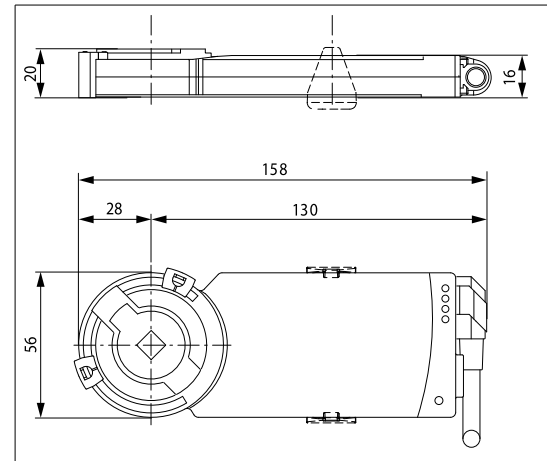
Dimensions [mm]



- For operation of air control dampers in HVAC system.
- Torque 2 Nm
- Nominal voltage AC 100...240 V
- Control: Open / Close or 3-point


Technical data

Electrical data	Nominal voltage	AC 100...240 V, 50/60 Hz
	Nominal voltage range	AC 85...265 V
	Power consumption	1.5 W running / 1W @ holding
	Wire/transformer sizing	3 VA
Functional data	Connection	Cable 1m, 3 x 0.75mm ²
	Torque	2 Nm
	Direction of rotation	Dependent on electrical installation
	Manual override	Gear disengagement with magnet
	Angle of rotation Without limiters	Endless
	With limiters	Fixed 315° ↺ or 0... 287.5° ↺ with mechanical end stops, can be adjusted in 2.5° ↺ -increments
	Running time	75s / 90° ↺
Working conditions	Sound power level	Max. 35 dB (A)
	Position indication	Mechanical, pluggable with integrated magnet for gear disengagement
	Protection class	II (Totally insulated) <input type="checkbox"/>
	Degree of protection	IP54 in any direction
	EMC	CE according to 89/336/EEC
	Low voltage directive	CE according to 2006/95/EC
	Mode of operation	Type 1 to EN 60730-1
	Ambient temperature	-30... + 50°C
	Non-operation temperature	-40... + 80°C
	Humidity test	95% RH, non condensing (EN 60730-1)
Dimensions / weight	Maintenance	Maintenance free
	Dimensions (L x W x H)	See "Dimensions"
	Shaft	6...12.7mm
	Form fit (-F8)	8 x 8mm
	(-F10)	10 x 10mm
Weight	Approx. 220g	

Dimensions [mm]
CMU230

CMU230-F8


- For operation of air control dampers in HVAC system.
- Torque 2 Nm
- Nominal voltage AC 230 V
- Control: Open / Close

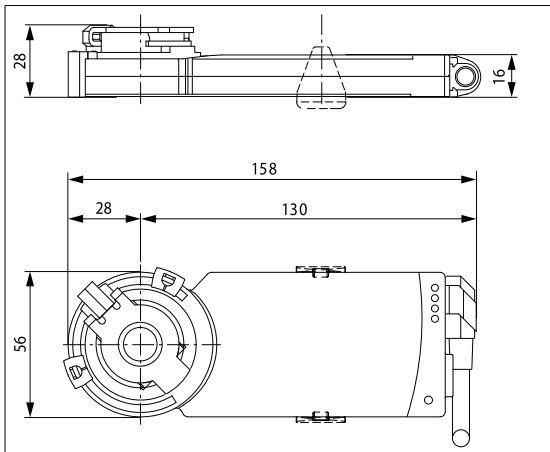


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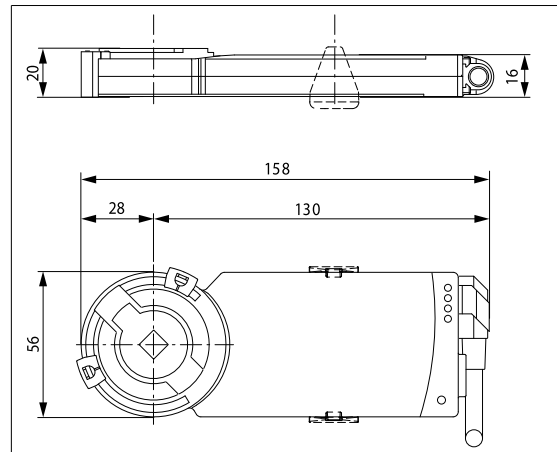
Electrical data	Nominal voltage	AC 230 V, 50Hz
	Nominal voltage range	AC 207...253 V
	Power consumption in operation	1.5 W @ running /1.5 W @ holding
	Wire/transformer sizing	8.5 VA
Functional data	Connection	Cable 1m, 3 x 0.75mm ²
	Torque	2 Nm
	Direction of rotation	Dependent on electrical installation
	Manual override	Gear disengagement with magnet
	Angle of rotation Without limiters	Endless
	With limiters	Fixed 315° ◁ or 0...287.5° ◁ with mechanical end stops, can be adjusted in 2.5° ◁ increments
	Running time	75s / 90° ◁
	Sound power level	Max. 35 dB (A)
Working conditions	Position indication	Mechanical, pluggabel with integrated magnet for gear disengagement
	Protection class	II (Totally insulated) ◻
	Degree of protection	IP 54 in any direction
	EMC	CE according to 89/336/EEC
	Low voltage directive	CE according 2006/95/EC
	Mode of operation	Type 1 to EN 60730-1
	Ambient temperature	-30... +50°C
	Non-operation temperature	-40... +80°C
	Humidity test	95% RH, non condensing (EN 60730-1)
	Maintenance	Maintenance free
Dimensions / weight	Dimensions (L x W x H)	See "dimensions"
	Shaft	⌀ 6...12.7mm
	Form fit (- F8)	8 x 8mm
	(- F10)	10 x 10mm
	Weight	Approx. 220g

Dimensions [mm]

CMU230-RES



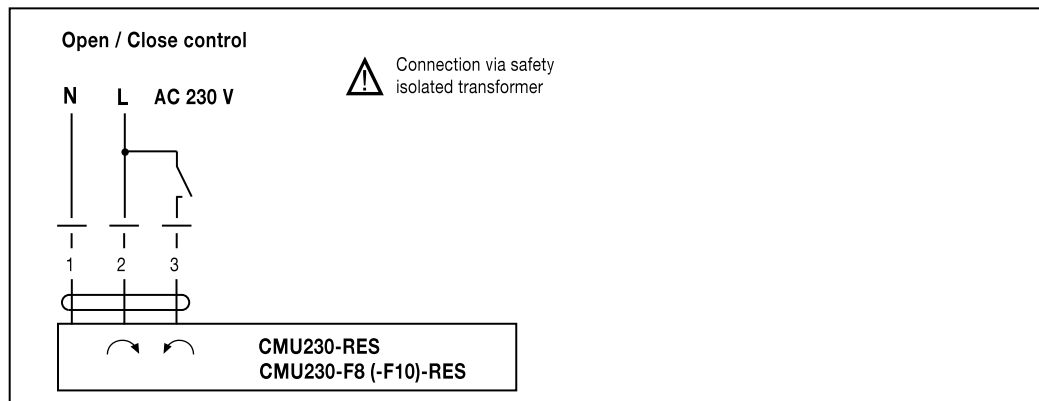
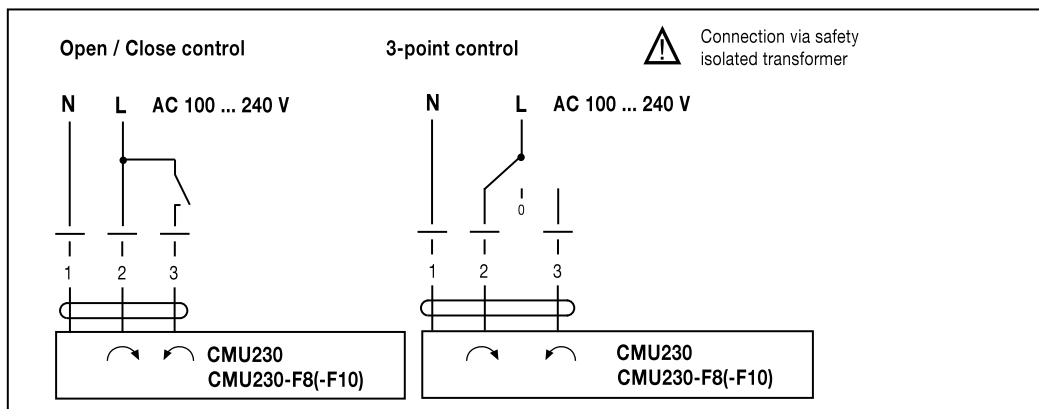
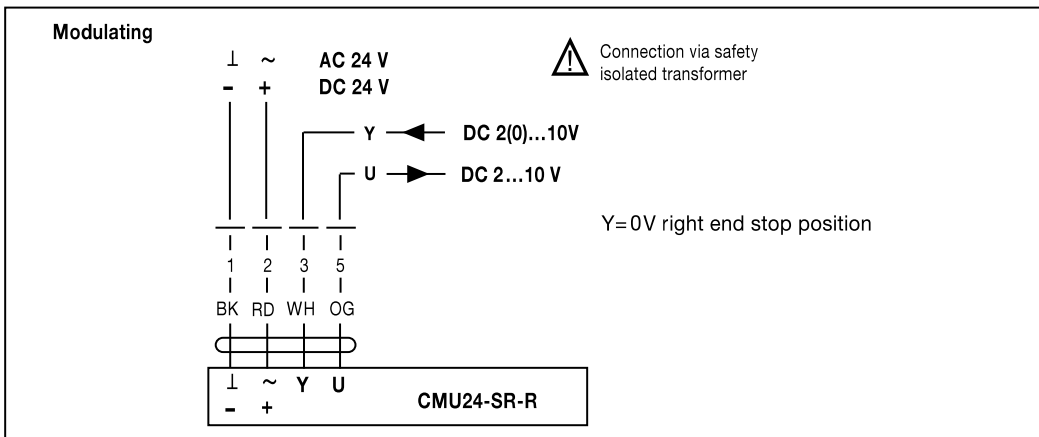
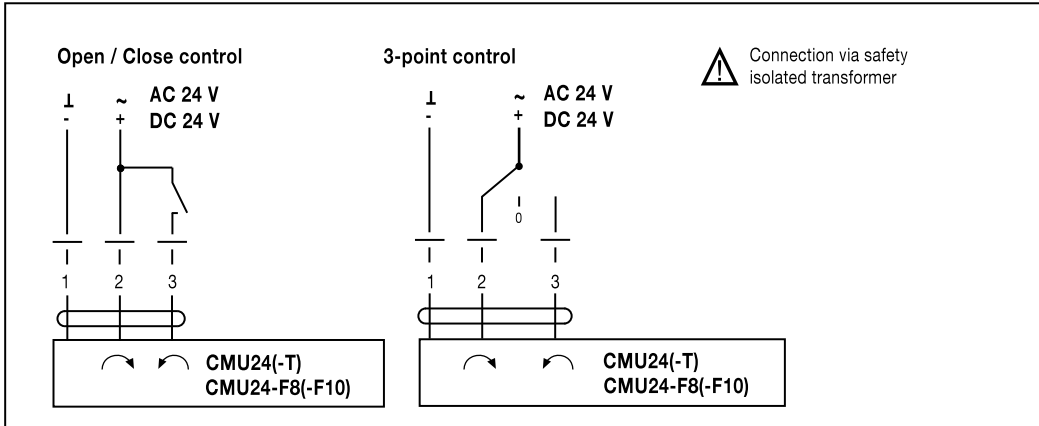
CMU230-F8-RES



Wiring diagrams : CMU.. series actuators.

Notes:

- Parallel connection of several actuators is possible.
- Power consumption must be observed.



Innovation, Quality and Consultancy: A partnership for motorizing HVAC actuators



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