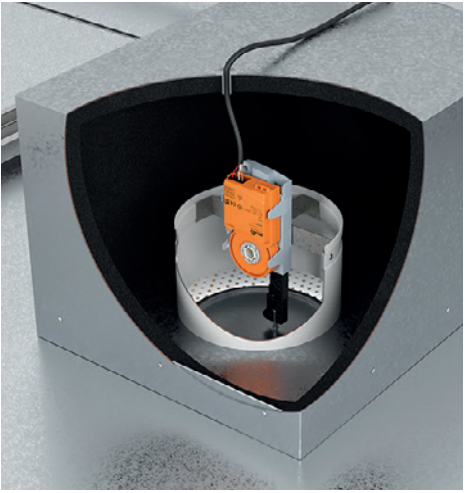




**Exceptional
room comfort.**

The complete product range of ventilation applications

Edition 2025

50
YEARS

**Together
to the Top.**

BELIMO®



Air damper actuators

Motorisation of dampers in ventilation and air conditioning systems

Overview of actuators	Rotary and linear actuators, non fail-safe	4–5
	Rotary actuators, fail-safe	6
	Special actuators / RetroFIT+, non fail-safe / fail-safe actuators	7–10
Bus systems	Bus solutions from Belimo, save costs and energy!	11
Non fail-safe actuators	Rotary actuators with connector plug	12
	Rotary actuators with connecting cable	13–14
	Rotary actuators with connecting terminals	15–16
	Linear actuators with connector plug, connecting cable / terminals	17–18
Fail-safe actuators	Rotary actuators, fail-safe	19–21
	Rotary actuators and very fast running rotary actuators, fail-safe	22
Special actuators / RetroFIT+ actuators	Fast running rotary actuators, non fail-safe	23
	Very fast running rotary actuators, non fail-safe	24
	Very fast running linear actuators, non fail-safe	25
	RobustLine rotary actuators for extreme conditions, non fail-safe / fail-safe	26
	IP66/67 / NEMA 4X rotary actuators for outdoor applications, non fail-safe	27
	IP66/67 / NEMA 4X rotary actuators for outdoor applications, fail-safe	28
	Actuators with high torque, non fail-safe / fail-safe	29
	Actuators with damper blade, non fail-safe	30
	Configurable rotary actuators with connecting terminals, non fail-safe	31
	Configurable rotary actuators with special control and connecting cable, non fail-safe	32
	Configurable linear actuators with connecting terminals, non fail-safe	33
Overview mechanical / electrical accessories	Non fail-safe actuators	34–35
	Fail-safe actuators	36–37
	Special actuators, non fail-safe	38–39
	Special actuators, non fail-safe / fail-safe	40–41
Customer-specific actuators	Configuration options	42–43

Rotary actuators, non fail-safe



Actuator type		Nominal torque	Shaft diameter	Damper size up to approx. ¹⁾	Page
Rotary actuators with connector plug					12
UM..		1 Nm	6...12.7 mm	■ 0.2 m ²	
Rotary actuators with connecting cable					13–14
CM..		2 Nm	6...12.7 mm	■ 0.4 m ²	
LM..A.. + VLM..A..		5 Nm	6...20 mm	■ 1 m ²	
NM..A.. + VNM..A..		10 Nm	8...26.7 mm	■ 2 m ²	
SM..A.. + VSM..A..		20 Nm	10...20 mm	■ 4 m ²	
GM..A.. + VGM..A..		40 Nm	12...26.7 mm	■ 8 m ²	
Rotary actuators with connecting terminals					15–16
CM..		2 Nm	6...12.7 mm	■ 0.4 m ²	
LM..A..		5 Nm	6...20 mm	■ 1 m ²	
NM..A..		10 Nm	8...26.7 mm	■ 2 m ²	
SM..A..		20 Nm	10...20 mm	■ 4 m ²	
GM..A..		40 Nm	12...26.7 mm	■ 8 m ²	

Use of damper actuators from Belimo: The actuators listed in this documentation are designed for adjusting dampers in technical building installations.

¹⁾ The recommended damper sizes are guidelines. When determining the torque or actuating force requirement of air dampers, the information provided by the damper manufacturer on the cross-section and design, as well as the installation situation and the ventilation conditions, must be observed.

Linear actuators, non fail-safe



Actuator type		Actuating force	Height of stroke	Damper size up to approx. ¹⁾	Page
Linear actuators with connector plug					17
UH..		50 N	0...60 mm	■ 0.2 m ²	
Linear actuators with connecting cable / terminals					17-18
CH..		125 N	0...100 mm	■ 0.8 m ²	
LH..A..		150 N	0...300 mm	■ 1 m ²	
SH..A..		450 N	0...300 mm	■ 3 m ²	

Use of damper actuators from Belimo: The actuators listed in this documentation are designed for adjusting dampers in technical building installations.

¹⁾ The recommended damper sizes are guidelines. When determining the torque or actuating force requirement of air dampers, the information provided by the damper manufacturer on the cross-section and design, as well as the installation situation and the ventilation conditions, must be observed.

Rotary actuators, fail-safe



Actuator type		Fail-safe	Nominal torque	Shaft diameter	Damper size up to approx. ¹⁾	Page
Rotary actuators						19–22
TF..		■	2.5 Nm	6...12.7 mm	■ 0.5 m ²	
LF..		■	4 Nm	8...16 mm	■ 0.8 m ²	
NF..A..		■	10 Nm	10...25.4 mm	■ 2 m ²	
SF..A.. + VSF24A..		■	20 Nm	10...25.4 mm	■ 4 m ²	
EF..A..		■	30 Nm	12...26.7 mm	■ 6 m ²	
GK..A..		■	40 Nm	12...26.7 mm	■ 8 m ²	
SKM230.. + CM24K..		■	2 Nm	6...12.7 mm	■ 0.4 m ²	
Very fast running rotary actuators						22
NKQ24A..		■	6 Nm	8...26.7 mm	■ 1.2 m ²	

Use of damper actuators from Belimo: The actuators listed in this documentation are designed for adjusting dampers in technical building installations.

1) The recommended damper sizes are guidelines. When determining the torque or actuating force requirement of air dampers, the information provided by the damper manufacturer on the cross-section and design, as well as the installation situation and the ventilation conditions, must be observed.

Special actuators, non fail-safe



Actuator type		Nominal torque	Actuating force	Height of stroke	Shaft diameter	Damper size up to approx. ¹⁾	Page
Fast running rotary actuators							23
TMC..A..		2 Nm			6...20 mm	■ 0.4 m ²	
LMC..A..		5 Nm			6...20 mm	■ 1 m ²	
NMC..A..		10 Nm			8...26.7 mm	■ 2 m ²	
SMC..A..		20 Nm			10...20 mm	■ 4 m ²	
GMC..A..		40 Nm			12...26.7 mm	■ 8 m ²	
Very fast running rotary actuators							24
LMQ..A..		4 Nm			8...26.7 mm	■ 0.8 m ²	
NMQ..A..		8 Nm			8...26.7 mm	■ 1.5 m ²	
NMD..A..		8 Nm			10...20 mm	■ 1.5 m ²	
SMQ..A..		16 Nm			12...26.7 mm	■ 3.2 m ²	
SMD..A..		16 Nm			10...20 mm	■ 3.2 m ²	
Very fast running linear actuators							25
LHQ..A..			100 N	0...100 mm		■ 0.7 m ²	
SHQ..A..			200 N	0...100 mm		■ 1.3 m ²	

Use of damper actuators from Belimo: The actuators listed in this documentation are designed for adjusting dampers in technical building installations.

¹⁾ The recommended damper sizes are guidelines. When determining the torque or actuating force requirement of air dampers, the information provided by the damper manufacturer on the cross-section and design, as well as the installation situation and the ventilation conditions, must be observed.

Special actuators, non fail-safe / fail-safe



Actuator type		Fail-safe	Nominal torque	Shaft diameter	Damper size up to approx. ¹⁾	Page
RobustLine rotary actuators for extreme conditions, non fail-safe / fail-safe						26
NM..P..			10 Nm	10...20 mm	 2 m ²	
SM..P..			20 Nm	14...20 mm	 4 m ²	
NKQ..P..		■	6 Nm	10...20 mm	 1.2 m ²	
IP66/67 NEMA 4X rotary actuators for outdoor applications, non fail-safe / fail-safe						27-28
SMQ..G..			16 Nm	12...26.7 mm	 3.2 m ²	
GM..G..			40 Nm	14...26.7 mm	 8 m ²	
NF..G..		■	10 Nm	12...26.7 mm	 2 m ²	
SF..G..		■	20 Nm	12...26.7 mm	 4 m ²	
GK..G..		■	40 Nm	14...26.7 mm	 8 m ²	

Use of damper actuators from Belimo: The actuators listed in this documentation are designed for adjusting dampers in technical building installations.

¹⁾ The recommended damper sizes are guidelines. When determining the torque or actuating force requirement of air dampers, the information provided by the damper manufacturer on the cross-section and design, as well as the installation situation and the ventilation conditions, must be observed.

Special actuators / RetroFIT+ actuators, non fail-safe / fail-safe



Actuator type		Fail-safe	Nominal torque	Form fit	Damper size	Page
Rotary actuators with high torque						29

PMCA..			160 Nm	17x17 mm	Special
PKCA..		■	160 Nm	17x17 mm	Special

Actuator type		Nominal torque	Damper blade diameter	Round duct diameter according to DIN EN 1506	Page
Actuators with damper blade					

CM..D		2 Nm	100...160 mm	DN 100...160
-------	---	------	--------------	--------------

Actuator type		Nominal torque	Shaft diameter	Control	Damper size up to approx. ¹⁾	Page
Configurable rotary actuators with connecting terminals						31

LM..A..		5 Nm	6...20 mm	Modulating 2...10 V ²⁾	 1 m²
NM..A..		10 Nm	8...26.7 mm	Modulating 2...10 V ²⁾	 2 m²
SM..A..		20 Nm	10...20 mm	Modulating 2...10 V ²⁾	 4 m²
GM..A..		40 Nm	12...26.7 mm	Modulating 2...10 V ²⁾	 8 m²

Use of damper actuators from Belimo: The actuators listed in this documentation are designed for adjusting dampers in technical building installations.

¹⁾ The recommended damper sizes are guidelines. When determining the torque or actuating force requirement of air dampers, the information provided by the damper manufacturer on the cross-section and design, as well as the installation situation and the ventilation conditions, must be observed.

²⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

RetroFIT+ non fail-safe actuators / configuration options



Actuator type		Nominal torque	Actuating force	Height of stroke	Shaft diameter	Control	Damper size up to approx. ¹⁾	Page
Configurable rotary actuators with special control and connecting cable								32
SM24A-MA		20 Nm			10...20 mm	Modulating 4...20 mA ²⁾	 4 m ²	
Configurable linear actuators with connecting terminals								33
LH..A..			150 N	0...300 mm		Modulating 2...10 V ²⁾	 1 m ²	
Configuration options								42-43

Use of damper actuators from Belimo: The actuators listed in this documentation are designed for adjusting dampers in technical building installations.

¹⁾ The recommended damper sizes are guidelines. When determining the torque or actuating force requirement of air dampers, the information provided by the damper manufacturer on the cross-section and design, as well as the installation situation and the ventilation conditions, must be observed.

²⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

Bus solutions from Belimo, save costs and energy!



Bus systems can be used to exchange any volume of data from various bus participants over the same physical lines. The user has unrestricted access to control, feedback and parameters on the individual devices. Cabling expenditures are reduced by up to 90% compared with actuators with conventional wiring.

Thanks to time and material savings (cables, connecting terminals, connectors, etc.), installation work is simpler and cheaper. Additional positive selling points for bus solutions include their lower fire load and the fact that they take up less space in cable trays and control cabinets. Depending on the application and requirements, different bus systems are used.

One or two sensors can also be connected to most communicative actuators. This may be a passive resistance sensor (Pt1000, Ni1000, NTC, etc.), an active sensor (e.g. with a DC 0...10 V output) or a switching contact. Its signals are digitised in the Belimo actuator and transferred to the higher-level bus system.



The Belimo MP-Bus was specially developed as a single-client/multi-server system for HVAC actuators and sensors. It allows up to eight different control devices to be grouped together and connected to any higher-level system. It is very resistant to external interferences and does not need bus terminals.



Modbus is a communication protocol, which has become the de-facto standard. It is used commonly all around the globe and in a huge range of applications. Its simple implementation makes Modbus very popular with many manufacturers.



BACnet is a proven, widely used communication protocol for building automation. The standard is open, requires no licence and is used by a large number of international providers, universities and associations. Implementing the BACnet Standard Device Profiles and the associated BACnet Interoperability Building Blocks guarantees genuine compatibility between various BACnet devices.



KNX is a well-engineered building automation system used around the world to control systems spanning several maintenance groups, such as heaters, blinds and security technology in buildings. The KNX-certified actuators enable direct connection to the KNX network. Communication takes place via the integrated KNX interface (TP, S-Mode).



IoT actuators with Ethernet interface can exchange operating and setting data with the Belimo Cloud. It is controlled locally via an analogue signal or BACnet/Modbus. Thanks to the open client API of the Belimo Cloud, a connection to a specific cloud solution can be implemented.

Rotary actuators
with connector plug

Nominal torque1 Nm
Damper size up to approx.0.2 m²

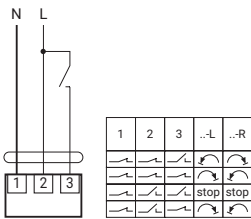
Nominal voltage	Direction of rotation	Angle of rotation	Degree of protection	 UM..
Open/close, 3-point				
AC/DC 24 V	 counterclockwise rotation	0...185°	IP20	UM24Y-L.1
	 clockwise rotation			UM24Y-R.1
AC 230 V	 counterclockwise rotation		IP20	UM230Y-L.1
	 clockwise rotation			UM230Y-R.1
Modulating (2...10 V) ¹⁾				
AC/DC 24 V	 counterclockwise rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops	IP20	UM24Y-SR-L.1
	 clockwise rotation			UM24Y-SR-R.1
Technical data				
Shaft diameter			6...12.7 mm	
Sound power level			≤35 dB(A) @ 22 s	
Running time motor 90°			22 s	
Connection			Molex Mini-Fit Jr. connector plug	
Ambient temperature			-30...50°C	
Storage temperature			-40...80°C	
Ambient humidity			95% RH, non-condensing	
EMC			CE according to 2014/30/EU	

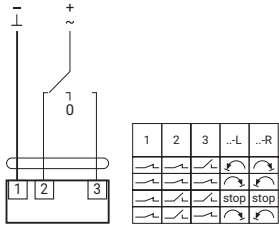
¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA. Other versions on request. Please get in touch with your local Belimo contact person.

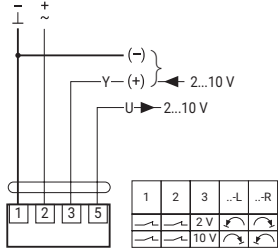
Electrical installation

Electrical and mechanical accessories
page 34–35

Open/close	3-point	Modulating
UM24.., UM230..	UM24.., UM230..	UM24..-SR..
		Y = 2...10 V / U = 2...10 V







Rotary actuators with connecting cable

Nominal torque **2 Nm**
Damper size up to approx. 0.4 m²

Nominal voltage	Direction of rotation	Angle of rotation	Degree of protection	 CM..
Open/close, 3-point				
AC/DC 24 V	↺ counterclockwise rotation	0...287.5° / without limits	IP54	CM24-L
	↻ clockwise rotation			CM24-R
	↺ counterclockwise rotation		IP66	CM24G-L
	↻ clockwise rotation			CM24G-R
AC 230 V	↺ counterclockwise rotation	0...287.5° / without limits	IP54	CM230-L
	↻ clockwise rotation			CM230-R
	↺ counterclockwise rotation		IP66	CM230G-L
	↻ clockwise rotation			CM230G-R
Modulating (2...10 V) ¹⁾				
AC/DC 24 V	↺ counterclockwise rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops	IP54	CM24-SR-L
	↻ clockwise rotation			CM24-SR-R
	↺ counterclockwise rotation		IP66	CM24G-SR-L
	↻ clockwise rotation			CM24G-SR-R
Modulating (2...10 V) with adaptation 1 ¹⁾				
AC/DC 24 V	↺ counterclockwise rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops	IP54	CM24-SX-L
	↻ clockwise rotation			CM24-SX-R
Communicative ²⁾				
AC/DC 24 V	↺ counterclockwise rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops	IP54	CM24-MPL-L
	↻ clockwise rotation			CM24-MPL-R
Technical data				
Shaft diameter			6...12.7 mm	
Sound power level			≤35 dB(A) @ 75 s	
Running time motor 90°			75 s	
Manual override			Gear train disengagement with magnet	
Connection			Connecting cable 1 m	
Position indication			Mechanical, add-on	
Ambient temperature			-30...50°C	
Storage temperature			-40...80°C	
Ambient humidity			95% RH, non-condensing	
EMC			CE according to 2014/30/EU	

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

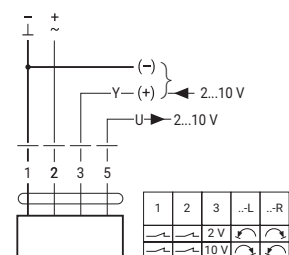
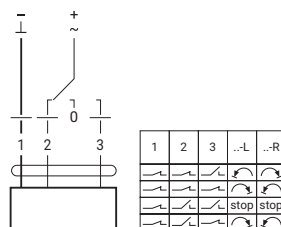
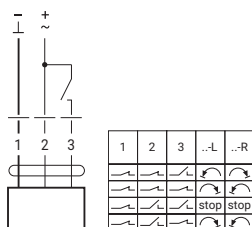
²⁾ You can find suitable system diagrams at www.belimo.com.

Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

Electrical and mechanical accessories **page 34–35**

Open/close	3-point	Modulating
CM24.., CM230..	CM24.., CM230..	CM24..-SR.., CM24..-SX..
		Y = 2...10 V / U = 2...10 V



Rotary actuators with connecting cable

Nominal torque	5 Nm	10 Nm	20 Nm	40 Nm
Damper size up to approx.	1 m ²	2 m ²	4 m ²	8 m ²
Nominal voltage				
SPDT auxiliary switch				
				
	LM...A..	NM...A..	SM...A..	GM...A..
Open/close, 3-point				
AC/DC 24 V	1 LM24A	NM24A	SM24A	GM24A
	1 LM24A-S	NM24A-S	SM24A-S	
AC 230 V	1 LM230A	NM230A	SM230A	GM230A
	1 LM230A-S	NM230A-S	SM230A-S	
Modulating (2...10 V) ¹⁾				
AC/DC 24 V	LM24A-SR	NM24A-SR	SM24A-SR	GM24A-SR
AC 230 V	LM230ASR	NM230ASR	SM230ASR	
Communicative ²⁾ , configurable ³⁾				
AC/DC 24 V	LM24A-MP LM24A-MOD ⁴⁾ LM24A-KNX VLM24A-LP1 ⁵⁾	NM24A-MP NM24A-MOD ⁴⁾ NM24A-KNX VNM24A-LP1 ⁵⁾	SM24A-MP SM24A-MOD ⁴⁾ VSM24A-LP1 ⁵⁾	GM24A-MP GM24A-MOD ⁴⁾ VGM24A-LP1 ⁵⁾
Technical data				
Shaft diameter	6...20 mm	8...26.7 mm	10...20 mm	12...26.7 mm
Sound power level	≤35 dB(A) @ 150 s	≤35 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤45 dB(A) @ 150 s
Running time motor 90°	150 s			
Manual override	Gear train disengagement with push button, can be locked			
Connection	Connecting cable 1 m			
Direction of rotation	Selectable with switch			
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops			
Position indication	Mechanical, add-on			
Degree of protection	IP54			
Ambient temperature	-30...50°C			
Storage temperature	-40...80°C			
Ambient humidity	95% RH, non-condensing			
EMC	CE according to 2014/30/EU			

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

²⁾ You can find suitable system diagrams at www.belimo.com.

³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

⁴⁾ All MOD versions work with Modbus and BACnet.

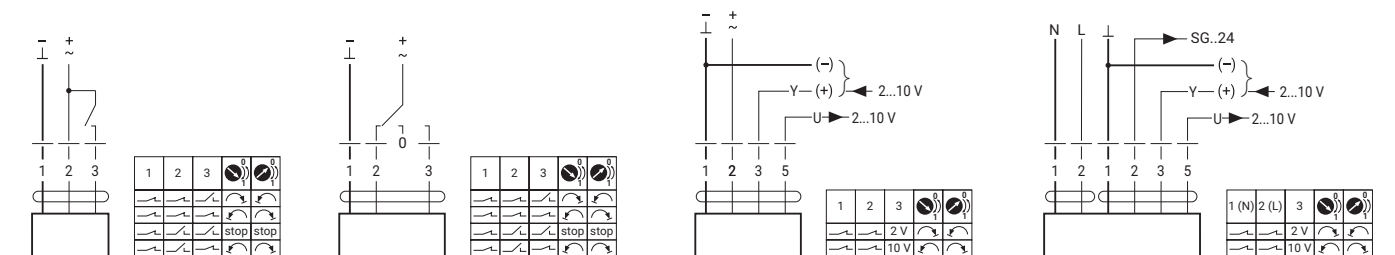
⁵⁾ All V...LP1 versions are IoT-compatible and can exchange data with the Belimo Cloud.

Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

Electrical and mechanical accessories **page 34–35**

Open/close	3-point	Modulating	Configurable	Modulating
..M24A, ..M24A-S, ..M230A, ..M230A-S	..M24A, ..M24A-S, ..M230A, ..M230A-S	..M24A-SR	..M24A-MP	..M230ASR
	(not permissible for GM...A..)	Y = 2...10 V U = 2...10 V	Y = variable U = variable	Y = 2...10 V U = 2...10 V



Rotary actuators with connecting terminals

Nominal torque **2 Nm**

Damper size up to approx. **0.4 m²**

Nominal voltage	Direction of rotation	Angle of rotation	Degree of protection	 CM...T..
Open/close, 3-point				
AC/DC 24 V	↺ counterclockwise rotation	0...287.5° / without limits	IP20	CM24-T-L
	↻ clockwise rotation			CM24-T-R
Modulating (2...10 V) ¹⁾				
AC/DC 24 V	↺ counterclockwise rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops	IP20	CM24-SR-T-L
	↻ clockwise rotation			CM24-SR-T-R
Modulating (2...10 V) with adaptation ¹⁾				
AC/DC 24 V	↺ counterclockwise rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops	IP20	CM24-SX-T-L
	↻ clockwise rotation			CM24-SX-T-R

Technical data

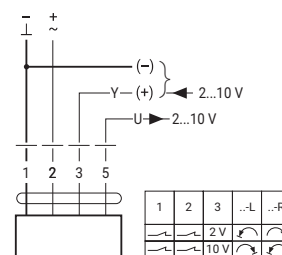
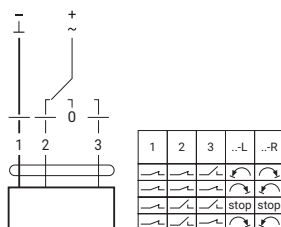
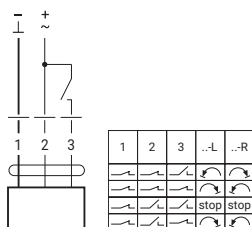
Shaft diameter	6...12.7 mm
Sound power level	≤35 dB(A) @ 75 s
Running time motor 90°	75 s
Manual override	Gear train disengagement with magnet
Connection	Connecting terminals
Position indication	Mechanical, add-on
Ambient temperature	-30...50°C
Storage temperature	-40...80°C
Ambient humidity	95% RH, non-condensing
EMC	CE according to 2014/30/EU

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.
Other versions on request. Please get in touch with your local Belimo contact person.

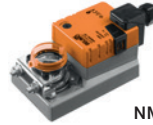
Electrical installation

Electrical and mechanical accessories **page 34–35**

Open/close	3-point	Modulating
CM24..	CM24..	CM24..-SR.., CM24..-SX..
		Y = 2...10 V U = 2...10 V



Rotary actuators with connecting terminals

Nominal torque		5 Nm	10 Nm	20 Nm	40 Nm
Damper size up to approx.		1 m²	2 m²	4 m²	8 m²
Nominal voltage	SPDT auxiliary switch				
		LM...A-TP	NM...A-TP	SM...A-TP	GM...A-TP
Open/close, 3-point		Open/close			
AC/DC 24 V		LM24A-TP	NM24A-TP	SM24A-TP	GM24A-TP
	1	LM24A-S-TP	NM24A-S-TP	SM24A-S-TP	
AC 230 V		LM230A-TP	NM230A-TP	SM230A-TP	GM230A-TP
	1	LM230A-S-TP	NM230A-S-TP	SM230A-S-TP	
Modulating (2...10 V) ¹⁾					
AC/DC 24 V		LM24A-SR-TP	NM24A-SR-TP	SM24A-SR	GM24A-SR-TP
AC 230 V		LM230ASR-TP	NM230ASR-TP	SM230ASR-TP	
Communicative ²⁾ , configurable ³⁾					
AC/DC 24 V		LM24A-MP-TP	NM24A-MP-TP	SM24A-MP-TP	GM24A-MP-TP
Technical data					
Shaft diameter	6...20 mm		8...26.7 mm	10...20 mm	12...26.7 mm
Sound power level	≤35 dB(A) @ 150 s		≤35 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤45 dB(A) @ 150 s
Running time motor 90°	150 s				
Manual override	Gear train disengagement with push button, can be locked				
Connection	Connecting terminals				
Direction of rotation	Selectable with switch				
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops				
Position indication	Mechanical, add-on				
Degree of protection	IP54				
Ambient temperature	-30...50°C				
Storage temperature	-40...80°C				
Ambient humidity	95% RH, non-condensing				
EMC	CE according to 2014/30/EU				

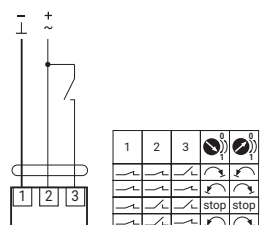
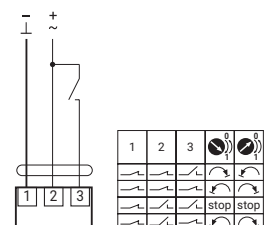
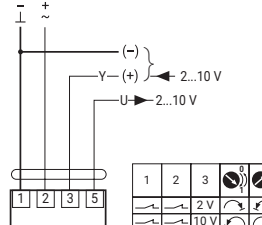
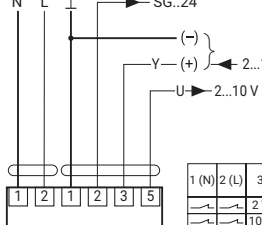
¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

²⁾ You can find suitable system diagrams at www.belimo.com.

³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set). Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

Electrical and mechanical accessories **page 34–35**

Open/close	3-point	Modulating	Configurable	Modulating
..M24A-TP, ..M24A-S-TP, ..M230A-TP, ..M230A-S-TP	..M24A-TP, ..M24A-S-TP, ..M230A-TP, ..M230A-S-TP (not permissible for GM..A..)	..M24A-SR-TP Y = 2...10 V U = 2...10 V	..M24A-MP-TP Y = variable U = variable	..M230ASR-TP Y = 2...10 V U = 2...10 V
				

Linear actuators with connector plug, connecting cable / terminals

Actuating force		50 N	125 N	150 N	
Damper size up to approx.		0.2 m²	0.8 m²	1 m²	
Height of stroke	Nominal voltage				
		UH..	CH..	LH..A..	
Open/close, 3-point					
60 mm	AC/DC 24 V	UH24Y-L.1	CH24-L60.2	LH24A60	
100 mm			CH24-L100.2	LH24A100	
200 mm				LH24A200	
300 mm				LH24A300	
60 mm	230 V	UH230Y-L.1	CH230-L60.2	LH230A60	
100 mm			CH230-L100.2	LH230A100	
200 mm				LH230A200	
300 mm				LH230A300	
Modulating (2...10 V) ¹⁾			Direction of stroke 0 ²⁾	Direction of stroke 1 ²⁾	
60 mm	AC/DC 24 V	UH24Y-SR-L.1	CH24-SR-L60.2	CH24-SR-R60.2	
100 mm			CH24-SR-L100.2	CH24-SR-R100.2	
200 mm				LH24A-SR100	
100 mm		230 V			LH24A-SR200
200 mm				LH230ASR100	
				LH230ASR200	
Modulating (2...10 V) with adaptation ¹⁾			Direction of stroke 0 ²⁾	Direction of stroke 1 ²⁾	
40 mm	AC/DC 24 V		CH24-SX-L40.2	CH24-SX-R40.2	
100 mm			CH24-SX-L100.2	CH24-SX-R100.2	
Communicative ³⁾ , configurable ⁴⁾					
60 mm	AC/DC 24 V			Connecting cables	Connecting terminals
100 mm				LH24A-MP60	LH24A-MP60-TP
200 mm				LH24A-MP100	LH24A-MP100-TP
				LH24A-MP200	LH24A-MP200-TP
300 mm				LH24A-MP200 5)	LH24A-MP200-TP
				LH24A-MP300	LH24A-MP300-TP
				LH24A-MOD200 5)	LH24A-MOD300 5)
Technical data					
Running time motor 100 mm		122 s	380 s	150 s	
Sound power level		≤35 dB(A) @ 122 s	≤35 dB(A) @ 380 s	≤45 dB(A) @ 150 s	
Manual override		Manual override by dismantling the actuator	Gear train disengagement with magnet	Gear train disengagement with push button, can be locked	
Connection		Molex Mini-Fit Jr. connector plug	Connecting cable 1 m	Connecting cable 1 m / terminals	
Direction of stroke		Selectable via contacting	Selectable via contacting	Selectable with switch	
Height of stroke		Adjustable in 1 mm increments from 0...60 mm	Adjustable in 20 mm increments from 20...100 mm	Adjustable in 20 mm increments from 20...300 mm	
Degree of protection		IP20	IP54	IP54	
Ambient temperature		-30...50°C			
Storage temperature		-40...80°C			
Ambient humidity		95% RH, non-condensing			
EMC		CE according to 2014/30/EU			

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

²⁾ Direction of stroke 0: when Y = 0 V, gear rod is retracted / direction of stroke 1: when Y = 0 V, gear rod is extended.

³⁾ You can find suitable system diagrams at www.belimo.com.

⁴⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

⁵⁾ All MOD versions work with Modbus and BACnet.

Other versions on request. Please get in touch with your local Belimo contact person.

Linear actuators with connecting cable

Actuating force

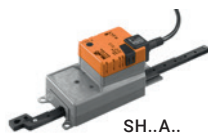
450 N

Damper size up to approx.

3 m²

Height of stroke

Nominal stroke



Open/close, 3-point

100 mm	AC/DC 24 V	SH24A100
200 mm		SH24A200
300 mm		SH24A300
100 mm	230 V	SH230A100
200 mm		SH230A200
300 mm		SH230A300

Modulating (2...10 V) ¹⁾

100 mm	AC/DC 24 V	SH24A-SR100
200 mm		SH24A-SR200
100 mm	230 V	SH230ASR100
200 mm		SH230ASR200

Communicative ²⁾, configurable ³⁾

100 mm	AC/DC 24 V	SH24A-MP100
200 mm		SH24A-MP200
		SH24A-MOD200 ⁴⁾
300 mm		SH24A-MP300

Technical data

Running time motor 100 mm	150 s
Sound power level	≤52 dB(A) @ 150 s
Manual override	Gear train disengagement with push button, can be locked
Connection	Connecting cable 1 m
Direction of stroke	Selectable with switch
Height of stroke	Adjustable in 20 mm increments from 20...100 mm
Degree of protection	IP54
Ambient temperature	-30...50°C
Storage temperature	-40...80°C
Ambient humidity	95% RH, non-condensing
EMC	CE according to 2014/30/EU

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

²⁾ You can find suitable system diagrams at www.belimo.com.

³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

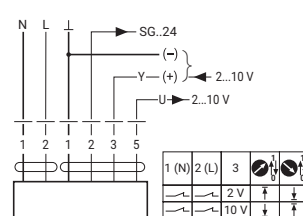
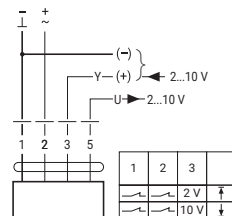
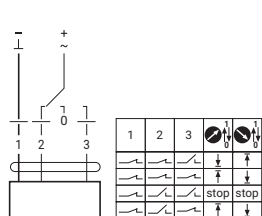
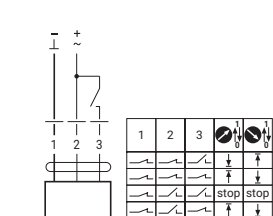
⁴⁾ All MOD versions work with Modbus and BACnet.

Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

Electrical and mechanical accessories **page 34–35**

Open/close	3-point	Modulating	Configurable	Modulating
..H24A.., ..H230A..	..H24A.., ..H230A..	CH24-S.., ..H24A-SR..	..H24A-MP..	..H230ASR..
		Y = 2...10 V U = 2...10 V	Y = variable U = variable	Y = 2...10 V U = 2...10 V



Rotary actuators, fail-safe

Nominal torque		2.5 Nm		4 Nm		10 Nm	
Damper size up to approx.		0.5 m²		0.8 m²		2 m²	
Nominal voltage	Running time motor 90°						
		TF..		LF..		NF..A..	
		Without auxiliary switch	With 1 SPDT auxiliary switch	Without auxiliary switch	With 1 SPDT auxiliary switch	Without auxiliary switch	With 2 SPDT auxiliary switches
Open/close							
AC/DC 24 V	40...75 s			LF24	LF24-S		
	75 s	TF24	TF24-S			NF24A	NF24A-S2
AC 230 V	40...75 s			LF230	LF230-S		
	75 s	TF230	TF230-S				
AC 24...240 V DC 24...125 V	75 s					NFA	NFA-S2
Modulating (2...10 V) ¹⁾							
AC/DC 24 V	150 s	TF24-SR		LF24-SR		NF24A-SR	NF24A-SR-S2
AC 230 V	150 s	TF230-SR					
Communicative ²⁾ , configurable ³⁾							
AC/DC 24 V	40...75 s			LF24-MFT2			
	75 s	TF24-MFT					
	150 s					NF24A-MP NF24A-MOD ⁴⁾	
Technical data							
Shaft diameter	6...12.7 mm			8...16 mm		10...25.4 mm	
Motor sound power level	≤50 dB(A) @ 75 s			≤50 dB(A) @ 75 s		≤45 dB(A) @ 75 s	
Sound power level fail-safe position	≤62 dB(A) @ 25 s			≤62 dB(A) @ 20 s		≤62 dB(A) @ 20 s	
Running time fail-safe position 90°	<25 s			20 s		<20 s	
Manual override	–			–		Hand crank	
Degree of protection	IP42			IP54		IP54	
Connection	Connecting cable 1 m, PVC						
Direction of rotation	Selectable by mounting left/right						
Angle of rotation	Max. 95°, can be limited on one side by adjustable mechanical end stops						
Position indication	Mechanical						
Ambient temperature	–30...50°C ⁵⁾						
Storage temperature	–40...80°C						
Ambient humidity	95% RH, non-condensing						
EMC	CE according to 2014/30/EU						

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

²⁾ You can find suitable system diagrams at www.belimo.com.

³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

⁴⁾ All MOD versions work with Modbus and BACnet.

⁵⁾ Heating for ambient temperatures to –40°C on request.

Other versions on request. Please get in touch with your local Belimo contact person.

Rotary actuators, fail-safe

Nominal torque **20 Nm**

Damper size up to approx. 4 m²

30 Nm

6 m²

Nominal voltage	Running time motor 90°				
		SF..A..	EF..A..		
		Without auxiliary switch	With 2 SPDT auxiliary switches	Without auxiliary switch	With 2 SPDT auxiliary switches
Open/close					
AC/DC 24 V	75 s	SF24A	SF24A-S2	EF24A	EF24A-S2
AC 230 V	75 s			EF230A	EF230A-S2
AC 24...240 V DC 24...125 V	75 s	SFA	SFA-S2		
Modulating (2...10 V) ¹⁾					
AC/DC 24 V	150 s	SF24A-SR	SF24A-SR-S2	EF24A-SR	EF24A-SR-S2
Communicative ²⁾ , configurable ³⁾					
AC/DC 24 V	150 s	SF24A-MP SF24A-MOD ⁴⁾ VSF24A-LP1 ⁵⁾		EF24A-MP	
Technical data					
Shaft diameter	10...25.4 mm			12...26.7 mm	
Motor sound power level	≤45 dB(A) @ 75 s			≤50 dB(A) @ 75 s	
Sound power level fail-safe position	≤62 dB(A) @ 20 s			≤62 dB(A) @ 20 s	
Running time fail-safe position 90°	<20 s			<20 s	
Manual override	Hand crank			Hand crank	
Degree of protection	IP54			IP54 / IP66 ⁶⁾	
Connection	Connecting cable 1 m, PVC				
Direction of rotation	Selectable by mounting left/right				
Angle of rotation	Max. 95°, can be limited on one side by adjustable mechanical end stops				
Position indication	Mechanical				
Ambient temperature	-30...50°C ⁷⁾				
Storage temperature	-40...80°C				
Ambient humidity	95% RH, non-condensing				
EMC	CE according to 2014/30/EU				

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

²⁾ You can find suitable system diagrams at www.belimo.com.

³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

⁴⁾ All MOD versions work with Modbus and BACnet.

⁵⁾ All V..-LP1 versions are IoT-compatible and can exchange data with the Belimo Cloud.

⁶⁾ IP66 version on request.

⁷⁾ Heating for ambient temperatures down to -40°C on request.

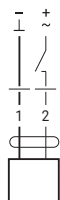
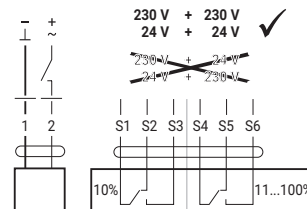
Other versions on request. Please get in touch with your local Belimo contact person.

Rotary actuators, fail-safe

Electrical installation

Electrical and mechanical accessories **page 36-37**

Open/close

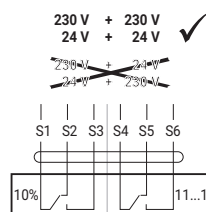
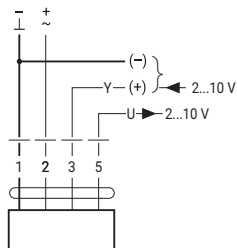
..F24, ..F24-S, ..F230, ..F230-S**..F24, ..F24-S2, ..F230A, ..F230A-S2, ..FA, ..FA-S2**

Modulating

TF24-SR, TF230-SR, ..F24A-SR, ..F24A-SR-S2

Y = 2...10 V

U = 2...10 V

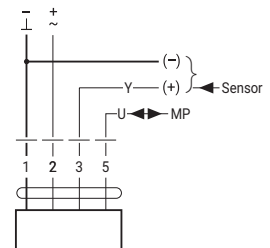


Configurable

..F24-MFT., ..F24A-MP

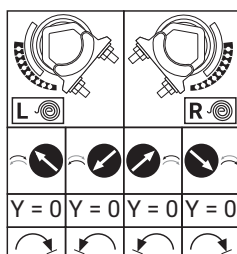
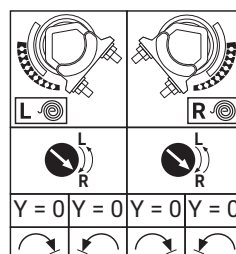
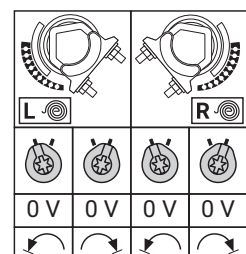
Y = variable

U = variable



Direction of rotation

Modulating

TF24-SR, TF230-SR**LF24-SR****..F24A-SR, ..F24A-SR-S2**

Rotary actuators and very fast running rotary actuators, fail-safe

Nominal torque **40 Nm**
Damper size up to approx. 8 m²

2 Nm
0.4 m²

6 Nm
1.2 m²

Nominal voltage



GK..A..



CM24K..



SKM230-T-B12



NKQ..A..

↺ counterclockwise rotation

↻ clockwise rotation

Open/close

AC/DC 24 V

GK24A-1

CM24K-T-L.2

CM24K-T-R.2

NKQ24A-1

External power module

AC 230 V

SKM230-T-B12.1

Modulating (2...10 V) ¹⁾

AC/DC 24 V

GK24A-SR

NKQ24A-SR

Communicative ²⁾, configurable ³⁾

AC/DC 24 V

GK24A-MP
GK24A-MOD ⁴⁾

Technical data

Shaft diameter	12...26.7 mm	6...12.7 mm	8...26.7 mm
Motor sound power level	≤52 dB(A) @ 150 s	≤35 dB(A) @ 75 s	≤60 dB(A) @ 4 s
Sound power level fail-safe position	≤61 dB(A) @ 35 s	≤55 dB(A) @ 15 s	≤60 dB(A) @ 4 s
Running time motor 90°	150 s	75 s	4 s
Running time fail-safe 90°	35 s	15 s	4 s
Degree of protection	IP54	IP20 (CM24..) / IP40 (SKM..)	IP54
Manual override	Gear train disengagement with push button	Gear train disengagement with magnet	Gear train disengagement with push button
Connection	Connecting cable 1 m	Connecting terminals	Connecting cable 1 m
Direction of rotation	Selectable with switch	Selectable via actuator	Selectable with switch
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops		
Position indication	Mechanical, add-on		
Ambient temperature	-30...50°C		
Storage temperature	-40...80°C		
Ambient humidity	95% RH, non-condensing		
EMC	CE according to 2014/30/EU		

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 0.5 mA.

²⁾ You can find suitable system diagrams at www.belimo.com.

³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

⁴⁾ All MOD versions work with Modbus and BACnet.

Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

Electrical and mechanical accessories **page 36–37**

Open/close

SKM230-T-B12.1

CM24K-T..

Open/close

GK24A-1, NKQ24A-1

Modulating

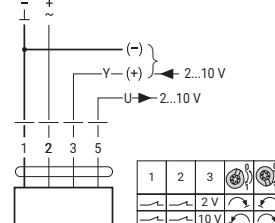
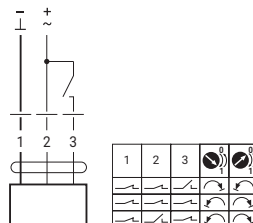
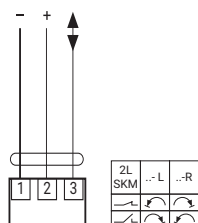
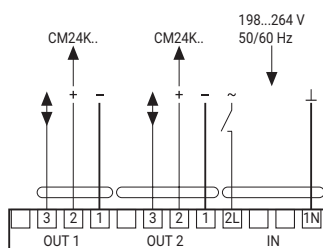
..24A-SR

Y = 2...10 V
U = 2...10 V

Configurable

GK24A-MP

Y = variable
U = variable



Fast running rotary actuators

Nominal torque	2 Nm	5 Nm	10 Nm	20 Nm	40 Nm
Damper size up to approx.	0.4 m ²	1 m ²	2 m ²	4 m ²	8 m ²
Nominal voltage					
SPDT auxiliary switch					
					
	TMC..A..	LMC..A..	NMC..A..	SMC..A..	GMC..A..
Open/close, 3-point					
AC/DC 24 V	TMC24A	LMC24A			
1	TMC24A-S				
AC 230 V	TMC230A	LMC230A			GMC230A
1	TMC230A-S	LMC230A-S			
Modulating (2...10 V) ¹⁾					
AC/DC 24 V	TMC24A-SR	LMC24A-SR			
AC 230 V	TMC230ASR				
Communicative ²⁾ , configurable ³⁾					
AC/DC 24 V			NMC24A-MP	SMC24A-MP SMC24A-MOD ⁴⁾	
Technical data					
Shaft diameter	6...20 mm	6...20 mm	8...26.7 mm	10...20 mm	12...26.7 mm
Sound power level	≤40 dB(A) @ 35 s	≤45 dB(A) @ 35 s	≤45 dB(A) @ 35 s	≤55 dB(A) @ 35 s	≤45 dB(A) @ 35 s
Running time motor 90°	35 s				
Manual override	Gear train disengagement with push button, can be locked				
Connection	Connecting cable 1 m				
Direction of rotation	Selectable with switch				
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops				
Position indication	Mechanical, add-on				
Degree of protection	IP54				
Ambient temperature	-30...50°C				
Storage temperature	-40...80°C				
Ambient humidity	95% RH, non-condensing				
EMC	CE according to 2014/30/EU				

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

²⁾ You can find suitable system diagrams at www.belimo.com.

³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

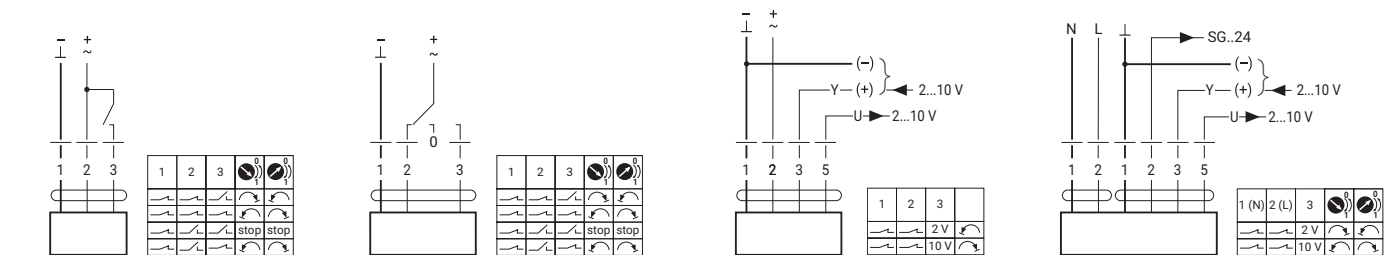
⁴⁾ All MOD versions work with Modbus and BACnet.

Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

Electrical and mechanical accessories **page 38–39**

Open/close	3-point	Modulating	Configurable	Modulating
..MC24A, TMC24A-S, ..MC230A, TMC230A-S	..MC24A, TMC24A-S, ..MC230A, TMC230A-S	..MC24A-SR	..MC24A-MP	TMC230ASR
		Y = 2...10 V U = 2...10 V	Y = variable U = variable	Y = 2...10 V U = 2...10 V



Very fast running rotary actuators

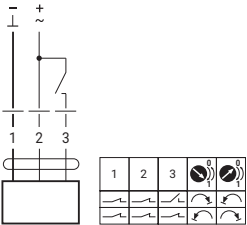
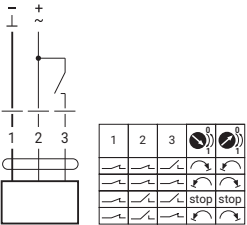
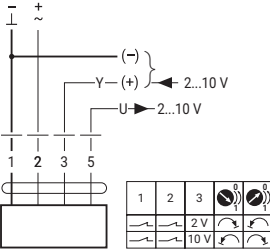
Nominal torque	4 Nm	8 Nm	8 Nm	16 Nm	16 Nm
Damper size up to approx.	0.8 m ²	1.5 m ²	1.5 m ²	3.2 m ²	3.2 m ²
Nominal voltage	    				
	LMQ..A..	NMQ..A..	NMD..A..	SMQ..A..	SMD..A..
Open/close					
AC/DC 24 V	LMQ24A	NMQ24A		SMQ24A	
Open/close, 3-point					
AC/DC 24 V					SMD24A
AC 230 V			NMD230A		SMD230A
Modulating (2...10 V) ¹⁾					
AC/DC 24 V	LMQ24A-SR	NMQ24A-SR		SMQ24A-SR	
Technical data					
Shaft diameter	8...26.7 mm	8...26.7 mm	10...20 mm	12...26.7 mm	10...20 mm
Sound power level	≤54 dB(A) @ 2.5 s	≤56 dB(A) @ 4 s	≤55 dB(A) @ 20 s	≤63 dB(A) @ 7 s	≤55 dB(A) @ 20 s
Running time motor 90°	2.5 s	4 s	20 s	7 s	20 s
Ambient temperature	-30...40°C (40...50°C limited) ²⁾	-30...40°C (40...50°C limited) ²⁾	-30...50°C	-30...40°C (40...50°C limited) ²⁾	-30...50°C
Manual override	Gear train disengagement with push button, can be locked				
Connection	Connecting cable 1 m				
Direction of rotation	Selectable with switch				
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops				
Position indication	Mechanical, add-on				
Degree of protection	IP54				
Storage temperature	-40...80°C				
Ambient humidity	95% RH, non-condensing				
EMC	CE according to 2014/30/EU				

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range 2...10 V / position feedback U = 2...10 V, max. 0.5 mA for LMQ..A, NMQ..A, SMQ..A.

²⁾ Please get in touch with your local Belimo contact person.
Other versions on request.

Electrical installation

Electrical and mechanical accessories **page 38–39**

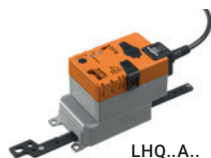
Open/close	3-point	Modulating
..MQ24A	NMD..A / SMD..A	..MQ24A-SR
		Y = 2...10 V U = 2...10 V
		

Very fast running linear actuators

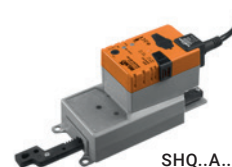
Actuating force **100 N**
Damper size up to approx. 0.7 m²

200 N
 1.3 m²

Nominal voltage



LHQ..A..



SHQ..A..

Open/close

AC/DC 24 V

LHQ24A100

SHQ24A100

Modulating (2...10 V) ¹⁾

AC/DC 24 V

LHQ24A-SR100

SHQ24A-SR100

Technical data

Height of stroke	0...100 mm; adjustable in 20 mm increments from 40...100 mm	0...100 mm; adjustable in 20 mm increments from 40...100 mm
Sound power level	≤56 dB(A) @ 3.5 s	≤56 dB(A) @ 7 s
Running time motor 100 mm	3.5 s	7 s
Manual override	Gear train disengagement with push button, can be locked	
Connection	Connecting cable 1 m	
Direction of stroke	Selectable with switch	
Degree of protection	IP54	
Ambient temperature	-30...40°C (40...50°C limited) ²⁾	
Storage temperature	-40...80°C	
Ambient humidity	95% RH, non-condensing	
EMC	CE according to 2014/30/EU	

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 0.5 mA.

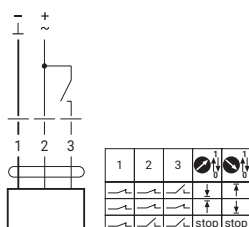
²⁾ Please get in touch with your local Belimo contact person.
 Other versions on request.

Electrical installation

Electrical and mechanical accessories **page 38–39**

Open/close

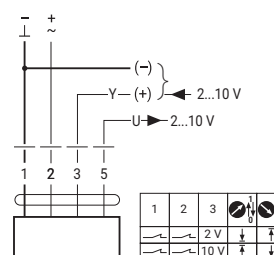
..HQ24A100



Modulating

..HQ24A-SR

Y = 2...10 V / U = 2...10 V



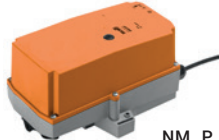
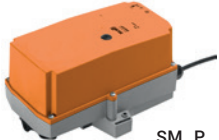
RobustLine rotary actuators for extreme conditions, non fail-safe / fail-safe

Nominal torque
Damper size up to approx.

10 Nm
2 m²

20 Nm
4 m²

6 Nm
1.2 m²

Open/close	3-point	Modulating (2...10V)	Configurable	Nominal voltage					
									
						NM..P.	SM..P.	NKQ..P.	
						Without auxiliary switch	With 1 SPDT auxiliary switch	Without auxiliary switch	With 1 SPDT auxiliary switch
Open/close, 3-point									
■	■			AC/DC 24 V	NM24P	NM24P-S	SM24P	SM24P-S	
■				AC/DC 24 V					NKQ24P-1
■	■			AC 230 V	NM230P ⁴⁾	NM230P-S ⁴⁾	SM230P ⁴⁾	SM230P-S ⁴⁾	
Modulating (2...10 V) ¹⁾									
	■			AC/DC 24 V	NM24P-SR		SM24P-SR		NKQ24P-SR
	■			AC 230 V	NM230PSR		SM230PSR		
Communicative ²⁾ , configurable ³⁾									
		■		AC/DC 24 V	NM24P-MP		SM24P-MP		

Technical data

Fail-safe	—	—	■
Shaft diameter	10...20 mm	14...20 mm	10...20 mm
Running time motor 90°	150 s	150 s	4 s
Running time fail-safe 90°	—	—	4 s
Manual override	Gear train disengagement with push button, can be locked	Gear train disengagement with push button, can be locked	Gear train disengagement with push button
Motor sound power level	≤35 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤60 dB(A) @ 4 s
Sound power level fail-safe position	—	—	≤60 dB(A) @ 4 s
Ambient temperature	-30...50°C (with heating to -40°C) ⁴⁾	-30...50°C (with heating to -40°C) ⁴⁾	-30...50°C
Connection	Connecting cable 1 m, FRNC		
Direction of rotation	Selectable with switch		
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops		
Position indication	Mechanical, add-on		
Degree of protection	IP66/67 / NEMA 4X		
Storage temperature	-40...80°C		
Ambient humidity	100% RH		
EMC	CE according to 2014/30/EU		

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range 2...10 V / position feedback U = 2...10 V, max. 1 mA for NM..P and SM..P, max. 0.5 mA for NKQ..P.

²⁾ You can find fault for NKQ..P.

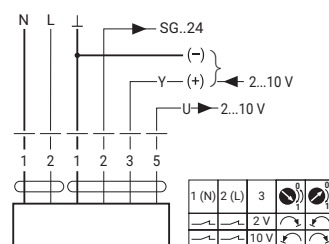
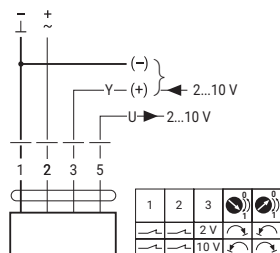
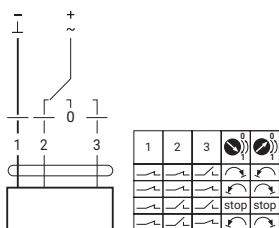
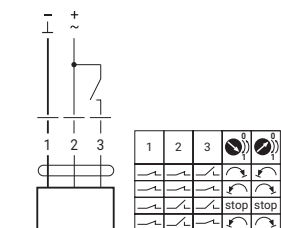
³⁾ Configurable with Belimo Assistant 2 or Service-Tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

⁴⁾ Available with heating and thermostat AC 230 V or with heating and humidistat AC 230 V for ambient temperatures down to -40°C (see overview of accessories page 40–41). Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

Electrical and mechanical accessories page 40–41

Open/close	3-point	Modulating	Configurable	Modulating
..M24P, ..M24P-S, ..M230P, ..M230P-S, NKQ24P-1	..M24P, ..M24P-S, ..M230P, ..M230P-S	..24P-SR	..24P-MP	..M230PSR
		Y = 2...10 V U = 2...10 V	Y = variable U = variable	Y = 2...10 V U = 2...10 V



IP66/67 / NEMA 4X rotary actuators for outdoor applications

Nominal torque		16 Nm	40 Nm
Damper size up to approx.		3.2 m ²	8 m ²
Nominal voltage	Running time motor 90°	 SMQ..G..	 GM..G..
		Without auxiliary switch	Without auxiliary switch
Open/close			
AC/DC 24 V	7 s	SMQ24G	
	150 s		GM24G-T
AC 230 V	150 s		GM230G-T
Modulating (2...10 V) ¹⁾			
AC/DC 24 V	7 s	SMQ24G-SR	
	150 s		GM24G-SR-T
Communicative ²⁾, configurable ³⁾			
AC/DC 24 V	150 s		GM24G-MP-T
Technical data			
Shaft diameter	12...26.7 mm		14...26.7 mm
Manual override	Gear train disengagement with push button, can be locked		Manual override button with push button, can be locked
Motor sound power level	≤63 dB(A) @ 7 s		≤45 dB(A) @ 150 s
Ambient temperature	-30...40°C ⁴⁾ (40...50°C limited) ⁵⁾		-30...50°C (with heating to -40°C) ⁴⁾
Connection	Connecting cable 1 m, FRNC		Connecting terminals
Direction of rotation	Selectable with switch		
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops		
Position indication	Mechanical, add-on		
Degree of protection	IP66/67 / NEMA 4X		
Storage temperature	-40...80°C		
Ambient humidity	100% RH		
EMC	CE according to 2014/30/EU		

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range 2...10 V / position feedback U = 2...10 V, max. 1 mA for GM..G, NF..G and SF..G, max. 0.5 mA for SMQ..G and GK..G.

²⁾ You can find suitable system diagrams at www.belimo.com.

³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

⁴⁾ Available with heating and thermostat AC 230 V or with heating and humidistat AC 230 V for ambient temperatures down to -40°C (see overview of accessories [page 40–41](#)).

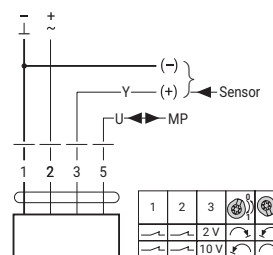
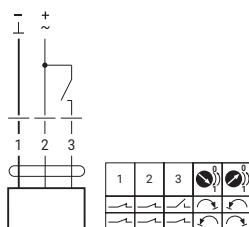
⁵⁾ Please get in touch with your local Belimo contact person.

Other versions on request.

Electrical installation

Electrical and mechanical accessories [page 40–41](#)

Open/close	Modulating	Configurable
GM..G, SMQ24G	..24G-SR..	..24G-MP..
	Y = 2...10 V	Y = variable
	U = 2...10 V	U = variable



IP66/67 / NEMA 4X rotary actuators for outdoor applications, fail-safe

Nominal torque		10 Nm		20 Nm		40 Nm	
Damper size up to approx.		2 m ²		4 m ²		8 m ²	
Nominal voltage	Running time motor 90°						
		NF..G..		SF..G..		GK..G..	
		Without auxiliary switch	With 2 SPDT auxiliary switches	Without auxiliary switch	With 2 SPDT auxiliary switches	Without auxiliary switch	
Open/close							
AC/DC 24 V	150 s					GK24G-1	
AC 24...240 V	<75 s	NFG-L	NFG-S2-L	SFG-L	SFG-S2-L		
DC 24...125 V							
Modulating (2...10 V) ¹⁾							
AC/DC 24 V	150 s	NF24G-SR-L	NF24G-SR-S2-L	SF24G-SR-L	SF24G-SR-S2-L	GK24G-SR	
Communicative ²⁾ , configurable ³⁾							
AC/DC 24 V	<75 s	NF24G-MP-L		SF24G-MP-L			
	150 s					GK24G-MP	
Technical data							
Shaft diameter	12...26.7 mm		12...26.7 mm		14...26.7 mm		
Running time fail-safe 90°	<20 s		<20 s		35 s		
Manual override	Hand crank		Hand crank		Gear train disengagement with push button		
Sound power level	≤45 dB(A) @ 150 s		≤45 dB(A) @ 150 s		≤52 dB(A) @ 150 s		
Sound power level fail-safe position	≤62 dB(A) @ 20 s		≤62 dB(A) @ 20 s		≤61 dB(A) @ 35 s		
Ambient temperature	-30...50°C (with heating to -40°C) ⁴⁾		-30...50°C (with heating to -40°C) ⁴⁾		-30...50°C		
Connection	Connecting cable 1 m, FRNC		Connecting cable 1 m, FRNC		Connecting cable 1 m, FRNC		
Direction of rotation	↺ counterclockwise rotation		↺ counterclockwise rotation		Selectable with switch		
Angle of rotation	Max. 95°, can be limited on one side by adjustable mechanical end stops						
Position indication	Mechanical, add-on						
Degree of protection	IP66/67 / NEMA 4X						
Storage temperature	-40...80°C						
Ambient humidity	100% RH						
EMC	CE according to 2014/30/EU						

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 kΩ; operating range 2...10 V / position feedback U = 2...10 V, max. 1 mA for GM..G, NF..G and SF..G, max. 0.5 mA for SMQ..G and GK..G.

²⁾ You can find suitable system diagrams at www.belimo.com.

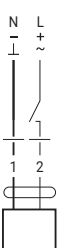
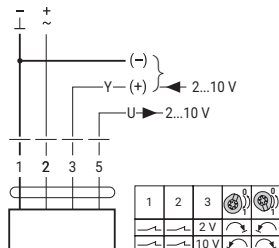
³⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

⁴⁾ Available with heating and thermostat/humidistat for ambient temperatures down to -40°C (see overview of accessories **page 40-41**).

Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

Electrical and mechanical accessories **page 40-41**

Open/close		Modulating	Configurable
..FG..-L		..24G-SR..	..24G-MP..
GK24G-1		Y = 2...10 V U = 2...10 V	Y = variable U = variable
			

Actuators with high torque, non fail-safe / fail-safe

Nominal torque

160 Nm

Damper size up to approx.

Special

Nominal voltage



PMCA..



PKCA..

Communicative, configurable

AC 24...240 V

DC 24...125 V

Control

PMCA-S2-T

PMCA-BAC-S2-T

PKCA-BAC-S2-T

Open/close

Modulating (2...10 V)

Modulating (2...10 V)

3-point

Modulating (4...20 mA)

Modulating (4...20 mA)

BACnet MS/TP

BACnet MS/TP

Modbus RTU

Modbus RTU

MP-Bus

MP-Bus

Open/close

Open/close

3-point

3-point

Technical data

Fail-safe

–

–

■

Form fit

17x17 mm

17x17 mm

17x17 mm

Running time motor 90°

35 s (30...120 s adjustable)

35 s (30...120 s adjustable)

35 s (30...120 s adjustable)

Running time fail-safe 90°

–

–

30 s

Motor sound power level

68 dB(A)

68 dB(A)

68 dB(A)

Sound power level fail-safe position

–

–

68 dB(A)

Configuration, commissioning, maintenance

Belimo Assistant 2, ZTH EU

Manual override

Hand crank

Auxiliary switches

2x SPDT

Connection

Connecting terminals

Direction of rotation

Selectable with Tool

Position indication

Mechanical

Degree of protection

IP66/67 / NEMA 4X

Ambient temperature

–30...40°C

Storage temperature

–40...80°C

Ambient humidity

100% RH

EMC

CE according to 2014/30/EU

Electrical installation

Electrical and mechanical accessories [page 40–41](#)

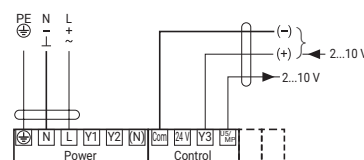
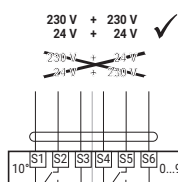
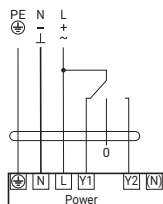
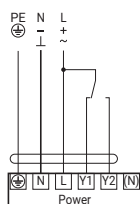
Open/close

3-point

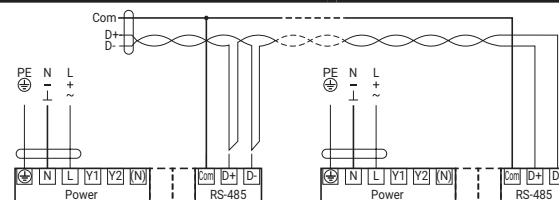
Modulating

PMCA-S2-T / PMCA-BAC-S2-T / PKCA-BAC-S2-T

PMCA-BAC-S2-T / PKCA-BAC-S2-T



Communicative (BACnet, Modbus)



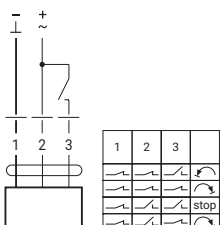
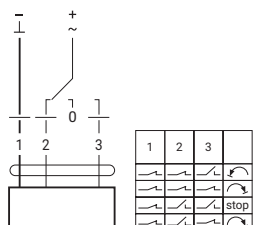
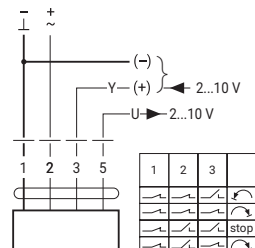
Actuators with damper blade

Nominal torque	2 Nm	2 Nm	2 Nm	2 Nm
Round duct diameter according to DIN EN 1506	DN 100	DN 125	DN 150	DN 160
Nominal voltage				
	CM...100D	CM...125D	CM...150D	CM...160D
Open/close, 3-point				
AC/DC 24 V	CM24-L-100D.2	CM24-L-125D.2	CM24-L-150D.2	CM24-L-160D.2
AC 230 V	CM230-L-100D.2	CM230-L-125D.2	CM230-L-150D.2	CM230-L-160D.2
Modulating (2...10 V)¹⁾				
AC/DC 24 V	CM24-SR-L-100D.2	CM24-SR-L-125D.2	CM24-SR-L-150D.2	CM24-SR-L-160D.2
Technical data				
Round duct diameter	100 mm	125 mm	150 mm	160 mm
Running time motor 90°	58 s	58 s	58 s	58 s
Air tight in accordance with DIN EN 1751	Class 3	Class 2	Class 2	Class 2
Resistance coefficient ζ in open position	0.48	0.3	0.3	0.3
Static differential pressure Δp above the damper	≤ 1000 Pa	≤ 1000 Pa	≤ 1000 Pa	≤ 1000 Pa
Manual override	Gear train disengagement with magnet			
Connection	Connecting cable 1 m			
Direction of rotation	 Counterclockwise rotation, position closed			
Damper blade angle range	70° (open/close)			
Motor sound power level	≤ 35 dB(A) @ 58 s			
Degree of protection	IP54			
Ambient temperature	-30...50°C			
Storage temperature	-40...80°C			
Ambient humidity	95% RH, non-condensing			
EMC	CE according to 2014/30/EU			

¹⁾ Modulating actuators: Standard control signal Y = 0...10 V, 100 k Ω ; operating range Y = 2...10 V / position feedback U = 2...10 V, max. 1 mA.

Electrical installation

Electrical and mechanical accessories **page 40–41**

Open/close	3-point	Modulating
CM24-L-..., CM230-L-...	CM24-L-..., CM230-L-...	CM24-SR-L-...
		Y = 2...10 V U = 2...10 V
		

Configurable rotary actuators with connecting terminals

Nominal torque	5 Nm	10 Nm	20 Nm	40 Nm
Damper size up to approx.	1 m²	2 m²	4 m²	8 m²
Nominal voltage	 LM..A-TP	 NM..A-TP	 SM..A-TP	 GM..A-TP

Communicative ¹⁾ , configurable ²⁾				
AC/DC 24 V	LM24A-MP-TP	NM24A-MP-TP	SM24A-MP-TP	GM24A-MP-TP
Technical data				
Shaft diameter	6...20 mm	8...26.7 mm	10...20 mm	12...26.7 mm
Sound power level	≤35 dB(A) @ 150 s	≤35 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤45 dB(A) @ 150 s
Running time motor 90°	150 s			
Manual override	Gear train disengagement with push button, can be locked			
Connection	Connecting terminals			
Direction of rotation	Selectable with switch			
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops			
Position indication	Mechanical, add-on			
Degree of protection	IP54			
Ambient temperature	-30...50°C			
Storage temperature	-40...80°C			
Ambient humidity	95% RH, non-condensing			
EMC	CE according to 2014/30/EU			

¹⁾ You can find suitable system diagrams at www.belimo.com.
²⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set). Other versions on request. Please get in touch with your local Belimo contact person.

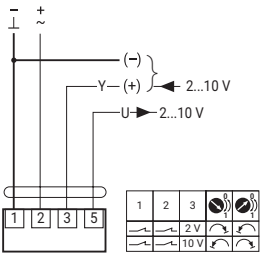
Electrical installation

Electrical and mechanical accessories **page 40–41**

Configurable

.M24A-MP-TP

Y = variable
U = variable



Configurable rotary actuators with special control and connecting cable

Nominal torque

20 Nm

Damper size up to approx.

4 m²

Nominal voltage

Control



SM..A..

Configurable ¹⁾		
AC/DC 24 V	Modulating 4...20 mA	SM24A-MA
Technical data		
Shaft diameter	10...20 mm	
Running time motor 90°	150 s (86...346 s)	
Manual override	Gear train disengagement with push button, can be locked	
Connection	Connecting cable 1 m	
Direction of rotation	Selectable with switch	
Angle of rotation	Max. 95°, can be limited on both sides by adjustable mechanical end stops	
Position indication	Mechanical, add-on	
Sound power level	≤45 dB(A) @ 150 s	
Degree of protection	IP54	
Ambient temperature	-30...50°C	
Storage temperature	-40...80°C	
Ambient humidity	95% RH, non-condensing	
EMC	CE according to 2014/30/EU	

¹⁾ Running time and other functions are configurable with Belimo Assistant 2 or service tool ZTH EU. Other versions on request. Please get in touch with your local Belimo contact person.

Electrical installation

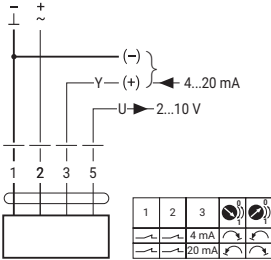
Electrical and mechanical accessories **page 34–35**

Modulating

SM24A-MA

Y = 4...20 mA

U = 2...10 V



Subject to technical modifications

Configurable linear actuators with connecting terminals

Actuating force **150 N**
Damper size up to approx. 1 m²

Height of stroke

Nominal voltage



Communicative ¹⁾, configurable ²⁾

60 mm	AC/DC 24 V	LH24A-MP60-TP
100 mm		LH24A-MP100-TP
200 mm		LH24A-MP200-TP
300 mm		LH24A-MP300-TP

Technical data

Running time motor 100 mm	150 s
Manual override	Gear train disengagement with push button, can be locked
Connection	Connecting Terminals
Direction of stroke	Selectable with switch
Height of stroke	Adjustable in 20 mm increments from 20...300 mm
Motor sound power level	≤45 dB(A) @ 150 s
Degree of protection	IP54
Ambient temperature	-30...50°C
Storage temperature	-40...80°C
Ambient humidity	95% RH, non-condensing
EMC	CE according to 2014/30/EU

¹⁾ You can find suitable system diagrams at www.belimo.com.
²⁾ Configurable with Belimo Assistant 2 or service tool ZTH EU (e.g., for MP types, control, feedback, running time, and other functions can be set).

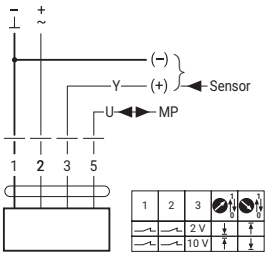
Electrical installation

Electrical and mechanical accessories **page 34–35**

Configurable

..H24A-MP..

Y = variable
U = variable



Non fail-safe actuators



Rotary actuators

Linear actuators



Mechanical accessories

		UM..	CM..	LM..A. + VLM..A.	NM..A. + VNM..A.	SM..A. + VSM..A.	GM..A. + VGM..A.	UH..	CH..	LH..A.	SH..A.
Shaft extensions			AV6-20	AV6-20	AV8-25	AV8-25 AV12-25-I					
End stop kits, rotary support, coupling pieces									Z-AS2 Z-DS1 Z-KS2	Z-AS2 Z-DS1 Z-KS2	Z-AS1 Z-DS1 Z-KS1
Baseplate extensions					Z-NMA	Z-SMA	Z-GMA				
End stop clips		Z-ESCM	Z-ESCM						Z-ESCM		
End stops								Z-ESUH			
Spring clips									Z-FKCH		
Form fit inserts ¹⁾				ZF..-LMA ZFRL..-LMA	ZF..-NSA ZF8-NMA	ZF..-NSA					
Gear train disengagement magnets			Z-MA						Z-MA		
Lever for actuator drive shafts					AH-20 ²⁾ AH-25	AH-20 AH-25 ³⁾	AH-GMA				
Lever for damper shafts					KH8	KH8	KH10				
Shaft clamps, one-sided				K-ELA..	K-ENMA K-ENSA	K-ENSA K-ENSA-I					
Shaft clamps, reversible					K-NA	K-SA					
Ball joints					KG8 KG10A	KG8 KG10A	KG10A				
Mounting kit for linkage operation					ZG-NMA	ZG-SMA	ZG-GMA				
Position indicator			Z-PICM	Z-PI	Z-PI	Z-PI	Z-PI				
Anti-rotation clips		Z-ARCM	Z-ARCM								
Protective covers		Z-PCUM						Z-PCUM			

¹⁾ Form fit inserts: LM..A.: 8x8 mm, 10x10 mm, 12x12 mm; NM..A.: 8x8 mm (ZF8-NMA); NM..A. / SM..A.: 10x10 mm, 12x12 mm, 15x15 mm, 16x16 mm.

²⁾ Only in combination with reversible shaft clamp K-NA.

³⁾ Only in combination with one-sided shaft clamp K-ENSA.

Non fail-safe actuators



Rotary actuators

Linear actuators



Electrical accessories

Auxiliary switches				S1A S2A	S1A S2A	S1A S2A	S1A S2A				
Room temperature controller for modulating actuators		CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..
Feedback potentiometer				P140A P1000A P10000A	P140A P1000A P10000A	P140A P1000A P10000A	P140A P1000A P10000A				
Signal converter voltage/current for modulating actuators		Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC
Positioner / range controller for modulating actuators		CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24

Tools

Service tools ¹⁾				ZTH EU	ZTH EU	ZTH EU	ZTH EU			ZTH EU	ZTH EU
-----------------------------	---	--	--	--------	--------	--------	--------	--	--	--------	--------

¹⁾ For configurable actuators.

Fail-safe actuators



Rotary actuators

TF..	LF..	NF..A..	SF..A.. + VSF24A..	EF..A..	GK..A..	SKM230.. + CM24K..	NKQ24A..

Mechanical accessories

Shaft extensions		AV6-20	AV6-20	AV8-25	AV8-25		AV6-20	AV8-25
Adapter for auxiliary switch and feedback potentiometer						Z-SPA		Z-SPA
Baseplate extensions				Z-SF	Z-SF	Z-GMA		
Angle-of-rotation limiter		ZDB-TF	ZDB-LF					
End stop clips							Z-ESCM	
Form fit inserts ¹⁾		ZF8-TF	ZF8-LF	ZF..-NSA-F	ZF..-NSA-F			
Gear train disengagement magnets							Z-MA	
Lever for actuator drive shafts		AH-TF	KH-LF	KH-AFB	KH-AFB		AH-GMA	AH-25
Lever for damper shafts		KH8	KH8	KH8	KH8	KH10 KH-EFB	KH10	KH8
Shaft clamps, reversible			K6-1	K7-2 K7-3	K7-2 K7-3	K9-2		K-SA
Ball joints		KG8 KG10A	KG8 KG10A	KG8 KG10A	KG8 KG10A		KG10A	KG8 KG10A
Mounting kit for linkage operation		ZG-TF1	ZG-LF1 ZG-LF3	ZG-AFB	ZG-AFB	ZG-EFB	ZG-GMA	ZG-SMA
Screw fixing sets		SB-TF						
Position indicator				IND-AFB	IND-AFB	IND-EFB	Z-PI	Z-PICM
Anti-rotation clips							Z-ARCM	

¹⁾ Form fit inserts: TF.. / LF..: 8x8 mm; NF.. / SF..: 10x10 mm, 12x12 mm, 15x15 mm, 16x16 mm.

Fail-safe actuators



Rotary actuators

TF..	LF..	NF..A..	SF..A.. + VSF24A..	EF..A..	GK..A..	SKM230.. + CM24K..	NKQ24A..

Electrical accessories

Auxiliary switches		S2A-F	S2A-F	S2A-F		S1A ²⁾ S2A ²⁾	S1A ¹⁾ S2A ¹⁾
Room temperature controller for modulating actuators		CR24..	CR24..	CR24..	CR24..	CR24..	CR24
Feedback potentiometer			P1000A-F	P1000A-F	P1000A-F	P140A ²⁾ P1000A ²⁾ P10000A ²⁾	P140A ¹⁾ P1000A ¹⁾ P10000A ¹⁾
Signal converter voltage/current for modulating actuators		Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC
Positioner / range controller for modulating actuators		CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24

Tools

Service tools ³⁾		ZTH EU	ZTH EU	ZTH EU	ZTH EU	ZTH EU	ZTH EU
-----------------------------	--	--------	--------	--------	--------	--------	--------

¹⁾ Auxiliary switch and feedback potentiometer on NKQ..A actuators can only be used together with adapter Z-SPA.

²⁾ Auxiliary switch and feedback potentiometer on GK..A actuators in combination with a reversible shaft clamp (mounted underneath for short shaft installation) can only be used together with adapter Z-SPA.

³⁾ For configurable actuators.

Special actuators, non fail-safe



Fast running rotary actuators

Very fast running rotary actuators

Very fast running linear actuators



Mechanical accessories

		TMC..A..	LMC..A..	NMC..A..	SMC..A..	GMC..A..	LMQ..A..	NMQ..A..	NMD..A..	SMQ..A..	SMD..A..	LHQ..A..	SHQ..A..
Shaft extensions		AV6-20	AV6-20	AV8-25	AV8-25 AV12-25-I		AV8-25	AV8-25	AV8-25 AV12-25-I		AV8-25 AV12-25-I		
Adapter for auxiliary switch and feedback potentiometer							Z-SPA	Z-SPA		Z-SPA			
End stop kits, rotary support, coupling pieces												Z-AS2 Z-DS1 Z-KS2	Z-AS1 Z-DS1 Z-KS1
Baseplate extensions				Z-NMA	Z-SMA	Z-GMA	Z-NMA			Z-SMA			
Form fit inserts ¹⁾		ZF..-LMA ZFRL-LMA	ZF..-LMA ZFRL-LMA	ZF..-NSA ZF8-NMA	ZF..-NSA		ZF..-NSA ZF8-NMA	ZF..-NSA	ZF..-NSA		ZF..-NSA		
Lever for actuator drive shafts				AH-20 ²⁾ AH-25	AH-20 AH-25 ³⁾	AH-GMA	AH-20 ²⁾ AH-25	AH-20 ³⁾ AH-25	AH-20	AH-GMA	AH-20 AH-25 ⁴⁾		
Lever for damper shafts				KH8	KH8	KH10	KH8	KH8	KH8	KH10	KH8		
Shaft clamps, one-sided		K-ELA..	K-ELA..	K-ENMA K-ENSA	K-ENSA K-ENSA-I		K-ENMA K-ENSA	K-ENSA	K-ENSA K-ENSA-I		K-ENSA K-ENSA-I		
Shaft clamps, reversible				K-NA	K-NA		K-NA	K-NA			K-NA		
Ball joints				KG8 KG10A	KG8 KG10A	KG10A	KG8 KG10A	KG8 KG10A	KG8 KG10A	KG10A	KG8 KG10A		
Mounting kits for linkage operation				ZG-NMA	ZG-SMA	ZG-GMA	ZG-NMA	ZG-NMA		ZG-GMA	ZG-SMA		
Position indicator		Z-PI	Z-PI	Z-PI	Z-PI	Z-PI	Z-PI	Z-PI	Z-PI	Z-PI	Z-PI		

¹⁾ Form fit inserts: TMC..A.. / LMC..A..: 8x8 mm, 10x10 mm, 12x12 mm; NMC..A..: 8x8 mm, 10x10 mm, 12x12 mm, 16x16 mm; SMC..A.. / SMD..A.. / NMD..A..: 10x10 mm, 12x12 mm, 15x15 mm, 16x16 mm; LMQ..A..: 8x8 mm, 10x10 mm, 12x12 mm, 15x15 mm, 16x16 mm; NMQ..A..: 10x10 mm, 12x12 mm, 15x15 mm, 16x16 mm.

²⁾ Only in combination with reversible shaft clamp K-NA.

³⁾ Only in combination with reversible shaft clamp K-SA.

⁴⁾ Only in combination with one-sided shaft clamp K-ENSA.

Special actuators, non fail-safe



Fast running rotary actuators

Very fast running rotary actuators

Very fast running linear actuators



Electrical accessories

Auxiliary switches		S1A S2A	S1A S2A	S1A S2A	S1A S2A	S1A S2A	S1A ¹⁾ S2A ¹⁾	S1A ¹⁾ S2A ¹⁾	S1A S2A	S1A ¹⁾ S2A ¹⁾	S1A S2A		
Room temperature controller for modulating actuators		CR24..	CR24..	CR24..	CR24..		CR24..	CR24..		CR24..		CR24..	CR24..
Feedback potentiometers		P140A P1000A P10000A	P140A P1000A P10000A	P140A P1000A P10000A	P140A P1000A P10000A	P140A P1000A P10000A	P140A ¹⁾ P1000A ¹⁾ P10000A ¹⁾	P140A ¹⁾ P1000A ¹⁾ P10000A ¹⁾	P140A P1000A P10000A	P140A ¹⁾ P1000A ¹⁾ P10000A ¹⁾	P140A P1000A P10000A		
Signal converter voltage/current for modulating actuators		Z-UIC	Z-UIC	Z-UIC	Z-UIC		Z-UIC	Z-UIC		Z-UIC		Z-UIC	Z-UIC
Positioner / range controller for modulating actuators		CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24		CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24		CRP24-B1 SGA24 SGE24 SGF24		CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24

Tools

Service tools ²⁾							ZTH EU	ZTH EU					
-----------------------------	---	--	--	--	--	--	--------	--------	--	--	--	--	--

¹⁾ Auxiliary switch and feedback potentiometer on LMQ..A, NMQ..A and SMQ..A actuators in combination with a reversible shaft clamp (mounted underneath for short shaft installation) can only be used together with adapter Z-SPA.

²⁾ For configurable actuators.

Special actuators, non fail-safe / fail-safe



RobustLine rotary actuators for extreme conditions			IP66/67 / NEMA 4X rotary actuators for outdoor applications					Actuators with high torque	
Non fail-safe		Fail-safe	Non fail-safe		Fail-safe			Non fail-safe / fail-safe	
NM..P..	SM..P..	NKQ..P..	SMQ..G..	GM..G..	NF..G..	SF..G..	GK..G..	PMCA.. PKCA..	
									

Mechanical accessories

Lever for actuator drive shafts					AH-GMA	AH-GMA	AH-GMA	AH-GMA	AH-GMA	
Lever for damper shafts					KH10	KH10	KH10	KH10	KH10	
Ball joints					KG10A	KG10A	KG10A	KG10A	KG10A	
Mounting kit for linkage operation					ZG-GMA	ZG-GMA	ZG-GMA	ZG-GMA	ZG-GMA	
Adapter kits										ZPR..

Electrical accessories

Heaters with humidistat AC 230 V (only available fitted at the factory)		HH230	HH230		HH230-MG	HH230-MG	HH230-FG	HH230-FG	HH230-MG	
Heaters with humidistat AC/DC 24 V (only available fitted at the factory)					HH24-MG	HH24-MG	HH24-FG	HH24-FG	HH24-MG	
Heaters with thermostat AC 230 V (only available fitted at the factory)		HT230	HT230		HT230-MG	HT230-MG	HT230-FG	HT230-FG	HT230-MG	
Heaters with thermostat AC/DC 24 V (only available fitted at the factory)					HT24-MG	HT24-MG	HT24-FG	HT24-FG	HT24-MG	

Special actuators, non fail-safe / fail-safe



RobustLine rotary actuators for extreme conditions			IP66/67 / NEMA 4X rotary actuators for outdoor applications					Actuators with high torque	Actuators with damper blade
Non fail-safe		Fail-safe	Non fail-safe		Fail-safe			Non fail-safe / fail-safe	Non fail-safe
NM..P..	SM..P..	NKQ..P..	SMQ..G..	GM..G..	NF..G..	SF..G..	GK..G..	PMCA.. PKCA..	CM..D

Electrical accessories

Auxiliary switches		S2A GR	S2A GR		S2A	S2A	(S2A-F GR) ¹⁾	(S2A-F GR) ¹⁾	(S2A) ¹⁾	
Room temperature controller for modulating actuators		CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..
Feedback potentiometer		P..A GR ²⁾	P..A GR ²⁾		P..A GR ²⁾	P..A GR ²⁾	P..A GR ^{1) 2)}	P..A GR ^{1) 2)}	P..A GR ^{1) 2)}	
Signal converter voltage/current for modulating actuators		Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC	Z-UIC
Positioner / range controller for modulating actuators		CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24	CRP24-B1 SGA24 SGE24 SGF24

Tools

Service tools ³⁾		ZTH EU	ZTH EU		ZTH EU	ZTH EU	ZTH EU	ZTH EU	ZTH EU	ZTH EU
Belimo Assistant 2										

¹⁾ Combination only on request.

²⁾ Resistance values 140 Ω, 1 kΩ, 10 kΩ available.

³⁾ For configurable actuators.

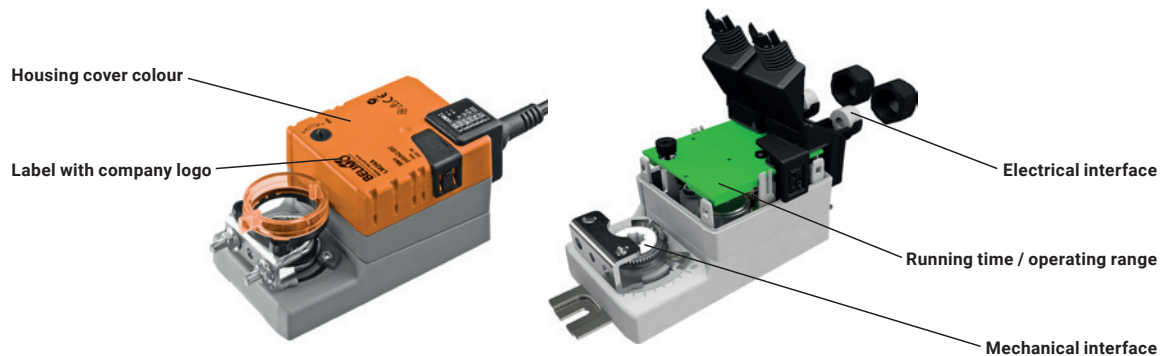
For form fit inserts, please get in touch with your local Belimo contact person.

Configuration options

Some actuator product ranges permit adaptation to special customer preferences. These allow - on the basis of existing components - a selection of different cable lengths, mechanical interfaces, running times and operating ranges. Please get in touch with your local Belimo contact person.

Example

LM..A..



Numeration is not exhaustive.

Configuration

Actuator range	Rotary actuators				
	CM..	LM..A..	NM..A..	SM..A..	GM..A..
					
Housing cover colour	orange grey	orange grey	orange grey	orange grey	orange grey
Label with company logo, colour	Label: transparent Font: black	Label: transparent Font: black blue white	Label: transparent Font: black blue white	Label: transparent Font: black blue white	Label: transparent Font: black blue white
Mechanical interface	Shaft clamp, one-sided 6...12.7 mm Form fit 6x6 mm Form fit 8x8 mm Form fit 10x10 mm	Shaft clamp, one-sided 6...20 mm Form fit 8x8 mm Form fit 10x10 mm Form fit 12x12 mm	Shaft clamp, one-sided 8...26.7 mm Shaft clamp, reversible 8...20 mm Form fit 8x8 mm Form fit 10x10 mm Form fit 12x12 mm Form fit 16x16 mm	Shaft clamp, one-sided 8...26.7 mm Shaft clamp, reversible 10...20 mm Form fit 10x10 mm Form fit 12x12 mm Form fit 16x16 mm	Shaft clamp, reversible 12...26.7 mm
Electrical interface	Terminal connection IP20 Cable 1 m, PVC Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC	Terminal connection IP20 Terminal connection IP54 Cable 1 m, PVC Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC	Terminal connection IP20 Terminal connection IP54 Cable 1 m, PVC Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC	Terminal connection IP20 Terminal connection IP54 Cable 1 m, PVC Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC	Terminal connection IP20 Terminal connection IP54 Cable 1 m, PVC Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC
Running time	35 s 45 s 75 s	35 s 45 s 90 s 150 s	45 s 90 s 150 s	90 s 150 s	90 s 150 s
Operating range	2...10 V 0.5...10 V Adaptation option	2...10 V 0.5...10 V Adaptation option	2...10 V 0.5...10 V Adaptation option	2...10 V 0.5...10 V Adaptation option	2...10 V 0.5...10 V Adaptation option
Packaging	Single pack Multipack at 20 pieces	Single pack Multipack at 20 pieces	Single pack Multipack at 20 pieces	Single pack Multipack at 20 pieces	Single pack Multipack at 20 pieces
General	Feasibility of the combinations on request Minimum order quantity with coloured label or customer logo: 20 pieces.				

Configuration options

Some actuator product ranges permit adaptation to special customer preferences. These allow - on the basis of existing components - a selection of different cable lengths, mechanical interfaces, running times and operating ranges. Please get in touch with your local Belimo contact person.

Example

EF..A

EF..G

Label with company logo



Running time / operating range

Electrical interface

Heating

Mechanical interface

Numeration is not exhaustive.

Configuration

Actuator range	Rotary actuators, fail-safe		Very fast running rotary actuators		Linear actuators	
	NF..A.. / SF..A..	EF..A / EF..G	LMQ..A..		LH..A..	
						
Housing cover colour	orange grey	–	orange grey		orange grey	
Label with company logo, colour	Label: orange blue grey Font: black white black	Label: orange grey Font: black	Label: transparent blue black Font: black white white		Label: transparent blue black Font: black white white	
Mechanical interface	Shaft clamp, reversible 10...25.4 mm Form fit 10x10 mm Form fit 12x12 mm Form fit 16x16 mm	Shaft clamp reversible 12...26.7 mm	Shaft clamp, one-sided 8...26.7 mm Shaft clamp, reversible Form fit 8x8 mm Form fit 10x10 mm Form fit 12x12 mm Form fit 16x16 mm		Without stroke limitation With stroke limitation	
Electrical interface	Terminal connection IP20 Terminal connection IP54 Cable 1 m, PVC Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC	Terminal connection IP66 Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC	Cable 1 m, PVC Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC		Terminal connection IP20 Terminal connection IP54 Cable 1 m, PVC Cable 1 m, FRNC Cable 3 m, FRNC Cable 5 m, FRNC	
Running time	45 s 75 s 90 s 150 s	75 s 90 s 150 s	2.5 s 4 s 5 s 7 s 10 s		75 s/100 mm 90 s/100 mm 120 s/100 mm 150 s/100 mm	
Operating range	2...10 V 0.5...10 V Adaptation option	2...10 V 0.5...10 V Adaptation option	2...10 V 0.5...10 V Adaptation option		2...10 V 0.5...10 V Adaptation option	
Packaging	Single pack Multipack at 20 pieces	Single pack Multipack at 20 pieces	Single pack Multipack at 20 pieces		Single pack Multipack at 20 pieces	
Special		Heating				
General	Feasibility of the combinations on request Minimum order quantity with coloured label or customer logo: 20 pieces					

All inclusive.

Belimo is the global market leader in the development, production, and sales of field devices for the energy-efficient control of heating, ventilation and air-conditioning systems. The focus of our core business is on damper actuators, control valves, sensors and meters.

Always focusing on customer value, we deliver more than only products. We offer you the complete product range for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty. Our worldwide representatives in over 80 countries guarantee short delivery times and comprehensive support through the entire product life. Belimo does indeed include everything.

The "small" Belimo devices have a big impact on comfort, energy efficiency, safety, installation and maintenance.

In short: Small devices, big impact.



5-year warranty



On site around the globe



Complete product range



Tested quality



Short delivery times



Comprehensive support



BELIMO Automation AG

Brunnenbachstrasse 1, 8340 Hinwil, Switzerland
+41 43 843 61 11, info@belimo.ch, www.belimo.com

