

The complete product range of general air solutions.



Edition 2016



		Nominal torque ¹⁾	Actuating force	Stroke range	Spindle diameter	Form fit	For damper size up to approximately ¹⁾
Rotary actuators with connecting cable							
CM..		2 Nm			6 – 12.7 mm		■ 0.4 m²
LM..A..		5 Nm			6 – 20 mm		■ 1 m²
NM..A..		10 Nm			8 – 26.7 mm		■ 2 m²
SM..A..		20 Nm			10 – 20 mm		■ 4 m²
GM..A..		40 Nm			12 – 26.7 mm		■ 8 m²
Rotary actuators with connecting terminals							
CM..		2 Nm			6 – 12.7 mm		■ 0.4 m²
LM..A..		5 Nm			6 – 20 mm		■ 1 m²
NM..A..		10 Nm			8 – 26.7 mm		■ 2 m²
SM..A..		20 Nm			10 – 20 mm		■ 4 m²
GM..A..		40 Nm			12 – 26.7 mm		■ 8 m²
Linear actuators with connecting cable							
CH..			125 N	0 – 100 mm			■ 0.8 m²
LH..A..			150 N	0 – 300 mm			■ 1 m²
SH..A..			450 N	0 – 300 mm			■ 3 m²
Full-rotation actuators with connecting cable							
LU..A..		3 Nm				12 mm (8 mm with insert)	■ 0.6 m²

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

¹⁾ When calculating the torque or actuating force required to operate air dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, place of installation and air flow conditions. The recommended damper sizes are approximate.



		Emergency control function	Nominal torque ¹⁾	Actuating force	Stroke range	Spindle diameter	For damper size up to approximately ¹⁾
Rotary actuators with mechanical emergency control function (spring package)							
TF..			2.5 Nm			6 – 12 mm	■ 0.5 m²
LF..			4 Nm			8 – 16 mm	■ 0.8 m²
NF..A..			10 Nm			10 – 25.4 mm	■ 2 m²
SF..A..			20 Nm			10 – 25.4 mm	■ 4 m²
EF..A..			30 Nm			12 – 26.7 mm	■ 6 m²
Rotary actuators with electrical emergency control function (SuperCap)							
SKM230.. + CM24K..		–II–	2 Nm			6 – 12.7 mm	■ 0.4 m²
NKQ..A..		–II–	6 Nm			8 – 26.7 mm	■ 1.2 m²
GK..A..		–II–	40 Nm			12 – 26.7 mm	■ 8 m²
Linear actuators with electrical emergency control function (SuperCap)							
LHK..A..		–II–		150 N	0 – 100 mm		■ 1 m²
SHK..A..		–II–		450 N	0 – 100 mm		■ 3 m²

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

¹⁾ When calculating the torque or actuating force required to operate air dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, place of installation and air flow conditions. The recommended damper sizes are approximate.

		Emergency control function	Nominal torque ¹⁾	Actuating force	Stroke range	Spindle diameter	For damper size up to approximately ¹⁾
Fast running rotary actuators without emergency control function							
TMC..A..			2 Nm			6–20 mm	■ 0.4 m²
LMC..A..			5 Nm			6–20 mm	■ 1 m²
NMC..A..			10 Nm			8–26.7 mm	■ 2 m²
SMC..A..			20 Nm			10–20 mm	■ 4 m²
Very fast running rotary actuators without emergency control function							
LMQ..A..			4 Nm			8–26.7 mm	■ 0.8 m²
NMQ..A..			8 Nm			8–26.7 mm	■ 1.5 m²
SMQ..A..			16 Nm			12–26.7 mm	■ 3.2 m²
SMD..A..			16 Nm			10–20 mm	■ 3.2 m²
Very fast running linear actuators without emergency control function							
LHQ..A..				100 N	0–100 mm		■ 0.7 m²
SHQ..A..				200 N	0–100 mm		■ 1.3 m²
RobustLine rotary actuators for extreme conditions, without / with emergency control function							
NM..P..			10 Nm			10–20 mm	■ 2 m²
SM..P..			20 Nm			14–20 mm	■ 4 m²
NKQ..P..		— —	6 Nm			10–20 mm	■ 1.2 m²
IP66 / NEMA4 rotary actuators for outdoor applications, without / with emergency control function							
SMQ..G..			16 Nm			12–26.7 mm	■ 3.2 m²
GM..G..			40 Nm			14–26.7 mm	■ 8 m²
NF..G..		⊙	10 Nm			12–26.7 mm	■ 2 m²
SF..G..		⊙	20 Nm			12–26.7 mm	■ 4 m²
GK..G..		— —	40 Nm			14–26.7 mm	■ 8 m²

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

¹⁾ When calculating the torque or actuating force required to operate air dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, place of installation and air flow conditions. The recommended damper sizes are approximate.

		Nominal torque ¹⁾	Actuating force	Stroke range	Spindle diameter	Control	For damper size up to approximately ¹⁾
Actuators with damper blade							
CM..D		2 Nm			100–160 mm		DN 100–DN 160
Parameterisable rotary actuators with connecting terminals							
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
Parameterisable rotary actuators with special control and connecting cable							
SM24A-MA		20 Nm			10–20 mm	modulating 4–20 mA ³⁾	■ 4 m²
SM24A-PC		20 Nm			10–20 mm	modulating 0–20 V Phs ³⁾	■ 4 m²
SM24A-R9		20 Nm			10–20 mm	modulating 0–135 Ω ³⁾	■ 4 m²
Parameterisable linear actuators with connecting terminals							
LH..A..			150 N	0–300 mm		modulating 2–10 V ²⁾	■ 1 m²

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

¹⁾ When calculating the torque or actuating force required to operate air dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, place of installation and air flow conditions. The recommended damper sizes are approximate.

²⁾ Control, operating range, position feedback, running time and further functions on MP types can be set with PC-Tool or the parameterising device ZTH EU.

³⁾ Running time and further functions can be set with PC-Tool or the parameterising device ZTH EU.



		Rotary actuators					Linear actuators			Full-rotation actuators
		CM..	LM..A..	NM..A..	SM..A..	GM..A..	CH..	LH..A..	SH..A..	LU..A..
										
Mechanical accessories										
Shaft extension		AV6-20	AV6-20	AV8-25	AV8-25 AV12-25-I					
End stop kit, rotary support, coupling piece							Z-AS2 Z-DS1 Z-KS2	Z-AS2 Z-DS1 Z-KS2	Z-AS1 Z-DS1 Z-KS1	
Baseplate extension				Z-NMA	Z-SMA	Z-GMA				
Angle of rotation limiter										ZDB-LU
End stop clips		Z-ESCM					Z-ESCM			
Form fit inserts ¹⁾			ZF..-LMA ZFRL...-LMA	ZF..-NSA ZF8-NMA	ZF..-NSA					
Gear disengagement magnet		Z-MA					Z-MA			
Crank arm for actuator spindles				AH-20 ²⁾ AH-25	AH-20 AH-25 ³⁾	AH-GMA				
Crank arm for damper spindles				KH8	KH8	KH10				
Spindle clamp one-side			K-ELA..	K-ENMA K-ENSA	K-ENSA K-ENSA-I					K-LU
Spindle clamp reversible				K-NA	K-SA					
Ball joints				KG8 KG10A	KG8 KG10A	KG10A				
Installation kits for linkage operation				ZG-NMA	ZG-SMA	ZG-GMA				
Position indicator		Z-PICM	Z-PI	Z-PI	Z-PI	Z-PI				
Anti-rotation clip		Z-ARCM								
Electrical accessories										
Auxiliary switch			S1A S2A	S1A S2A	S1A S2A	S1A S2A				
Room temperature controller for modulating actuators		CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..
Feedback potentiometer			P..A ⁴⁾	P..A ⁴⁾	P..A ⁴⁾	P..A ⁴⁾				
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
Digital position indication for modulating actuators		ZAD24	ZAD24	ZAD24	ZAD24	ZAD24		ZAD24	ZAD24	ZAD24
Positioner / range controller for modulating actuators		CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24
Parameterising devices										
Adjustment and diagnostic device			ZTH EU ⁵⁾	ZTH EU ⁵⁾	ZTH EU ⁵⁾	ZTH EU ⁵⁾		ZTH EU ⁵⁾	ZTH EU ⁵⁾	ZTH EU ⁵⁾

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 spindle clamp K-NA.

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

⁴⁾ Resistance values 140 Ω, 200 Ω, 500 Ω, 1 kΩ, 2.8 kΩ, 5 kΩ, 10 kΩ available.

⁵⁾ For all ..-MP../..-MA../..-PC../..-R9 actuators in the contracting and retrofit business.



		Rotary actuators with mechanical emergency control function (spring package)					Rotary actuators with electrical emergency control function (SuperCap)			Linear actuators with electrical emergency control function (SuperCap)	
		TF..	LF..	NF..A..	SF..A..	EF..A..	SKM230.. + CM24K..	NKQ..A..	GK..A..	LHK..A..	SHK..A..
											
Mechanical accessories											
Shaft extension		AV6-20	AV6-20	AV8-25	AV8-25		AV6-20	AV8-25			
Adapter for auxiliary switch and feedback potentiometer								Z-SPA	Z-SPA		
End stop kit, rotary support, coupling piece										Z-AS2 Z-DS1 Z-KS2	Z-AS1 Z-DS1 Z-KS1
Baseplate extension				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 disengagement magnet							Z-MA				
Crank arm for actuator spindles		AH-TF	KH-LF	KH-AFB	KH-AFB			AH-25	AH-GMA		
Crank arm for damper spindles		KH8	KH8	KH8	KH8	KH10 KH-EFB		KH8	KH10		
Spindle clamp 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			KG8 KG10A	KG10A		
Installation kits for linkage operation		ZG-TF1	ZG-LF1 ZG-LF3	ZG-AFB	ZG-AFB	ZG-EFB		ZG-SMA	ZG-GMA		
Screw fastening kit		SB-TF									
Position indicator				IND-AFB	IND-AFB	IND-EFB	Z-PICM	Z-PI	Z-PI		
Anti-rotation clip							Z-ARCM				
Electrical accessories											
Auxiliary switch			S2A-F ²⁾	S2A-F ²⁾	S2A-F ²⁾			S1A ³⁾ S2A ³⁾	S1A ⁴⁾ S2A ⁴⁾		
Room temperature controller for modulating actuators		CR24..	CR24..	CR24..	CR24..	CR24..		CR24..	CR24..	CR24..	CR24..
Feedback potentiometer			P200A-F ²⁾ P1000A-F	P200A-F ²⁾ P1000A-F	P200A-F ²⁾ P1000A-F			P..A ^{3) 5)}	P..A ^{4) 5)}		
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
Digital position indication for modulating actuators		ZAD24	ZAD24	ZAD24	ZAD24	ZAD24		ZAD24	ZAD24	ZAD24	ZAD24
Positioner / range controller for modulating actuators		CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24		CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24
Parameterising devices											
Adjustment and diagnostic device				ZTH EU ⁶⁾	ZTH EU ⁶⁾	ZTH EU ⁶⁾			ZTH EU ⁶⁾	ZTH EU ⁶⁾	ZTH EU ⁶⁾

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

²⁾ For more versions for LF.., NF..A and SF..A actuators please get in touch with your local BELIMO contact person.

³⁾ Auxiliary switch and feedback potentiometer on NKQ..A actuators can only ever be used together with adapter Z-SPA.

⁴⁾ Auxiliary switch and feedback potentiometer on GK..A actuators in combination with a reversible spindle clamp (mounted below for short-axis installation) can only ever be used together with adapter Z-SPA.

⁵⁾ Resistance values 140 Ω, 200 Ω, 500 Ω, 1 kΩ, 2.8 kΩ, 5 kΩ, 10 kΩ available.

⁶⁾ For all ..-MP.. actuators in the contracting and retrofit business.



		Fast running rotary actuators				Very fast running rotary actuators				Very fast running linear actuators	
		TMC..A..	LMC..A..	NMC..A..	SMC..A..	LMQ..A..	NMQ..A..	SMQ..A..	SMD..A..	LHQ..A..	SHQ..A..
											
Mechanical accessories											
Shaft extension		AV6-20	AV6-20	AV8-25	AV8-25 AV12-25-I	AV8-25	AV8-25		AV8-25 AV12-25-I		
Adapter for auxiliary switch and feedback potentiometer						Z-SPA	Z-SPA	Z-SPA			
End stop kit, rotary support, coupling piece										Z-AS2 Z-DS1 Z-KS2	Z-AS1 Z-DS1 Z-KS1
Baseplate extension				Z-NMA	Z-SMA	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		
Crank arm for actuator spindles				AH-20 ²⁾ AH-25	AH-20 AH-25 ⁴⁾	AH-20 ²⁾ AH-25	AH-20 ³⁾ AH-25	AH-GMA	AH-20 AH-25 ⁴⁾		
Crank arm for damper spindles				KH8	KH8	KH8	KH8	KH10	KH8		
Spindle clamp one-side		K-ELA..	K-ELA..	K-ENMA K-ENSA	K-ENSA K-ENSA-I	K-ENMA K-ENSA	K-ENSA		K-ENSA K-ENSA-I		
Spindle clamp reversible				K-NA	K-SA	K-NA	K-SA		K-SA		
Ball joints				KG8 KG10A	KG8 KG10A	KG8 KG10A	KG8 KG10A	KG10A	KG8 KG10A		
Installation kits for linkage operation				ZG-NMA	ZG-SMA	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		
Electrical accessories											
Auxiliary switch		S1A S2A	S1A S2A	S1A S2A	S1A S2A	S1A ⁵⁾ S2A ⁵⁾	S1A ⁵⁾ S2A ⁵⁾	S1A ⁵⁾ S2A ⁵⁾	S1A S2A		
Room temperature controller for modulating actuators		CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..		CR24..	CR24..
Feedback potentiometer		P..A ⁶⁾	P..A ⁶⁾	P..A ⁶⁾	P..A ⁶⁾	P..A ^{5) 6)}	P..A ^{5) 6)}	P..A ^{5) 6)}	P..A ⁶⁾		
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
Digital position indication for modulating actuators		ZAD24	ZAD24	ZAD24	ZAD24	ZAD24	ZAD24	ZAD24		ZAD24	ZAD24
Positioner / range controller for modulating actuators		CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24		CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24
Parameterising devices											
Adjustment and diagnostic device					ZTH EU ⁷⁾	ZTH EU ⁷⁾					

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..: 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 spindle clamp K-NA.

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

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

⁵⁾ Auxiliary switch and feedback potentiometer on LMQ..A, NMQ..A and SMQ..A actuators in combination with a reversible spindle clamp (mounted below for short-axis installation) can only ever be used together with adapter Z-SPA.

⁶⁾ Resistance values 140 Ω, 200 Ω, 500 Ω, 1 kΩ, 2.8 kΩ, 5 kΩ, 10 kΩ available.

⁷⁾ For all ...MP../...MA../-PC../-R9 actuators in the contracting and retrofit business.



		RobustLine rotary actuators for extreme conditions			IP66 / NEMA4 – Rotary actuators for outdoor applications				Actuators with damper blade	
		without emergency control function		with emergency control function	without emergency control function		with emergency control function			
		NM..P..	SM..P..	NKQ..P..	SMQ..G..	GM..G..	NF..G..	SF..G..		GK..G..
										
Mechanical accessories										
Crank arm for actuator spindles					AH-GMA	AH-GMA	AH-GMA	AH-GMA	AH-GMA	
Crank arm for damper spindles					KH10	KH10	KH10	KH10	KH10	
Ball joints					KG10A	KG10A	KG10A	KG10A	KG10A	
Installation kits for linkage operation					ZG-GMA	ZG-GMA	ZG-GMA	ZG-GMA	ZG-GMA	
Electrical accessories										
Heating with hygrostat AC 230 V (only available fitted ex factory)		HH230	HH230		HH230-MG	HH230-MG	HH230-FG	HH230-FG	HH230-MG	
Heating with hygrostat AC/DC 24 V (only available fitted ex factory)					HH24-MG	HH24-MG	HH24-FG	HH24-FG	HH24-MG	
Heating with thermostat AC 230 V (only available fitted ex factory)		HT230	HT230		HT230-MG	HT230-MG	HT230-FG	HT230-FG	HT230-MG	
Heating with thermostat AC/DC 24V (only available fitted ex factory)					HT24-MG	HT24-MG	HT24-FG	HT24-FG	HT24-MG	
Auxiliary switch		S2A GR	S2A GR		S2A	S2A	(S2A-F GR) ¹⁾	(S2A-F GR) ¹⁾	(S2A) ¹⁾	
Room temperature control- ler for modulating actuators		CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..	CR24..
Feedback potentiometer		P..A GR ²⁾	P..A GR ²⁾		P..A ²⁾	P..A ²⁾	P..A ^{1) 2)}	P..A ^{1) 2)}	P..A ^{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
Digital position indication for modulating actuators		ZAD24	ZAD24	ZAD24	ZAD24	ZAD24	ZAD24	ZAD24	ZAD24	ZAD24
Positioner / range controller for modulating actuators		CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24	CRP24-B1 SBG24 SGA24 SGE24 SGF24
Parameterising devices										
Adjustment and diagnostic device		ZTH EU ³⁾	ZTH EU ³⁾		ZTH EU ³⁾	ZTH EU ³⁾	ZTH EU ³⁾	ZTH EU ³⁾	ZTH EU ³⁾	

¹⁾ Combination only on request. Please get in touch with your local BELIMO contact person.

²⁾ Resistance values 140 Ω, 200 Ω, 500 Ω, 1 kΩ, 2.8 kΩ, 5 kΩ, 10 kΩ available.

³⁾ For all ..24A-MP(..)-, ..24P-MP(..)- und ..24G-MP(..) actuators in the contracting and retrofit business. For form fit inserts, please get in touch with your local Belimo contact person.

Nominal voltage 24 V AC/DC 230 V AC	Direction of rotation	Angle of rotation	Degree of protection	Nominal torque	2 Nm
				Damper size up to approx.	0.4 m ²
					
CM..					

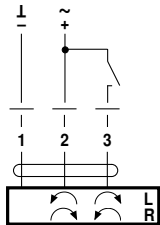
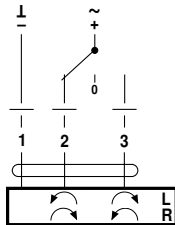
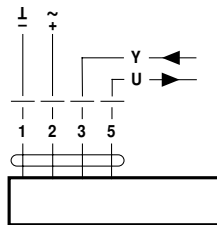
Open-close, 3-point					
24 V	 counter-clockwise rotation	0 – 287.5° / without limits	IP 54	CM24-L	
	 clockwise rotation			CM24-R	
	 counter-clockwise rotation		IP 66	CM24G-L	
	 clockwise rotation			CM24G-R	
230 V	 counter-clockwise rotation	0 – 287.5° / without limits	IP 54	CM230-L	
	 clockwise rotation			CM230-R	
	 counter-clockwise rotation		IP 66	CM230G-L	
	 clockwise rotation			CM230G-R	

Modulating (2 – 10 V) ^{1), 2)}					
24 V	 counter-clockwise rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	IP 54	CM24-SR-L	
	 clockwise rotation			CM24-SR-R	
	 counter-clockwise rotation		IP 66	CM24G-SR-L	
	 clockwise rotation			CM24G-SR-R	

Modulating (2 – 10 V) with adaption ^{1), 2)}					
24 V	 counter-clockwise rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	IP 54	CM24-SX-L	
	 clockwise rotation			CM24-SX-R	

Technical data	
Spindle diameter	6 – 12.7 mm
Running time motor 90°	75 s
Manual override	Gear disengagement with magnet
Connection	Connecting cable 1 m
Position indication	Mechanical, plug-in
Sound power level	≤35 dB(A) @ 75 s
EMC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C
Non-operating temperature	–40...+80 °C
Ambient humidity	95% r.h., non-condensating

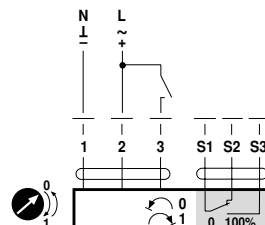
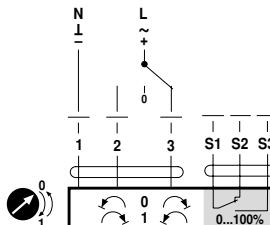
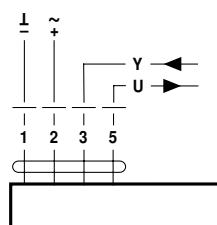
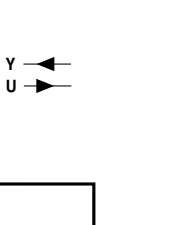
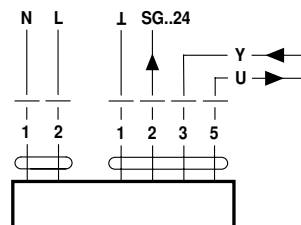
¹⁾ Modulating actuators: control signal Y = DC 0 – 10 V, 100 kΩ; operating range 2 – 10 V / position feedback U = DC 2 – 10 V, max. 1 mA.
²⁾ Direction of rotation: Type ..L: Control signal Y = 0 V end stop left / Type ..R: Control signal Y = 0 V end stop right
Other versions on request.

Electrical installation		
Open-close	3-point	Modulating
CM24..., CM230..	CM24..., CM230..	CM24...SR..., CM24...SX.. Y = DC 0–10 V U = DC 2–10 V
		

Nominal torque Damper size up to approx.	5 Nm	10 Nm	20 Nm	40 Nm	
	1 m ²	2 m ²	4 m ²	8 m ²	
Nominal voltage 24 V AC/DC 230 V AC	Auxiliary switch SPDT				
		LM..A	NM..A	SM..A	GM..A
Open-close, 3-point					
24 V		LM24A	NM24A	SM24A	GM24A
	1	LM24A-S	NM24A-S	SM24A-S	
230 V		LM230A	NM230A	SM230A	GM230A
	1	LM230A-S	NM230A-S	SM230A-S	
Modulating (2 – 10 V) ¹⁾					
24 V		LM24A-SR	NM24A-SR	SM24A-SR	GM24A-SR
230 V		LM230ASR	NM230ASR	SM230ASR	
Parameterisable ²⁾					
24 V		LM24A-MP	NM24A-MP	SM24A-MP	GM24A-MP

Technical data				
Spindle diameter	6 – 20 mm	8 – 26.7 mm	10 – 20 mm	12 – 26.7 mm
Running time motor 90°	150 s	150 s	150 s	150 s
Manual override	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked
Connection	Connecting cable 1 m	Connecting cable 1 m	Connecting cable 1 m	Connecting cable 1 m
Direction of rotation	Can be selected with switch	Can be selected with switch	Can be selected with switch	Can be selected with switch
Angle of rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops
Position indication	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in
Sound power level	≤35 dB(A) @ 150 s	≤35 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤45 dB(A) @ 150 s
Degree of protection	IP 54	IP 54	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C	–30...+50 °C	–30...+50 °C	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0 – 10 V, 100 kΩ; operating range 2 – 10 V / position feedback U = DC 2 – 10 V, max. 1 mA.
²⁾ Control, operating range, position feedback, running time and further functions can be set on MP types with PC-Tool or the parameterising device ZTH EU.
Other versions on request.

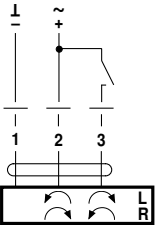
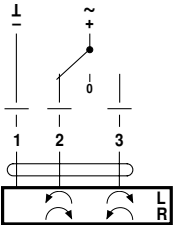
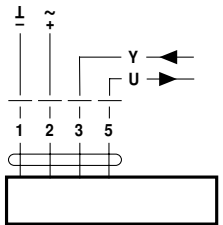
Electrical installation				
Open-close	3-point	Modulating	Parameterisable	Modulating
..M24A, ..M24A-S, ..M230A, ..M230A-S	..M24A, ..M24A-S, ..M230A, ..M230A-S	..M24A-SR	..M24A-MP	..M230ASR
(for GM...A not permitted)		Y = DC 0–10 V U = DC 2–10 V	Y = Control signal U = Position feedback	Y = DC 0–10 V U = DC 2–10 V
				

Nominal voltage 24 V AC/DC	Direction of rotation	Angle of rotation	Degree of protection	Nominal torque	2 Nm
				Damper size up to approx.	0.4 m ²
				 CM...-T..	
Open-close, 3-point					
24 V	↺ counter-clockwise rotation	0 – 287.5° / without limits	IP 20	CM24-T-L	
	↻ clockwise rotation			CM24-T-R	
Modulating (2 – 10 V) ^{1), 2)}					
24 V	↺ counter-clockwise rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	IP 20	CM24-SR-T-L	
	↻ clockwise rotation			CM24-SR-T-R	
Modulating (2 – 10 V) with adaption ^{1), 2)}					
24 V	↺ counter-clockwise rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	IP 20	CM24-SX-T-L	
	↻ clockwise rotation			CM24-SX-T-R	

Technical data	
Spindle diameter	6 – 12.7 mm
Running time motor 90°	75 s
Manual override	Gear disengagement with magnet
Connection	Connecting terminals
Position indication	Mechanical, plug-in
Sound power level	≤35 dB(A) @ 75 s
EMC	CE according to 2004/108/EC
Ambient temperature	–30...+50°C
Non-operating temperature	–40...+80°C
Ambient humidity	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 1 mA.
²⁾ Direction of rotation: Type ..L: Control signal Y = 0 V end stop left / Type ..R: Control signal Y = 0 V end stop right
Other versions on request.

Electrical installation

Open-close	3-point	Modulating
CM24..	CM24..	CM24..-SR..., CM24..-SX ..
Y = DC 0–10 V U = DC 2–10 V		
		

Nominal voltage 24 V AC/DC 230 V AC	Auxiliary switch SPDT	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
						
		LM..A-TP	NM..A-TP	SM..A-TP	GM..A-TP	

Open-close, 3-point					Open-close
24 V		LM24A-TP	NM24A-TP	SM24A-TP	GM24A-TP
	1	LM24A-S-TP	NM24A-S-TP	SM24A-S-TP	
230 V		LM230A-TP	NM230A-TP	SM230A-TP	GM230A-TP
	1	LM230A-S-TP	NM230A-S-TP	SM230A-S-TP	

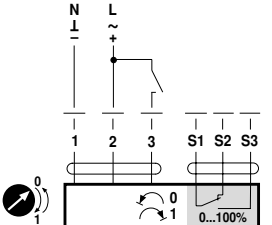
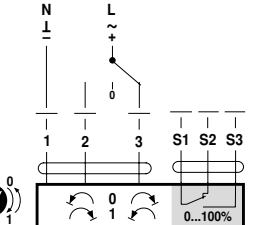
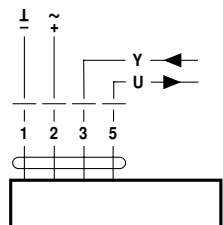
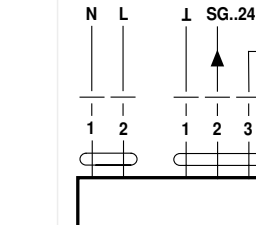
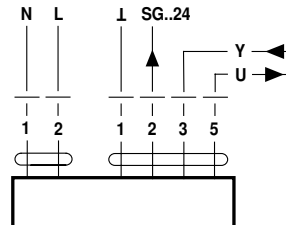
Modulating (2 – 10 V) ¹⁾					
24 V		LM24A-SR-TP	NM24A-SR-TP	SM24A-SR-TP	GM24A-SR-TP
230 V		LM230ASR-TP	NM230ASR-TP	SM230ASR-TP	

Parameterisable ²⁾					
24 V		LM24A-MP-TP	NM24A-MP-TP	SM24A-MP-TP	GM24A-MP-TP

Technical data				
Spindle diameter	6 – 20 mm	8 – 26.7 mm	10 – 20 mm	12 – 26.7 mm
Running time motor 90°	150 s	150 s	150 s	150 s
Manual override	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked
Connection	Connecting terminals	Connecting terminals	Connecting terminals	Connecting terminals
Direction of rotation	Can be selected with switch	Can be selected with switch	Can be selected with switch	Can be selected with switch
Angle of rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops
Position indication	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in
Sound power level	≤35 dB(A) @ 150 s	≤35 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤45 dB(A) @ 150 s
Degree of protection	IP 54	IP 54	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C	–30...+50 °C	–30...+50 °C	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 1 mA.
²⁾ Control, operating range, position feedback, running time and further functions can be set on MP types with PC-Tool or the parameterising device ZTH EU.
Other versions on request.

Electrical installation

Open-close	3-point	Modulating	Parameterisable	Modulating
..M24A-TP, ..M24A-S-TP, ..M230A-TP, ..M230A-S-TP	..M24A-TP, ..M24A-S-TP, ..M230A-TP, ..M230A-S-TP	..M24A-SR-TP	..M24A-MP-TP	..M230ASR-TP
Y = DC 0–10 V U = DC 2–10 V				
	(for GM..A.. not permitted) 			

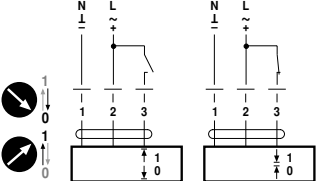
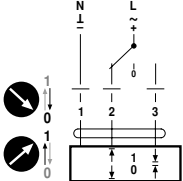
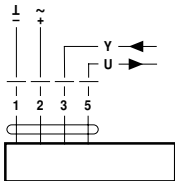
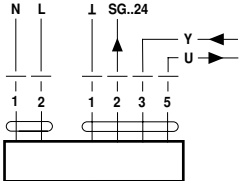
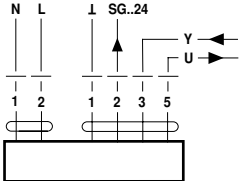
Actuating force		125 N	150 N	450 N
Damper size up to approx.		0.8 m ²	1 m ²	3 m ²
Stroke (gear rod)	Nominal voltage 24 V AC/DC 230 V AC			
		CH..L100	LH..A60	SH..A-SR200
Open/close, 3-point				
60 mm	24 V	CH24-L60.2	LH24A60	
100 mm		CH24-L100.2	LH24A100	SH24A100
200 mm			LH24A200	SH24A200
300 mm			LH24A300	SH24A300
60 mm	230 V	CH230-L60.2	LH230A60	
100 mm		CH230-L100.2	LH230A100	SH230A100
200 mm			LH230A200	SH230A200
300 mm			LH230A300	SH230A300
Modulating (2 – 10 V) ¹⁾				
60 mm	24 V	CH24-SR-L60.2	CH24-SR-R60.2	
100 mm		CH24-SR-L100.2	CH24-SR-R100.2	LH24A-SR100
200 mm				LH24A-SR200
100 mm		230 V		LH230ASR100
200 mm			LH230ASR200	
Modulating (2 – 10 V) with adaption ¹⁾				
40 mm	24 V	CH24-SX-L40.2	CH24-SX-R40.2	
100 mm		CH24-SX-L100.2	CH24-SX-R100.2	
Parameterisable ³⁾				
60 mm	24 V		Connecting cable	Connecting terminals
100 mm			LH24A-MP60-TP	
200 mm		LH24A-MP100	LH24A-MP100-TP	SH24A-MP100
300 mm		LH24A-MP200	LH24A-MP200-TP	SH24A-MP200
		LH24A-MP300	LH24A-MP300-TP	SH24A-MP300

Technical data

Running time motor 100 mm	380 s	150 s	150 s
Manual override	Gear disengagement with magnet	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked
Connection	Connecting cable 1 m	Connecting cable 1 m / connecting terminals	Connecting cable 1 m
Direction of stroke	Can be selected via contact	Can be selected with switch	Can be selected with switch
Stroke height	Adjustable in 20 mm increments	Adjustable in 20 mm increments	Adjustable in 20 mm increments
Sound power level	≤35 dB(A) @ 380 s	≤45 dB(A) @ 150 s	≤52 dB(A) @ 150 s
Degree of protection	IP 54	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C	–30...+50 °C	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 1 mA.
²⁾ Direction of stroke 0: when Y = 0 V gear rod is drawn in / direction of stroke 1: when Y = 0 V gear rod is extended.
³⁾ Control, operating range, position feedback, running time and further functions on MP types can be set with PC-Tool or the parameterising device ZTH EU.

Electrical installation

Open-close	3-point	Modulating	Parameterisable	Modulating
..H24A.., ..H230A..	..H24A.., ..H230A..	CH24-S-.., ..H24A-SR..	..H24A-MP..	..H230ASR..
Priority on 3				
				

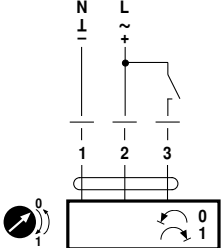
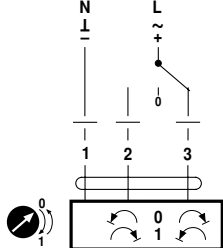
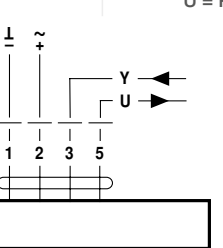
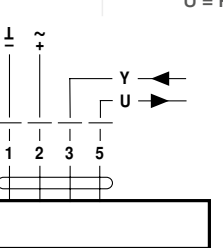
Nominal voltage 24 V AC/DC 230 V AC	Angle of rotation	Nominal torque	3 Nm
		Damper size up to approx.	0.6 m²
		 LU..A	
Open-close, 3-point			
24 V	endless	LU24A	
230 V		LU230A	
Modulating (2 – 10 V) ¹⁾			
24 V	0 – 330°, with mechanical limitation	LU24A-SR	
230 V		LU230ASR	
Parameterisable ²⁾			
24 V	0 – 1800°, with electronic limitation	LU24A-MP	

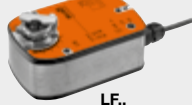
Technical data

Form fit	12 mm (8 mm with insert)
Running time motor 360°	150 s
Manual override	Gear disengagement with push-button, can be locked
Connection	Connecting cable 1 m
Direction of rotation	Can be selected with switch
Sound power level	≤35 dB(A) @ 150 s
Degree of protection	IP 54
EMC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C
Non-operating temperature	–40...+80 °C
Ambient humidity	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 1 mA.
²⁾ Control, operating range, position feedback, running time and further functions can be set on MP types with PC-Tool or the parameterising device ZTH EU.
Other versions on request.

Electrical installation

Open-close	3-point	Modulating	Parameterisable
LU24A, LU230A	LU24A, LU230A	LU24A-SR, LU230ASR	LU24A-MP
			

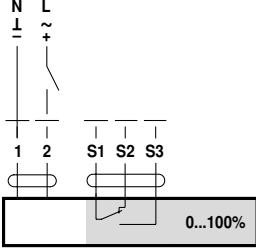
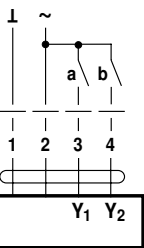
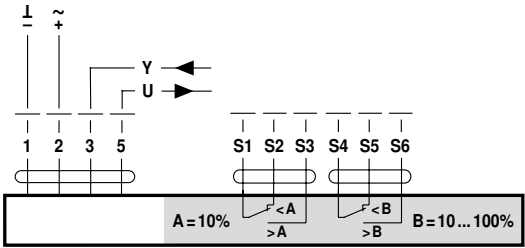
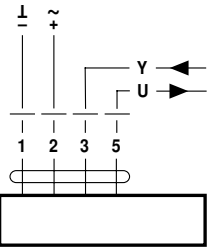
Nominal torque		2.5 Nm	4 Nm	10 Nm	20 Nm	30 Nm					
Damper size up to approx.		0.5 m ²	0.8 m ²	2 m ²	4 m ²	6 m ²					
Nominal voltage 24 V AC/DC 230 V AC	Running time motor 90°										
Open-close		without aux- iliary switch	with 1 auxiliary switch SPDT	without aux- iliary switch	with 1 auxiliary switch SPDT	without aux- iliary switch	with 2 auxiliary switches SPDT	without aux- iliary switch	with 2 auxiliary switches SPDT	without aux- iliary switch	with 2 auxiliary switches SPDT
24 V	40 – 75 s			LF24	LF24-S					EF24A	EF24A-S2
	75 s	TF24	TF24-S			NF24A	NF24A-S2	SF24A	SF24A-S2		
230 V	40 – 75 s			LF230	LF230-S						
	75 s	TF230	TF230-S							EF230A	EF230A-S2
AC 24 – 240 V DC 24 – 125 V	75 s					NFA	NFA-S2	SFA	SFA-S2		
Modulating (2–10 V) ¹⁾		without aux- iliary switch		without aux- iliary switch		without aux- iliary switch	with 2 auxiliary switches SPDT	without aux- iliary switch	with 2 auxiliary switches SPDT	without aux- iliary switch	with 2 auxiliary switches SPDT
24 V	150 s	TF24-SR		LF24-SR		NF24A-SR	NF24A-SR-S2	SF24A-SR	SF24A-SR-S2	EF24A-SR	EF24A-SR-S2
230 V	150 s	TF230-SR									
Parameterisable ²⁾		without aux- iliary switch		without aux- iliary switch		without aux- iliary switch		without aux- iliary switch		without aux- iliary switch	
24 V	40 – 75 s			LF24-MFT2							
	75 s	TF24-MFT				NF24A-MP		SF24A-MP		EF24A-MP	

Technical data

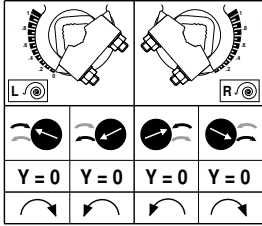
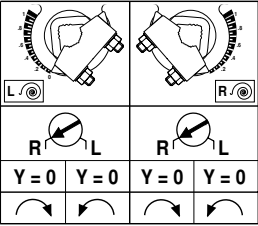
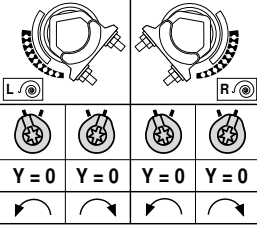
Spindle diameter	6 – 12 mm	8 – 16 mm	10 – 25.4 mm	10 – 25.4 mm	12 – 26.7 mm
Running time emergency setting position 90°	<25 s	20 s	<20 s	<20 s	<20 s
Manual override	–	–	Hand crank	Hand crank	Hand crank
Connection	Connecting cable 1 m, PVC	Connecting cable 1 m, PVC	Connecting cable 1 m, PVC	Connecting cable 1 m, PVC	Connecting cable 1 m, FRNC
Direction of rotation	Can be selected by left-hand/right-hand installation	Can be selected by left-hand/right-hand installation	Can be selected by left-hand/right-hand installation	Can be selected by left-hand/right-hand installation	Can be selected by left-hand/right-hand installation
Angle of rotation	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops
Position indication	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in
Motor sound power level	≤50 dB(A) @ 75 s	≤50 dB(A) @ 75 s	≤45 dB(A) @ 75 s	≤45 dB(A) @ 75 s	≤50 dB(A) @ 75 s
Emergency control function sound power level	≤62 dB(A) @ 25 s	≤62 dB(A) @ 20 s	≤62 dB(A) @ 20 s	≤62 dB(A) @ 20 s	≤62 dB(A) @ 20 s
Degree of protection	IP 42	IP 54	IP 54	IP 54	IP 54 ³⁾
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C	–30...+50 °C	–30...+50 °C	–30...+50 °C	–30...+50 °C ⁴⁾
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

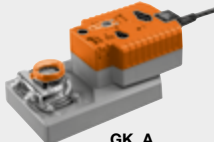
¹⁾ Modulating actuators: control signal Y = DC 0 – 10 V, 100 kΩ; operating range 2 – 10 V / position feedback U = DC 2 – 10 V, max. 1 mA.
²⁾ Control, operating range, position feedback, running time and further functions can be set on MP types with PC-Tool or the parameterising device ZTH EU.
³⁾ IP 66 versions on request.
⁴⁾ Heating for ambient temperatures to –40 °C on request.
Other versions on request.

Electrical installation

Open-close		3-point
..F24, ..F24-S, ..F230, ..F230-S		TF24-3, ..F24A-3
		
Modulating		Parameterisable
TF24-SR, TF230-SR, ..F24A-SR, ..F24A-SR-S2		..F24-MFT..., ..F24A-MP
Y = DC 0 – 10 V U = DC 2 – 10 V 		Y = Control signal U = Position feedback 

Direction of rotation

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

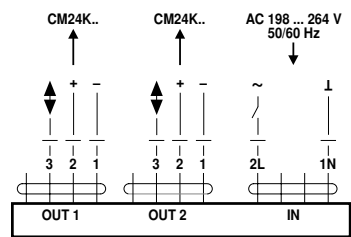
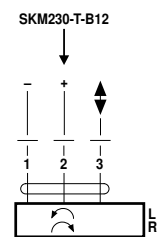
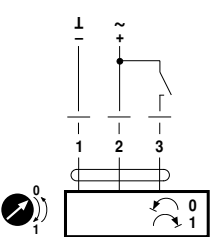
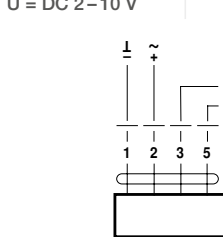
Nominal torque	2 Nm	6 Nm	40 Nm	
Damper size up to approx.	0.4 m ²	1.2 m ²	8 m ²	
Nominal voltage 24 V AC/DC 230 V AC				
		NKQ...A	GK...A	
Open-close				
	 counter-clockwise rotation	 clockwise rotation		
24 V	CM24K-T-L.2	CM24K-T-R.2	NKQ24A-1	GK24A-1
External SuperCap module				
230 V	SKM230-T-B12.1			
Modulating (2 – 10 V) ¹⁾				
24 V		NKQ24A-SR	GK24A-SR	
Parameterisable ²⁾				
24 V			GK24A-MP	

Technical data

Spindle diameter	6–12.7 mm	8–26.7 mm	12–26.7 mm
Running time motor 90°	75 s	4 s	150 s
Running time emergency setting position 90°	15 s	4 s	35 s
Manual override	Gear disengagement with magnet	Gear disengagement with push-button	Gear disengagement with push-button
Direction of rotation	Can be selected via actuator	Can be selected with switch	Can be selected with switch
Connection	Connecting terminals	Connecting cable 1 m	Connecting cable 1 m
Angle of rotation	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops
Position indication	Mechanical, pluggable	Mechanical, pluggable	Mechanical, pluggable
Motor sound power level	≤35 dB(A) @ 75 s	≤60 dB(A) @ 4 s	≤52 dB(A) @ 150 s
Emergency control function sound power level	≤55 dB(A) @ 15 s	≤60 dB(A) @ 4 s	≤61 dB(A) @ 35 s
Degree of protection	IP 20 (CM24..) / IP 40 (SKM..)	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C	–30...+50 °C	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 0.5 mA.
²⁾ Control, operating range, position feedback, running time and further functions can be set on MP types with PC-Tool or the parameterising device ZTH EU.
Other versions on request.

Electrical installation

Open-close		Open-close	Modulating	Parameterisable	
SKM230-T-B12.1		CM24K-T..	GK24A-1, NKQ24A-1	..24A-SR	GK24A-MP
			Y = DC 0-10 V U = DC 2-10 V	Y = Control signal U = Position feedback	
					

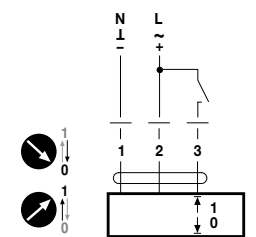
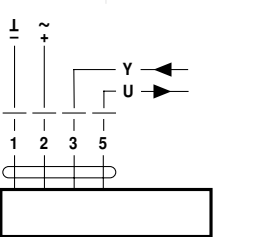
Actuating force	150 N	450 N
Damper size up to approx.	1 m²	3 m²
Nominal voltage 24 V AC/DC		
	LHK...A	SHK...A
Open-close		
24 V	LHK24A-1-100	SHK24A-1-100
Modulating (2–10 V) ¹⁾		
24 V	LHK24A-SR100	SHK24A-SR100
Parameterisable ²⁾		
24 V	LHK24A-MP100	SHK24A-MP100

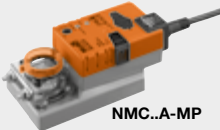
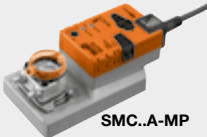
Technical data

Stroke range	0–100 mm	0–100 mm
Running time motor 100 mm	120 s	120 s
Running time emergency setting position 100 mm	35 s	35 s
Manual override	Gear disengagement with push-button	Gear disengagement with push-button
Direction of rotation	Can be selected with switch	Can be selected with switch
Connection	Connecting cable 1 m	Connecting cable 1 m
Motor sound power level	≤45 dB(A) @ 120 s	≤52 dB(A) @ 120 s
Emergency control function sound power level	≤65 dB(A) @ 35 s	≤61 dB(A) @ 35 s
Degree of protection	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 0.5 mA.
²⁾ Control, operating range, position feedback, running time and further functions can be set on MP types with PC-Tool or the parameterising device ZTH EU.
Other versions on request.

Electrical installation

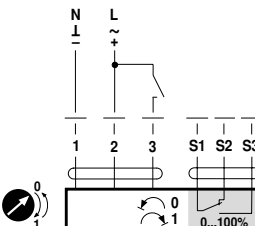
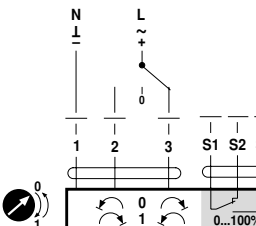
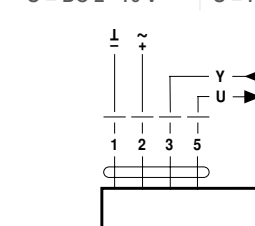
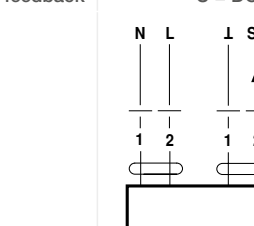
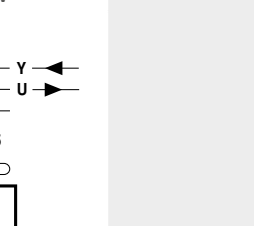
Open-close	Modulating	Parameterisable
..HK24A-1-100	..HK24A-SR	..HK24A-MP
		

Nominal torque		2 Nm	5 Nm	10 Nm	20 Nm
Damper size up to approx.		0.4 m²	1 m²	2 m²	4 m²
Nominal voltage 24 V AC/DC 230 V AC	Auxiliary switch SPDT				
		TMC..A	LMC..A	NMC..A-MP	SMC..A-MP
Open-close, 3-point					
24 V	1	TMC24A	LMC24A		
		TMC24A-S			
230 V	1	TMC230A	LMC230A		
		TMC230A-S			
Modulating (2 – 10 V) ¹⁾					
24 V		TMC24A-SR	LMC24A-SR		
230 V		TMC230ASR			
Parameterisable ²⁾					
24 V				NMC24A-MP	SMC24A-MP

Technical data				
Spindle diameter	6 – 20 mm	6 – 20 mm	8 – 26.7 mm	10 – 20 mm
Running time motor 90°	35 s	35 s	35 s	35 s
Manual override	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked
Connection	Connecting cable 1 m	Connecting cable 1 m	Connecting cable 1 m	Connecting cable 1 m
Direction of rotation	Can be selected with switch	Can be selected with switch	Can be selected with switch	Can be selected with switch
Angle of rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops
Position indication	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in
Sound power level	≤40 dB(A) @ 35 s	≤45 dB(A) @ 35 s	≤45 dB(A) @ 35 s	≤55 dB(A) @ 35 s
Degree of protection	IP 54	IP 54	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C	–30...+50 °C	–30...+50 °C	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 1 mA.
²⁾ Control, operating range, position feedback, running time and further functions can be set on MP types with PC-Tool or the parameterising device ZTH EU. Other versions on request.

Electrical installation

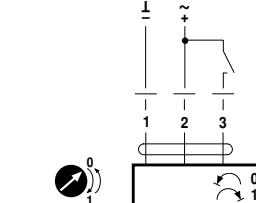
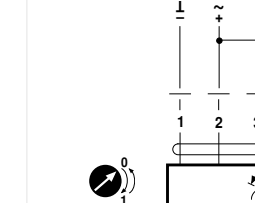
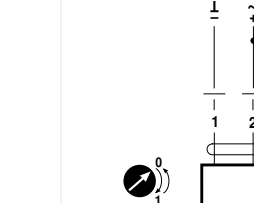
Open-close	3-point	Modulating	Parameterisable	Modulating
..MC24A, TMC24A-S, ..MC230A, TMC230A-S	..MC24A, TMC24A-S, ..MC230A, TMC230A-S	..MC24A-SR	..MC24A-MP	TMC230ASR
				

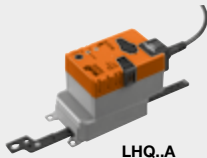
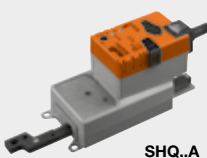
Nominal torque	4 Nm	8 Nm	16 Nm	16 Nm	
	Damper size up to approx.	0.8 m ²	1.5 m ²	3.2 m ²	3.2 m ²
	Nominal voltage 24 V AC/DC 230 V AC				
		LMQ..A	NMQ..A	SMQ..A	SMD..A
Open-close					
24 V	LMQ24A	NMQ24A	SMQ24A		
Open-close, 3-point					
24 V				SMD24A	
230 V				SMD230A	
Modulating (2 – 10 V) ¹⁾					
24 V	LMQ24A-SR	NMQ24A-SR	SMQ24A-SR		

Technical data				
Spindle diameter	8 – 26.7 mm	8 – 26.7 mm	12 – 26.7 mm	10 – 20 mm
Running time motor 90°	2.5 s	4 s	7 s	20 s
Manual override	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked
Connection	Connecting cable 1 m	Connecting cable 1 m	Connecting cable 1 m	Connecting cable 1 m
Direction of rotation	Can be selected with switch	Can be selected with switch	Can be selected with switch	Can be selected with switch
Angle of rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops
Position indication	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in
Sound power level	≤54 dB(A) @ 2.5 s	≤56 dB(A) @ 4 s	≤63 dB(A) @ 7 s	≤55 dB(A) @ 20 s
Degree of protection	IP 54	IP 54	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+40 °C (+40...+50 °C limited) ²⁾	–30...+40 °C (+40...+50 °C limited) ²⁾	–30...+40 °C (+40...+50 °C limited) ²⁾	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 0.5 mA for LMQ..A, NMQ..A, SMQ..A, max 1 mA for SMD..A.
²⁾ Please get in touch with your local BELIMO contact person. Other versions on request.

Electrical installation

Open-close	3-point	Modulating
..MQ24A	SMD..A	SMD..A
		

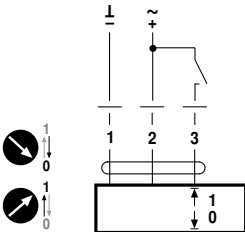
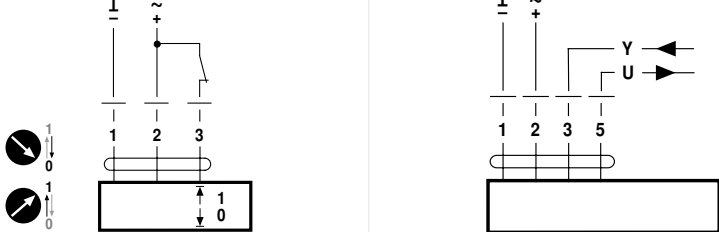
Nominal voltage 24 V AC/DC	Actuating force	100 N	200 N
	Damper size up to approx.	0.7 m²	1.3 m²
			
		LHQ..A	SHQ..A
Open-close			
24 V		LHQ24A100	SHQ24A100
Modulating (2 – 10 V) ¹⁾			
24 V		LHQ24A-SR100	SHQ24A-SR100

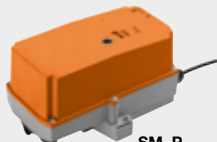
Technical data

Stroke range	0 – 100 mm	0 – 100 mm
Running time motor 100 mm	3.5 s	7 s
Manual override	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked
Connection	Connecting cable 1 m	Connecting cable 1 m
Direction of stroke	Can be selected with switch	Can be selected with switch
Stroke height	20 – 100 mm, adjustable in 20 mm increments	20 – 100 mm, adjustable in 20 mm increments
Sound power level	≤56 dB(A) @ 3.5 s	≤56 dB(A) @ 7 s
Degree of protection	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+40 °C (+40...+50 °C limited) ²⁾	–30...+40 °C (+40...+50 °C limited) ²⁾
Non-operating temperature	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Modulating actuators: control signal Y = DC 0 – 10 V, 100 kΩ; operating range 2 – 10 V / position feedback U = DC 2 – 10 V, max. 0.5 mA.
²⁾ Please get in touch with your local BELIMO contact person.
Other versions on request.

Electrical installation

Open-close	Modulating
..HQ24A100	..HQ24A-SR
	

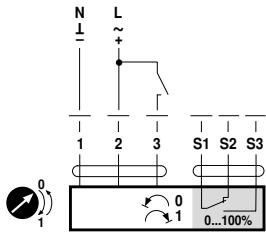
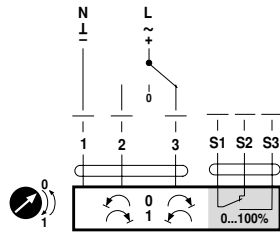
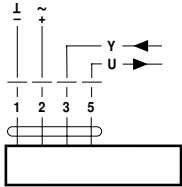
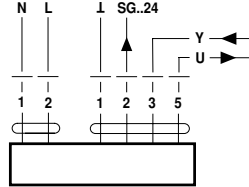
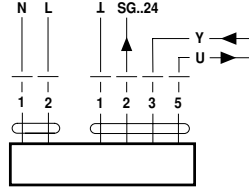
Nominal torque Damper size up to approx.	10 Nm 2 m ²	20 Nm 4 m ²	6 Nm 1.2 m ²			
	 NM..P	 SM..P	 NKQ..P			
Open/close 3-point (2–10 V) Parameterisable Nominal voltage 24 V AC/DC 230 V AC						
Open/close, 3-point	without auxiliary switch	with 1 auxiliary switch SPDT	without auxiliary switch	with 1 auxiliary switch SPDT	without auxiliary switch	
	• • • • • 24 V	NM24P	NM24P-S	SM24P	SM24P-S	
	• • • • • 24 V					NKQ24P-1
	• • • • • 230 V	NM230P ³⁾	NM230P-S ³⁾	SM230P ³⁾	SM230P-S ³⁾	
Modulating (2–10 V) ¹⁾	without auxiliary switch	without auxiliary switch		without auxiliary switch		
	• • • • • 24 V	NM24P-SR	SM24P-SR		NKQ24P-SR	
	• • • • • 230 V	NM230PSR ³⁾	SM230PSR ³⁾			
Parameterisable ²⁾	without auxiliary switch	without auxiliary switch		without auxiliary switch		
	• • • • • 24 V	NM24P-MP	SM24P-MP			

Technical data

Emergency control function	–	–	–II–
Spindle diameter	10 – 20 mm	14 – 20 mm	10 – 20 mm
Running time motor 90°	150 s	150 s	4 s
Running time emergency setting position 90°	–	–	4 s
Manual override	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button
Connection	Connecting cable 1 m, FRNC	Connecting cable 1 m, FRNC	Connecting cable 1 m, FRNC
Direction of rotation	Can be selected with switch	Can be selected with switch	Can be selected with switch
Angle of rotation	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops
Position indication	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in
Sound power level	≤35 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤60 dB(A) @ 4 s
Degree of protection	IP 66 and IP 67	IP 66 and IP 67	IP 66 and IP 67
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C (with heating to –40 °C) ³⁾	–30...+50 °C (with heating to –40 °C) ³⁾	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	100% r.h.	100% r.h.	100% r.h.

–II– = Actuators with electrical emergency control function.
¹⁾ Modulating actuators: control signal Y = DC 0 – 10 V, 100 kΩ; operating range 2 – 10 V / position feedback U = DC 2 – 10 V, max. 1 mA for NM..P and SM..P, max. 0.5 mA for NKQ..P.
²⁾ Control, operating range, position feedback, running time and further functions can be set on MP types with PC-Tool or the parameterising device ZTH EU.
³⁾ Available with heating and thermostat AC 230 V or heating and hygrostat AC 230 V for ambient temperature to –40 °C (see overview of options on [page 9](#)).
Other versions on request.

Electrical installation

Open-close	3-point	Modulating	Parameterisable	Modulating
..M24P, ..M24P-S, ..M230P, ..M230P-S, NKQ24P-1	..M24P, ..M24P-S, ..M230P, ..M230P-S	..24P-SR	..24P-MP	..M230PSR
				

Nominal torque		16 Nm	40 Nm	10 Nm	20 Nm	40 Nm		
Damper size up to approx.		3.2 m ²	8 m ²	2 m ²	4 m ²	8 m ²		
Nominal voltage 24 V AC/DC 230 V AC	Running time motor 90°							
		SMQ..G	GM..G..	NF..G	SF..G	GK..G..		
Open-close		without auxiliary switch	without auxiliary switch	without auxiliary switch	with 2 auxiliary switches SPDT	without auxiliary switch	with 2 auxiliary switches SPDT	without auxiliary switch
24 V	7 s	SMQ24G						
	150 s		GM24G-T					GK24G-1
230 V	150 s		GM230G-T					
AC 24–240 V DC 24–125 V	<75 s			NFG-L	NFG-S2-L	SFG-L	SFG-S2-L	
Modulating (2–10 V) ¹⁾		without auxiliary switch	without auxiliary switch	without auxiliary switch	with 2 auxiliary switches SPDT	without auxiliary switch	with 2 auxiliary switches SPDT	without auxiliary switch
24 V	7 s	SMQ24G-SR						
	150 s		GM24G-SR-T	NF24G-SR-L	NF24G-SR-S2-L	SF24G-SR-L	SF24G-SR-S2-L	GK24G-SR
Parameterisable ²⁾		without auxiliary switch	without auxiliary switch	without auxiliary switch	without auxiliary switch	without auxiliary switch	without auxiliary switch	without auxiliary switch
24 V	<75 s			NF24G-MP-L		SF24G-MP-L		
	150 s		GM24G-MP-T					GK24G-MP

Technical data					
Emergency control function	–	–	Ⓢ	Ⓢ	–II–
Spindle diameter	12–26.7 mm	14–26.7 mm	12–26.7 mm	12–26.7 mm	14–26.7 mm
Running time emergency setting position 90°	–	–	<20 s	<20 s	35 s
Manual override	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Hand crank	Hand crank	Gear disengagement with push-button
Connection	Connecting cable 1 m, FRNC	Connecting terminals	Connecting cable 1 m, FRNC	Connecting cable 1 m, FRNC	Connecting cable 1 m, FRNC
Direction of rotation	Can be selected with switch	Can be selected with switch	↺ counter-clockwise rotation	↺ counter-clockwise rotation	Can be selected with switch
Angle of rotation	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops	max. 95°, can be limited on both sides with adjustable mechanical end stops
Position indication	Mechanical, pluggable	Mechanical, pluggable	Mechanical, pluggable	Mechanical, pluggable	Mechanical, pluggable
Motor sound power level	≤63 dB(A) @ 7 s	≤45 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤52 dB(A) @ 150 s
Emergency control function sound power level	–	–	≤62 dB(A) @ 20 s	≤62 dB(A) @ 20 s	≤61 dB(A) @ 35 s
Degree of protection	IP 66	IP 66	IP 66	IP 66	IP 66
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+40 °C ³⁾ (+40...+50 °C limited) ⁴⁾	–30...+50 °C ³⁾	–30...+50 °C ³⁾	–30...+50 °C ³⁾	–30...+50 °C ³⁾
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	100% r.h.	100% r.h.	100% r.h.	100% r.h.	100% r.h.

Ⓢ = Actuators with mechanical emergency control function. –II– = Actuators with electrical emergency control function.

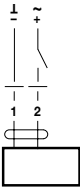
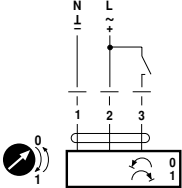
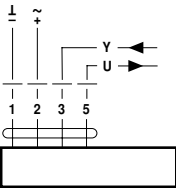
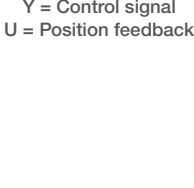
¹⁾ Modulating actuators: control signal Y = DC 0–10 V, 100 kΩ; operating range 2–10 V / position feedback U = DC 2–10 V, max. 1 mA for GM..G, NF..G and SF..G, max. 0.5 mA for SMQ..G and GK..G.

²⁾ Control, operating range, position feedback, running time and further functions on MP types can be set with PC-Tool or the parameterising device ZTH EU.

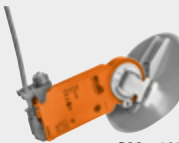
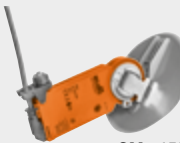
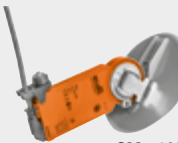
³⁾ Available with heating and thermostat/hygrostat for ambient temperature to –40 °C (see overview of options on [page 9](#)).

⁴⁾ Please get in touch with your local BELIMO contact person.

Other versions on request.

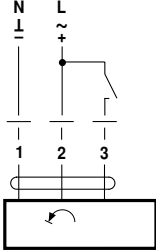
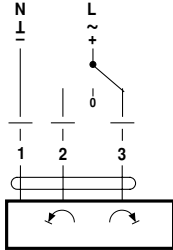
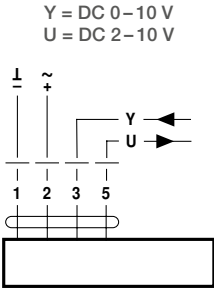
Open-close		Modulating	Parameterisable
..FG..-L	GM..G, GK24G-1, SMQ24G	..24G-SR..	..24G-MP..
			

Electrical and mechanical accessories on [page 9](#)

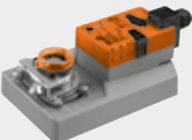
Nominal torque		2 Nm	2 Nm	2 Nm	2 Nm
Pipe diameter in accordance with DIN EN 1506		DN 100	DN 125	DN 150	DN 160
Nominal voltage 24 V AC/DC 230 V AC	 CM..-100D	 CM..-125D	 CM..-150D	 CM..-160D	
Open-close, 3-point					
24 V	CM24-L-100D.2	CM24-L-125D.2	CM24-L-150D.2	CM24-L-160D.2	
230 V	CM230-L-100D.2	CM230-L-125D.2	CM230-L-150D.2	CM230-L-160D.2	
Modulating (2 – 10 V) ¹⁾					
24 V	CM24-SR-L-100D.2	CM24-SR-L-125D.2	CM24-SR-L-150D.2	CM24-SR-L-160D.2	

Technical data				
Pipe diameter	100 mm	125 mm	150 mm	160 mm
Running time motor 70°	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 via the damper	≤1000 Pa	≤1000 Pa	≤1000 Pa	≤1000 Pa
Manual override	Gear disengagement with magnet	Gear disengagement with magnet	Gear disengagement with magnet	Gear disengagement with magnet
Connection	Connecting cable 1 m	Connecting cable 1 m	Connecting cable 1 m	Connecting cable 1 m
Direction of rotation	↺ counter-clockwise rotation (close position)	↺ counter-clockwise rotation (close position)	↺ counter-clockwise rotation (close position)	↺ counter-clockwise rotation (close position)
Angle range, damper blade	70° (open–close)	70° (open–close)	70° (open–close)	70° (open–close)
Sound power level	≤35 dB(A) @ 58 s	≤35 dB(A) @ 58 s	≤35 dB(A) @ 58 s	≤35 dB(A) @ 58 s
Degree of protection	IP 54	IP 54	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Damper blade fire response group	RF3 (CH)	RF3 (CH)	RF3 (CH)	RF3 (CH)
Ambient temperature	–30...+50 °C	–30...+50 °C	–30...+50 °C	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

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

Open-close	3-point	Modulating
CM24-L-..., CM230-L-...	CM24-L-..., CM230-L-...	CM24-SR-L-...
		

Electrical and mechanical accessories on [page 9](#)

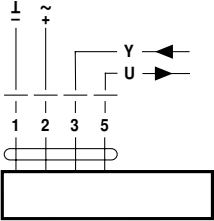
Nominal torque	5 Nm	10 Nm	20 Nm	40 Nm
Damper size up to approx.	1 m²	2 m²	4 m²	8 m²
Nominal voltage 24 V AC/DC				
	LM..A-TP	NM..A-TP	SM..A-TP	GM..A-TP
Parameterisable ¹⁾				
24 V	LM24A-MP-TP	NM24A-MP-TP	SM24A-MP-TP	GM24A-MP-TP

Technical data

Spindle diameter	6–20 mm	8–26.7 mm	10–20 mm	12–26.7 mm
Running time motor 90°	150 s	150 s	150 s	150 s
Manual override	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked	Gear disengagement with push-button, can be locked
Connection	Connecting terminals	Connecting terminals	Connecting terminals	Connecting terminals
Direction of rotation	Can be selected with switch	Can be selected with switch	Can be selected with switch	Can be selected with switch
Angle of rotation	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops	max. 95°, can be limited at both ends with adjustable mechanical end stops
Position indication	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in	Mechanical, plug-in
Sound power level	≤35 dB(A) @ 150 s	≤35 dB(A) @ 150 s	≤45 dB(A) @ 150 s	≤45 dB(A) @ 150 s
Degree of protection	IP 54	IP 54	IP 54	IP 54
EMC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C	–30...+50 °C	–30...+50 °C	–30...+50 °C
Non-operating temperature	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
Ambient humidity	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating	95% r.h., non-condensating

¹⁾ Control, operating range, position feedback, running time and further functions on MP types can be set with PC-Tool or the parameterising device ZTH EU. Other versions on request.

Electrical installation

Parameterisable
..M24A-MP-TP
Y = Control signal U = Position feedback


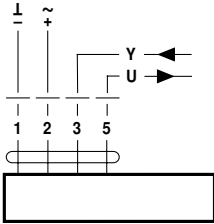
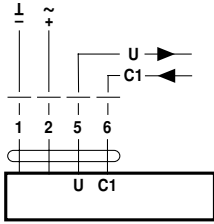
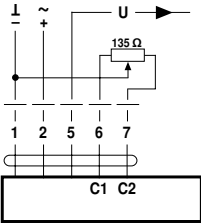
Nominal voltage 24 V AC/DC	Nominal torque	20 Nm
	Damper size up to approx.	4 m²
	Control	 SM..A..
Parameterisable ¹⁾		
24 V	Modulating 4 – 20 mA	SM24A-MA
	Modulating 0 – 20 V Phs	SM24A-PC
	Modulating 0 – 135 Ω	SM24A-R9

Technical data

Spindle diameter	10–20 mm
Running time motor 90°	150 s (86–346 s)
Manual override	Gear disengagement with push-button, can be locked
Connection	Connecting cable 1 m
Direction of rotation	Can be selected with switch
Angle of rotation	max. 95°, can be limited on both sides with adjustable mechanical end stops
Position indication	Mechanical, plug-in
Sound power level	≤45 dB(A) @ 150 s
Degree of protection	IP 54
EMC	CE according to 2004/108/EC
Ambient temperature	–30...+50 °C
Non-operating temperature	–40...+80 °C
Ambient humidity	95% r.h., non-condensating

¹⁾ Running time and further functions can be set with PC-Tool or the parameterising device ZTH EU. Other versions on request.

Electrical installation

Modulating		
SM24A-MA	SM24A-PC	SM24A-R9
Y = Control signal (4–20 mA) U = Position feedback (DC 2–10 V)	U = Position feedback (DC 2–10 V) C1 = Control signal (0–20 V phase-cut signal)	U = Position feedback (DC 2–10 V)
		

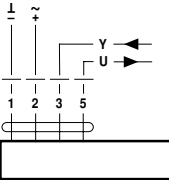
Stroke (gear rod)	Nominal voltage 24 V AC/DC	Actuating force	150 N
		Damper size up to approx.	1 m²
		 LH..A60	
Parameterisable ¹⁾			
60 mm	24 V	LH24A-MP60-TP	
100 mm		LH24A-MP100-TP	
200 mm		LH24A-MP200-TP	
300 mm		LH24A-MP300-TP	

Technical data

Running time motor 100 mm	150 s
Manual override	Gear disengagement with push-button, can be locked
Connection	Connecting terminals
Direction of stroke	Can be selected with switch
Stroke height	Adjustable in 20 mm increments
Sound power level	≤45 dB(A) @ 150 s
Degree of protection	IP 54
EMC	CE according to 2004/108/EC
Ambient temperature	−30...+50 °C
Non-operating temperature	−40...+80 °C
Ambient humidity	95% r.h., non-condensating

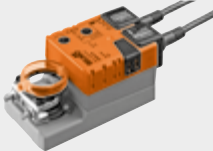
¹⁾ Control, operating range, position feedback, running time and further functions on MP types can be set with PC-Tool or the parameterising device ZTH EU.

Electrical installation

Parameterisable
..H24A-MP..
Y = Control signal U = Position feedback


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	
		
	Cable lengths	1 m, 3 m, 5 m
	Mechanical interfaces	Various spindle clamps and form-fit types, etc.
	Running times	35 s, 45 s, 90 s, 150 s
Operating range		0.5 – 10 V, 2 – 10 V

List is not exhaustive.

All-inclusive.



Belimo Europe

BELIMO Automation AG
Brunnenbachstrasse 1
CH-8340 Hinwil, Switzerland

Tel. +41 43 843 61 11
Fax +41 43 843 62 68
info@belimo.ch
www.belimo.eu

pdf - eng - 01.2016 - Subject to technical modifications