

The complete range of ventilation solutions

2009



5
Years guarantee
SWISS QUALITY




BELIMO[®]

| | | Actuators without safety function | | | | | |
|---|--------------------|-----------------------------------|-------------|-----------------|-----------------|-----------------|--------------|
| | | Rotary actuators | | | | | |
| | | CM.. | TMC..A | LM..A LMC..A | NM..A NMC..A | SM..A SMC..A | GM..A |
| | | | | | | | |
| Torque ¹⁾ | | 2 Nm | 2 Nm | 5 Nm | 10 Nm | 20 Nm | 40 Nm |
| Universal spindle clamp for spindle | | 6 ... 12.7 mm | 6 ... 20 mm | 6 ... 20 mm | 8 ... 26 mm | 10 ... 20 mm | 12 ... 26 mm |
| For air dampers up to approx. ¹⁾ | 0.4 m ² | | | | | | |
| | 1 m ² | | | | | | |
| | 2 m ² | | | | | | |
| | 4 m ² | | | | | | |
| | 8 m ² | | | | | | |





| | | Actuators without safety function | | | | | | |
|---|--------------------|-----------------------------------|--------------|--------------------|-------------|--------------|---------------|---------------|
| | | Linear actuators | | Super fast runners | | | | |
| | | LH..A | SH..A | LMQ..A | NMQ..A | SMQ..A | LHQ..A | SHQ..A |
| | | | | | | | | |
| Torque ¹⁾ | | | | 4 Nm | 8 Nm | 16 Nm | | |
| Actuating force ¹⁾ | | 150 N | 450 N | | | | 100 N | 200 N |
| Stroke | | 0 ... 300 mm | 0 ... 300 mm | | | | 20 ... 100 mm | 20 ... 100 mm |
| Universal spindle clamp for spindle | | | | 8 ... 26 mm | 8 ... 26 mm | 12 ... 26 mm | | |
| For air dampers up to approx. ¹⁾ | 0.6 m ² | | | | | | | |
| | 0.8 m ² | | | | | | | |
| | 1 m ² | | | | | | | |
| | 1.6 m ² | | | | | | | |
| | 3.6 m ² | | | | | | | |

Using Belimo damper actuators: The actuators listed in this documentation are intended for the operation of air dampers in HVAC systems.

¹⁾ **Damper size** When calculating the torque required to operate dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, mounting and air flow conditions. The recommended damper sizes are guide values.




| | | Actuators without safety function | | |
|---|--------------------|---|--|--|
| | | Rotary actuators LU..A | RobustLine actuators | |
| | |  | NM..P  | SM..P  |
| Torque ¹⁾ | | 3 Nm | 8 Nm | 18 Nm |
| Universal spindle clamp for spindle | | | 8 ... 10 mm | 10 ... 20 mm |
| Spindle driver / Form-fit | | 8 mm 10 mm * 12 mm | | |
| For air dampers up to approx. ¹⁾ | 0.6 m ² | | | |
| | 1 m ² | | | |
| | 1.6 m ² | | | |
| | 2 m ² | | | |
| | 3.6 m ² | | | |
| | 4 m ² | | | |

* Form-fit insert ZF10-LUA

| | | Actuators without safety function | | | |
|---|--------------------|--|--|--|---|
| | | Retrofit actuators | | | |
| | | LM..A  | NM..A  | SM..A  | LH..A-MF  |
| Torque ¹⁾ | | 5 Nm | 10 Nm | 20 Nm | |
| Actuating force ¹⁾ | | | | | 150 N |
| Stroke | | | | | 0 ... 300 mm |
| Universal spindle clamp for spindle | | 6 ... 20 mm | 8 ... 26 mm | 10 ... 20 mm | |
| For air dampers up to approx. ¹⁾ | 0.6 m ² | | | | |
| | 1 m ² | | | | |
| | 1.6 m ² | | | | |
| | 2 m ² | | | | |
| | 3.6 m ² | | | | |
| | 4 m ² | | | | |

Using Belimo damper actuators: The actuators listed in this documentation are intended for the operation of air dampers in HVAC systems.
The RobustLine actuators guarantee IP 66 and IP 67 protection for highest requirements for extreme environmental conditions as aggressive gases, wetness, moisture, high levels of dust and dirt, as well as the cold and UV radiation.

¹⁾ **Damper size** When calculating the torque required to operate dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, mounting and air flow conditions. The recommended damper sizes are guide values.

| | | Actuators with safety function | | |
|--|--------------------|---|--|---|
| | | TF..  | LF..  | AF..  |
| Torque ¹⁾ | | 2 Nm | 4 Nm | 15 Nm |
| Universal spindle clamp for spindle | | 6 ... 12 mm | 8 ... 16 mm | 10 ... 20 mm |
| For air dampers up to approx. ¹⁾ | | | | |
| | 0.4 m ² | | | |
| | 0.8 m ² | | | |
| | 3 m ² | | | |

Using Belimo damper actuators: The actuators listed in this documentation are intended for the operation of air dampers in HVAC systems.

¹⁾ **Damper size** When calculating the torque required to operate dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, mounting and air flow conditions. The recommended damper sizes are guide values.

| | | Actuators without safety function | | | | | | |
|-------------------------------|--|-----------------------------------|--|--|--|--|-------------------------|-------------------------|
| | | Rotary actuators | | | | Linear actuators | | |
| | | CM.. | TMC..A LM..A LMC..A | NM..A NMC..A LMQ..A | SM..A SMC..A NMQ..A | GM..A SMQ..A | LH..A LHQ..A | SH..A SHQ..A |
| | | | | | | | | |
| Electrical accessories | | | | | | | | |
| | Feedback potentiometer | | P140A P200A P500A P1000A P2800A P5000A P10000A | P140A P200A P500A P1000A P2800A P5000A P10000A | P140A P200A P500A P1000A P2800A P5000A P10000A | P140A P200A P500A P1000A P2800A P5000A P10000A | | |
| | Auxiliary switch | | S1A S2A | S1A S2A | S1A S2A | S1A S2A | | |
| | Positioner | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 |
| | Position indication | ZAD24 | ZAD24 | ZAD24 | ZAD24 | ZAD24 | ZAD24 | ZAD24 |
| | Room temperature controller | CR24.. | CR24.. | CR24.. | CR24.. | CR24.. | CR24.. | CR24.. |
| Mechanical accessories | | | | | | | | |
| | Shaft extension | AV6-20 | AV6-20 | AV8-25 | AV8-25 | | | |
| | Crank arm for actuator shaft | | | AH-25 | AH-25 | AH-GMA | | |
| | Lever for damper spindle | | | KH8 | KH8 | KH10 | | |
| | Ball joint | | | KG8 | KG8 | | | |
| | Ball joint | | | KG10A | KG10A | KG10A | Z-KS2 | Z-KS1 |
| | Spindle clamp | | | K-NA | K-SA | | | |
| | Mounting kit for linkage | | | ZG-NMA | ZG-SMA (SM..A and SMC..A only) | ZG-GMA (GM..A only) | | |
| | Groundplate extension | | | Z-NMA | Z-SMA (SM..A and SMC..A only) | Z-GMA (GM..A only) | | |
| | Kit for end stop and rotary support | | | | | | Z-AS2 Z-DS1 | Z-AS1 Z-DS1 |

| | | Actuators without safety function | | | | | Actuators with safety function | | | |
|-------------------------------|---|-----------------------------------|--|--|--|--|--|-------------------------|-------------------------|-------------------------|
| | | Rotary actuators LU..A | RobustLine actuators NM..P SM..P | | Retrofit actuators LM..A NM..A SM..A | | | TF.. | LF.. | AF.. |
| Electrical accessories | | | | | | | | | | |
| | Feedback potentiometer | | P140A P200A P500A P1000A P2800A P5000A P10000A | P140A P200A P500A P1000A P2800A P5000A P10000A | P140A P200A P500A P1000A P2800A P5000A P10000A | P140A P200A P500A P1000A P2800A P5000A P10000A | P140A P200A P500A P1000A P2800A P5000A P10000A | | | |
| | Auxiliary switch | | S2A | S2A | S1A S2A | S1A S2A | S1A S2A | | | |
| | Positioner | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 | SGA24 SGE24 SGF24 |
| | Position indication | ZAD24 | ZAD24 | ZAD24 | ZAD24 | ZAD24 | ZAD24 | ZAD24 | ZAD24 | ZAD24 |
| | Room temperature controller | CR24.. | CR24.. | CR24.. | CR24.. | CR24.. | CR24.. | CR24.. | CR24.. | CR24.. |
| | Heating with thermostat AC 230 V (available only built-in ex works) | | Z-HT230 | Z-HT230 | | | | | | |
| | Heating with hygrostat AC 230 V (available only built-in ex works) | | Z-HH230 | HH230 | | | | | | |
| Mechanical accessories | | | | | | | | | | |
| | Shaft extension | | | | AV6-20 | AV8-25 | AV8-25 | AV6-20 | AV6-20 | AV8-25 |
| | Crank arm for actuator shaft | | | | | AH-25 | AH-20 | AH-TF | KH-LF | |
| | Lever for damper spindle | | | | | KH8 | KH8 | KH8 | KH8 | KH8 |
| | Ball joint | | | | | KG8 | KG8 | KG8 | KG8 | KG8 |
| | Ball joint | | | | | KG10A | KG10A | KG10A | KG10A | KG10A |
| | Spindle clamp | K-LU | | | | K-NA | K-SA | | K6-1 | |
| | Angle of rotation limiter | ZDB-LU | | | | | | ZDB-TF | ZDB-LF | ZDB-AF |
| | Mounting kit for linkage | | | | | ZG-NMA | ZG-SMA | ZG-TF1 | ZG-LF1 ZG-LF3 | ZG-AF |
| | Groundplate extension | | | | | Z-NMA | Z-SMA | | | |

| | | | | | | |
|-------------------------------|--|-----------|---------------------------------|-----------------------------|--------------------------|-----------|
| | CM.. | | | | | |
| | 2 Nm | | | | | |
| | | | | | | |
| For air dampers up to approx. | 0.4 m² | | | | | |
| Open-close actuators | | | | | | |
| AC/DC 24 V | CM24 | CM24-T | CM24G | | | |
| AC 230 V | CM230 CM230-1 | | CM230G | | | |
| Modulating actuators | | | | | | |
| | Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | | | | | |
| AC/DC 24 V | | | CM24-SR-L, CM24-SR-R | CM24-SR-T-L, CM24-SR-T-R | CM24G-SR-L CM24G-SR-R | |
| Technical data | | | | | | |
| Damper spindle | 6 ... 12.7 mm | | | | | |
| Running time | 75 s / 90° | | | | | |
| Manual override | Magnetic gear release, self-resetting | | | | | |
| Connection | Cable 1 m | Terminals | Cable 1 m | Cable 1 m | Terminals | Cable 1 m |
| Direction of rotation | Selectable with product type | | | | | |
| Angle of rotation | 0 ... 287.5° (315°) / endless | | | 0 ... 95° | | |
| Position indication | Mechanical, pluggable | | | | | |
| Sound power level | Max. 35 dB(A) | | | | | |
| Degree of protection | IP 54 in all mounting positions | IP 66 | IP 54 in all mounting positions | IP 66 | | |
| 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 (EN 60730-1) | | | | | |

Other versions upon request.

| | | | |
|--------------------------------|-------------------------------|--|---|
| Electrical installation | CM24, CM230, CM230-1 | CM24, CM230 | CM24-SR.. |
| | Open-close control | 3-point control (unsuitable for CM230-1) | Modulating Y = DC 0 ... 10 V U = DC 2 ... 10 V |

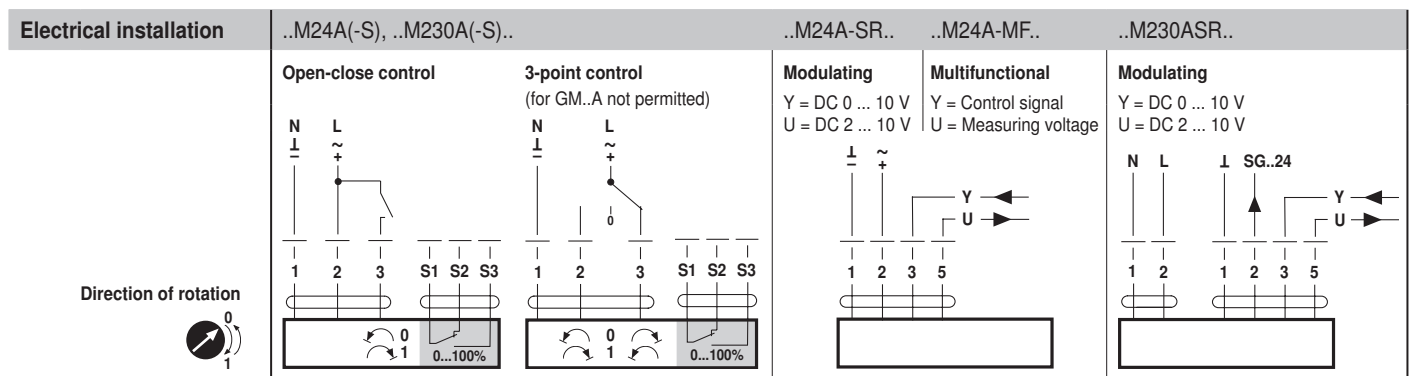
Electrical and mechanical accessories on page 5

| | LM..A ²⁾ | NM..A ²⁾ | SM..A ²⁾ | GM..A ²⁾ |
|--|---|------------------------|------------------------|------------------------|
| | 5 Nm | 10 Nm | 20 Nm | 40 Nm |
| For air dampers up to approx. | 1 m² | 2 m² | 4 m² | 8 m² |
| Open-close actuators | | | | |
| AC/DC 24 V | LM24A(-TP) | NM24A(-TP) | SM24A(-TP) | GM24A(-TP) |
| with auxiliary switch, 1 x EPU, 1 mA...3(0.5) A | LM24A-S(-TP) | NM24A-S(-TP) | SM24A-S(-TP) | |
| AC 230 V | LM230A(-TP) | NM230A(-TP) | SM230A(-TP) | GM230A(-TP) |
| with auxiliary switch, 1 x EPU, 1 mA...3(0.5) A | LM230A-S(-TP) | NM230A-S(-TP) | SM230A-S(-TP) | |
| Modulating actuators Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | | | | |
| AC/DC 24 V | LM24A-SR(-TP) | NM24A-SR(-TP) | SM24A-SR(-TP) | GM24A-SR(-TP) |
| AC 230 V | LM230ASR(-TP) | NM230ASR(-TP) | SM230ASR(-TP) | |
| Multifunctional actuators Parameterisable ¹⁾ | | | | |
| AC/DC 24 V | LM24A-MF(-TP) | NM24A-MF(-TP) | SM24A-MF(-TP) | GM24A-MF |
| Technical data | | | | |
| Damper spindle | 6 ... 20 mm | 8 ... 26 mm | 10 ... 20 mm | 12 ... 26 mm |
| Running time | 150 s / 90° \triangleleft | | | |
| Manual override | Gearing latch disengaged with pushbutton, can be locked | | | |
| Connection | Cable 1 m / Terminals | | | |
| Direction of rotation | Selectable with switch | | | |
| Angle of rotation | Max. 95° \triangleleft , can be limited at both ends with adjustable mechanical end stops | | | |
| Position indication | Mechanical, pluggable | | | |
| Sound power level | Max. 35 dB(A) | | Max. 45 dB(A) | |
| Degree of protection | IP 54 in all mounting positions | | | |
| 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 (EN 60730-1) | | | |

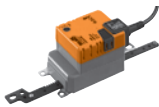

¹⁾ Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool or with the parameterising device MFT-H.

²⁾ Type of actuator **with** extension «...TP» with terminal connection
Type of actuator **without** extension «...TP» with connection cable

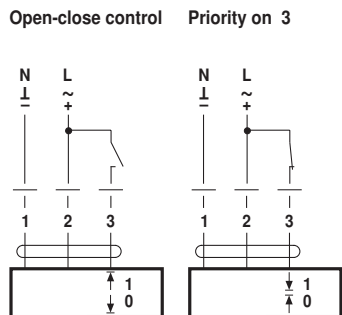
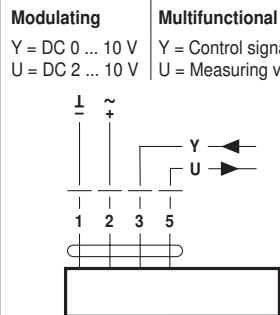
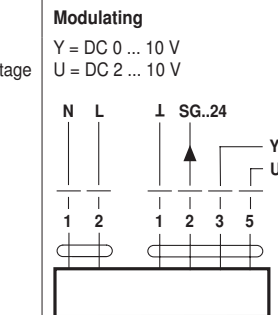
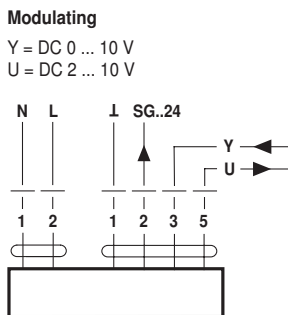

Other versions upon request.



Electrical and mechanical accessories on page 5

| | | LH..A | SH..A |
|--|--------------------|---|---|
| | | 150 N | 450 N |
| | |  |  |
| For air dampers and sliders up to approx. | | 1 m ² | 3 m ² |
| Open-close actuators | | | |
| AC/DC 24 V | Max. 60 mm stroke | LH24A60 | |
| | Max. 100 mm stroke | LH24A100 | SH24A100 |
| | Max. 200 mm stroke | LH24A200 | SH24A200 |
| | Max. 300 mm stroke | LH24A300 | SH24A300 |
| AC 230 V | Max. 60 mm stroke | LH230A60 | |
| | Max. 100 mm stroke | LH230A100 | SH230A100 |
| | Max. 200 mm stroke | LH230A200 | SH230A200 |
| | Max. 300 mm stroke | LH230A300 | SH230A300 |
| Modulating actuators | | | |
| Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | | | |
| AC/DC 24 V | Max. 100 mm stroke | LH24A-SR100 | SH24A-SR100 |
| | Max. 200 mm stroke | LH24A-SR200 | SH24A-SR200 |
| AC 230 V | Max. 100 mm stroke | LH230A-SR100 | SH230A-SR100 |
| | Max. 200 mm stroke | LH230A-SR200 | SH230A-SR200 |
| Multifunctional actuators | | | |
| Parameterisable ¹⁾ | | | |
| AC/DC 24 V | Max. 60 mm stroke | LH24A-MF60 | |
| | Max. 100 mm stroke | LH24A-MF100 | SH24A-MF100 |
| | Max. 200 mm stroke | LH24A-MF200 | SH24A-MF200 |
| | Max. 300 mm stroke | LH24A-MF300 | SH24A-MF300 |
| Technical data | | | |
| Running time | | 150 s / 100 mm (LH..60: 90 s / 60 mm) | |
| Manual override | | Gearing latch disengaged with pushbutton, can be locked | |
| Connection | | Cable 1 m | |
| Direction of stroke | | Selectable with switch | |
| Stroke height | | Adjustable in 20 mm-steps | |
| Sound power level | | Max. 35 dB(A) | Max. 50 dB(A) |
| Degree of protection | | IP 54 in all mounting positions | |
| 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 (EN 60730-1) | |

¹⁾ Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool or with the parameterising device MFT-H. Other versions upon request.









| Electrical installation | ..H24A.., ..H230A.. | ..H24A-SR.. | ..H24A-MF.. | ..H230ASR.. |
|-------------------------|---|---|--|--|
| | Open-close control Priority on 3  | Modulating Y = DC 0 ... 10 V U = DC 2 ... 10 V  | Multifunctional Y = Control signal U = Measuring voltage  | Modulating Y = DC 0 ... 10 V U = DC 2 ... 10 V  |
| | Direction of stroke  | | | |

| | TMC..A | LMC..A | NMC..A | SMC..A |
|---|---|------------------------|------------------------|------------------------|
| | 2 Nm | 5 Nm | 10 Nm | 20 Nm |
| | | | | |
| For air dampers up to approx. | 0.4 m² | 1 m² | 2 m² | 4 m² |
| Open-close actuators | | | | |
| AC/DC 24 V | TMC24A | LMC24A | | |
| with auxiliary switch, 1 x EPU, 1 mA...3(0.5) A | TMC24A-S | | | |
| AC 230 V | TMC230A | LMC230A | | |
| with auxiliary switch, 1 x EPU, 1 mA...3(0.5) A | TMC230A-S | | | |
| Modulating Actuator | Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | | | |
| AC/DC 24 V | TMC24A-SR | LMC24A-SR | | |
| Multifunctional actuators | Parameterisable ¹⁾ | | | |
| AC/DC 24 V | | | NMC24A-MF | SMC24A-MF |
| Technical data | | | | |
| Damper spindle | 6 ... 20 mm | 6 ... 20 mm | 8 ... 26 mm | 10 ... 20 mm |
| Running time | 35 s / 90° \sphericalangle | | | |
| Manual override | Gearing latch disengaged with pushbutton, can be locked | | | |
| Connection | Cable 1 m | | | |
| Direction of rotation | Selectable with switch | | | |
| Angle of rotation | Max. 95° \sphericalangle, can be limited at both ends with adjustable mechanical end stops | | | |
| Position indication | Mechanical, pluggable | | | |
| Sound power level | Max. 35 dB(A) | Max. 45 dB(A) | Max. 55 dB(A) | |
| Degree of protection | IP 54 in all mounting positions | | | |
| 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 (EN 60730-1) | | | |

¹⁾ Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool or with the parameterising device MFT-H. Other versions upon request.

| Electrical installation | ..MC24A(-S), ..MC230A(-S) | ..MC24A-SR | ..MC24A-MF |
|----------------------------------|---|---|---|
| | Open-close control N, L, 1, 2, 3, S1, S2, S3 | 3-point control N, L, 1, 2, 3, S1, S2, S3 | Modulating Y = DC 0 ... 10 V U = DC 2 ... 10 V 1, 2, 3, 5, Y, U |
| | Multifunctional Y = Control signal U = Measuring voltage | | |
| Direction of rotation | | | |

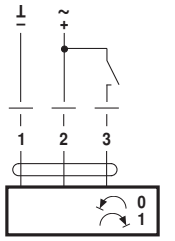
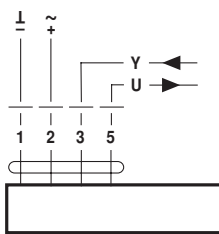
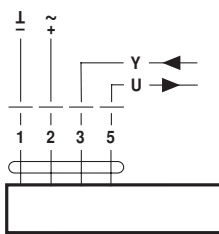


Electrical and mechanical accessories on page 5

| | LMQ..A | NMQ..A | SMQ..A |
|--|---|---|---|
| | 4 Nm  | 8 Nm  | 16 Nm  |
| For air dampers up to approx. | 0.8 m ² | 1.5 m ² | 3.2 m ² |
| Open-close actuators | | | |
| AC/DC 24 V | LMQ24A | NMQ24A | SMQ24A |
| Modulating actuators | Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | | |
| AC/DC 24 V | LMQ24A | NMQ24A-SR | SMQ24A-SR |
| Multifunctional actuators | Parameterisable 1) | | |
| AC/DC 24 V | LMQ24A-MF | NMQ24A-MF | SMQ24A-MF |
| Technical data | | | |
| Damper spindle  | 8 ... 26 mm | | 12 ... 26 mm |
| Running time | 2.5 s / 90°  | 4 s / 90°  | 7 s / 90°  |
| Manual override | Gearing latch disengaged with pushbutton, can be locked | | |
| Connection | Cable 1 m | | |
| Direction of rotation | Selectable with switch | | |
| Angle of rotation | Max. 95°  , can be limited at both ends with adjustable mechanical end stops | | |
| Position indication | Mechanical, pluggable | | |
| Sound power level | Max. 52 dB(A) | | |
| Degree of protection | IP 54 in all mounting positions | | |
| EMC | CE according to 2004/108/EC | | |
| Ambient temperature | -30 ... +40°C (+40 ... +50°C with restrictions) 2) | | |
| Non-operating temperature | -40 ... +80°C | | |
| Ambient humidity | 95% r.h., non-condensating (EN 60730-1) | | |

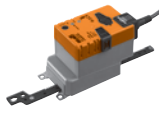

1) Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool.

2) Please contact your Belimo representative.

Other versions upon request.

| Electrical installation | ..MQ24A | ..MQ24A-SR | ..MQ24A-MF |
|---|--|---|---|
| | Open-close control  | Modulating Y = DC 0 ... 10 V U = DC 2 ... 10 V  | Multifunctional Y = Control signal U = Measuring voltage  |
| Direction of rotation  |  | | |

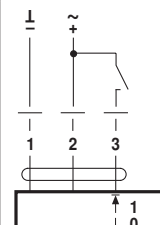
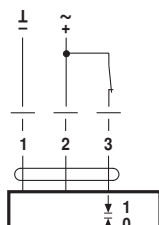
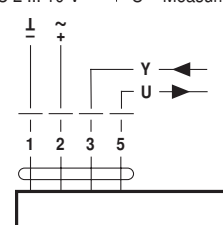

Electrical and mechanical accessories on page 5

| | LHQ..A | SHQ..A |
|----------------------------------|--|--|
| | 100 N  | 200 N  |
| For air dampers up to approx. | 0.7 m ² | 1.3 m ² |
| Open-close actuators | | |
| AC/DC 24 V | LHQ24A100 | SHQ24A100 |
| Modulating actuators | Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | |
| AC/DC 24 V | LHQ24A-SR100 | SHQ24A-SR100 |
| Multifunctional actuators | Parameterisable ¹⁾ | |
| AC/DC 24 V | LHQ24A-MF100 | SHQ24A-MF100 |
| Technical data | | |
| Running time | 3.5 s / 90° ⇄ | 7 s / 90° ⇄ |
| Manual override | Gearing latch disengaged with pushbutton, can be locked | |
| Connection | Cable 1 m | |
| Direction of stroke | Selectable with switch | |
| Stroke height | 20 ... 100 mm, adjustable in 20 mm-steps | |
| Position indication | Mechanical, pluggable | |
| Sound power level | Max. 52 dB(A) | |
| Degree of protection | IP 54 in all mounting positions | |
| EMC | CE according to 2004/108/EC | |
| Ambient temperature | -30 ... +40 °C (+40 ... +50 °C with restrictions) ²⁾ | |
| Non-operating temperature | -40 ... +80 °C | |
| Ambient humidity | 95% r.h., non-condensating (EN 60730-1) | |


¹⁾ Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool.

²⁾ Please contact your Belimo representative.

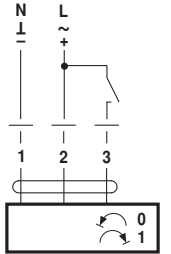
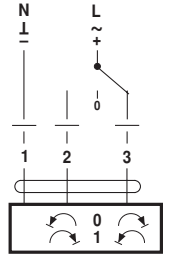
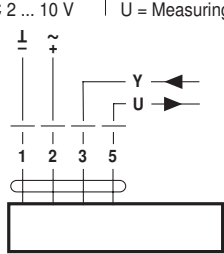

Other versions upon request.

| Electrical installation | ..HQ24A100 | ..HQ24A-SR100 | ..HQ24A-MF100 |
|-------------------------|--|---|--|
| | Open-close control  | Priority on 3  | Modulating Y = DC 0 ... 10 V U = DC 2 ... 10 V Multifunctional Y = Control signal U = Measuring voltage  |
| Direction of stroke |  | | |




Electrical and mechanical accessories on page 5

| | | | |
|----------------------------------|--|-----------------------------|---|
| | LU..A | | |
| | 3 Nm | | |
| |  | | |
| For air dampers up to approx. | 0.6 m² | | |
| Open-close actuators | | | |
| AC/DC 24 V | LU24A | | |
| AC 230 V | LU230A | | |
| Modulating actuators | Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | | |
| AC/DC 24 V | | LU24A-SR | |
| Multifunctional actuators | Parameterisable ¹⁾ | | |
| AC/DC 24 V | | | LU24A-MF |
| Technical data | | | |
| Spindle driver | Form-fit 12 mm or 8 mm (with insert) | | |
| Running time | 150 s / 360° \triangleleft | | |
| Manual override | Gearing latch disengaged with pushbutton, can be locked | | |
| Connection | Cable 1 m | | |
| Direction of rotation | Selectable with switch | | |
| Angle of rotation | Endless | 0 ... 330°, permanently set | Max. 0 ... 1800° \triangleleft |
| Sound power level | Max. 35 dB(A) | | |
| Degree of protection | IP 54 in all mounting positions | | |
| 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 (EN 60730-1) | | |

¹⁾ Control, operating range, position feedback, running time and further functions are parameterisable with PC tool or with the parameterising device MFT-H. Other versions upon request.

| Electrical installation | LU24A, LU230A | LU24A-SR | LU24A-MF |
|--|--|---|---|
| | Open-close control  | 3-point control  | Modulating Y = DC 0 ... 10 V U = DC 2 ... 10 V Multifunctional Y = Control signal U = Measuring voltage  |
| Direction of rotation  | | | |

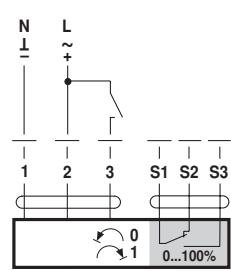
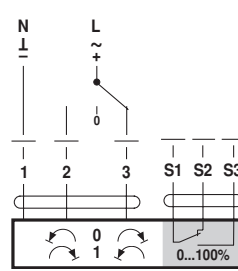
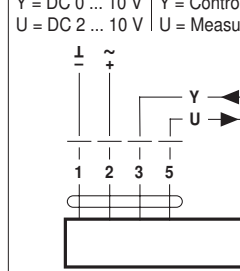
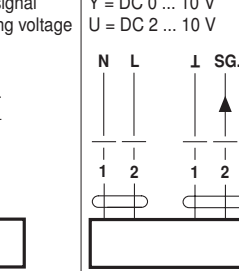
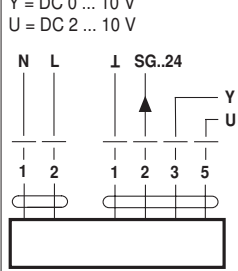
Electrical and mechanical accessories on page 6

| | NM..P | SM..P |
|--|---|---|
| | 8 Nm | 18 Nm |
| |  |  |
| For air dampers up to approx. | 1.6 m ² | 3.6 m ² |
| Open-close actuators | | |
| AC/DC 24 V | NM24P | SM24P |
| with auxiliary switch, 1 x EPU, 1 mA...3(0.5) A | NM24P-S | SM24P-S |
| AC 230 V | NM230P ²⁾ | SM230P ²⁾ |
| with auxiliary switch, 1 x EPU, 1 mA...3(0.5) A | NM230P-S | SM230P-S |
| Modulating actuators | Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | |
| AC/DC 24 V | NM24P-SR | SM24P-SR |
| AC 230 V | NM230PSR | SM230PSR |
| Multifunctional actuators | Parameterisable ¹⁾ | |
| AC/DC 24 V | NM24P-MF | SM24P-MF |
| Technical data | | |
| Damper spindle  | 10 ... 20 mm | 14 ... 20 mm |
| Running time | 150 s / 90° \triangleleft | |
| Manual override | Gearing latch disengaged with pushbutton, can be locked | |
| Connection | Cable FRNC 1 m | |
| Direction of rotation | Selectable with switch | |
| Angle of rotation | Max. 95° \triangleleft , can be limited at both ends with adjustable mechanical end stops | |
| Position indication | Mechanical, pluggable | |
| Sound power level | Max. 35 dB(A) | Max. 45 dB(A) |
| Degree of protection | IP 66 + IP 67 in all mounting positions | |
| EMC | CE according to 2004/108/EC | |
| Ambient temperature | -30 ... +50°C (with heating to -40°C) | |
| Non-operating temperature | -40 ... +80°C | |
| Ambient humidity | 100% r.H. | |

¹⁾ Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool or with the parameterising device MFT-H.

²⁾ Available with heating and thermostat AC 230 V or heating and hygrostat AC 230 V (see «Overview options»).

Other versions upon request.

| Electrical installation | ..M24P(-S), ..M230P(-S) | ..M24P-SR | ..M24P-MF | ..M230PSR |
|-------------------------|---|---|--|---|
| | <p>Open-close control</p>  | <p>3-point control</p>  | <p>Modulating</p> <p>Y = DC 0 ... 10 V U = DC 2 ... 10 V</p>  | <p>Multifunctional</p> <p>Y = Control signal U = Measuring voltage</p>  |
| | <p>Modulating</p> <p>Y = DC 0 ... 10 V U = DC 2 ... 10 V</p>  | | | |

Electrical and mechanical accessories on page 6

| | LM24A-MF-TP | NM24A-MF-TP | SM24A-MF-TP | LH24A-MF..-TP |
|----------------------------------|---|--|--|--|
| | 5 Nm | 10 Nm | 20 Nm | 150 N |
| For air dampers up to approx. | 1 m ² | 2 m ² | 4 m ² | 1 m ² |
| Multifunctional actuators | Parameterisable 1) | | | |
| AC/DC 24 V | LM24A-MF-TP | NM24A-MF-TP | SM24A-MF-TP | |
| Max. 60 mm stroke | | | | LH24A-MF60-TP |
| Max. 100 mm stroke | | | | LH24A-MF100-TP |
| Max. 200 mm stroke | | | | LH24A-MF200-TP |
| Max. 300 mm stroke | | | | LH24A-MF300-TP |
| Technical data | | | | |
| Damper spindle | 6 ... 20 mm | 8 ... 26 mm | 10 ... 20 mm | |
| Running time | 150 s / 90° \triangleleft (35 ... 150 s) | 150 s / 90° \triangleleft (43 ... 173 s) | 150 s / 90° \triangleleft (86 ... 346 s) | 150 s / 100 mm (LH..60..: 90 s / 60 mm) |
| Manual override | Gearing latch disengaged with pushbutton, can be locked | | | |
| Connection | Terminals | | | |
| Direction of rotation | Selectable with switch | | | |
| Angle of rotation | Max. 95° \triangleleft, can be limited at both ends with adjustable mechanical end stops | | | |
| Direction of stroke | | | | Selectable with switch |
| Stroke height | | | | Adjustable in 20 mm-steps |
| Position indication | Mechanical, pluggable | | | |
| Sound power level | Max. 45 dB(A) | | | |
| Degree of protection | IP 54 in all mounting positions | | | |
| 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 (EN 60730-1) | | | |

1) Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool or with the parameterising device MFT-H. Other versions upon request.

| Electrical installation | ..M24A-MF-TP, LH24A-MF..-TP |
|-------------------------|--|
| | <p>Multifunctional Y = Control signal U = Measuring voltage</p> <p>Direction of rotation </p> <p>Direction of stroke </p> |





Electrical and mechanical accessories on page 6

| | | SM24A-MA | SM24A-PC | SM24A-R9 |
|----------------------------------|------------------------|---|------------------|------------------|
| | | 20 Nm | 20 Nm | 20 Nm |
| For air dampers up to approx. | | 4 m ² | 4 m ² | 4 m ² |
| Multifunctional actuators | | Parameterisable ¹⁾ | | |
| AC/DC 24 V | Control 4 ... 20 mA | SM24A-MA | | |
| | Control 0 ... 20 V Phs | | SM24A-PC | |
| | Control 0 ... 135 Ω | | | SM24A-R9 |
| Technical data | | | | |
| Damper spindle | | 10 ... 20 mm | 10 ... 20 mm | 10 ... 20 mm |
| Running time | | 150 s / 90° \triangleleft (86 ... 346 s) | | |
| Manual override | | Gearing latch disengaged with pushbutton, can be locked | | |
| Connection | | Cable 1 m | | |
| Direction of rotation | | Selectable with switch | | |
| Angle of rotation | | Max. 95° \triangleleft , can be limited at both ends with adjustable mechanical end stops | | |
| Position indication | | Mechanical, pluggable | | |
| Sound power level | | Max. 45 dB(A) | | |
| Degree of protection | | IP 54 in all mounting positions | | |
| 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 (EN 60730-1) | | |

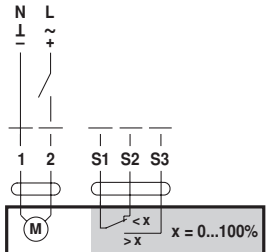
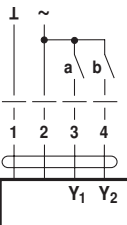
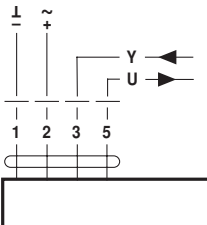
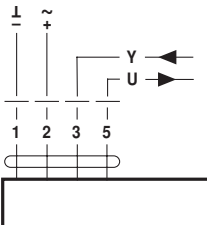
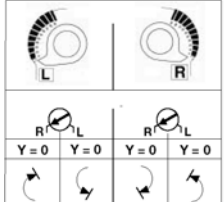
1) Position feedback, running time and further functions are parameterisable with PC-Tool or with the parameterising device MFT-H
Other versions upon request.

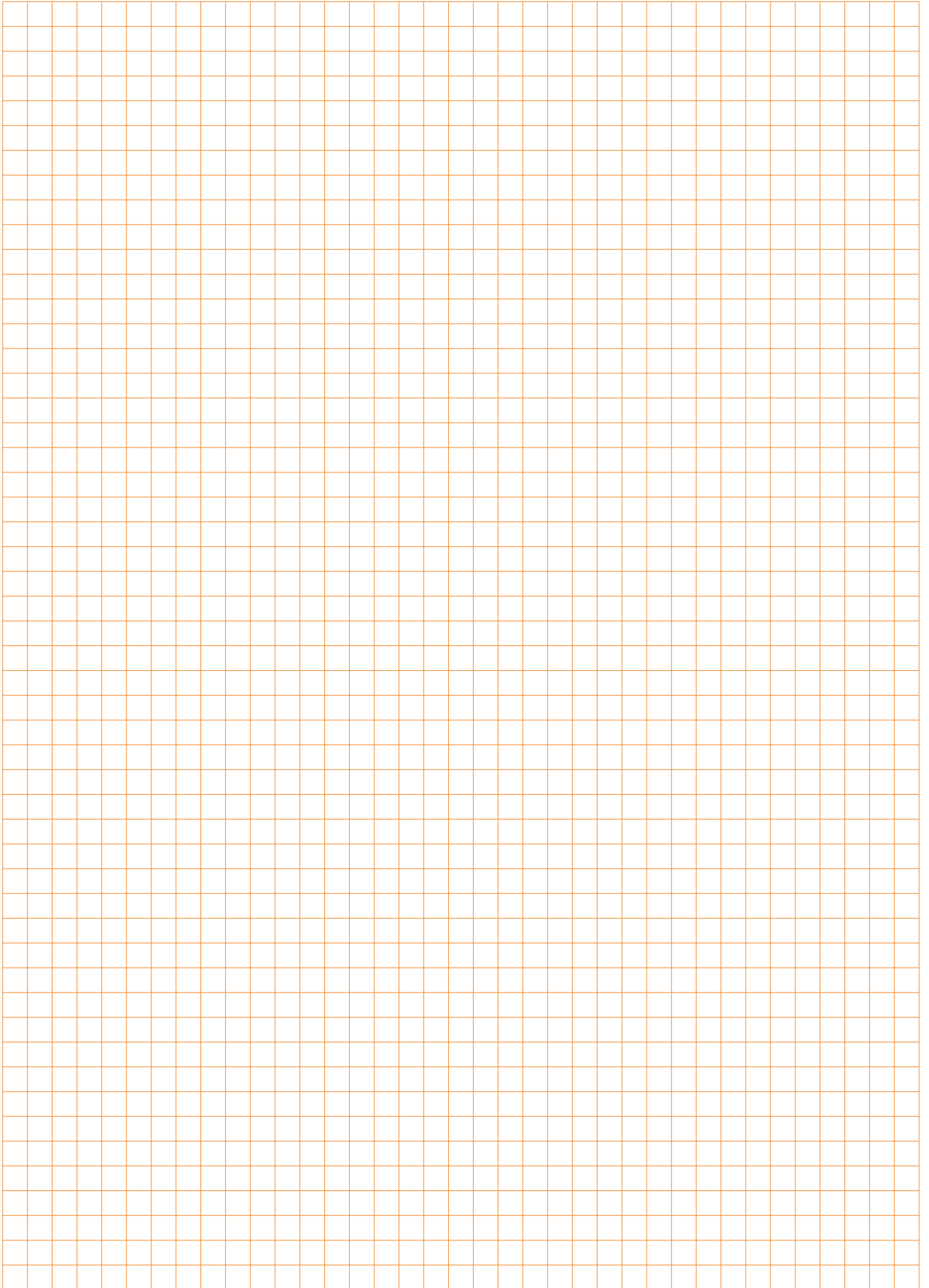
| Electrical installation | SM24A-MA | SM24A-PC | SM24A-R9 |
|-------------------------|--|--|------------------------------|
| | <p>Multifunctional Y = Control signal U = Measuring voltage</p> | <p>U = Measuring voltage C1 = Control Signal</p> | <p>U = Measuring voltage</p> |
| Direction of rotation | | | |

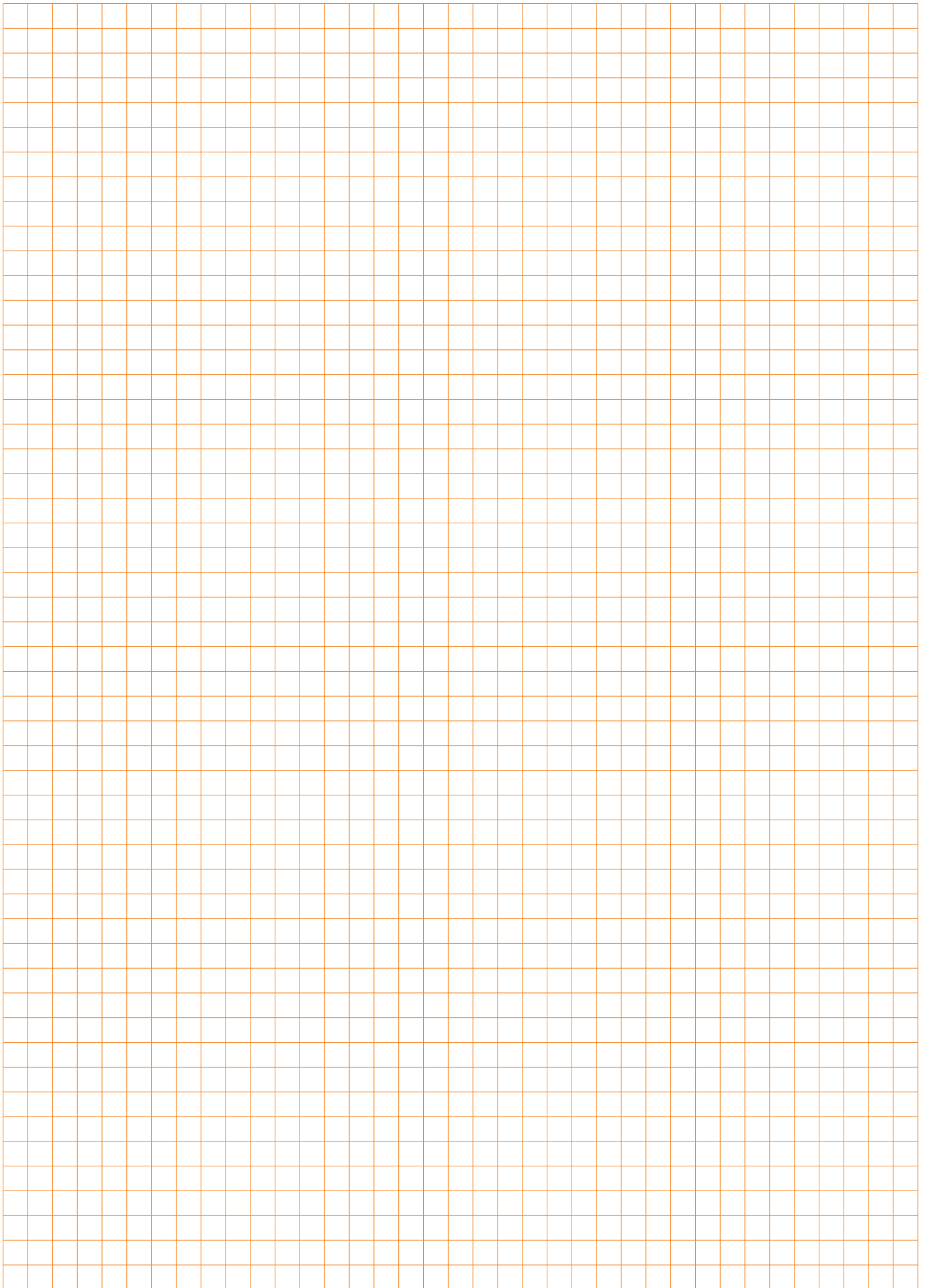
Electrical and mechanical accessories on page 6

| | TF.. | LF.. | AF.. |
|---|---|--|---|
| | 2 Nm | 4 Nm | 15 Nm |
| |  |  |  |
| For air dampers up to approx. | 0.4 m² | 0.8 m² | 3 m² |
| Open-close actuators | | | |
| AC/DC 24 V | TF24 | LF24 | AF24 |
| with auxilliary switch, 1 x EPU | TF24-S | LF24-S | |
| with auxilliary switch, 2 x EPU | | | AF24-S |
| AC 230 V | TF230 | LF230 | AF230 |
| with auxilliary switch, 1 x EPU | TF230-S | LF230-S | |
| with auxilliary switch, 2 x EPU | | | AF230-S |
| 3-point actuator | | | |
| AC 24 V | TF24-3 | | |
| Modulating actuators | | | |
| Control signal Y: DC 0 ... 10 V, 100 kΩ / Position feedback DC 2 ... 10 V, max. 1 mA | | | |
| AC/DC 24 V | TF24-SR | LF24-SR | AF24-SR |
| Multifunctional actuators | | | |
| Parameterisable ¹⁾ | | | |
| AC/DC 24 V | TF24-MFT | LF24-MFT | AF24-MFT |
| Technical data | | | |
| Damper spindle  | 6 ... 12 mm | 8 ... 16 mm | 10 ... 20 mm |
| Running time | Motor <75 s / 90°↙ (TF24-SR: 150 s / 90°↙) | 40 ... 75 s / 90°↙ (LF24-SR: 150 s / 90°↙) | ~150 s / 90°↙ |
| | Spring-return <25 s / 90°↙ | ~20 s / 90°↙ | ~16 s / 90°↙ |
| Manual override | | | Hand crank |
| Connection | Cable 1 m | | |
| Direction of rotation | Can be selected by mounting L/R | | |
| Angle of rotation | Max. 95°↙ | | |
| Angle of rotation limiter | Yes | | |
| Position indication | Mechanical | | |
| Sound power level | Motor Spring-return | Max. 50 dB(A) = 62 dB(A) | Max. 45 dB(A) = 62 dB(A) |
| Degree of protection | IP 42 | 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 (EN 60730-1) | | |

¹⁾ Control, operating range, position feedback, running time and further functions are parameterisable with PC-Tool or with the parameterising device MFT-H. Other versions upon request.

| Electrical installation | ..F24(-S), ..F230(-S) | TF24-3 | ..F24-SR | ..F24-MFT | ..F24-SR |
|-------------------------|---|---|--|--|---|
| | Open-close control | 3-point control | Modulating Y = DC 0 ... 10 V U = DC 2 ... 10 V | Multifunctional Y = Control signal U = Measuring voltage | Direction of mounting |
| |  |  |  |  |  |





All-inclusive.



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