BELIMO

Technical data sheet SF24ALON

Spring return actuator for LONWORKS® with emergency function for adjusting air dampers in ventilation and air conditioning systems in buildings

- **For air dampers up to approx. 4 m²**
- **Torque 20 Nm**
- **Nominal voltage AC/DC 24 V**
- **Communications via LONWORKS® (FTT-10A)**
- **Conversion of sensor signals**
- **Integrated temperature controller**

LONMARK®

Technical data

Electrical data

Nominal voltage	AC 24 V, 50/60 Hz / DC 24 V
Nominal voltage range	AC 19.2 ... 28.8 V / DC 21.6 ... 28.8 V
Power consumption Operation	8.5 W @ nominal torque
At rest	3.5 W
For wire sizing	11 VA
Connection	Cable 1 m, 6 x 0.75 mm²

Data for LONWORKS®

Certified	in accordance with LONMARK® 3.3
Processor	Neuron 3150
Transceiver	FTT-10A, compatible with LPT-10
Functional Profile as per LONMARK®	Damper actuator object #8110 Open Loop Sensor Object #1 Thermostat Object #8060
LNS plug-in for actuator / sensor / controller	Can be run with any LNS-based integration tool (min. for LNS 3.x)
Service button and status LED	in accordance with guidelines LONMARK®
Conductors, cables	Conductor lengths, cable specifications and topology of the LONWORKS® network in accordance with the ECHELON® guidelines

Functional data	Factory settings	Variable	Setting
Torque (nominal torque) Motor	Min. 20 Nm @ nominal voltage		
Spring return	Min. 20 Nm		
Position feedback (measuring voltage U)	DC 2 ... 10 V, max. 0.5 mA	Start point DC 0.5 ... 8 V End point DC 2.5 ... 10 V	.....
Position accuracy	±5%		
Direction of rotation Motor	Reversible with switch ↷ / ↶		
Spring return	By mounting		
Direction of motion at Y = 0%	At switch position 1 ↷ resp. 0 ↶		
Manual override	With hand crank and interlocking switch		
Angle of rotation	Max. 95°∢, adjustable from 33% in 5% steps (with enclosed angle of rotation limiter)		
Running time Motor	≤150 s / 95°∢	70 ... 220 s	.....
Spring return	≤20 s @ –20 ... 50°C / max. 60 s @ –30°C		
Automatic adjustment of running time, control and feedback to match the mechanical angle of rotation	Manual triggering of the adaption by pressing the «Adaption» button or with the PC-Tool	Automatic adaption whenever the supply voltage is switched on, or manual triggering	.....
Override controls, controllable via nviManOvrd	MAX (maximum position) = 100% MIN (minimum position) = 0% ZS (intermediate position, only AC) = 50%	MAX = (MIN + 30°∢) ... 100% MIN = 0% ... (MAX – 30°∢) ZS = MIN ... MAX	.....
Sound power level Motor	≤40 dB (A) @ 150 s running time		
Spring return	≤62 dB (A)		
Service life	Min 60,000 emergency positions		
Position indication	Mechanical		

Technical data *(continued)*

Safety	
Protection class	**III** Safety extra-low voltage
Degree of protection	IP54
EMC	CE according to 2004/108/EC
Certification	Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14
Mode of operation	Type 1
Rated impulse voltage	0.8 kV
Control pollution degree	3
Ambient temperature	–30 ... +50°C
Non-operating temperature	–40 ... +80°C
Ambient humidity range	95% r.h., non-condensating
Maintenance	Maintenance-free
Dimensions / Weight	
Dimensions	See «Dimensions» on page 3
Weight	Approx. 920 g

Safety notes

- **The actuator is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.**
- **They may only be installed by suitably trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly.**
- **The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.**
- **The cable must not be removed from the device.**
- **The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.**

Product features

Mode of operation The actuator is equipped with an integrated interface for LONWORKS®. The actuator can be connected and controlled directly with LONWORKS® via transceiver FTT-10A.

Converter for sensors Connection option for a sensor (passive or active sensor or switching contact). In this way, the analogue sensor signal can be easily digitised and transferred to LONWORKS®.

Simple direct mounting Simple direct mounting on the damper spindle with a universal spindle clamp, supplied with an anti-rotation strap to prevent the actuator from rotating.

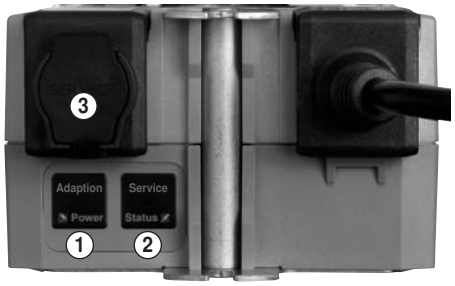
High operational reliability The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

Home position When the supply voltage is switched on, the actuator automatically detects its emergency position (zero initialisation). This process, which takes place with the actuator stationary, lasts <15 s.

Accessories

	Description
Electrical accessories	BELIMO Service tool MFT-P
	Adjustment and diagnostic tool ZTH-GEN
Mechanical accessories	Various accessories (clamps, shaft extensions)

Operating controls and indicators



① **Membrane key and green LED display**

Off:	No voltage supply or malfunction
On:	Operation
Press button:	Switches on angle of rotation adaption followed by standard operation

② **Membrane key and yellow LED display**

Off:	The actuator is integrated ready-for-operation in the LONWORKS® network.
On:	No application software is loaded in the actuator.
Blinking: (flashing interval 2 s)	The actuator is ready-for-operation, but not integrated in the LONWORKS® network (unconfigured).
Other flashing codes:	A fault is present in the actuator.
Press button:	Service Pin Message will be sent to the LONWORKS® network.

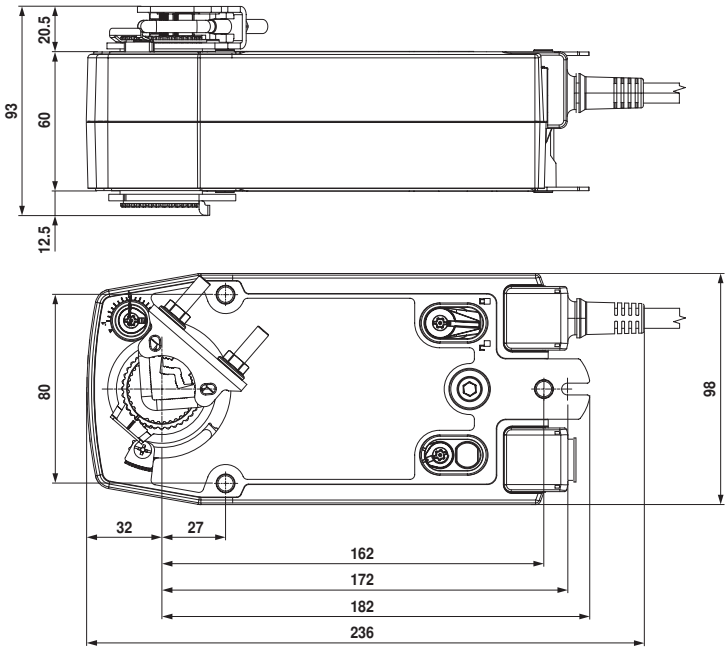
③ **Service plug**

For connecting parameterising and service tools

Operating controls The hand crank, interlocking switch and direction of rotation switch are provided on both sides.

Dimensions [mm]

Dimensional drawings



Variant 1a:
¾"-spindle clamp (with insertion part) EU Standard

Damper spindle	Length	⌀	□	◇
	≥85	10 ... 22	10	14 ... 25.4
	≥15			

Variant 1b:
1"-spindle clamp (without insertion part) EU Standard

Damper spindle	Length	⌀	□
	≥85	19 ... 25.4 (26.7)	12 ... 18
	≥15		

Variant 2:
½"-spindle clamp (optional via configuration)

Damper spindle	Length	⌀	◇
	≥85	10 ... 19	14 ... 20
	≥15		

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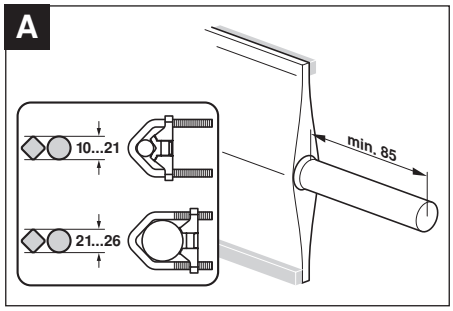
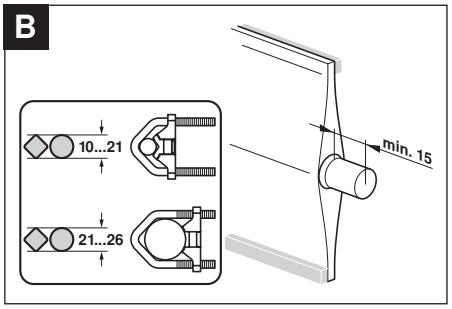
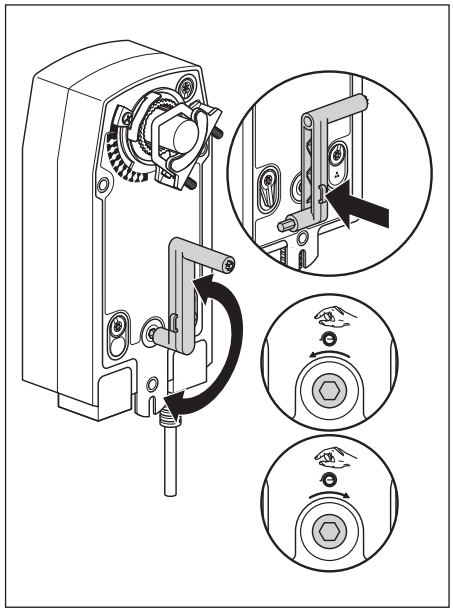
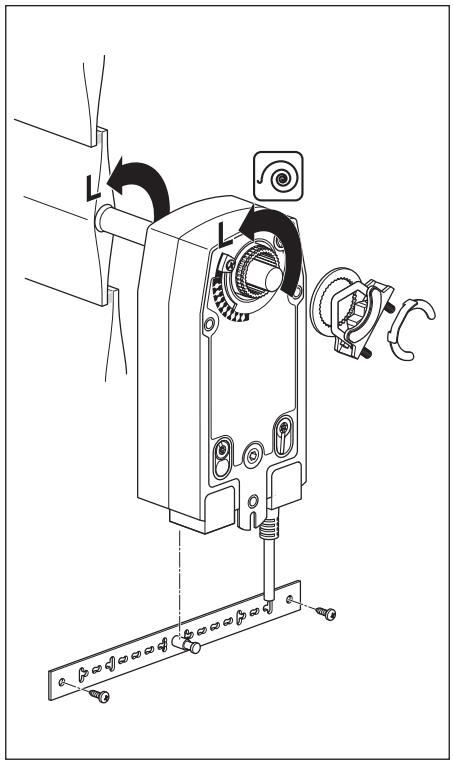
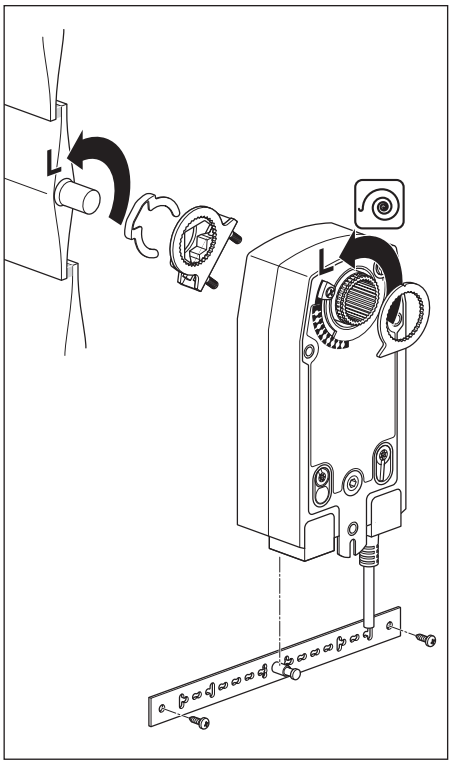
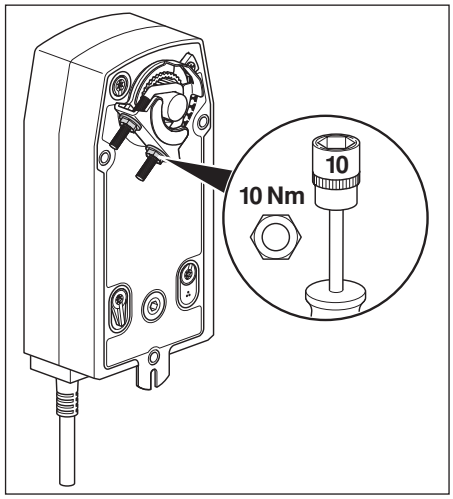


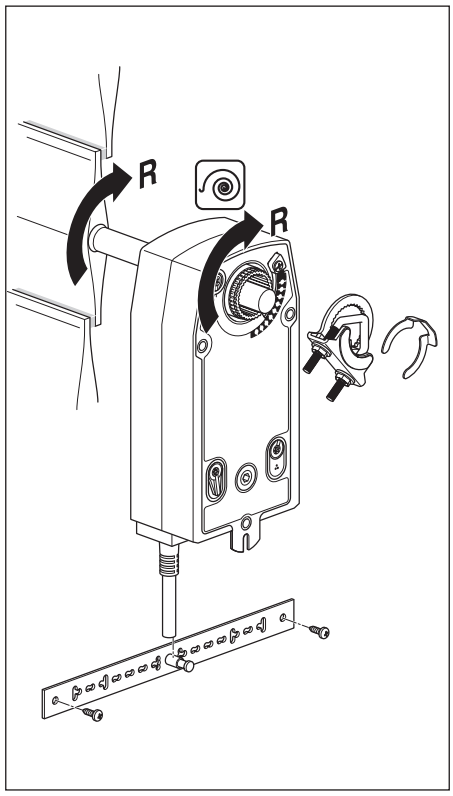


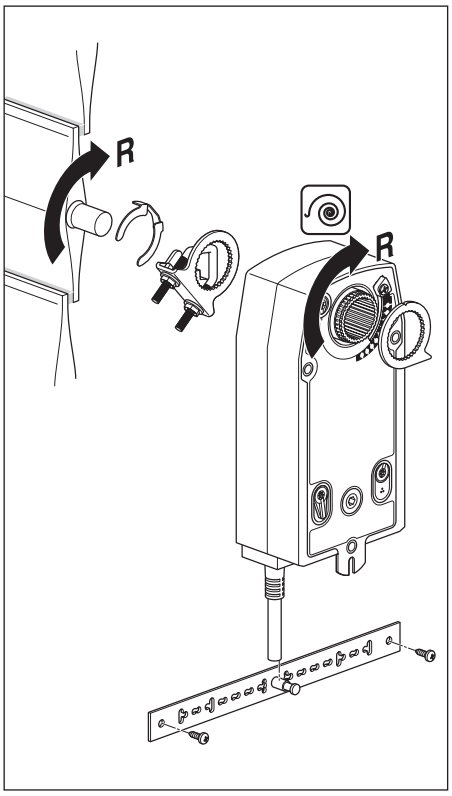


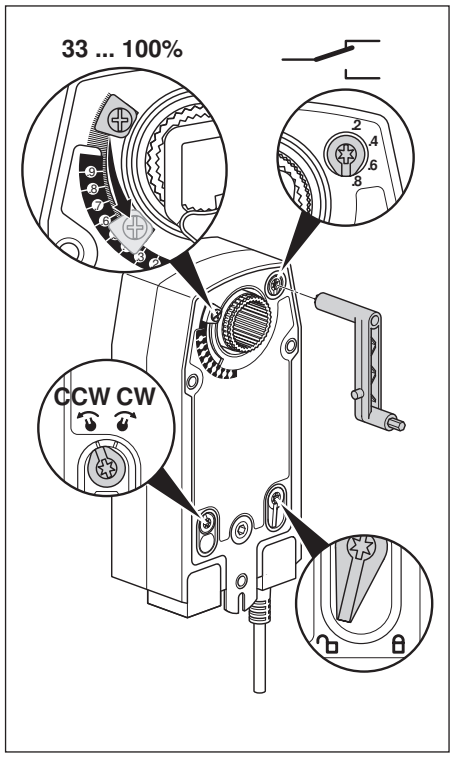




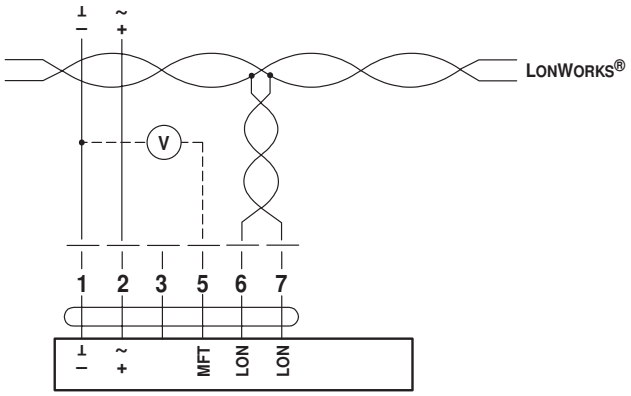








AC 24 V / DC 24 V



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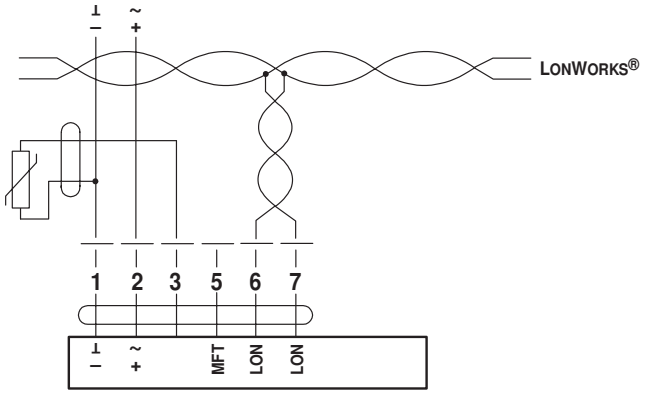
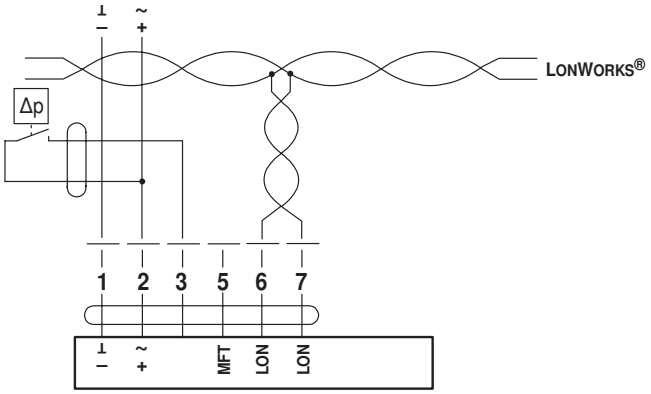
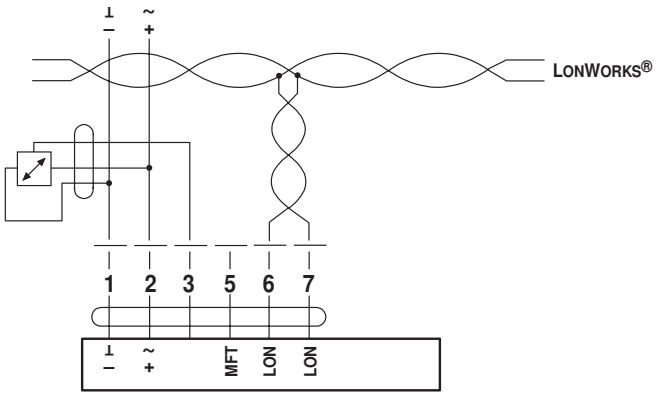


AC 24 V / DC 24 V



AC 24 V / DC 24 V