BELIMO

Technical data sheet Spring return actuator TF24-SR

Spring return actuator for the operation of air dampers that perform safety functions (e.g. frost and smoke protection, hygiene, etc.) for building services installations

- **For dampers up to approx. 0.4 m²**
- **Torque 2 Nm**
- **Nominal voltage AC/DC 24 V**
- **Control: modulating DC 0 ... 10 V, position feedback DC 2 ... 10 V**

Technical data

Electrical data	Nominal voltage		AC 24 V, 50/60 Hz DC 24 V
	Nominal voltage range		AC 19.2 ... 28.8 V DC 21.6 ... 28.8 V
	Power consumption	In operation	2.5 W @ nominal torque
		At rest	1 W
		For wire sizing	4 VA
	Connection		Cable 1 m, 4 x 0.75 mm²
Functional data	Torque	Motor	Min. 2 Nm @ nominal voltage
		Spring return	Min. 2 Nm
	Control	Control signal Y	DC 0 ... 10 V, typical input impedance 100 kΩ
		Working range	DC 2 ... 10 V
	Position feedback (Measuring voltage)		DC 2 ... 10 V, max. 0.5 mA
	Direction of rotation	Motor	Selectet with switch ↷ bzw. ↶
		Spring return	Selected by mounting L / R
	Angle of rotation		Max. 95° ◁ (adjustable 37 ... 100% ◁ with built-in mechanical stop)
	Running time	Motor	< 150 s (0 ... 2 Nm)
		Spring return	< 25 s @ –20 ... 50°C / max. 60s @ –30°C
	Sound power level	Motor	Max. 35 dB (A)
		Spring return	Approx. 62 dB (A)
	Service life		Min. 60'000 operations
	Position indication		Mechanical
Safety	Protection class		**III** Safety extra-low voltage
	Degree of protection		IP42 in any mounting position
	EMC		CE according to 89/336/EEC
	Mode of operation		Type 1.AA (to EN 60730-1)
	Overvoltage category		**III**
	Control pollution degree		3
	Ambient temperature range		–30 ... +50°C
	Non-operating temperature		–40 ... +80°C
	Ambient humidity range		95% r.H., non-condensating (EN 60730-1)
	Maintenance		Maintenance-free
Dimensions / Weight	Dimensions		See «Dimensions» on page 2
	Weight		Approx. 600 g

Safety notes

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- **The spring return actuator is not allowed to be used outside the specified field of application, especially not in aircraft or any other form of air transport.**
- **Assembly must be carried out by 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 TF24-SR is controlled by a standard DC 0 ... 10 V signal.
The actuator moves the damper to its normal working position while tensioning the return spring at the same time. If the power supply is interrupted, the energy stored in the spring moves the damper back to its safe position.

Simple direct mounting

Simple direct mounting on the damper spindle with a universal spindle clamp. An antirotation device is supplied to prevent unwanted rotation of the whole unit.

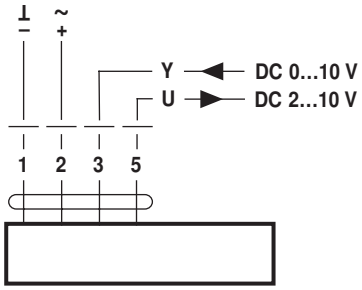
High functional reliability

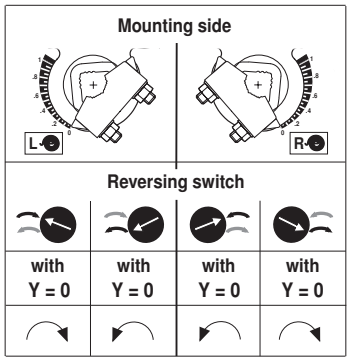
The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

Electrical installation

Wiring diagram / Direction of rotation

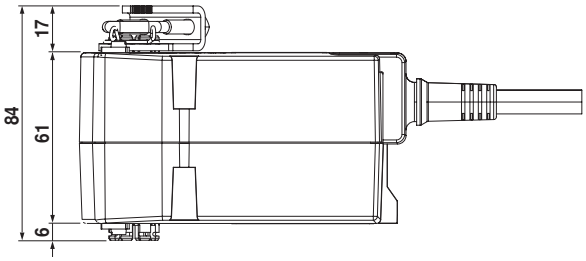
Notes
- Connection via safety isolating transformer.
- Other actuators can be connected in parallel. Please note the performance data.

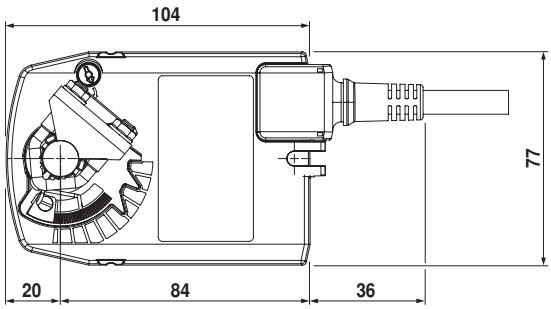


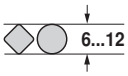


Dimensions [mm]

Dimensional drawings







Data sheet T2-TF24-SR • en • v1.1 • 06.2005 • Subject to modifications

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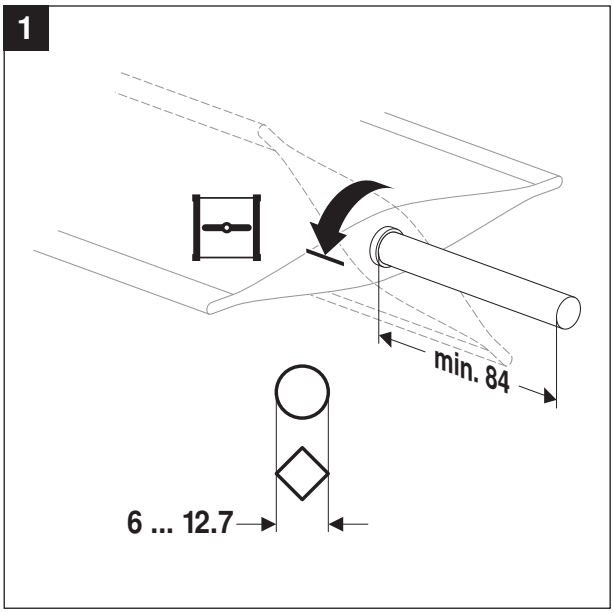

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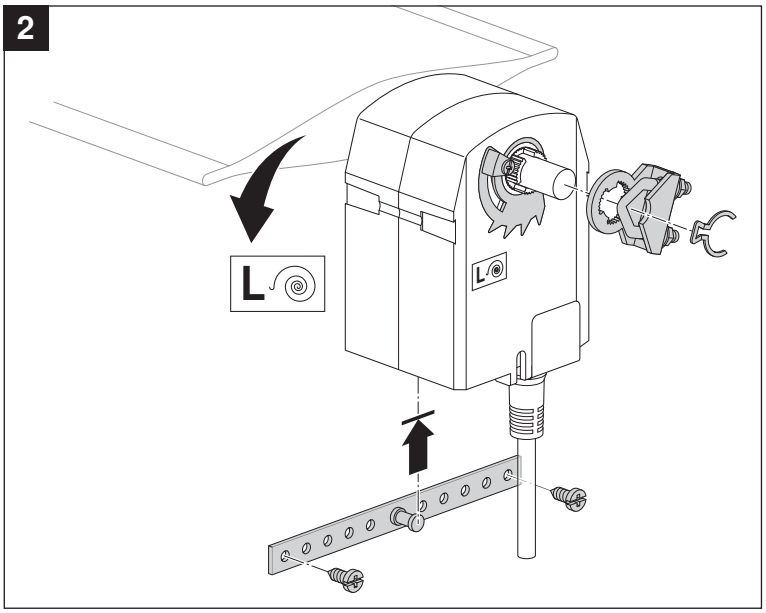

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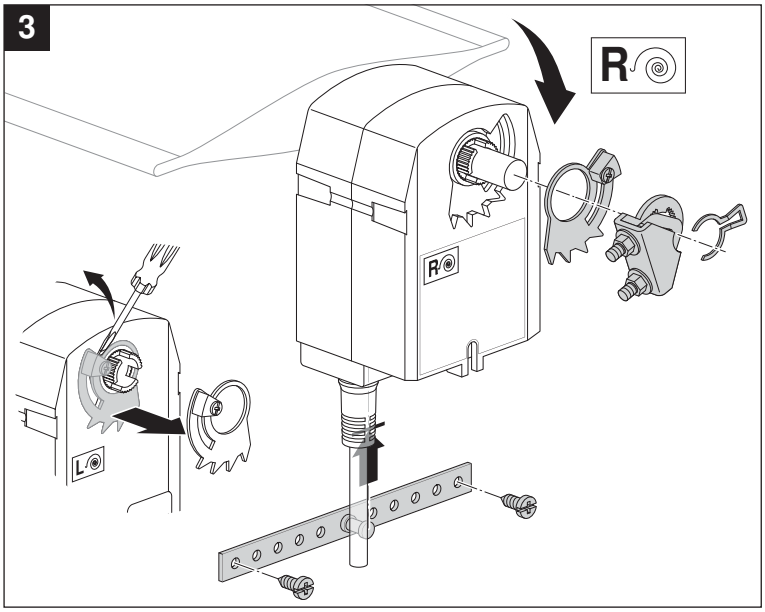

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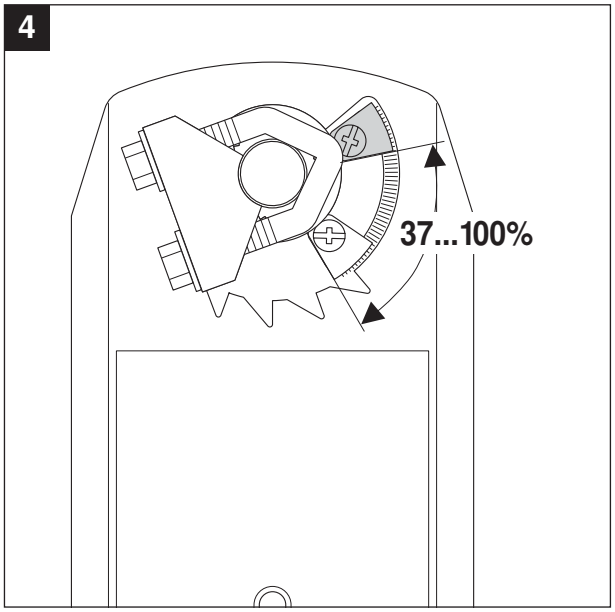

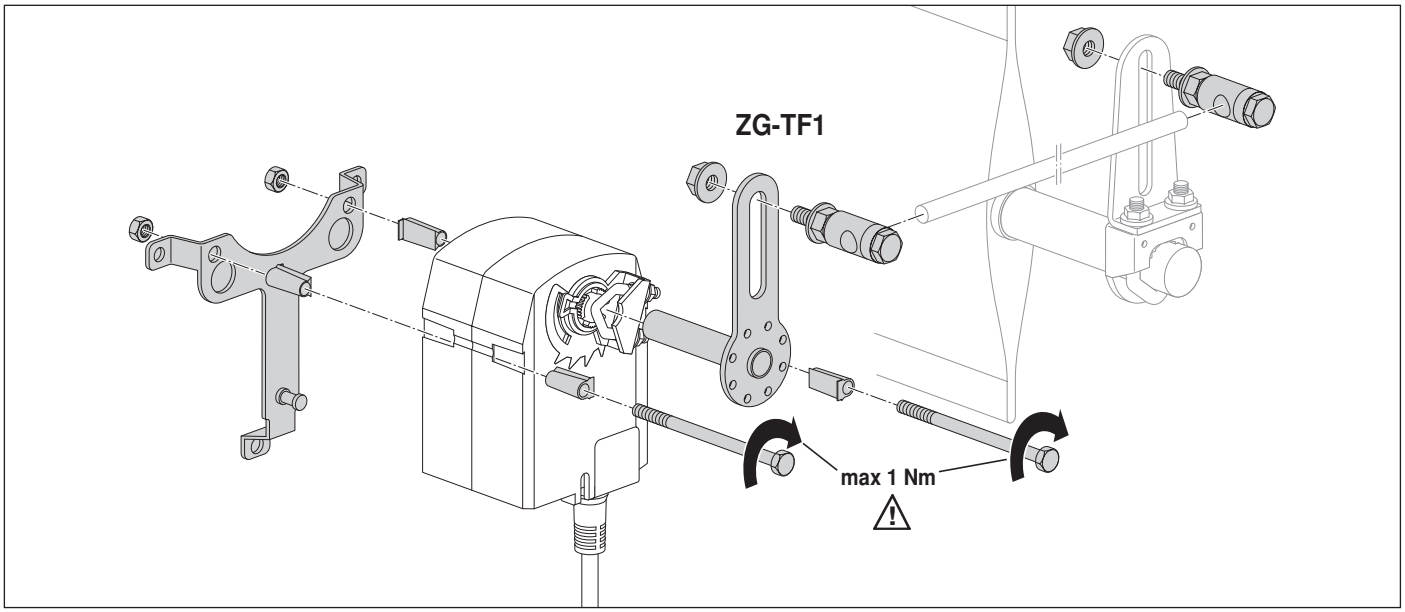

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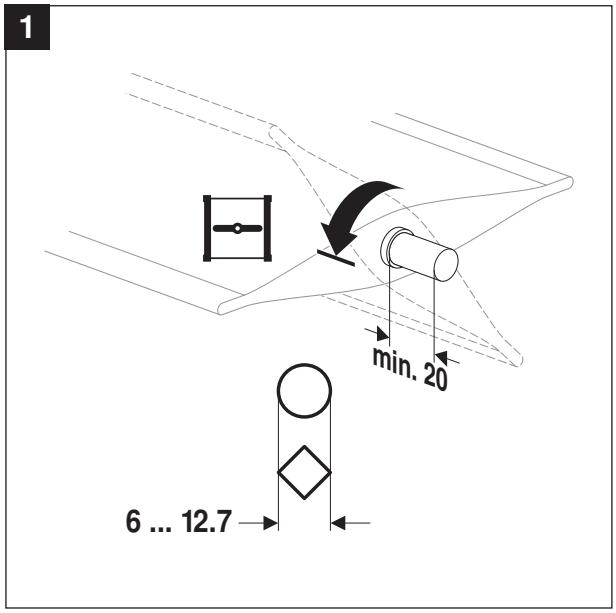

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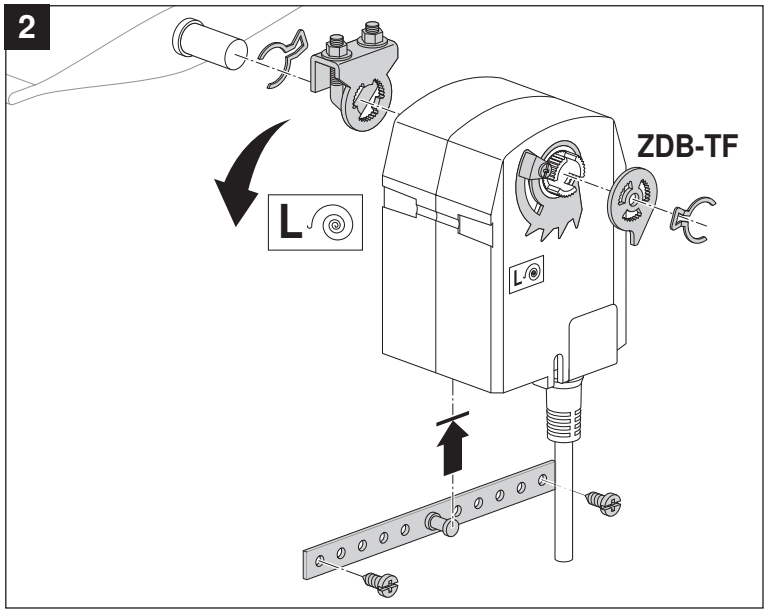

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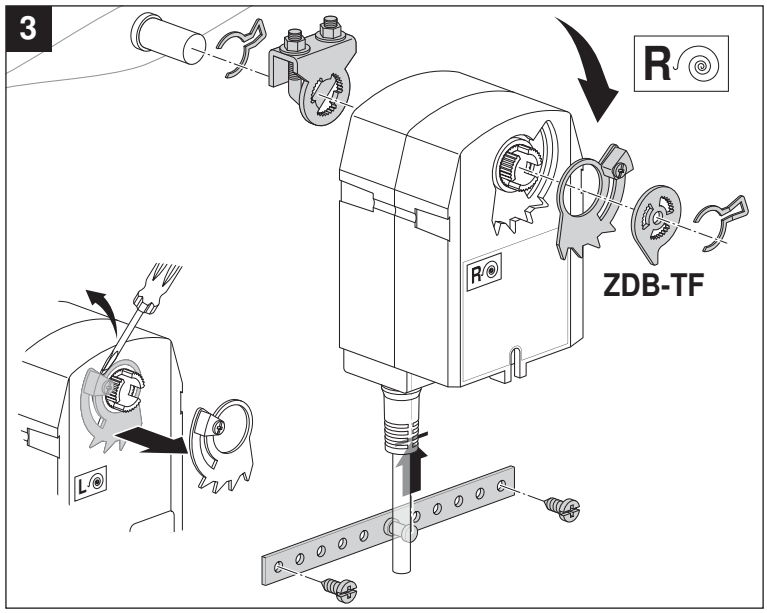

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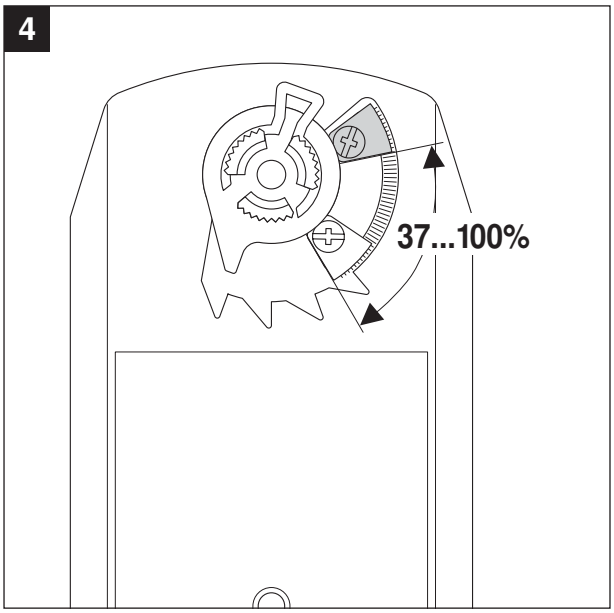
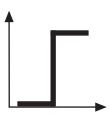
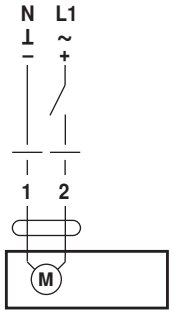
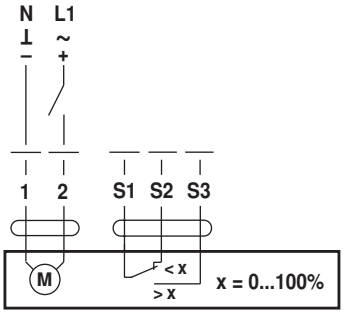




AC 230 V ⚠
AC 24 V / DC 24 V

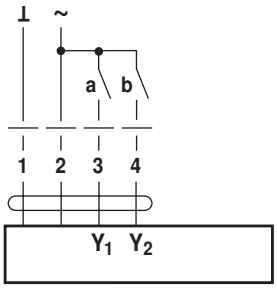


TF230 / TF24



TF230-S / TF24-S

AC 24 V



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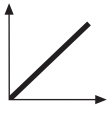
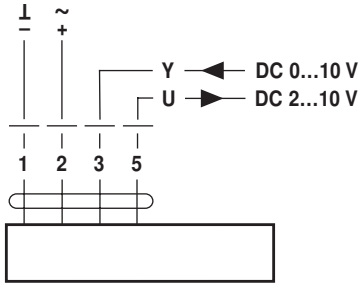


AC 24 V / DC 24 V



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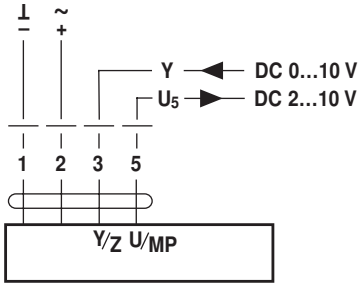

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