Dampers up to approx. 0.8 m²

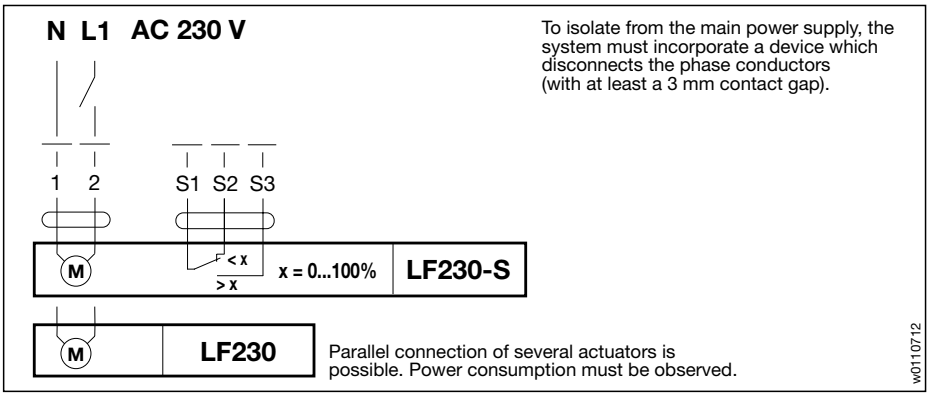
Open/Close actuator (AC 230 V)

Control by single-pole contact

Application
For the operation of air dampers that perform safety functions (e.g. frost and smoke protection, hygiene, etc.).

Mode of operation
The LF... 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.

Wiring diagram



Technical data	LF230, LF230-S
Nominal voltage	AC 230 V 50/60 Hz
Nominal voltage range	AC 198...264 V
For wire sizing	7 VA (Imax 150 mA @ 10 ms)
Power consumption – motoring – holding	 5 W 3 W
Connecting cable	– motor 1 m long, 2 x 0.75 mm² – auxiliary switch (LF230-S) 1 m long, 3 x 0.75 mm²
Auxiliary switch (LF230-S) – Switching point	1 x SPDT 6 (1.5) A, AC 250 V ⊡ adjustable 0...100% ◁
Direction of rotation	selected by mounting L/R
Torque	– motor min. 4 Nm (at rated voltage) – spring return min. 4 Nm
Torque	max. 95° (adjustable 37...100% ◁ with built-in mechanical stop)
Running time	– motor 40...75 s (0...4 Nm) – spring return ≈ 20 s @ –20...50 °C / max. 60 s @ –30 °C
Sound power level	motor max. 50 dB (A), spring ≈ 62 dB (A)
Service life	min. 60 000 operations
Position indication	mechanical
Protection class	II (all insulated)
Degree of protection	IP 54
Ambient temp. range Non-operating temp. Humidity test	–30...+50 °C –40...+80 °C to EN 60335-1
EMC Low Voltage Directive	CE according to 89/336/EEC, 92/31/EEC, 93/68/EEC CE according to 73/23/EEC
Maintenance	maintenance-free
Weight	1550 g

Product features

Simple direct mounting on the damper spindle by universal spindle clamp. An anti-rotation device is supplied to prevent unwanted rotation of the whole unit.

Mechanical angle of rotation limiting adjustable with built-in stop.

High functional reliability
The actuator is overload proof, needs no limit switches and halts automatically at the end stop.

Flexible signalling 0...100% ◁, with adjustable auxiliary switch (LF230-S only).

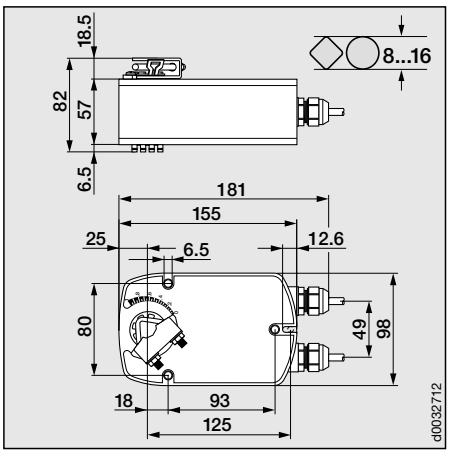
Adjusting the auxiliary switch LF230-S, page 6

Mounting accessories, page 11

Mounting instructions, pages 13...15

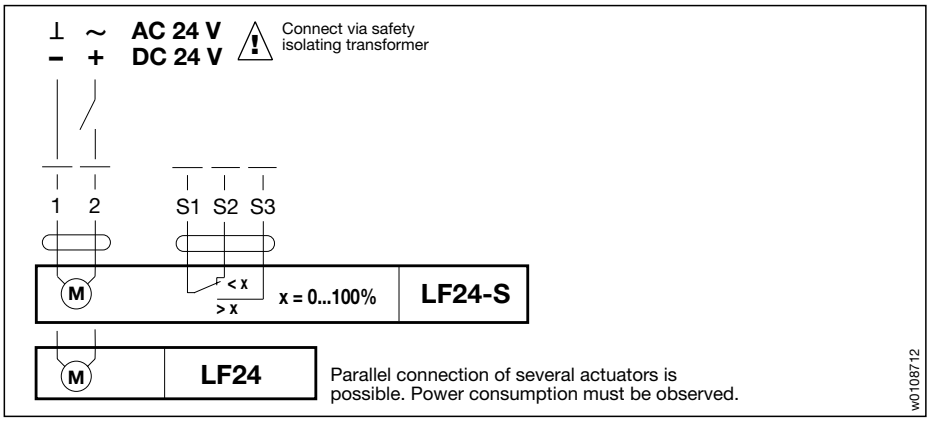
Important: Read the notes about the use and torque requirements of the damper actuators on page 3.

Dimensions



LF24, LF24-S Spring return actuators 4 Nm

Wiring diagram



Technical data	LF24, LF24-S	
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	
For wire sizing	7 VA (Imax 5.8 A @ 5 ms)	
Power consumption – motoring – holding	 5 W 2.5 W	
Connecting cable	– motor – auxiliary switch (LF24-S)	1 m long, 2 x 0.75 mm² 1 m long, 3 x 0.75 mm²
Auxiliary switch (LF24-S) – Switching point	1 x SPDT 6 (1.5) A, AC 250 V ⧈ adjustable 0...100% ◁	
Direction of rotation	selected by mounting L/R	
Torque	– motor – spring return	min. 4 Nm (at rated voltage) min. 4 Nm
Angle of rotation	max. 95° (adjustable 37...100% ◁ with built-in mechanical stop)	
Running time	– motor 40...75 s (0...4 Nm) – spring return ≈ 20 s @ –20...50 °C / max. 60 s @ –30 °C	
Sound power level	motor max. 50 dB (A), spring ≈ 62 dB (A)	
Service life	min. 60 000 operations	
Position indication	mechanical	
Protection class	⧋ (safety extra-low voltage)	
Degree of protection	IP 54	
Ambient temp. range Non-operating temp. Humidity test	–30...+50 °C –40...+80 °C to EN 60335-1	
EMC Low Voltage Directive	CE according to 89/336/EEC, 92/31/EEC, 93/68/EEC CE according to 73/23/EEC	
Maintenance	maintenance-free	
Weight	1400 g	

Dampers up to approx. 0.8 m²

Open/Close actuator (AC/DC 24 V)

Control by single-pole contact

Application
For the operation of air dampers that perform safety functions (e.g. frost and smoke protection, hygiene, etc.).

Mode of operation
The LF... 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.

Product features

Simple direct mounting on the damper spindle by universal spindle clamp. An anti-rotation device is supplied to prevent unwanted rotation of the whole unit.

Mechanical angle of rotation limiting adjustable with built-in stop.

High functional reliability
The actuator is overload proof, needs no limit switches and halts automatically at the end stop.

Flexible signalling 0...100% ◁, with adjustable auxiliary switch (LF24-S only).

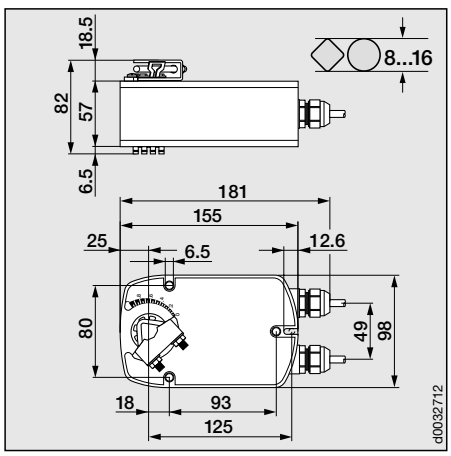
Adjusting the auxiliary switch LF24-S, page 6

Mounting accessories, page 11

Mounting instructions, pages 13...15

Important: Read the notes about the use and torque requirements of the damper actuators on page 3.

Dimensions



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Dampers up to approx. 0.8 m²

Modulating actuator (AC/DC 24 V)

3-point control

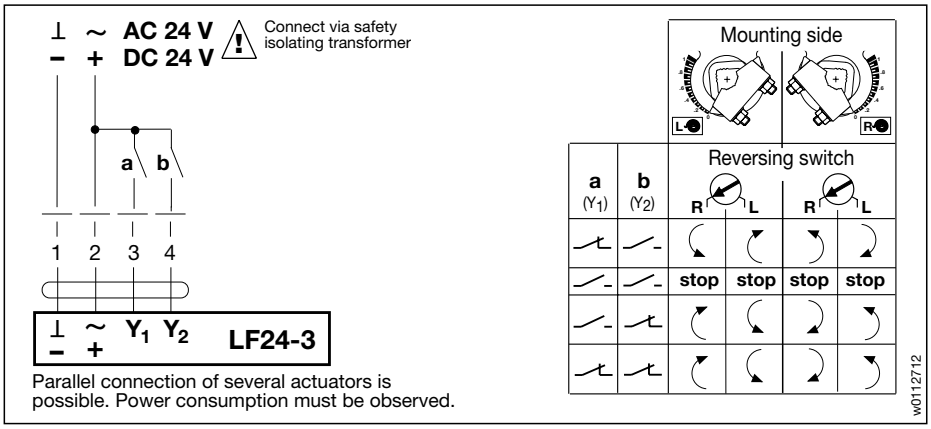
Application

For the operation of air dampers that perform safety functions (e.g. frost and smoke protection, hygiene, etc.).

Mode of operation

The LF24-3 is controlled by a 3-point signal. The actuator runs to the position specified by the control signal 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.

Wiring diagram



Technical data	LF24-3	
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	
For wire sizing	5 VA (Imax 5.8 A @ 5 ms)	
Power consumption – motoring – holding	 2.5 W 1 W	
Connecting cable	1 m long, 4 x 0.75 mm²	
Input resistance Control inputs Y1, Y2	 1000 Ω (0.6 W)	
Direction of rotation	– motor – spring return	selected with switch L/R selected by L/R mounting
Torque	– motor – spring return	min. 4 Nm (at rated voltage) min. 4 Nm
Angle of rotation	max. 95° (adjustable 37...100% ◁ with built-in mechanical stop)	
Running time	– motor 150 s – spring return ≈ 20 s @ –20...50 °C / max. 60 s @ –30 °C	
Sound power level	motor max. 30 dB (A), spring ≈ 62 dB (A)	
Service life	min. 60 000 operations	
Position indication	mechanical	
Protection class	⧫ (safety extra-low voltage)	
Degree of protection	IP 54	
Ambient temp. range Non-operating temp. Humidity test	–30...+50 °C –40...+80 °C to EN 60335-1	
EMC	CE according to 89/336/EEC, 92/31/EEC, 93/68/EEC	
Maintenance	maintenance-free	
Weight	1400 g	

Product features

Simple direct mounting on the damper spindle by universal spindle clamp. An anti-rotation device is supplied to prevent unwanted rotation of the whole unit.

Mechanical angle of rotation limiting adjustable with built-in stop.

High functional reliability
The actuator is overload proof, needs no limit switches and halts automatically at the end stop.

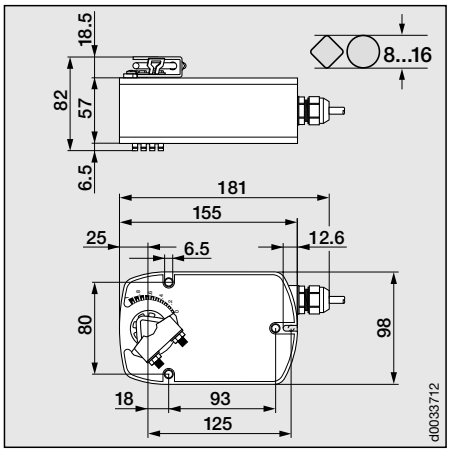
Examples of control modes, page 8

Mounting accessories, page 11

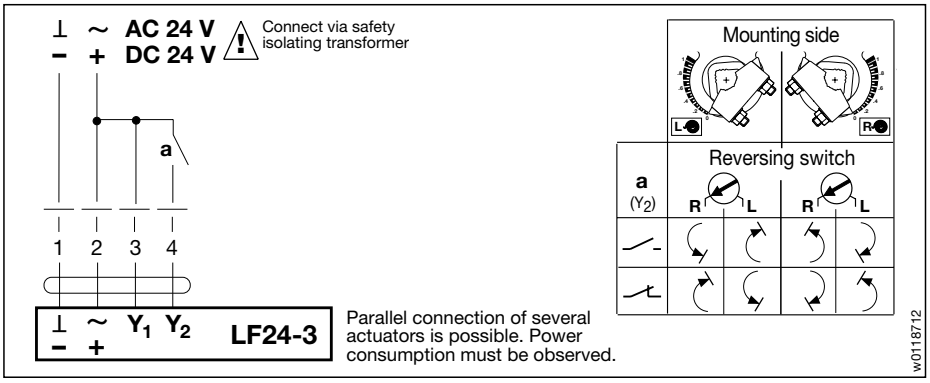
Mounting instructions, pages 13...15

Important: Read the notes about the use and torque requirements of the damper actuators on page 3.

Dimensions

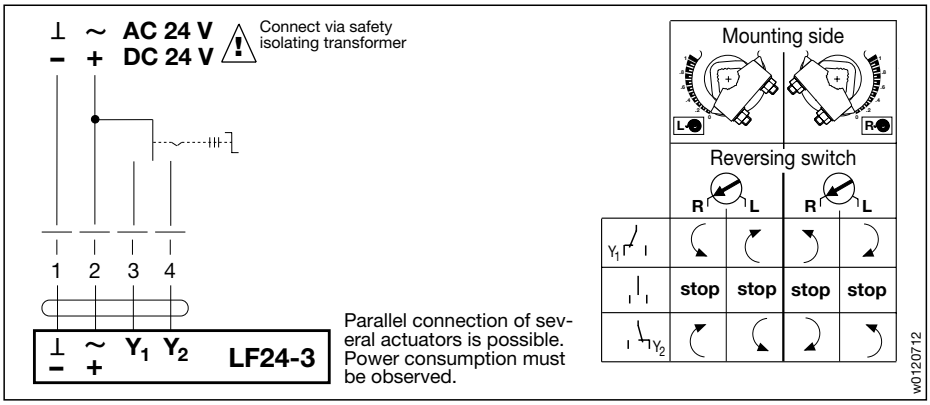


Open/Close mode with single-wire control



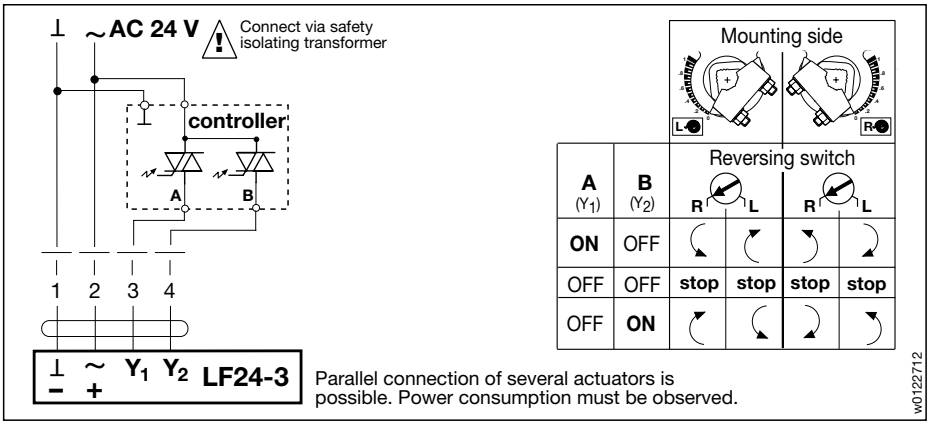
Parallel connection of several actuators is possible. Power consumption must be observed.

3-point control by switch



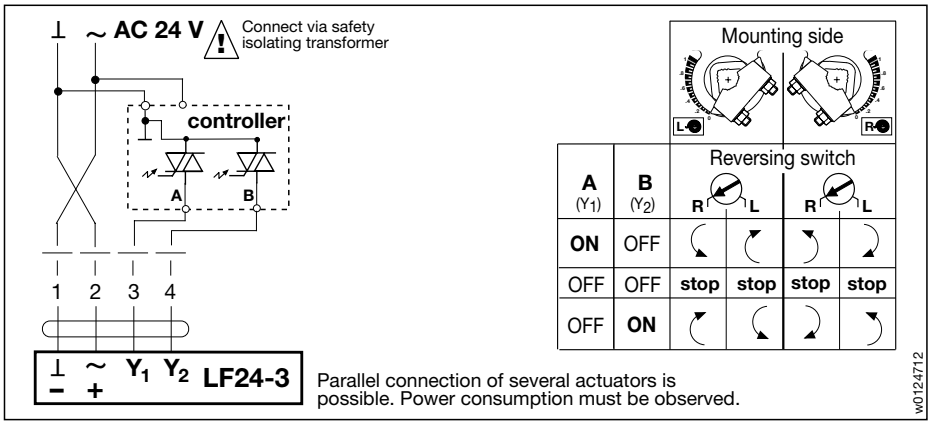
Parallel connection of several actuators is possible. Power consumption must be observed.

3-point control by controller with triac outputs (reference potential ~ AC 24 V)



Parallel connection of several actuators is possible. Power consumption must be observed.

3-point control by controller with triac outputs (reference potential ⊥ AC 24 V)



Parallel connection of several actuators is possible. Power consumption must be observed.

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Dampers up to approx. 0.8 m²

Modulating actuator (AC/DC 24 V)

Control DC 0...10 V and position feedback DC 2...10 V

Application

For the operation of air dampers that perform safety functions (e.g. frost and smoke protection, hygiene, etc.).

Mode of operation

The LF24-SR is controlled by a standard DC 0...10 V signal. The actuator runs to the position specified by the control signal 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.

Product features

Simple direct mounting on the damper spindle by universal spindle clamp. An anti-rotation device is supplied to prevent unwanted rotation of the whole unit.

Mechanical angle of rotation limiting adjustable with built-in stop.

High functional reliability

The actuator is overload proof, needs no limit switches and halts automatically at the end stop.

Electrical accessories (see Doc. 2. Z-1)

SG..24 Positioners

ZAD24 Digital position indicator

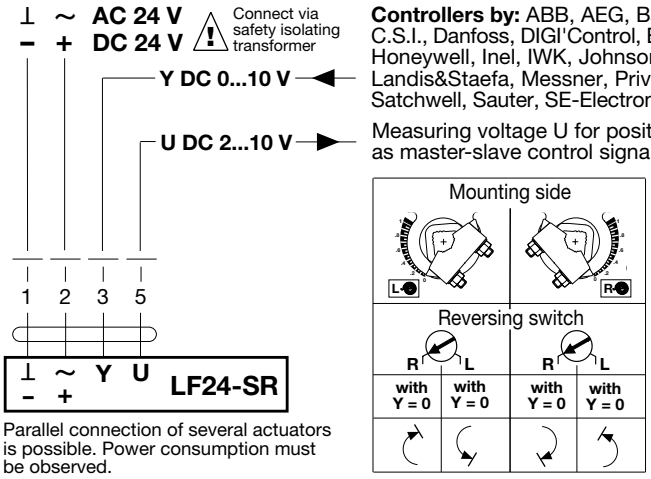
Control/monitoring functions, page 10

Mounting accessories, page 11

Mounting instructions, pages 13...15

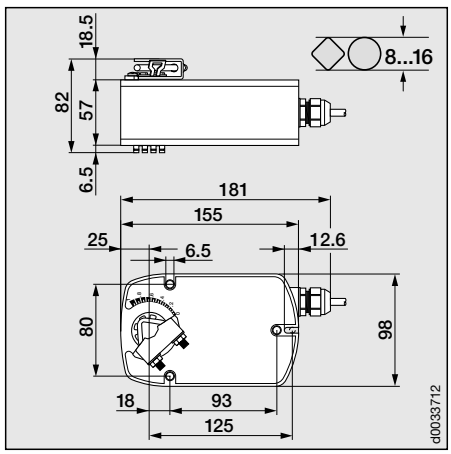
Important: Read the notes about the use and torque requirements of the damper actuators on page 3.

Wiring diagram

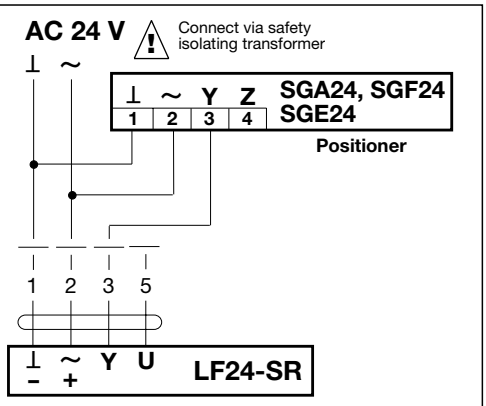


Technical data	LF24-SR	
Nominal voltage	AC 24 V 50/60 Hz, DC 24 V	
Nominal voltage range	AC 19.2...28.8 V, DC 21.6...28.8 V	
For wire sizing	5 VA (Imax 5.8 A @ 5 ms)	
Power consumption	2.5 W motoring, 1 W at rest	
Connecting cable	1 m long, 4 x 0.75 mm²	
Control signal Y	DC 0...10 V @ 100 kΩ input resistance	
Operating range	DC 2...10 V for 0...100% ◁	
Measuring voltage U	DC 2...10 V (max. 0.7 mA) for 0....100% ◁	
Direction of rotation	– motor – spring return	selected with switch L/R selected by L/R mounting
Torque	– motor – spring return	min. 4 Nm (at rated voltage) min. 4 Nm
Angle of rotation	max. 95° (adjustable 37...100% ◁ with built-in mechanical stop)	
Running time	– motor 150 s – spring return ≈ 20 s @ –20...50 °C / max. 60 s @ –30 °C	
Sound power level	motor max. 30 dB (A), spring ≈ 62 dB (A)	
Service life	min. 60 000 operations	
Position indication	mechanical	
Protection class	⧫ (safety extra-low voltage)	
Degree of protection	IP 54	
Ambient temp. range Non-operating temp. Humidity test	–30...+50 °C –40...+80 °C to EN 60335-1	
EMC	CE according to 89/336/EEC, 92/31/EEC, 93/68/EEC	
Maintenance	maintenance-free	
Weight	1400 g	

Dimensions

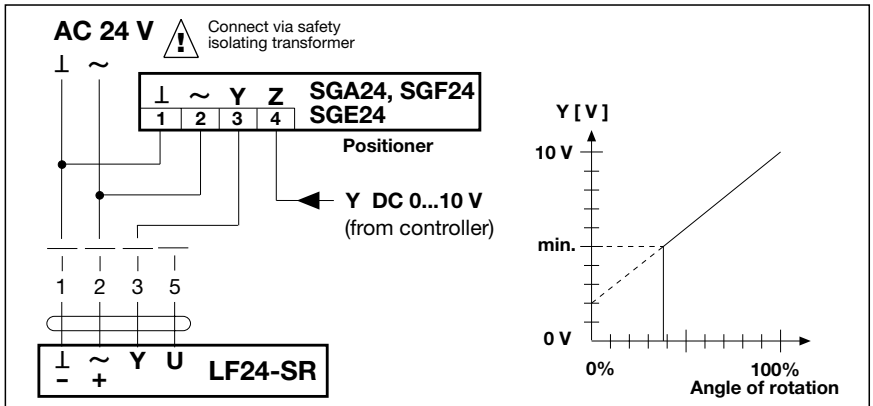


Remote control 0...100%



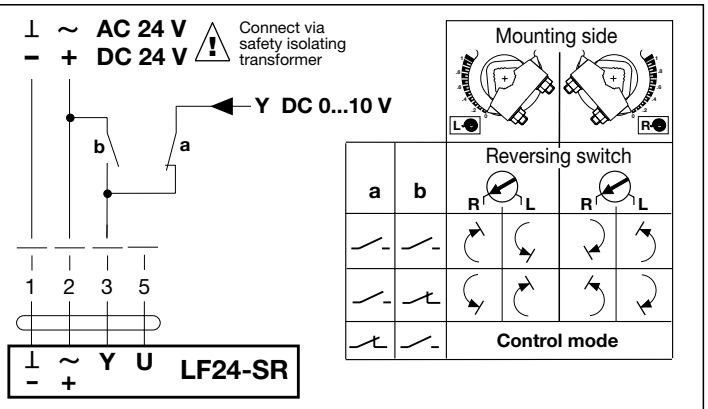
Parallel connection of further actuators is possible (up to 10).

Minimum position



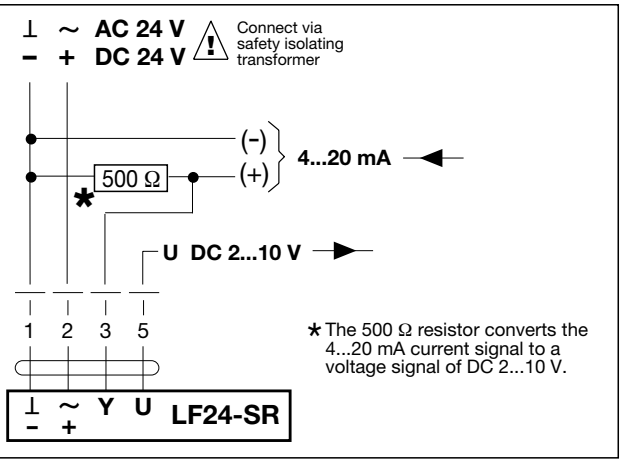
Parallel connection of further actuators is possible (up to 10).

Override control

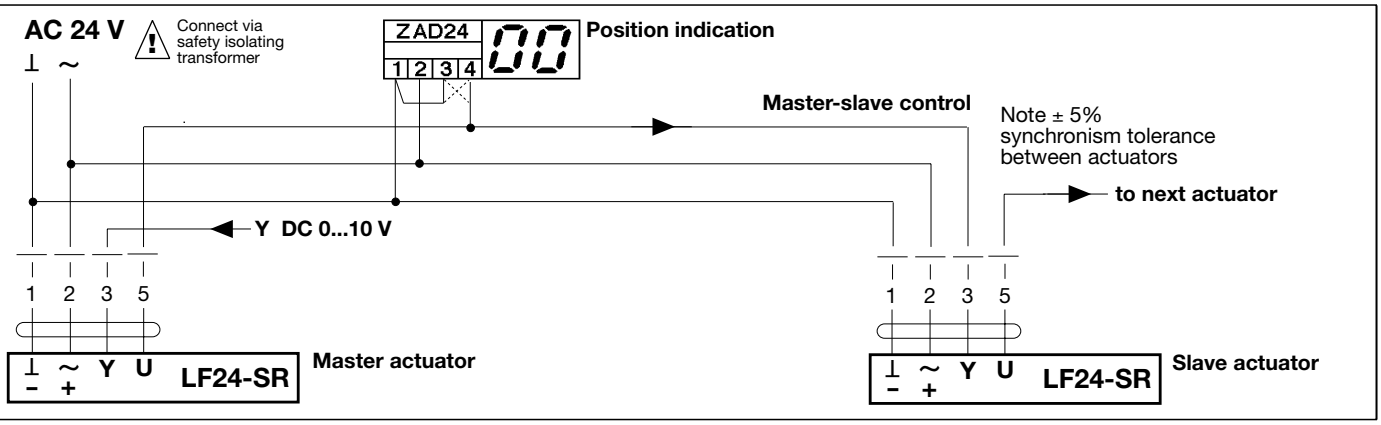


Parallel connection of several actuators is possible. Power consumption must be observed.

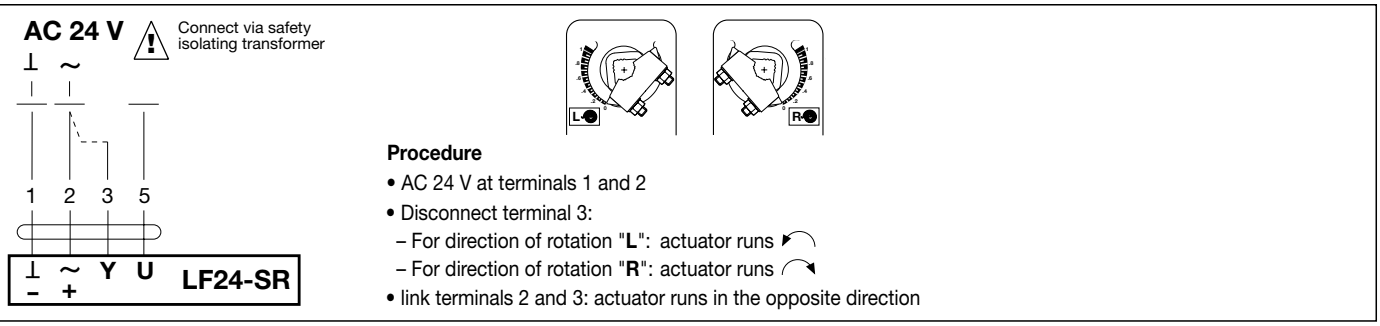
Control by 4...20 mA via external resistor



Position indication and / or master-slave control (depending on position)



Function monitoring



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