

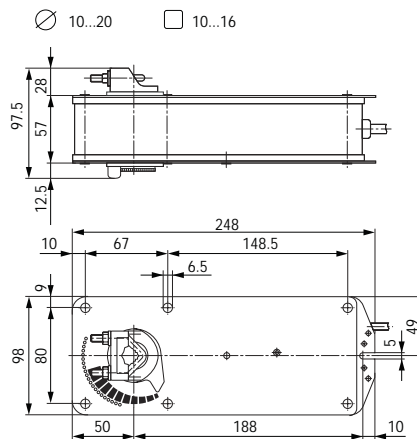
- For operation of air control dampers that perform safety function
- Torque: 7Nm
- Nominal voltage: AC/DC 24V
- Control: Open/Close
- Integrated auxiliary switch NF24-S



Technical data

Electrical data	Nominal voltage	AC 24V 50/60Hz, DC 24V
	Nominal voltage range	AC 19.2...28.8, DC 21.6...28.8V
	Power consumption	5W @ running / 3W @ holding
	Wire/transformer sizing	8VA
	Auxiliary switch NF24-S	2 SPDT, 6(3)A, AC 250V \square
	Switching points	10°, 85°
Functional data	Connection - Motor	Cable 1m, 2x0.75mm ²
	- Auxiliary switches NF24-S	Cable 1m, 6x0.75mm ²
	Torque - Motor	min. 7Nm @ nominal voltage
	- Spring	min. 7Nm
	Direction of rotation	Selectable by mounting L/R
	Angle of rotation	Max. 95° (35...100% adjustable by mechanical limiter)
	Running time	Motor < 75s, spring return < 30s (Temp = 20°C)
	Sound power level	Motor max. 55dB(A), Spring return approximately 62dB(A)
	Position indication	Mechanical
	Protection class	III (safety extra-low voltage)
Working conditions	Service life	> 60,000 full cycles
	Degree of protection	IP54 in any directions
	EMC	CE according to 89/336/EEC
	Ambient temperature	-30...+50°C
	Non-operation temperature	-40...+80°C
	Humidity test	95%RH, non condensing (EN60730-1)
Dimensions / weight	Maintenance	Maintenance-free
	Dimension (L x W x H)	248x98x97.5mm
	Weight	Approximately 3000g

Dimensions [mm]



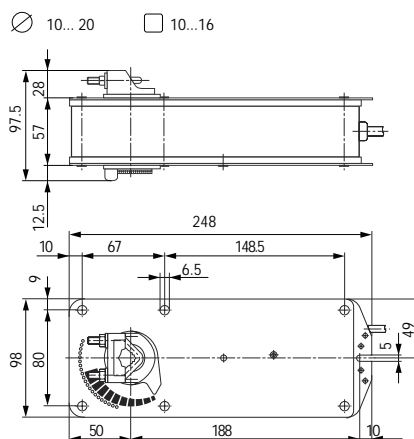
- For operation of air control dampers that perform safety function
- Torque: 7Nm
- Nominal voltage: AC/DC 24V
- Control signal: DC 2(0)...10V
- Position feedback: DC 2...10V



Technical data

Electrical data	Nominal voltage	AC 24V 50/60Hz, DC 24V
	Nominal supply range	AC 19.2...28.8V, DC 21.6...26.4V
	Power consumption	5W @ running / 3W @ holding
	Wire/transformer sizing	6VA
Functional data	Connection cable	Cable 1m, 4x0.75mm ²
	Torque - Motor - Spring	min. 7Nm @ nominal voltage min. 7Nm
	Control signal	DC 2(0)...10V (input impedance 100 kΩ)
	Feedback signal	DC 2...10V
	Direction of rotation	Selectable by mounting L/R
	Angle of rotation	Max. 95° (35...100% adjustable by rotation limiter)
	Running time	Motor 150s, spring return <30s approximately (Temp=20°C)
	Sound power level	Motor max. 55dB(A), Spring max. 62dB(A)
	Position indication	Mechanical
	Service life	> 60,000 full cycles
Working conditions	Protection class	III (safety extra-low voltage)
	Degree of protection	IP54 in any directions
	EMC	CE according to 89/336/EEC, 92/31/EEC, 93/68/EEC
	Ambient temperature	-30...+50°C
	Non-operation temperature	-40...+80°C
	Humidity test	95%RH, non condensing (EN60730-1)
Dimensions / weight	Maintenance	Maintenance-free
	Dimensions (L x W x H)	248 x 98 x 97.5mm
	Weight	Approximately 3000g

Dimensions [mm]



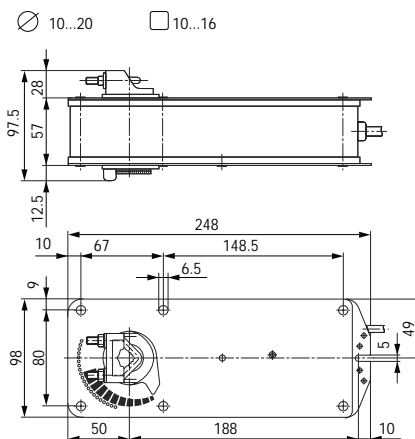
- For operation of air control dampers that perform safety function
- Torque: 7Nm
- Nominal voltage: AC 230V
- Control: Open/Close
- Integrated auxiliary switch (NF230-S)



Technical data

Electrical data	Nominal voltage	AC 230V 50/60Hz
	Nominal voltage range	AC 198...264V
	Power consumption	6W @ running / 3.5W @ holding
	Wire/transformer sizing	7VA
	Auxiliary switch NF230-S	2 SPDT, 6(3)A, AC 250V <input type="checkbox"/>
	Switching points	10°, 85°
	Connection cable - Motor	Cable 1m, 2x0.75mm ²
	- Auxiliary switches NF230-S	Cable 1m, 6x0.75mm ²
Functional data	Torque - Motor	min. 7Nm @ nominal voltage
	- Spring	min. 7Nm
	Direction of rotation	Selectable by mounting L/R
	Angle of rotation	Max. 95° (35...100% adjustable by rotation limiter)
	Running time	Motor <75s, spring return <30s (Temp=20°C)
	Sound power level	Motor max. 55dB(A), Spring approximately 62dB(A)
	Position indication	Mechanical
Working conditions	Service life	> 60,000 full cycles
	Degree of protection	IP54 in any directions
	EMC	CE according to 89/336EEC
	Low Voltage Directive	CE according to 73/23/EEC
	Protection class	II (totally insulated) <input type="checkbox"/>
	Ambient temperature range	-30...+50°C
	Non-operation temperature	-40...+80°C
Dimensions / weight	Humidity test	95%RH, non condensing (EN60730-1)
	Maintenance	Maintenance-free
	Dimensions (L x W x H)	248x 98 x 97.5mm
	Weight	Approximately 3000g

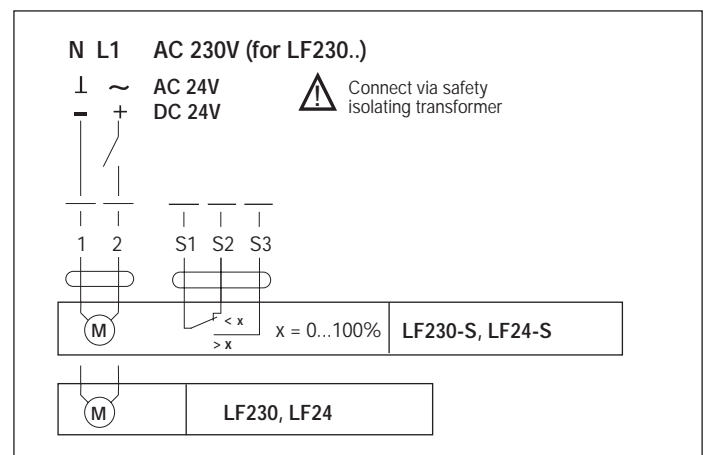
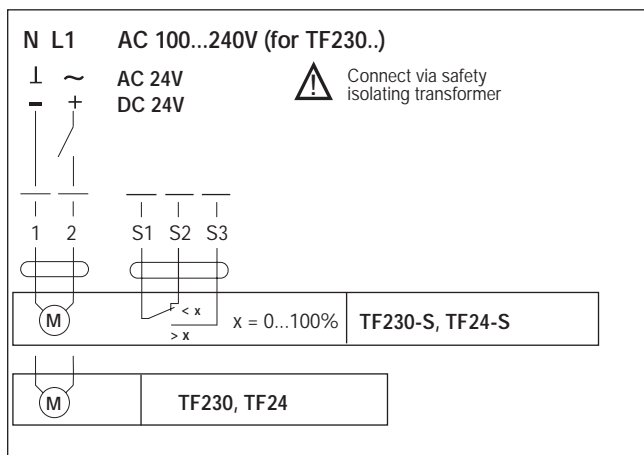
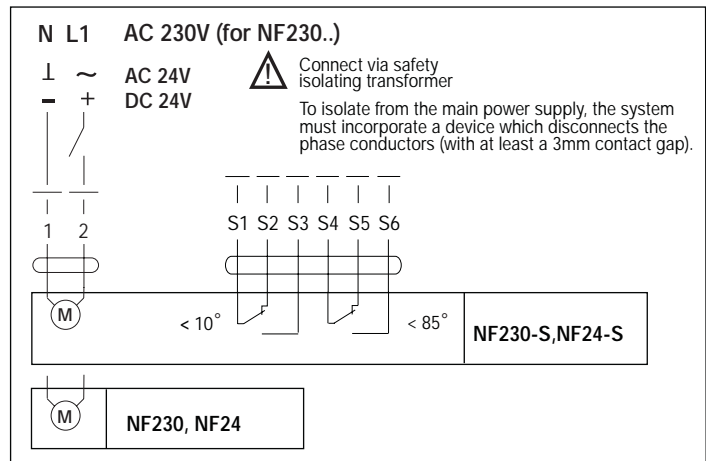
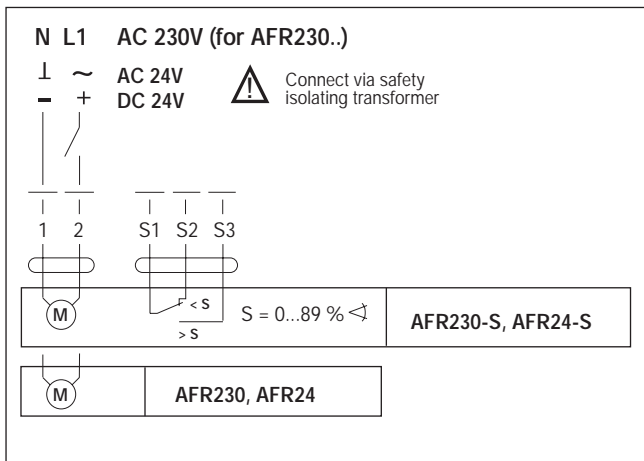
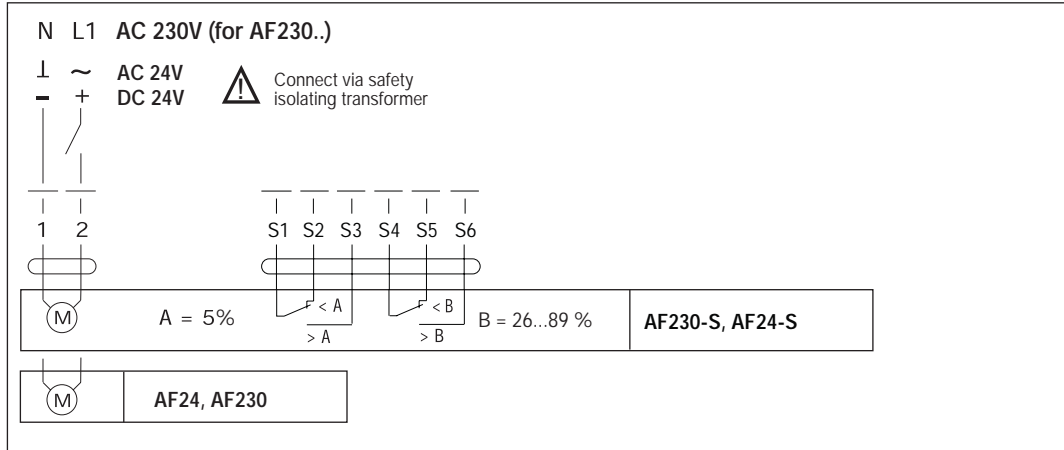
Dimensions [mm]



Wiring diagram: Open/Close actuators

Notes:

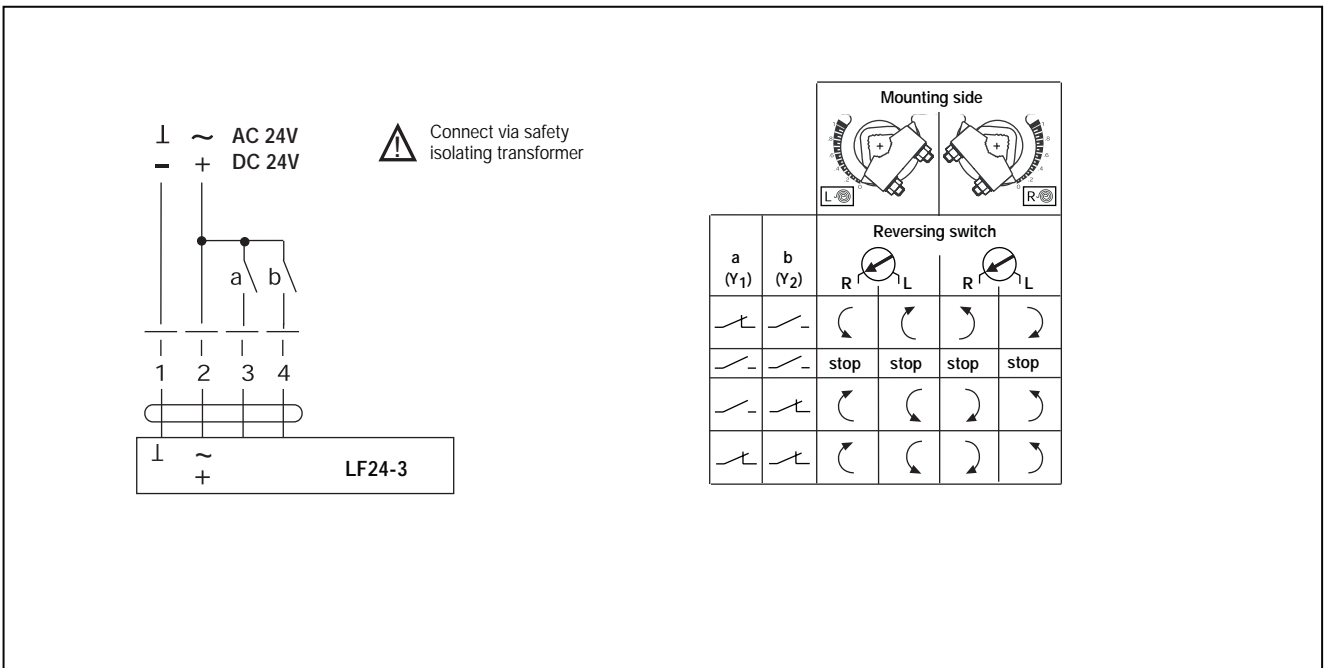
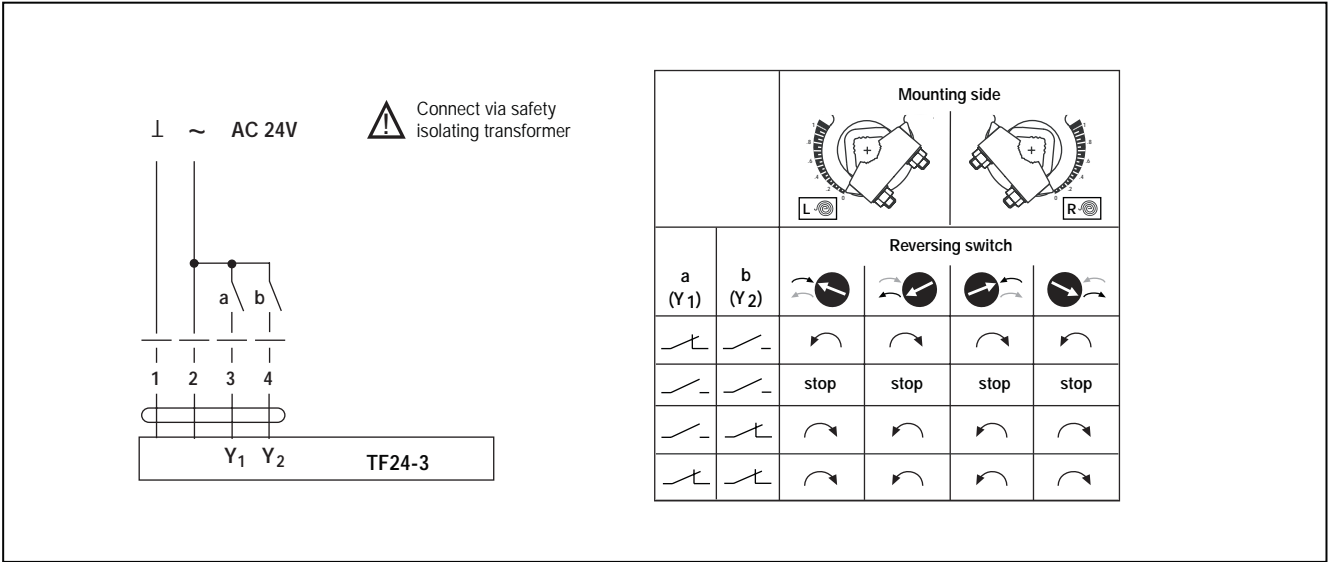
- Parallel connection of several actuators is possible.
- Power consumption must be observed.



Wiring diagram: 3-Point actuators

Notes:

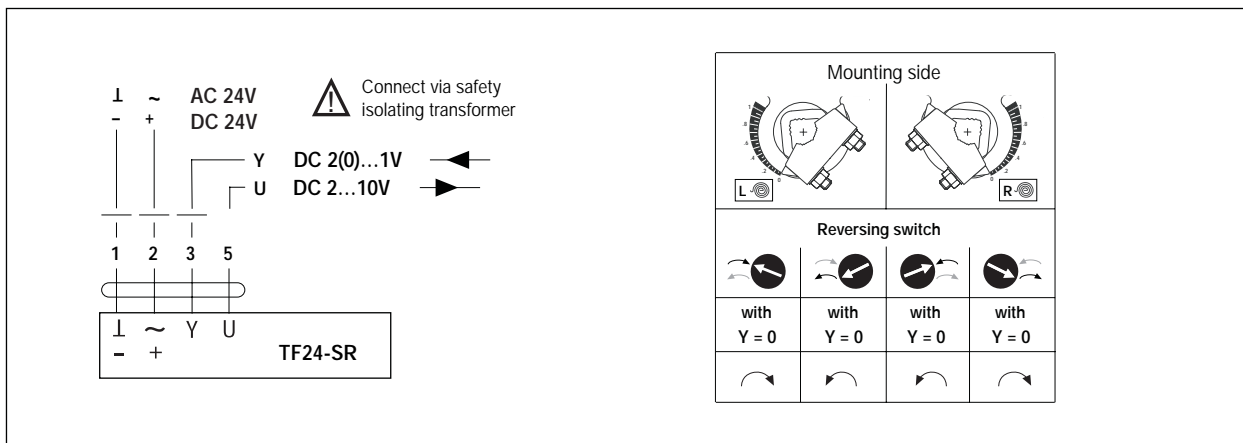
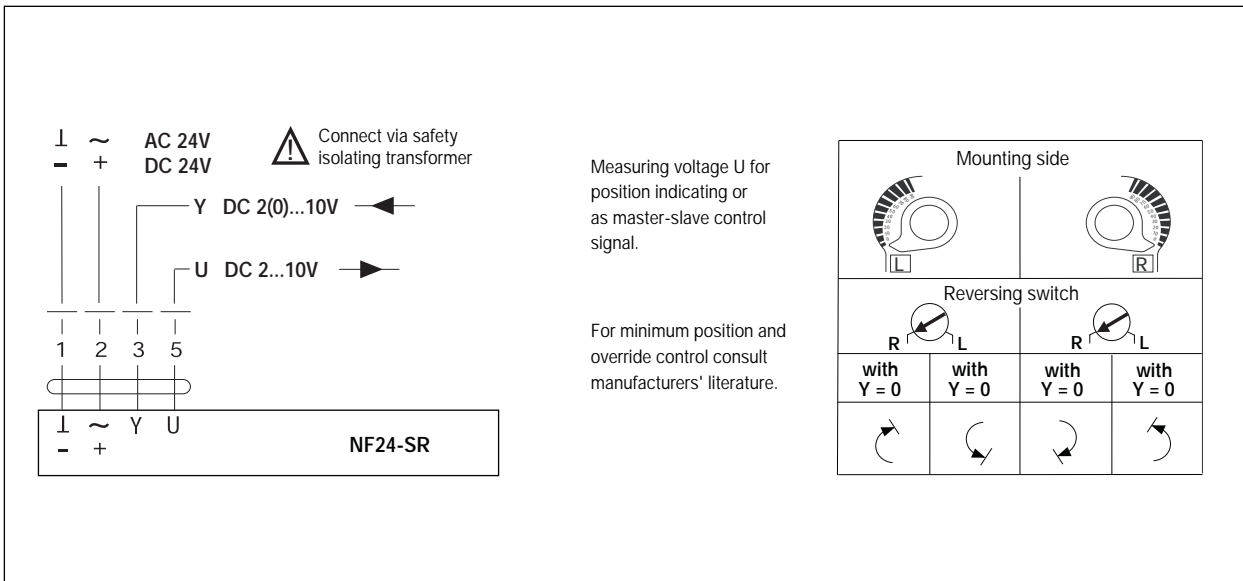
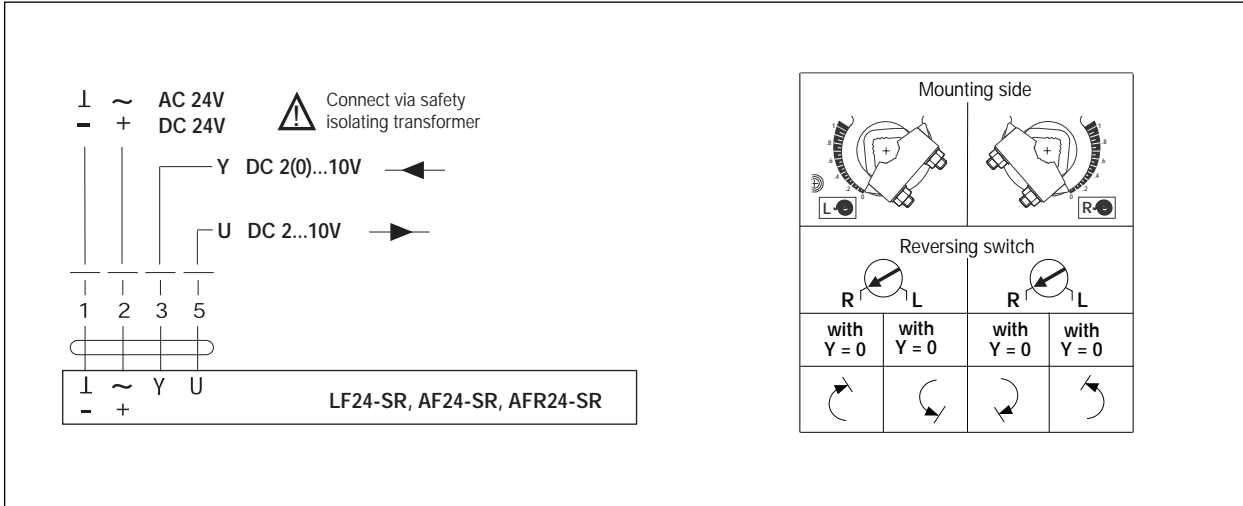
- Connection via safety isolating transformer.
- Parallel connection of several actuators is possible.
- Power consumption must be observed.



Wiring diagram: Modulating actuators

Notes:

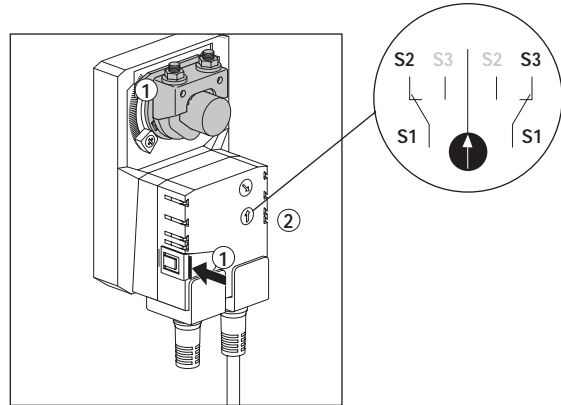
- Connection via safety isolating transformer.
- Parallel connection of several actuators is possible.
- Power consumption must be observed.



Auxiliary switch adjustment for Non-Spring-Return Actuators

1. Press the push button, manually operate the universal clamp to desired switch position.
2. Turn switch pointer to the middle line.
3. When actuator moves clockwise (counterclockwise) to switch position, switch indicator passes the middle line counterclockwise (clockwise), the contact between S1 and S3 is disconnected (connected) and the contact between S1 and S2 is connected (disconnected).

Note: The switching point should be about 5° from the mechanical end stops (1 short step on the scale).



Auxiliary switch adjustment for Spring-Return Actuators

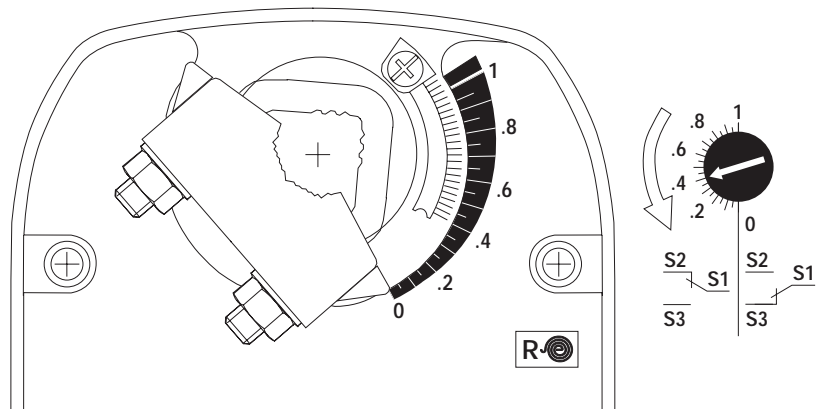
LF..-S (Mounting side R)

Starting point: Actuator in safe position

Procedure

Turn the knob of the auxiliary switch until the tip of the arrow is pointing to the required switching position (see right). Example: Switching point setting = .4 corresponds to 40% angle of rotation.

When the actuator runs to the operating position (ccw ↶), the switch knob will also rotate counter-clockwise (ccw ↶) and the auxiliary switch will operate as the tip of the arrow passes the scale zero (S1–S3 linked).



Fast Running Q.. Actuators operating controls and indicators










- ① **Direction of rotation switch**
Switching over: Direction of rotation changes
- ② **Push-button and green LED display**
Off: No voltage supply or fault
On: In operation
Press button: Switches on angle of rotation adaption followed by standard operation
- ③ **Push-button and yellow LED display**
Off: Standard operation
On: Adaption or synchronising process active
Press button: No function
- ④ **Gear disengagement switch**
Press button: Gear disengaged, motor stops, manual override possible
Release button: Gear engaged, synchronisation starts, followed by standard operation

Check voltage supply connection

- a) ② Off and ③ On } Check the supply connections.
- b) ② Blinking and ③ Blinking } Possibly ± and Ƴ are swapped over.

- ⑤ **No function**

		Actuators									
		CMU	LMU	NMU	SMU	GMU	TF	LF	NF	AF	AFR
 S..A.. Auxiliary switch, add-on S1A.. 1 SPDT 3A (0.5A), AC 250V S2A.. 2 SPDT 3A (0.5A), AC 250V			•	•	•	•					
			•	•	•	•					
 P.A.. Feedback potentiometer, add-on P140A.. 140Ω P500A.. 500Ω P1000A.. 1000Ω P2800A.. 2800Ω P5000A.. 5000Ω P10000A.. 10000Ω			•	•	•	•					
			•	•	•	•					
			•	•	•	•					
			•	•	•	•					
			•	•	•	•					
			•	•	•	•					
 SGA24 Positioner for surface mounting 0...100% Reversible operating range DC 0...10V or DC 2...10V		1)	1)	1)	1)	1)	1)	1)	1)	1)	1)
 SGR24 Positioner for surface mounting 0...100% Reversible operating range DC 0...10V or DC 2...10V		1)	1)	1)	1)	1)	1)	1)	1)	1)	1)
 SGE24 Positioner for rack mounting 0...100% Reversible operating range DC 0...10V or DC 2...10V		1)	1)	1)	1)	1)	1)	1)	1)	1)	1)
 SGF24 Positioner for front-panel mounting 0...100% Reversible operating range DC 0...10V or DC 2...10V		1)	1)	1)	1)	1)	1)	1)	1)	1)	1)
 ZAD24 Digital position indicator for front-panel mounting 0...99% Front size 72x72mm Operating range DC 2...10V		1)	2)	2)	2)	2)	1)	1)	1)	1)	1)

1) For...SR
 2) For...24-SR