

Type 238

Actuator with spring return

15 Nm

For the application with

Room ventilation techniques

VAV

Valves








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10	Specific characteristics of continuous control
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GRUNER - the friendly alternative

	without spring return			with spring return		
● = Standard ○ = Optional						
Type	227	232	231	228	238	
Torque	5 Nm (appr.1 m ²) 8 Nm (appr.1.6 m ²)	15 Nm (appr.3 m ²)	20 Nm (appr.4 m ²) 30 Nm (appr.6 m ²)	5 Nm (appr.1 m ²)	15 Nm (appr.3 m ²)	
Control						
Tri-state	●	●	●	●	●	
On / Off	●	●	●	●	●	
Continuous (0) 2...10 VDC or (0) 4...20 mA with 500Ω	●	●	●	●	●	
Power supply						
24 VAC/DC	●	●	●	●	●	
230 VAC	●	●	●	●	●	
Options						
Potentiometer	○	○	○			
Auxiliary switch(es)	○	○	○	○	○	
LON Interface			○			
VAV Interface	○	○	○	○	○	
Universal locking clamp	●	●	●	●	●	
Form locking	○			○	○	

Applications

Motorised control of dampers, ball and butterfly valves. Application in mixed air and shut-off damper control. For primary HVAC air-handling and zone units.

Smoke and air isolation shut-off damper control for ventilation systems Ball valve control for domestic and drinking water, condensation water, air (i.e. zone units).

The actuator 231L has digital communication capabilities and can be networked with a LON-Bus system. All actuators correspond to the UL, CSA & DIN-VDE standards, CE guidelines.

Type	238-024-15	238-024-15-S2	238-230-15	238-230-15-S2	238C-024-15
Torque	15 Nm	15 Nm	15 Nm	15 Nm	15 Nm
Control					
Tri-state					
On / Off	●	●	●	●	
Continuous control					
(0) 2...10 VDC or				●	
(0) 4...20 mA					
Power supply					
24 VAC/DC	●	●			●
230 VAC			●	●	
Options					
Feedback signal				●	
Auxiliary switch(es)		●		●	
Page	4	4	6	6	8

All actuators dispose of the manual override option by crank. Actuators according to US-standard available upon demand.





Applications

To regulate dampers, valves or other regulatory functions:

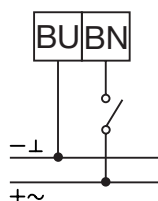
- sturdy drive
- maintenance-free
- torque 15 Nm
- position indication
- Adjustment of the direction of rotation by mounting back to front
- auxiliary switch adjustable from outside
- electromagnetic compatibility controlled

Technical characteristics

Control	On / Off
Connecting voltage	24 VAC (50/60 Hz) / DC ±20%
Power consumption	Motion: 6.0 W / Power safe mode: 4.0 W
Transformer size	8.0 VA / 5.0 VA
Angle of rotation	100° (-5°...+95°)
Direction of rotation	can be selected by back to front mounting
Running time	Actuator: 150 s / Spring: < 20 s
Torque	15 Nm
Auxiliary switches	2, adjustable from outside
Switching power auxiliary switch	250 VAC / 5.0 (2.5) A, change-over switch
Connection	cable 900 mm / 0.75 mm ²
Safety class	III
Protection	IP54 (cable downwards)
Dimensions	250 x 98 x 58 mm
Ambient temperature	-20...+50 °C
Maintenance	maintenance-free
CE	73/23 EWG, 89/336 EWG
Weight	1,800 g

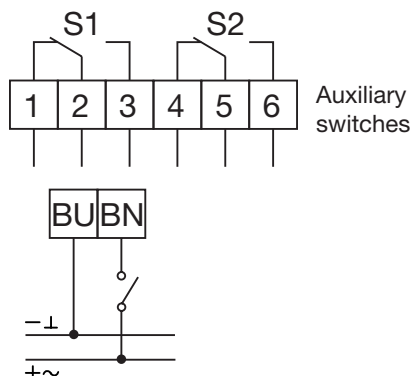
238-024-15

Connection scheme

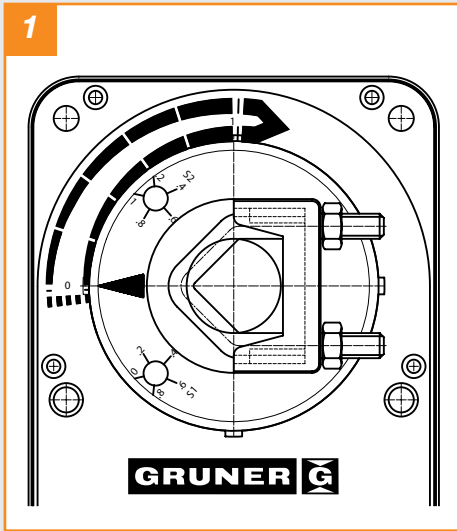


238-024-15-S2

Connection scheme



1



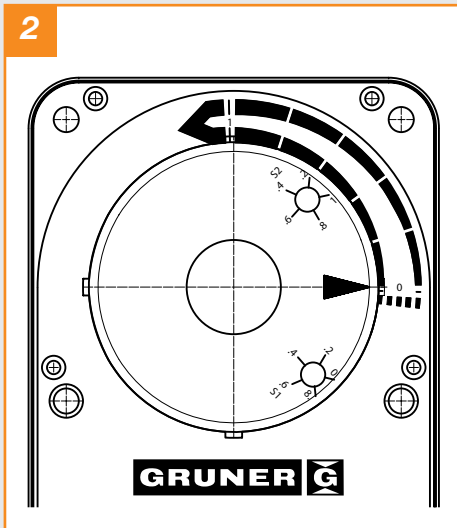
Fixing of the shaft (fig. 1)

by the locking clamp to the damper shaft: □ 10...16 mm
 ∅ 9...20 mm

Selection of the direction of rotation (fig. 1 + 2)

The direction of rotation can be selected by back to front mounting.

2

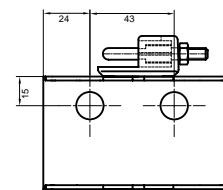
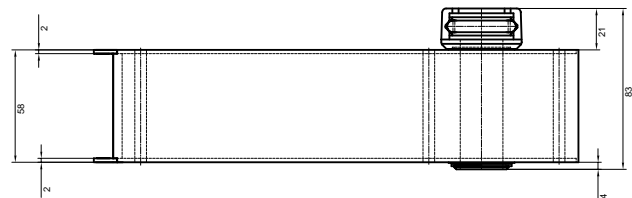
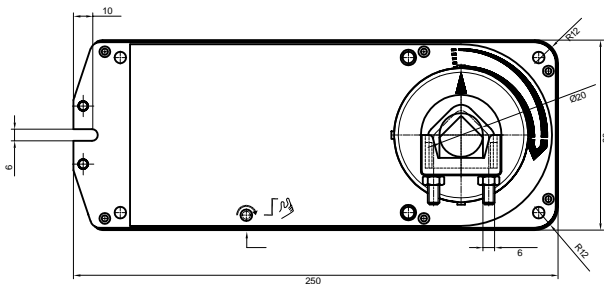


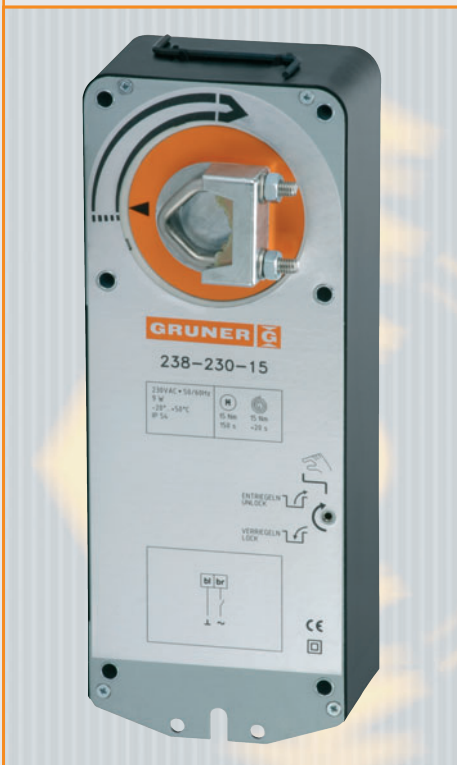
Adjustment of the auxiliary switches (fig. 2)

The scale at the adjusting knob corresponds to a percentage graduation, related to 0° to 90°. Choose the requested switching position by turning the knob to the right or left respectively, i.e. ".2" = 20%. The switches can be adjusted regardless of the momentarily angle of rotation.

Technical drawing

238-024-15





Applications

To regulate dampers, valves or other regulatory functions:

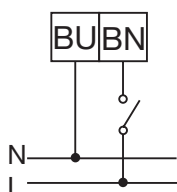
- sturdy drive
- maintenance-free
- torque 15 Nm
- position indication
- Adjustment of the direction of rotation by mounting back to front
- auxiliary switch adjustable from outside
- electromagnetic compatibility controlled

Technical characteristics

Control	On / Off
Connecting voltage	230 VAC (50/60 Hz) ±15%
Power consumption	Motion: 9.0 W / Power safe mode: 7.0 W
Transformer size	10.0 VA / 8.0 VA
Angle of rotation	100° (-5°...+95°)
Direction of rotation	can be selected by back to front mounting
Running time	Actuator: 150 s / Spring: < 20 s
Torque	15 Nm
Auxiliary switches	2, adjustable from outside
Switching power auxiliary switch	250 VAC / 5.0 (2.5) A, change-over switch
Connection	cable 900 mm / 0.75 mm ²
Safety class	II
Protection	IP54 (cable downwards)
Dimensions	250 x 98 x 58 mm
Ambient temperature	-20...+50 °C
Maintenance	maintenance-free
CE	73/23 EWG, 89/336 EWG
Weight	1,800 g

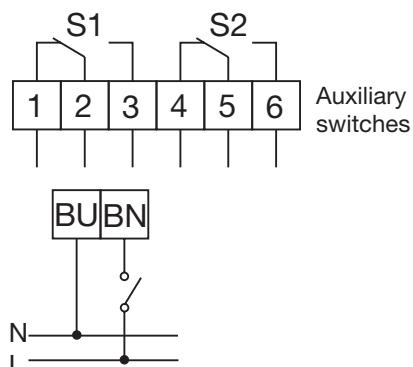
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Connection scheme

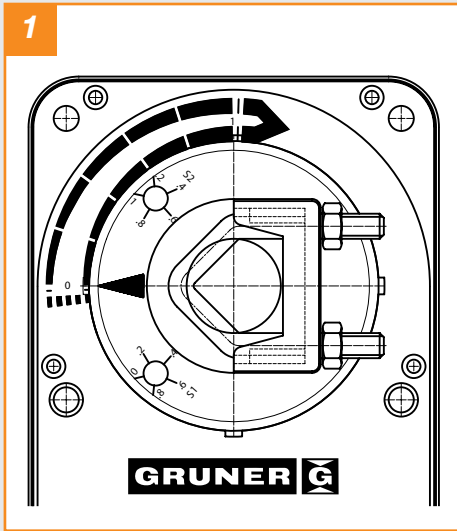


238-230-15-S2

Connection scheme



1



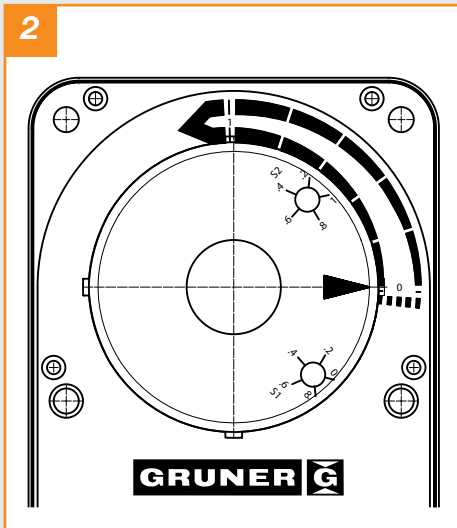
Fixing of the shaft (fig. 1)

by the locking clamp to the damper shaft: □ 10...16 mm
 ∅ 9...20 mm

Selection of the direction of rotation (fig. 1 + 2)

The direction of rotation can be selected by back to front mounting.

2

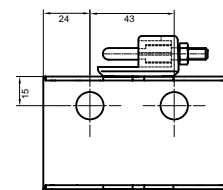
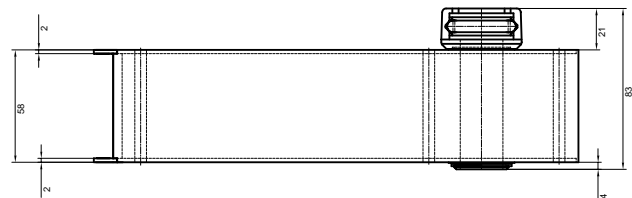
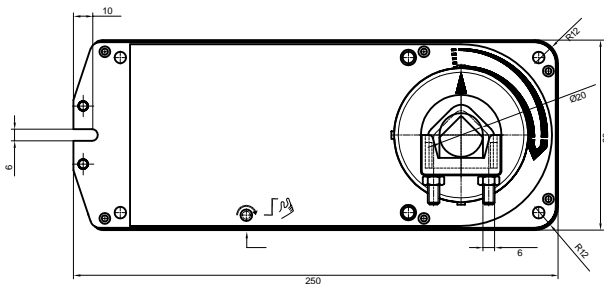


Adjustment of the auxiliary switches (fig. 2)

The scale at the adjusting knob corresponds to a percentage graduation, related to 0° to 90°. Choose the requested switching position by turning the knob to the right or left respectively, i.e. ".2" = 20%. The switches can be adjusted regardless of the momentarily angle of rotation.

Technical drawing

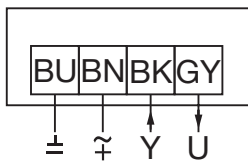
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238C-024-15

Connection scheme
(Continuous control)



Applications

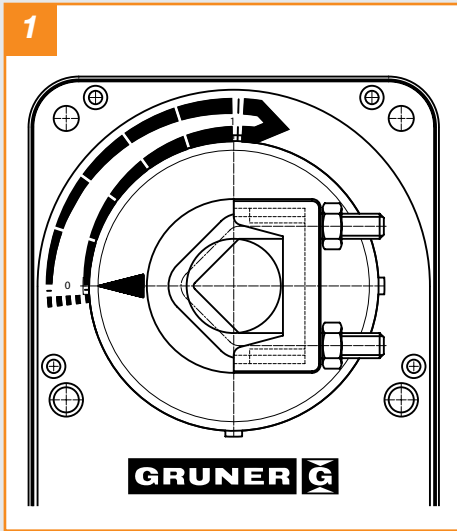
To regulate dampers, valves or other regulatory functions:

- sturdy drive
- maintenance-free
- torque 15 Nm
- position indication
- direction of rotation changeable from outside
- control range adjustable from outside
- electromagnetic compatibility controlled

Technische Daten

Control	Continuous control
Control signal Y	0...10 VDC or 2...10 VDC (Standard) or 0...20 mA or 4...20 mA
Feedback signal U	0...10 VDC or 2...10 VDC (Standard) or 10 VDC or 15 VDC
Connecting voltage	24 VAC (50/60 Hz) / DC ±20%
Power consumption	7.0 W
Transformer size	9.0 VA
Angle of rotation	100° (-5°...+95°)
Direction of rotation	can be selected by back to front mounting
Running time	Actuator: 150 s / Spring: < 20 s
Torque	15 Nm
Connection	cablе 900 mm / 0.75 mm ²
Safety class	III
Protection	IP54 (cablе downwards)
Dimensions	250 x 98 x 58 mm
Ambient temperature	-20...+50 °C
Maintenance	maintenance-free
CE	73/23 EWG, 89/336 EWG
Weight	1,800 g

1



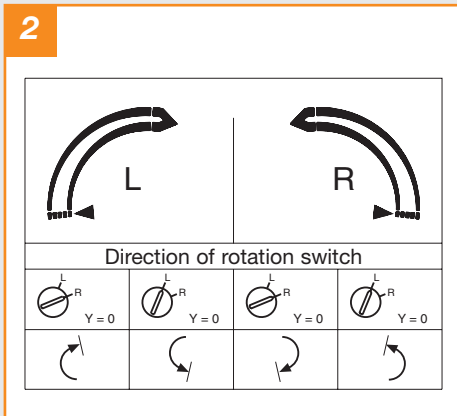
Fixing of the shaft (fig. 1)

by the locking clamp to the damper shaft: □ 10...16 mm
 ∅ 9...20 mm

Selection of the direction of rotation

The direction of rotation can be selected by back to front mounting.

2

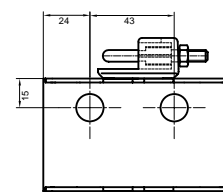
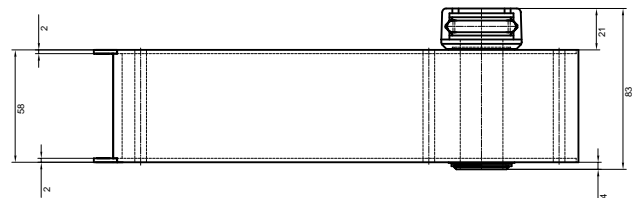
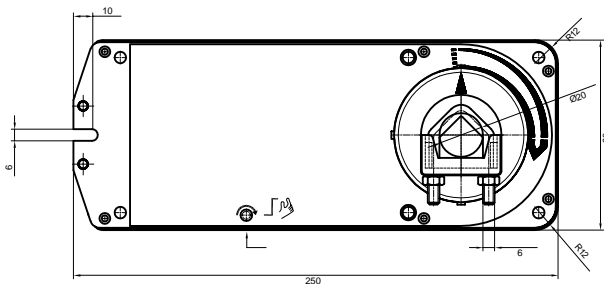


Modification of the control direction (fig. 2)

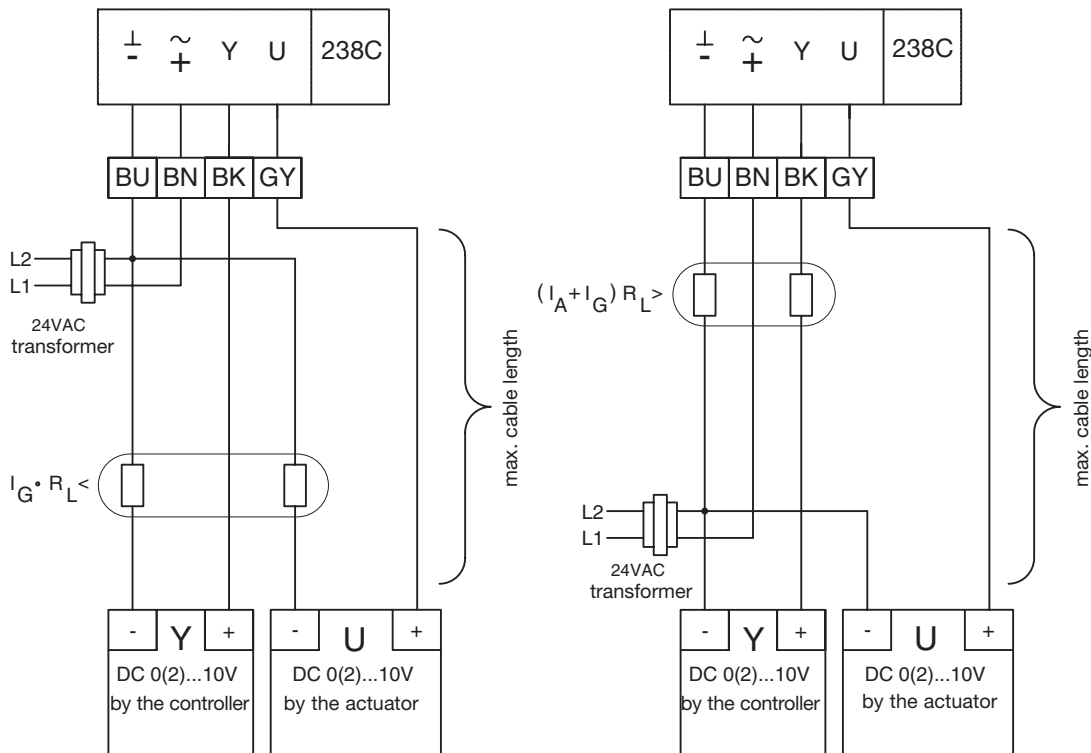
Direction of rotation switch	Spring clockwise		Spring counter-clockwise	
	L	R	L	R
Y = (0) 2 VDC	0°	90°	90°	0°
Y = 10 VDC	90°	0°	0°	90°

Technical drawing

238C-024-15



Wiring configuration and recommended cable length



I_G ... current of set valve selector

I_A ... actuator current

$I_G \ll I_A$

R_L ... cable resistance

$$R_L = \frac{1}{\sigma} \times \frac{L}{A}$$

L ... cable length

A ... cable cross section

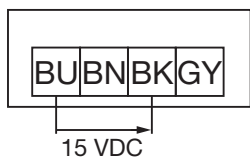
σ ... $56,2 \times 10^6 \text{ S/m}$

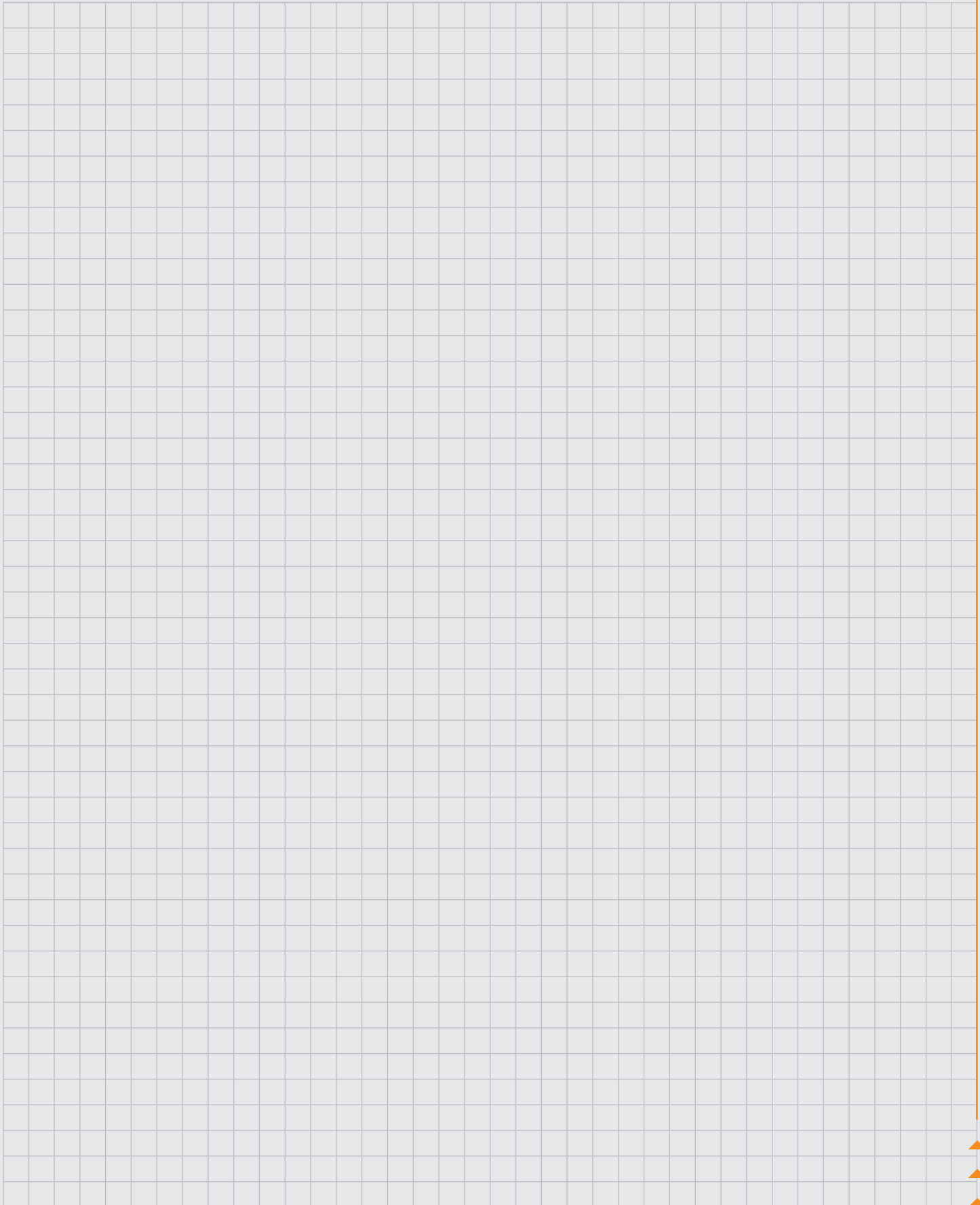
cable cross section	max. cable length
0,75 mm ²	23 m
1 mm ²	31 m
1,5 mm ²	46 m
2,5 mm ²	76 m

For several actuators switched in parallel the max. cable length must be divided by the number of actuators.

Teach-in of range of angle > 30°

1. Actuator stand by
2. Adjusting mechanical endstops
3. 15 VDC at Y
4. Power on actuator
5. Actuator starts teach-in process of range of angle (60...120 s)
6. Remove 15 VDC at Y





▶ ▶ ▶ YOUR WAY TO GRUNER

