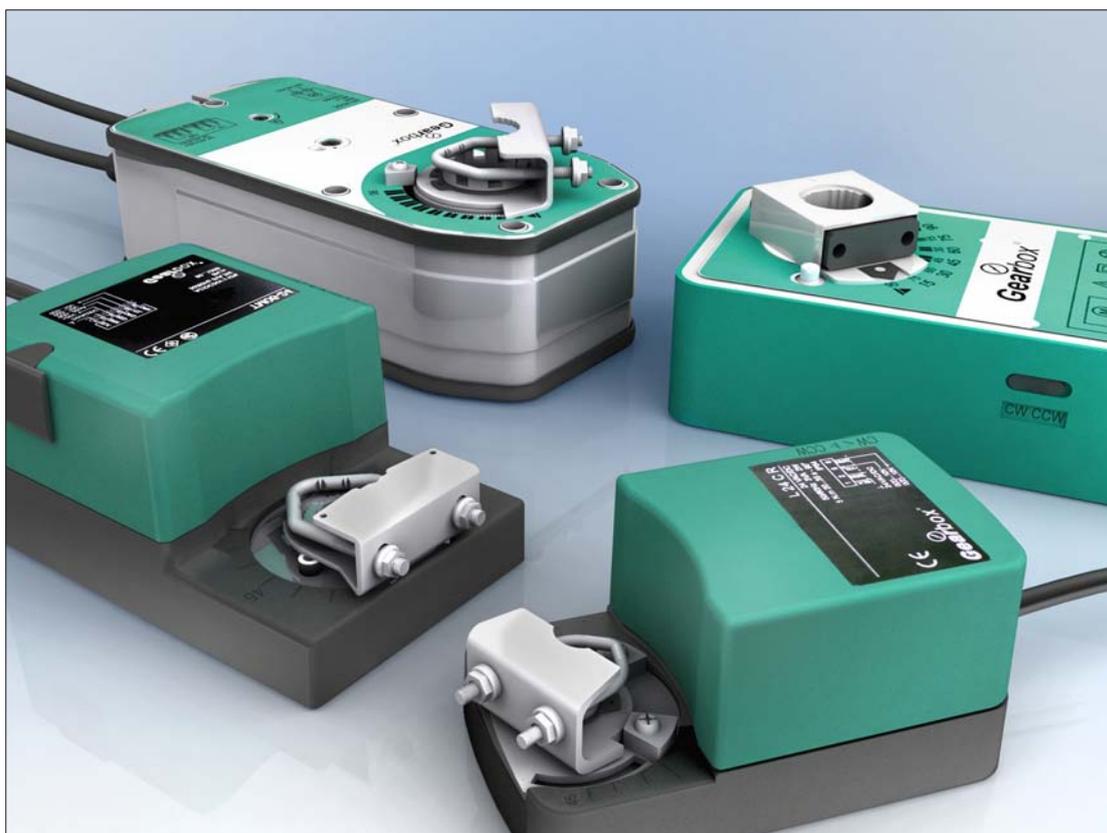


# **Gearbox<sup>®</sup>**

Rotary actuators for dampers of ventilation and climate installations



# Gearbox®

## Rotary Actuators

Our wide range of Gearbox actuators has been developed to fulfill all specific needs of control and regulation for air dampers.

Reliable, precise, compact, robust, very silent, easy to install, compatible with the most important controllers and with an unbeatable price-quality relationship.

### Characteristics

Reversible electrical actuators, maintenance-free. Universal aluminium and sintered steel coupling, suitable



for damper shafts from Ø6 to Ø21mm or from 1/2" to 15/16" (depending on models). The angle of rotation is mechanically limited and it can be adjusted with the turning limiter (depending on models).

Manual operation is possible with the external self-resetting



pushbutton. It releases part of the gear train and facilitates the manual override.

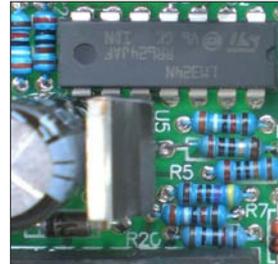
All the equipments are supplied with a rear fixing bracket to avoid the counter-rotation.

The direction of rotation is reversible with the manual selector, placed on the external part of the equipment



(depending on models). The actuators are overload-proof. They do not require end of travel and they stop automatically when reaching the mechanical limit.

The electronics is extremely reliable and precise, it is 100% compatible with the great majority of regulation



controllers and it is the guarantee of a fault-free operation.

In accordance with the current RoHS Worldwide Directive, our products do not incorporate environmentally harmful materials.

Positioner for remote control. The position to which the



rotary knob is turned produces a proportional change in the angle of rotation of the actuator from 0 to 100%.

Positioners available for surface mounting and front-panel mounting.

### Optional built-in accessories

Auxiliary contacts

Feedback potentiometer

### Mounting accessories

Universal transmission rods

Ball joints for transmission rods

Crank arm for manual operation

Complete coupling for 3-ways valve

### Nomenclature

24 - 24V AC/DC  
230 - 230V (220-240)AC

Voltage

S - Auxiliary contacts  
P - 0...10kΩ

Accessories

L 24 C S R

Model

L	5 Nm
N	6 Nm
S	10 Nm
TM	16 Nm
TG	25 Nm
TL	40 Nm
TSR	5 Nm
TMR	8 Nm
TGR	16 Nm

C - Fast turning

Regulation

R - control signal  
0(2)...10V and 0(4)...20mA





# Gearbox<sup>®</sup> Rotary Actuators For Dampers 6Nm

## Characteristics



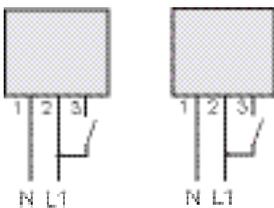
- Servomotor designed to operate air dampers up to 1,2 m<sup>2</sup> depending on manufacturers.
- Direct assembly to the shaft, through universal clamp.
- Manual clutch through external, mechanical button.
- Adjustable angle of rotation through adjustable end stops.
- Automatic stop when reaching any mechanical end stop, without end of travel.
- Integrated connection cable to guarantee the sealing IP54.
- Open/Close versions, proportional, with auxiliary switch and feedback potentiometer.

## Specifications

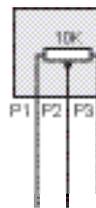
Models	N 230	N 24	N 24 R
Nominal voltage	AC/230V	AC/DC24V	
Torque	6Nm		
Running time	30..80 sec		
Operating power	3VA, 2W	5VA, 3W	
Control	Open/Close and 3 points with 1 or 2 wire control		DC 0...10V
Feedback signal/exit	Models (N...P1) Potentiometer of 10 k $\Omega$ (1W)		DC 0...10V
Auxiliary switch	(Models N...S2) 3A, AC 250V		
Angle of rotation	90° (95° Max.)		
Protection class	IP 54		
Ambient conditions range	-10...+55°C / 0...90%RH		
Sound power level	Max. 40 dB(A)		
Weight	0,6 - 0,9 Kg		

## Electrical Connections

Models N 24, N 230



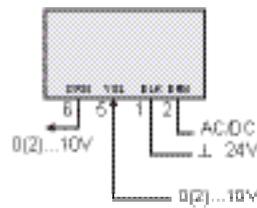
Potentiometer



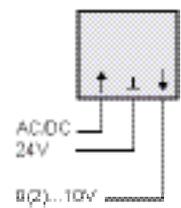
Auxiliary switches



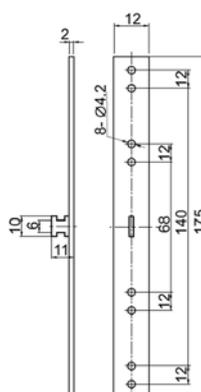
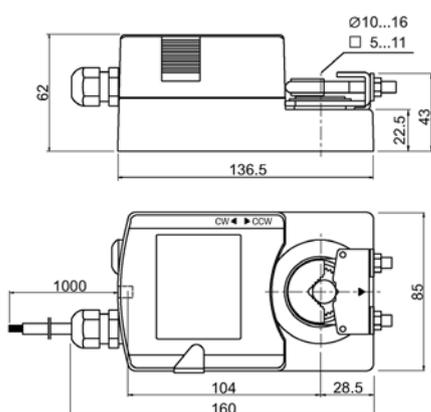
Model N 24 R



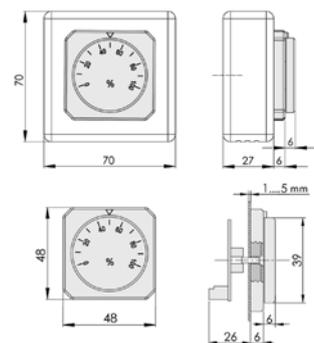
Positioner PM/PT



## Dimensions



Positioner





# Gearbox<sup>®</sup> Rotary Actuators For Dampers 10Nm

## Characteristics



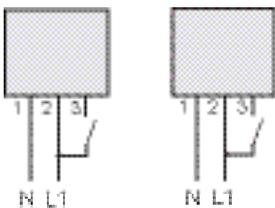
- Servomotor designed to operate air dampers up to 1,8 m<sup>2</sup> depending on manufacturers.
- Direct assembly to the shaft, through universal clamp.
- Manual clutch through external, mechanical button.
- Adjustable angle of rotation through adjustable end stops.
- Automatic stop when reaching any mechanical end stop, without end of travel.
- Integrated connection cable to guarantee the sealing IP54.
- Open/Close versions, proportional, with auxiliary switch and feedback potentiometer.

## Specifications

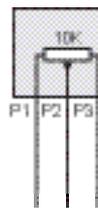
Models	S 230	S 24	S 24 R
Nominal voltage	AC/230V	AC/DC24V	
Torque	10 Nm		
Running time	50..100 sec		
Operating power	12VA, 3W	5VA, 3W	
Control	Open/Close and 3 points with 1 or 2 wire control		DC 0...10V
Feedback signal/exit	Models (S...P1) Potentiometer of 10 k $\Omega$ (1W)		DC 0...10V
Auxiliary switch	(Modelos S...S2) 3A, AC 250V		
Angle of rotation	90° (95° Max.)		
Protection class	IP 54		
Ambient conditions range	-10...+55°C / 0...90%RH		
Sound power level	Max. 40 dB(A)		
Weight	0,6 - 0,9 Kg		

## Electrical Connections

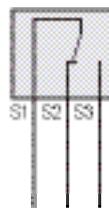
Models S 24, S 230



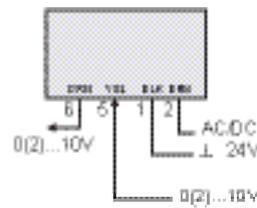
Potentiometer



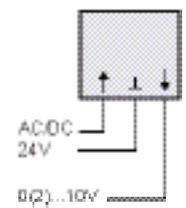
Auxiliary switches



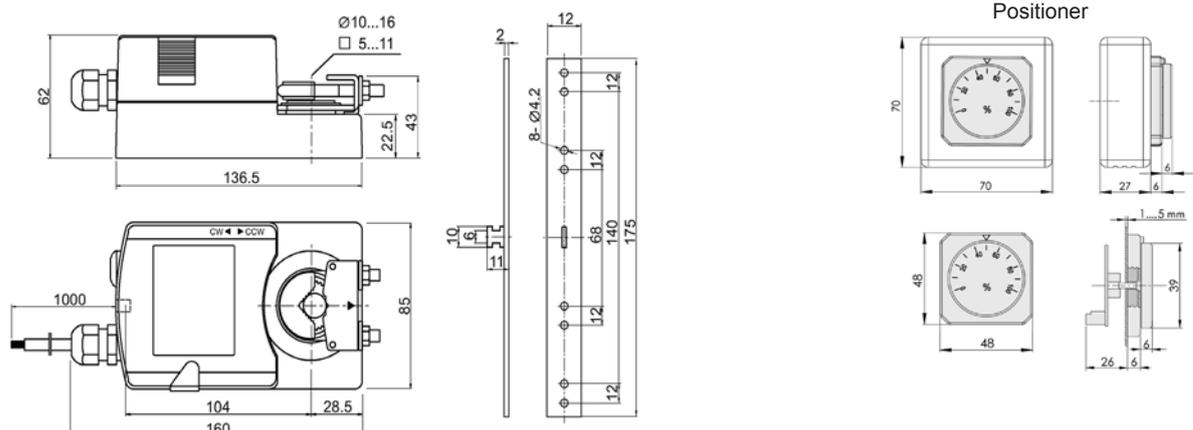
Model S 24 R



Positioner PM/PT



## Dimensions





# Gearbox<sup>®</sup> Rotary Actuators For Dampers 16Nm

## Characteristics



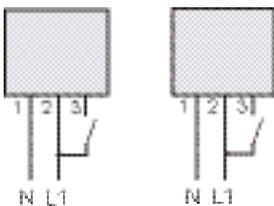
- Servomotor designed to operate air dampers up to 3 m<sup>2</sup> depending on manufacturers.
- Direct assembly to the shaft, through universal clamp.
- Manual clutch through external, mechanical button.
- Adjustable angle of rotation through adjustable end stops.
- Automatic stop when reaching any mechanical end stop, without end of travel.
- Integrated connection cable to guarantee the sealing IP54.
- Open/Close versions, proportional, with auxiliary switch and feedback potentiometer.

## Specifications

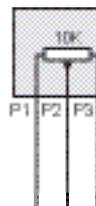
Models	TM 230	TM 24	TM 24 R
Nominal voltage	AC/230V	AC/DC24V	
Torque	16 Nm		
Running time	50..90 sec		
Operating power	6VA, 3W	6VA, 3W	
Control	Open/Close and 3 points with 1 or 2 wire control		DC 0...10V
Feedback signal/exit	Models (TM...P1) Potentiometer of 10 kΩ (1W)		DC 0...10V
Auxiliary switch	(Models TM...S2) 3A, AC 250V		
Angle of rotation	90° (93° Max.)		
Protection class	IP 54		
Ambient conditions range	-10...+55°C / 0...90%RH		
Sound power level	Max. 40 dB(A)		
Weight	1,2 - 2 Kg		

## Electrical Connections

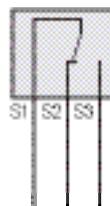
Models TM 24, TM 230



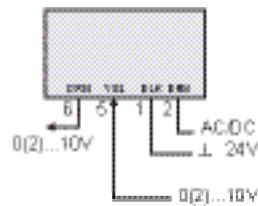
Potentiometer



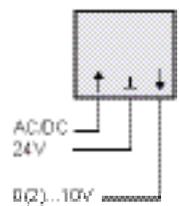
Auxiliary switches



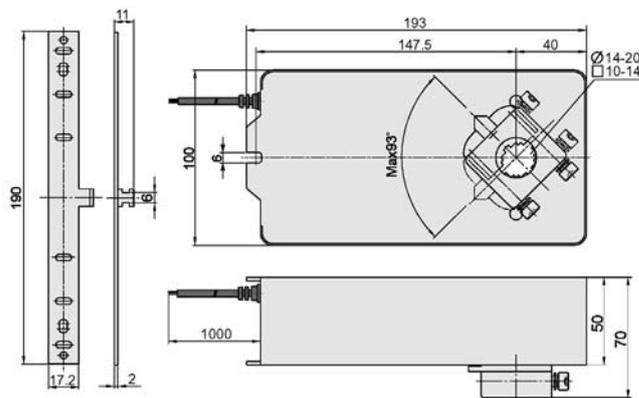
Model TM 24 R



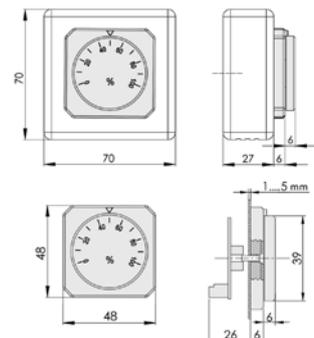
Positioner PM/PT



## Dimensions



Positioner





# Gearbox<sup>®</sup> Rotary Actuators For Dampers 25Nm

## Characteristics



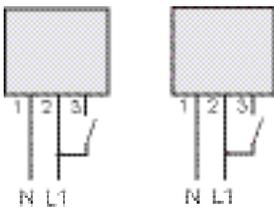
- Servomotor designed to operate air dampers up to 4,5 m<sup>2</sup> depending on manufacturers.
- Direct assembly to the shaft, through universal clamp.
- Manual clutch through external, mechanical button.
- Adjustable angle of rotation through adjustable end stops.
- Automatic stop when reaching any mechanical end stop, without end of travel.
- Integrated connection cable to guarantee the sealing IP54.
- Open/Close versions, proportional, with auxiliary switch and feedback potentiometer.

## Specifications

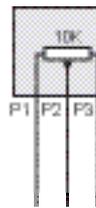
Models	TG 230	TG 24	TG 24 R
Nominal voltage	AC/230V	AC/DC24V	
Torque	25 Nm		
Running time	60..120 sec		
Operating power	7VA, 3W	7VA, 3W	
Control	Open/Close and 3 points with 1 or 2 wire control		DC 0...10V
Feedback signal/exit	Models (TG...P1) Potentiometer of 10 kΩ (1W)		DC 0...10V
Auxiliary switch	(Models TG...S2) 3A, AC 250V		
Angle of rotation	90° (93° Max.)		
Protection class	IP 54		
Ambient conditions range	-10...+55°C / 0...90%RH		
Sound power level	Max. 40 dB(A)		
Weight	1,6 - 2 Kg		

## Electrical Connections

Models TG 24, TG 230



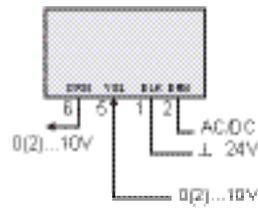
Potentiometer



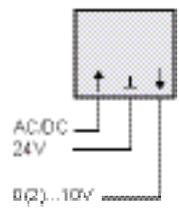
Auxiliary switches



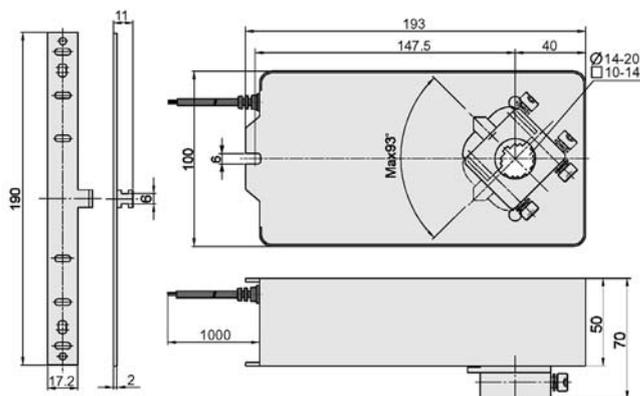
Model TG 24 R



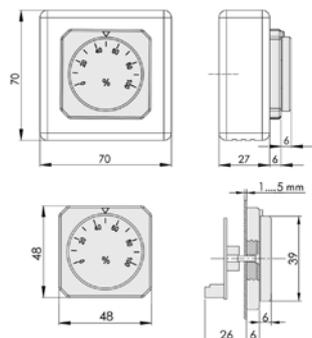
Positioner PM/PT



## Dimensions



Positioner





# Gearbox<sup>®</sup> Rotary Actuators For Dampers 40Nm

## Characteristics



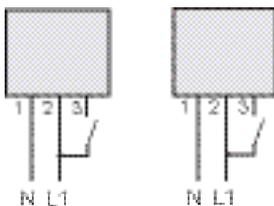
- Servomotor designed to operate air dampers up to 7,5 m<sup>2</sup> depending on manufacturers.
- Direct assembly to the shaft, through universal clamp.
- Manual clutch through external, mechanical button.
- Adjustable angle of rotation through adjustable end stops.
- Automatic stop when reaching any mechanical end stop, without end of travel.
- Integrated connection cable to guarantee the sealing IP54.
- Open/Close versions, proportional, with auxiliary switch and feedback potentiometer.

## Specifications

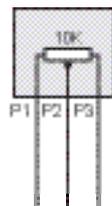
Models	TL 230	TL 24	TL 24 R
Nominal voltage	AC/230V	AC/DC24V	
Torque	40 Nm		
Running time	60..150 sec		
Power in operation	8VA, 3W	8VA, 3W	
Control	Open/Close and 3 points with 1 or 2 wire control		DC 0...10V
Feedback signal/exit	Models (TL...P1) Potentiometer of 10 kΩ (1W)		DC 0...10V
Auxiliary switch	(Models TL...S2) 3A, AC 250V		
Angle of rotation	90° (93° Max.)		
Protection class	IP 54		
Ambient conditions range	-10...+55°C / 0...90%RH		
Sound power level	Max. 40 dB(A)		
Weight	1,6 - 2 Kg		

## Electrical Connections

Models TL 24, TL 230



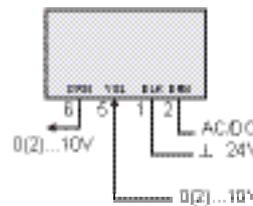
Potentiometer



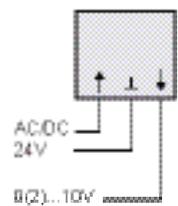
Auxiliary switches



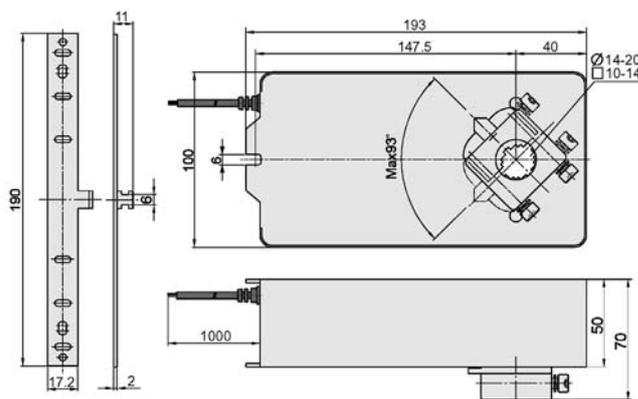
Model TL 24 R



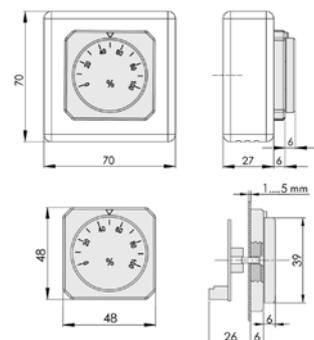
Positioner PM/PT



## Dimensions



Positioner





# Gearbox® Spring-Return Rotary Actuators With Security Function For Dampers 5 Nm

## Characteristics



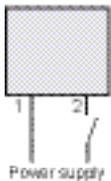
- Designed to operate air dampers with security function up to 1,5m<sup>2</sup>.
- Direct assembly to the shaft, through universal clamp.
- For shafts from Ø10 to Ø16mm and from  $\varnothing$ 7 to  $\varnothing$ 11mm.
- It requires a minimum shaft length of 40mm.
- Manual driving of the spring through hand crank.
- Direction of rotation to be selected according to left/right mounting.
- Integrated connection 1 m. length cable.

## Specifications

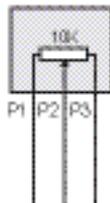
Models	TSR 230	TSR 24	TSR 24 R
Nominal voltage	AC/230V	AC/DC24V	
Torque	5Nm		
Running / spring-return time	50..70 sec / <20 sec.		
Power in operation	6VA	6...8VA	
Power at rest	1...2VA	3 VA	1...2VA
Control	Open/Close and 3 points with 1 or 2 wire control		DC 0...10V
Feedback signal/exit	Models (TS...P1) Potentiometer of 10 k $\Omega$ (1W)		DC 0...10V
Auxiliary switch	3A, AC250V		
Angle of rotation	90° (95° Max.)		
Protection class	IP 54		
Ambient conditions range	-10...+55°C / 0...90%RH		
Motor/spring sound power level	Max 50dB(A) / Max 65dB(A)		
Weight	1,3 - 1,7 Kg		

## Electrical connections

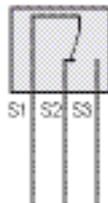
TSR 24 TSR 230



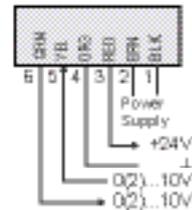
Model TSR 24 R



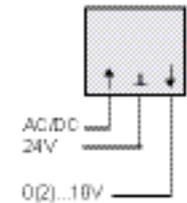
Potentiometer



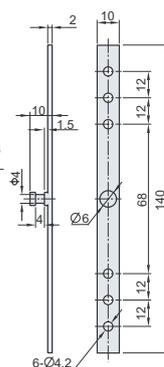
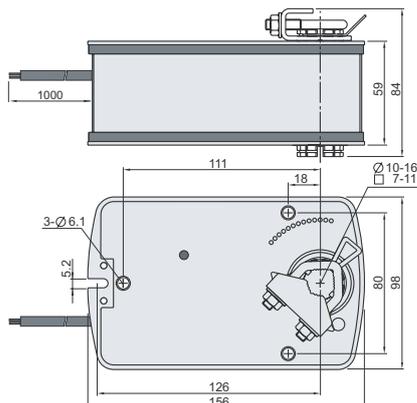
Auxiliary switches



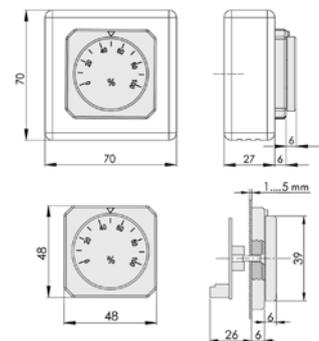
Positioner PM/PT



## Dimensions



Positioner





# Gearbox® Spring-Return Rotary Actuators With Security Function For Dampers 8 Nm

## Characteristics



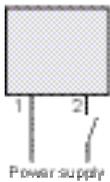
- Designed to operate air dampers with security function up to 1,5m<sup>2</sup>.
- Direct assembly to the shaft, through universal clamp.
- For shafts from Ø8 to Ø21mm and from  $\varnothing 6$  to  $\varnothing 15$ mm.
- It requires a minimum shaft length of 40mm.
- Manual driving of the spring through hand crank.
- Direction of rotation to be selected according to left/right mounting.
- Integrated connection 1 m. length cable.

## Specifications

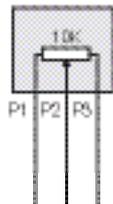
Models	TMR 230	TMR 24	TMR 24 R
Nominal voltage	AC/230V	AC/DC24V	
Torque	8Nm		
Running / spring-return time	60..150 sec. / <25 sec.		
Power in operation	6VA	6...8VA	
Power at rest	3 VA		
Control	Open/Close and 3 points with 1 or 2 wire control		DC 0...10V
Feedback signal/exit	Models (TM...P1) Potentiometer of 10 k $\Omega$ (1W)		DC 0...10V
Auxiliary switch	3A, AC250V		
Angle of rotation	90° (95° Max.)		
Protection class	IP 54		
Ambient conditions range	-10...+55°C / 0...90%RH		
Motor/spring sound power level	Max 50dB(A) / Max 65dB(A)		
Weight	1,8 - 2,2 Kg		

## Electrical connections

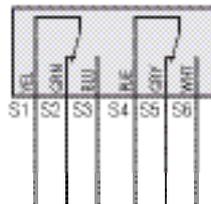
TMR 24 TMR 230



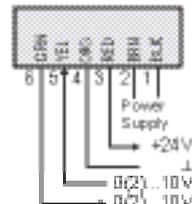
Potentiometer



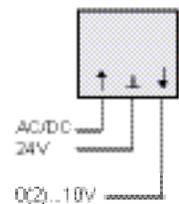
Auxiliary switches



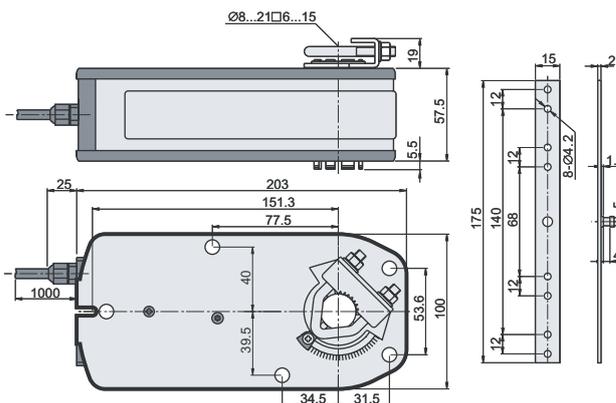
Model TMR 24 R



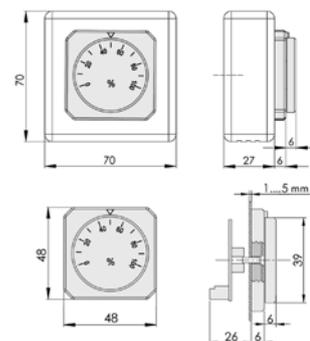
Positioner PM/PT



## Dimensions



Positioner





# Gearbox<sup>®</sup> Spring-Return Rotary Actuators With Security Function For Dampers 15 Nm

## Characteristics



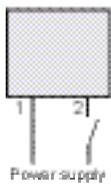
- Designed to operate air dampers with security function up to 3m<sup>2</sup>.
- Direct assembly to the shaft, through universal clamp.
- For shafts from Ø8 to Ø21mm and from  $\varnothing$ 6 to  $\varnothing$ 15mm.
- It requires a minimum shaft length of 40mm.
- Manual driving of the spring through hand crank.
- Direction of rotation to be selected according to left/right mounting.
- Integrated connection 1 m. length cable.

## Specifications

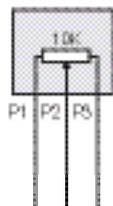
Models	TGR 230	TGR 24	TGR 24 R
Nominal voltage	AC/230V	AC/DC24V	
Torque	15Nm		
Running / spring-return time	60..180 sec. / 20-50 sec.		
Power in operation	6...8VA		
Power at rest	3 VA		
Control	Open/Close and 3 points with 1 or 2 wire control		DC 0...10V
Feedback signal/exit	Models (TG...P1) Potentiometer of 10 k $\Omega$ (1W)		DC 0...10V
Auxiliary switch	3A, AC250V		
Angle of rotation	90° (95° Max.)		
Protection class	IP 54		
Ambient conditions range	-10...+55°C / 0...90%RH		
Motor/spring sound power level	Max 50dB(A) / Max 65dB(A)		
Weight	1,8 - 2,2 Kg		

## Electrical connections

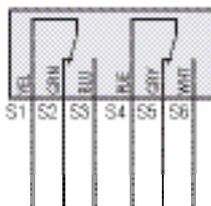
TGR 24 TGR 230



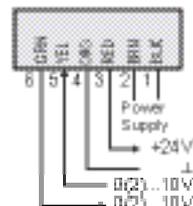
Potentiometer



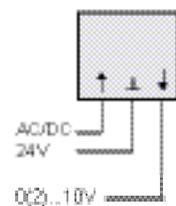
Auxiliary switches



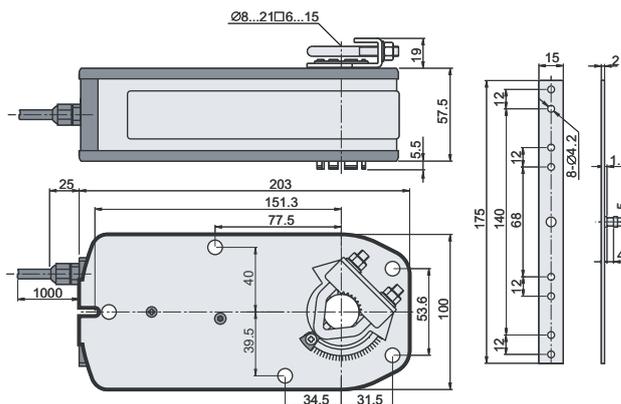
Model TGR 24 R



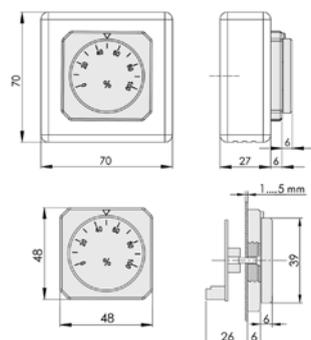
Positioner PM/PT



## Dimensions



Positioner





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