

# Electric Actuators

## Type 5801 Rotary Actuator

## Type 5802 Linear Actuator



### Application

Electric actuators designed for attachment to final control elements used in industrial plants and heating, ventilation and air-conditioning systems.



The actuators have a versatile modular design which can be used for different types of final control elements.

### Special features

- Optionally available for 230, 110 or 24 V, 50/60 Hz.
- Transit times of 280 s or 170 s.
- Nominal angle of rotation of 120° or nominal travel of 30 mm.
- Compact design, low overall height.
- Manual override.

Furthermore, the actuators can be equipped with the following additional equipment on request:

- Floating switches which issue a limit signal whenever a set limit value is exceeded or not reached.
- Potentiometers that have a resistance change within the range of 0 to 100 Ω or 0 to 1000 Ω.
- Electric positioner for control signals from 4 to 20 mA, 0 to 20 mA, 0 to 10 V and associated split ranges.

### Versions

The **Type 5801 Actuator** (see Fig. 1) is a rotary actuator with reversible synchronous motor of the permanent-magnet type and magnetic overload clutch. The rotary motion of the motor is transmitted to the output shaft via a maintenance-free gearing. The lever linkage connected to the output shaft is used, for example, to actuate butterfly control valves or louvers.

The **Type 5802 Actuator** (see Fig. 2) is a linear actuator. It consists of the rotary actuator illustrated in Fig. 1 and a linear gear attached to it. The Type 5802 Actuator is ideally suited to attachment to control valves.

### Note

For further electric actuators (also type-tested versions) with positioning forces of up to 700 N, see Data Sheet T 5824 EN. For electrohydraulic actuators with positioning forces of up to 7700 N, see Data Sheet T 8340 EN.



Fig. 1 · Type 5801 with lever linkage



Fig. 2 · Type 5802

### The modular principle

Fig. 3 shows Type 5801 Rotary Actuator (1). It consists of a synchronous motor of the permanent-magnet type and a maintenance-free gearing connected to the output shaft (2) and the lever linkage (3) via a coupling.

The attachment of a linear gear (4) converts the rotary actuator into the Type 5802 Linear Actuator illustrated in Fig. 4. For attachment to the Types 3260 and 3267 Valves with nominal sizes of DN 15 to DN 65, the actuator is supplied with a yoke. Both actuators are provided with manual override. When activating the push button (5), the coupling between output shaft (2) and motor is disengaged. Now the actuator can be manually adjusted by means of the lever linkage (3) or the handwheel (6).

When the cover (7) is removed, an additional positioner, two potentiometers, or two switches, three at maximum, can be installed (circuit diagrams, see Fig. 5).

### Mounting

The Type 5801 Rotary Actuator can be mounted in any position. The adjustable levers allow the lever linkage to be adapted to different positions of the butterfly valve.

The Type 5802 Linear Actuator must be installed in upright position. A spring clutch connects the plug stem of the valve with the actuator stem (8). The linear actuator is attached to the yoke by means of a securing nut (9).

### Electrical connection (Fig. 5)

The controller signals are transmitted to terminals 1 and 2. If a voltage is applied to 1, the motor runs in "(-) direction", e.g. in closing direction. By contrast, if a control signal is transmitted to 2, the motor runs in "(+) direction", e.g. in opening direction.

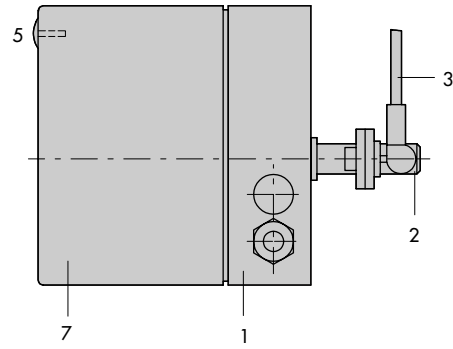


Fig. 3 · Type 5801-4

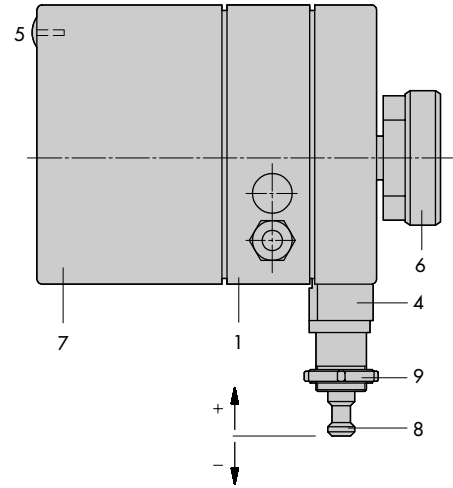


Fig. 4 · Type 5802-4

- |                   |                 |
|-------------------|-----------------|
| 1 Rotary actuator | 6 Handwheel     |
| 2 Output shaft    | 7 Cover         |
| 3 Lever linkage   | 8 Actuator stem |
| 4 Linear gear     | 9 Securing nut  |
| 5 Push button     |                 |

**Table 2 · Technical Data of the Types 5801 and 5802 Electric Actuators**

Actuator	Type	5801-4		5802-4	
		Transit time for nominal angle (nominal travel)	s	280	170
Nominal torque	Nm	34	22.5	–	–
Nominal thrust	kN	–	–	1.8	1.2
Nominal angle (nominal travel)		120°		30 mm	
Electrical connection		24, 110 or 230 V; 50/60 Hz			
Power consumption of the motor		5 VA			
Permissible ambient temperature		0 to 50 °C			
Degree of protection		IP 54 according to DIN 40050			
<b>Additional electrical equipment</b>					
Switch		maximum 3, permissible load: 250 V, 50 Hz, 10 A at resistive load			
Potentiometer		maximum 2, change in resistance: 0...100 Ω or 0...1000 Ω, max. load: 0.5 W			
Electric positioner		only for versions with potentiometer 0 ... 1000 Ω, power supply 24, 110 or 230 V			
Control signal		4 ... 20 mA, 0 ... 20 mA, 0 ... 10 V–			
Split range operation		4 ... 12 to 12 ... 20 mA, 0 ... 10 to 10 ... 20 mA, 0 ... 5 to 5 ... 10 V–			
<b>Weight</b>	appr. kg	2		3.5	

