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# ЕМО 3



## Actuators

Motorized three-point actuator

Engineering  
GREAT Solutions

# EMO 3

EMO 3 is designed to be mounted on thermostatic valve bodies and are installed in heating, ventilation, and air conditioning systems in conjunction with corresponding controllers. Even with strict requirements for precision or with process controlled systems with high severity, optimal results can be achieved.

## Key features

- > Runs extremely quiet
- > Controllable with standard signals
- > Requires little power
- > Need not be acknowledged



## Technical description

### Functions:

The EMO 3 three-point actuator is designed for connection to temperature controllers with a 24 V AC three-point output.

The three-point actuator EMO 3/230 is designed for connection to temperature controllers with a 230 V AC three-point output, e.g. boiler control systems (mixing control with e.g. three-way mixing valves).

### Supply voltage:

EMO 3/24:  
24 V AC (+25%/-10%)  
Frequency 50/60 Hz  
EMO 3/230:  
230 V AC (+10%/-10%)  
Frequency 50 Hz

### Power consumption:

EMO 3/24: max. 0,7 VA  
EMO 3/230: max. 6 VA

### Control speed:

EMO 3/24:  
70 s/mm - 50 Hz  
56 s/mm - 60 Hz  
EMO 3/230:  
70 s/mm - 50 Hz  
Motor turn-off after approx. 10 min

### Adjusting force:

100 N

### Temperature:

Media temperature: max. 100°C  
Operating environment: 0°C – +50°C  
Storage environment: -20°C – +70°C

### Ingress protection:

According to EN 60529.  
IP42 horizontal installation  
IP43 vertical standing installation

### Protection class:

II according to EN 60730

### Cable:

EMO 3/24: 1 m\* ; 3x0,25 mm<sup>2</sup>  
EMO 3/230: 1 m\* ; 3x0,5 mm<sup>2</sup>  
\*) custom lengths upon request

### Stroke:

4,5 mm

### Material:

Cover: ABS, PPO/PA GF20.  
Swivelling nut: Nickel-plated brass.

### Colour:

White RAL 9016

### Marking:

Heimeier.  
Label: CE, product name, article No. and technical specification.

### Connection to valve:

Retainer nut M30x1,5

### Certification CE:

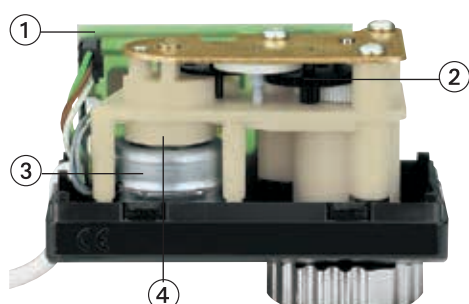
EMV/NS.  
EMO 3/24: EN 55014/EN 60730-1  
EMO 3/230: EN 60730-1

### Product standard:

EN 60730.

## Construction

### EMO 3 Three-point actuator



1. Connection plate
2. Spur gear
3. Synchronous motor
4. Magnetic coupling

## Application

The motorized actuator EMO 3 is designed to be mounted on thermostatic valve bodies and are installed in heating, ventilation, and air conditioning systems in conjunction with corresponding controllers.

Even with strict requirements for precision or with process controlled systems with high severity, optimal results can be achieved.

As a result of the extremely low power draw for the actuator, broadly branched networks, e.g. for centralized control and control systems (building automation), can be installed with minimal cable sections.

In the area of room temperature control, motorized actuators are used, for example, on radiators and convectors, heating manifolds for floor heating systems, ceil cooling systems and radiant heating systems as well as on fan-coil units and induction devices in two and four-wire networks.

The actuator EMO 3/230 works ideally in supply pipe temperature control in heating systems. Its standard input signal "three point 230 V" is compatible with most boiler control systems. It is the perfect actuator in connection with e.g. IMI Heimeier three-way mixing valves.

## Function

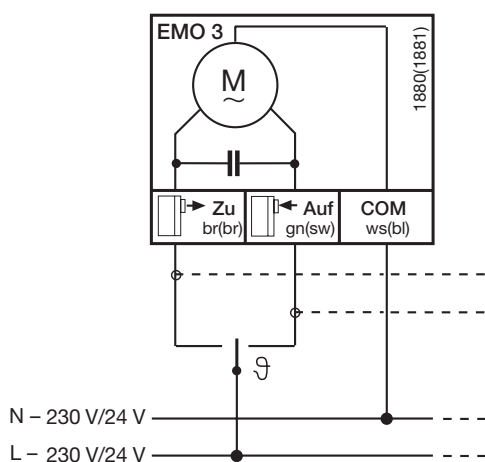
The motor of the three-point actuator is moved in both directions of rotation via an electrical open or close instruction. As soon as the output voltage of the controller has been interrupted, the actuator stops and retains its travel position at that moment. Stability in this position is guaranteed by the self-locking gears.

If the position of the actuator is closed or completely open, a torque-dependent decoupling of the motor from the gears occurs via a magnetic friction clutch. The resulting pressure power within the closed range is adapted for thermostatic valve bodies with soft valve discs.

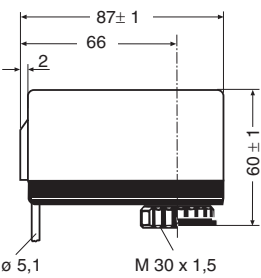
The EMO 3/230 works additionally with an integrated runtime limiter that turns off the motor automatically after 10 minutes.

**Note:** The floating time of the controller must be coordinated with the flow time of the actuator such that, in closed or completely open position, no continuous operation of the motor ensures. If the actuator is in PWM mode (pulse-width modulation), a trigger time of min. 1 sec. must be maintained in order to ensure that the synchronizing speed is achieved.

## Connection diagram



Articles



EMO 3 Three-point actuator

|           | Supply voltage | Cable length [m] | EAN           | Article No  |
|-----------|----------------|------------------|---------------|-------------|
| EMO 3/24  | 24 VAC         | 1 *              | 4024052150113 | 1880-00.500 |
| EMO 3/230 | 230 VAC        | 1 *              | 4024052525553 | 1881-00.500 |

\*) custom lengths upon request

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