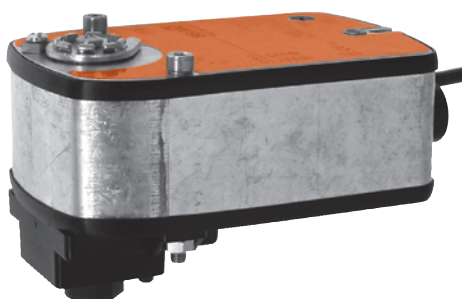


Rotary actuator with emergency control function for 2- and 3-way ball valves

- Torque 4 Nm
- Nominal voltage AC/DC 24 V
- Control: Open/close
- LRF24: Deenergised NC  
LRF24-O: Deenergised NO



## Technical data

|                            |                         |  |                       |
|----------------------------|-------------------------|--|-----------------------|
| <b>Electrical data</b>     | Nominal voltage         | AC 24 V, 50/60 Hz<br>DC 24 V   |                       |
|                            | Power supply range      | AC 19.2 ... 28.8 V<br>DC 21.6 ... 28.8 V   |                       |
|                            | Power consumption       | Spring return 5 W at nominal torque<br>Holding position 2,5 W<br>For wire sizing 7 VA                            |                       |
|                            | Connection              | Cable 1 m, 2 x 0.75 mm <sup>2</sup>  |                       |
|                            | Parallel connection     | Yes (Note performance data for supply!)  |                       |
| <b>Functional data</b>     | Torque (nominal torque) | Motor Min. 4 Nm at nominal voltage<br>Spring return Min. 4 Nm  |                       |
|                            | Direction of rotation   | LRF24 Deenergised NC, ball valve closed (A – AB = 0%)<br>LRF24-O Deenergised NO, ball valve open (A – AB = 100%) |                       |
|                            | Manual override         | With hand crank, can be fixed in any position  |                       |
|                            | Angle of rotation       | 95° <math>\leftarrow</math>  |                       |
|                            | Running time            | Motor 40 ... 75 s (0 ... 4 Nm)<br>Spring return ~20 s at –20 ... 50°C / max. 60 s at –30°C                       |                       |
|                            | Noise level             | Motor Max. 50 dB (A)<br>Spring return ~62 dB (A)   |                       |
|                            | Service life            | Min. 60'000 emergency settings   |                       |
|                            | Position indication     | Mechanical   |                       |
|                            | <b>Safety</b>           | Protection class   | III Extra low voltage |
|                            |                         | Degree of protection   | IP54                  |
| EMC                        |                         | CE according to 89/336/EEC   |                       |
| Mode of operation          |                         | Type 1 (to EN 60730-1)   |                       |
| Rated impulse voltage      |                         | 0.8 kV (to EN 60730-1)   |                       |
| Control pollution degree   |                         | 3 (to EN 60730-1)  |                       |
| Ambient temperature range  |                         | –30 ... +50°C  |                       |
| Media temperature          |                         | +5 ... +100°C (in ball valve)  |                       |
| Non-operating temperature  |                         | –40 ... +80°C  |                       |
| Ambient humidity range     |                         | 95% r.H., non-condensating (to EN 60730-1)   |                       |
| Maintenance                | Maintenance-free        |  |                       |
| <b>Dimensions / Weight</b> | Dimensions              | See «Dimensions» on page 2   |                       |
|                            | Weight                  | Approx. 1.4 kg (without ball valve)  |                       |

## Safety notes



- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel.  
All applicable legal or institutional installation regulations must be complied with.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

**Product features**

|                                    |   |
|------------------------------------|---|
| <b>Mode of operation</b>           | The actuator moves the ball valve to its normal working position while tensioning the return spring at the same time. If the power supply is interrupted, the energy stored in the spring moves the ball valve back to its safe position. |
| <b>Simple direct mounting</b>      | With WLF mounting kit (accessory) simple direct mounting on the ball valve with only one screw. The mounting position in relation to the ball valve can be selected in 90° ↺ steps.   |
| <b>Manual override</b>             | The ball valve can be manually operated and fixed in any position using a hand crank. Release of the locking mechanism can be achieved manually or automatically by applying the supply voltage.  |
| <b>High functional reliability</b> | The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.  |
| <b>Combination valve actuators</b> | Refer to the valve documentation for suitable valves, their permitted media temperatures and closing pressures.   |

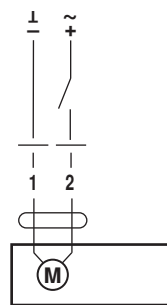
**Electrical installation**

**Wiring diagram**

**Note**

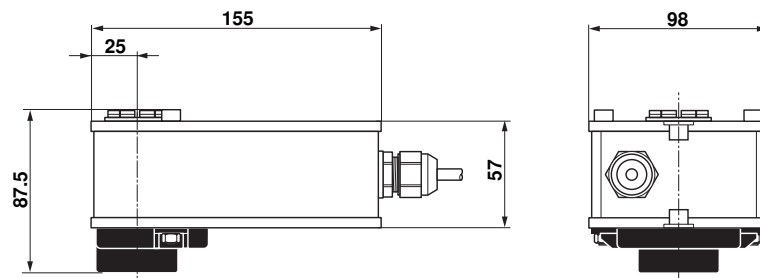
- Connect via safety isolation transformer.
- Parallel connection of other actuators possible.

Note performance data for supply.



**Dimensions [mm]**

**Dimensional diagrams**

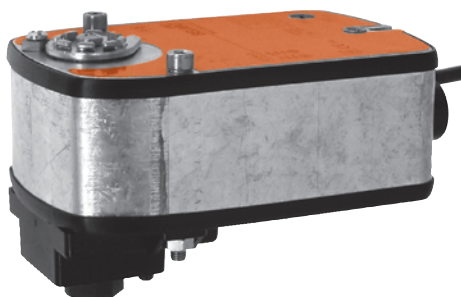


**Further documentations**

- Complete overview of actuators for water solutions
- Data sheets for ball valves
- Installation instructions for actuators and/or ball valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)

Rotary actuator with emergency control function for 2- and 3-way ball valves

- Torque 4 Nm
- Nominal voltage AC/DC 24 V
- Control: Open/close
- 2 auxiliary switches
- LRF24-S: Deenergised NC  
LRF24-S-O: Deenergised NO


**Technical data**

|                            |  |  |   |
|----------------------------|--|--|---|
| <b>Electrical data</b>     | Nominal voltage                            | AC 24 V, 50/60 Hz<br>DC 24 V   |   |
|                            | Power supply range                         | AC 19.2 ... 28.8 V<br>DC 21.6 ... 28.8 V   |   |
|                            | Power consumption                          | Spring return 5 W at nominal torque<br>Holding position 2,5 W<br>For wire sizing 7 VA                                |   |
|                            | Auxiliary switch                           | 2 x SPDT, 3 (0.5) A, AC 250 V II □<br>Switching points: 10° ↙ fixed, 85° ↘ fixed                                     |   |
|                            | Connection                                 | Motor Cable 1 m, 2 x 0.75 mm <sup>2</sup><br>Auxiliary switch Cable 1 m, 6 x 0.75 mm <sup>2</sup>                    |   |
|                            | Parallel connection                        | Yes (Note performance data for supply!)  |   |
|                            | <b>Functional data</b>                     | Torque (nominal torque)  | Motor Min. 4 Nm at nominal voltage<br>Spring return Min. 4 Nm |
| Direction of rotation      |  | LRF24-S Deenergised NC, ball valve closed (A – AB = 0%)<br>LRF24-S-O Deenergised NO, ball valve open (A – AB = 100%) |   |
| Manual override            |  | With hand crank, can be fixed in any position  |   |
| Angle of rotation          |  | 95° ↘  |   |
| Running time               |  | Motor 40 ... 75 s (0 ... 4 Nm)<br>Spring return ~20 s at –20 ... 50°C / max. 60 s at –30°C                           |   |
| Noise level                |  | Motor Max. 50 dB (A)<br>Spring return ~62 dB (A)   |   |
| Service life               |  | Min. 60'000 emergency settings   |   |
| Position indication        |  | Mechanical   |   |
| <b>Safety</b>              |  | Protection class   | III Extra low voltage   |
|                            |  | Degree of protection   | IP54  |
|                            | EMC  | CE according to 89/336/EEC   |   |
|                            | Low voltage directive                      | CE according to 2006/95/EC   |   |
|                            | Mode of operation                          | Type 1 (to EN 60730-1)   |   |
|                            | Rated impulse voltage                      | 0.8 kV (to EN 60730-1)   |   |
|                            | Control pollution degree                   | 3 (to EN 60730-1)  |   |
|                            | Ambient temperature range                  | –30 ... +50°C  |   |
|                            | Media temperature                          | +5 ... +100°C (in ball valve)  |   |
|                            | Non-operating temperature                  | –40 ... +80°C  |   |
| Ambient humidity range     | 95% r.H., non-condensating (to EN 60730-1) |  |   |
| Maintenance                | Maintenance-free                           |  |   |
| <b>Dimensions / Weight</b> | Dimensions                                 | See «Dimensions» on page 2   |   |
|                            | Weight                                     | Approx. 1.4 kg (without ball valve)  |   |

**Safety notes**


- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- It may only be installed by suitably trained personnel.  
All applicable legal or institutional installation regulations must be complied with.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

**Product features**

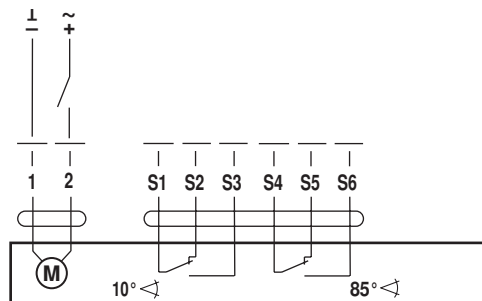
- Mode of operation** The actuator moves the ball valve to its normal working position while tensioning the return spring at the same time. If the power supply is interrupted, the energy stored in the spring moves the ball valve back to its safe position.
- Simple direct mounting** With WLF mounting kit (accessory) simple direct mounting on the ball valve with only one screw. The mounting position in relation to the ball valve can be selected in 90° <math>\triangleleft</math> steps.
- Manual override** The ball valve can be manually operated and fixed in any position using a hand crank. Release of the locking mechanism can be achieved manually or automatically by applying the supply voltage.
- High functional reliability** The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.
- Signalling** The actuator has two auxiliary switches with fixed settings. They permit a 10° <math>\triangleleft</math> or 85° <math>\triangleleft</math> angle of rotation to be signalled.
- Combination valve actuators** Refer to the valve documentation for suitable valves, their permitted media temperatures and closing pressures.

**Electrical installation**

**Wiring diagram**

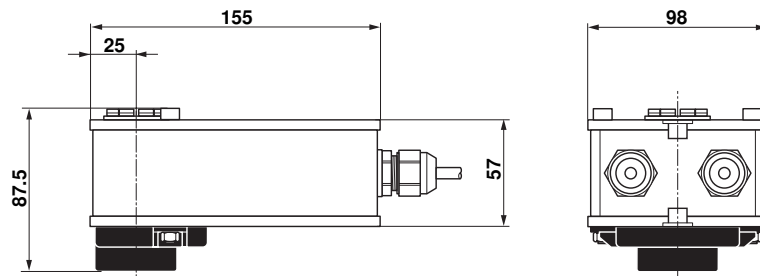
**Note**

- Connect via safety isolation transformer.
- Parallel connection of other actuators possible. Note performance data for supply.



**Dimensions [mm]**

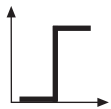
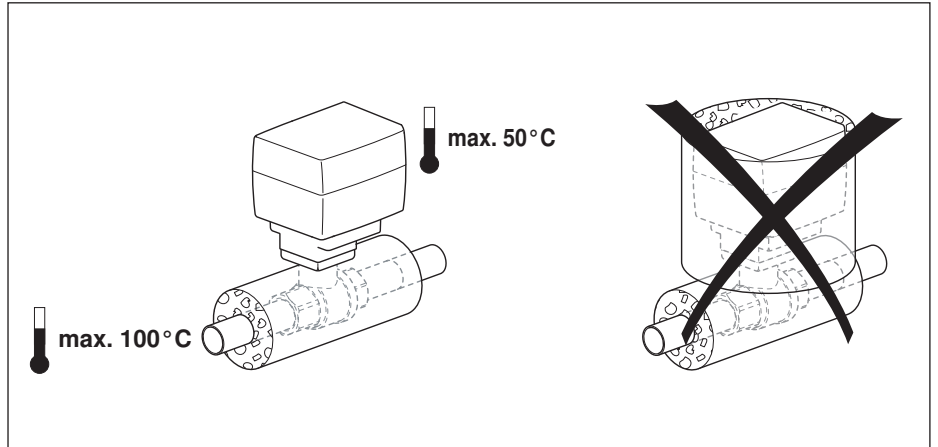
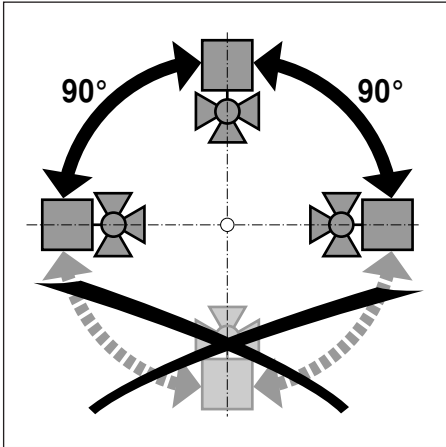
**Dimensional diagrams**



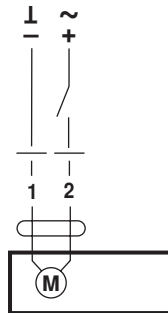
**Further documentations**

- Complete overview of actuators for water solutions
- Data sheets for ball valves
- Installation instructions for actuators and/or ball valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)

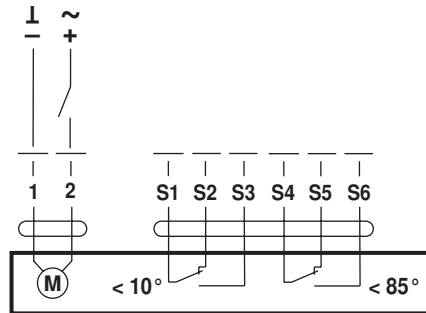




AC 24 V

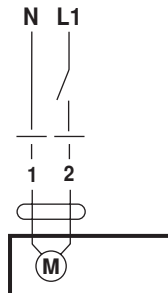


LRF24 (-O)

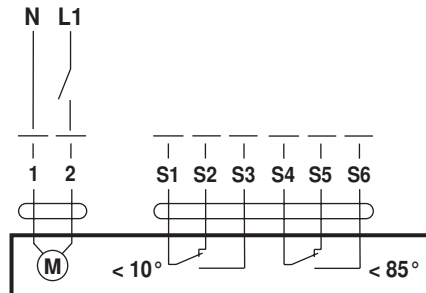


LRF24-S (-O)

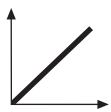
AC 230 V



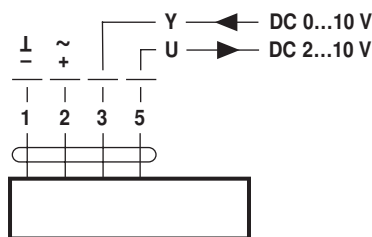
LRF230 (-O)



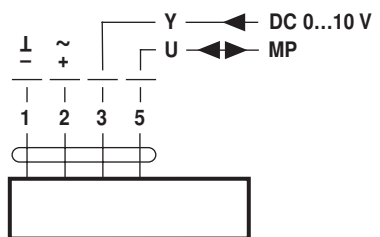
LRF230-S (-O)



AC 24 V / DC 24 V



LRF24-SR



LRF24-MP (-O)

