

Retrofit rotary actuator for rotary valves and butterfly valves

- Torque motor 20 Nm
- Nominal voltage AC 24...240 V / DC 24...125 V
- Control Open/close



**Technical data**

|  |                                    |   |
|--|------------------------------------|---|
| <b>Electrical data</b>                 | Nominal voltage                    | AC 24...240 V / DC 24...125 V   |
|  | Nominal voltage frequency          | 50/60 Hz  |
|  | Nominal voltage range              | AC 19.2...264 V / DC 21.6...137.5 V   |
|  | Power consumption in operation     | 7 W   |
|  | Power consumption in rest position | 3 W   |
|  | Power consumption for wire sizing  | 18 VA   |
|  | Connection supply / control        | Cable 1 m, 2 x 0.75 mm <sup>2</sup>   |
|  | Parallel operation                 | Yes (note the performance data)   |
| <b>Functional data</b>                 | Torque motor                       | 20 Nm   |
|  | Torque fail-safe                   | 20 Nm   |
|  | Direction of motion fail-safe      | selectable:<br>Deenergised NC, valve closed (A – AB = 0%)<br>Deenergised NO, valve open (A – AB = 100%) |
|  | Manual override                    | by means of hand crank and locking switch   |
|  | Running time motor                 | 75 s / 90°  |
|  | Running time fail-safe             | <20 s / 90°   |
|  | Sound power level, motor           | 45 dB(A)  |
|  | Position indication                | Mechanical  |
|  | Service life                       | Min. 60'000 fail-safe positions   |
|  | <b>Safety</b>                      | Protection class IEC/EN   |
| Protection class UL                    |                                    | II reinforced insulation  |
| Degree of protection IEC/EN            |                                    | IP54  |
| Degree of protection NEMA/UL           |                                    | NEMA 2  |
| Enclosure                              |                                    | UL Enclosure Type 2   |
| EMC                                    |                                    | CE according to 2014/30/EU  |
| Low voltage directive                  |                                    | CE according to 2014/35/EU  |
| Certification IEC/EN                   |                                    | IEC/EN 60730-1 and IEC/EN 60730-2-14  |
| Certification UL                       |                                    | cULus according to UL60730-1A, UL60730-2-14 and CAN/CSA E60730-1:02                                     |
| Certification UL note                  |                                    | The UL marking on the actuator depends on the production site, the device is UL-compliant in any case   |
| Mode of operation                      |                                    | Type 1.AA   |
| Rated impulse voltage supply / control |                                    | 4 kV  |
| Control pollution degree               |                                    | 3   |
| Ambient temperature                    |                                    | 0...50°C  |
| Storage temperature                    |                                    | -40...80°C  |
| Ambient humidity                       | Max. 95% r.H., non-condensing      |   |
| Servicing                              | maintenance-free                   |   |
| <b>Mechanical data</b>                 | Connection flange                  | F03/F04/F05   |
| <b>Weight</b>                          | Weight                             | 2.3 kg  |

## Safety notes



- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Outdoor application: only possible in case that no (sea) water, snow, ice, insolation or aggressive gases interfere directly with the actuator and that is ensured that the ambient conditions remain at any time within the thresholds according to the data sheet.
- Caution: Power supply voltage!
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- 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.
- Cables must not be removed from the device.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

## Product features

**Mode of operation** The actuator is equipped with a universal voltage feed module that can utilise supply voltages of AC 24...240 V and DC 24...125V. The actuator moves the valve to the operating position at the same time as tensioning the return spring. The valve is turned back to the fail-safe position by spring force when the supply voltage is interrupted.

**Application** For rotary valves and butterfly valves with the following mechanical specifications:  
 – ISO 5211: F03, F04, F05 (hole circle diameter on the flange for mounting the fitting)  
 – ISO 5211: quadratic, flat head or wedge-shaped stem head geometry

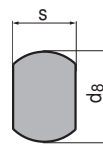
### Tappet shaft

#### ZSFV-..



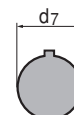
| Type    | s [mm] |
|---------|--------|
| ZSFV-08 | 8      |
| ZSFV-09 | 9      |
| ZSFV-10 | 10     |
| ZSFV-11 | 11     |
| ZSFV-12 | 12     |
| ZSFV-14 | 14     |

#### ZSFF-..



| Type    | s [mm] | d <sub>8</sub> [mm] |
|---------|--------|---------------------|
| ZSFF-08 | 8      | 17                  |
| ZSFF-09 | 9      | 12                  |
| ZSFF-10 | 10     | 17                  |
| ZSFF-11 | 11     | 14                  |
| ZSFF-14 | 14     | 18                  |

#### ZSFK-..



| Type    | d <sub>7</sub> [mm] |
|---------|---------------------|
| ZSFK-12 | 12                  |
| ZSFK-14 | 14                  |

**Simple direct mounting** Simple direct mounting on the rotary valve or butterfly valve with mounting flange. The mounting orientation in relation to the fitting can be selected in 90° steps.

**Manual override** By using the hand crank the valve can be operated manually and engaged with the locking switch at any position. Unlocking is carried out manually or automatically by applying the operating voltage.

**Adjustable angle of rotation** Adjustable angle of rotation with mechanical end stops.

**High functional reliability** The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

## Accessories

|                               | Description                                       | Type    |
|-------------------------------|---|---------|
| <b>Mechanical accessories</b> | Form fit adapter square 8x8x55 mm (LxWxH)         | ZSFV-08 |
|                               | Form fit adapter square 9x9x55 mm (LxWxH)         | ZSFV-09 |
|                               | Form fit adapter square 10x10x55 mm (LxWxH)       | ZSFV-10 |
|                               | Form fit adapter square 11x11x55 mm (LxWxH)       | ZSFV-11 |
|                               | Form fit adapter square 12x12x55 mm (LxWxH)       | ZSFV-12 |
|                               | Form fit adapter square 14x14x55 mm (LxWxH)       | ZSFV-14 |
|                               | Form fit adapter two flats 8xØ17x55 mm (WxØxH)    | ZSFF-08 |
|                               | Form fit adapter two flats 9xØ12x55 mm (WxØxH)    | ZSFF-09 |
|                               | Form fit adapter two flats 10xØ17x55 mm (WxØxH)   | ZSFF-10 |
|                               | Form fit adapter two flats 11xØ14x55 mm (WxØxH)   | ZSFF-11 |
|                               | Form fit adapter two flats 14xØ18x55 mm (WxØxH)   | ZSFF-14 |
|                               | Form fit adapter wedge groove Ø12x4x55 mm (ØxWxH) | ZSFK-12 |
|                               | Form fit adapter wedge groove Ø14x5x55 mm (ØxWxH) | ZSFK-14 |

## Electrical installation

**Notes**

- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Observe the performance data.

## Wiring diagrams

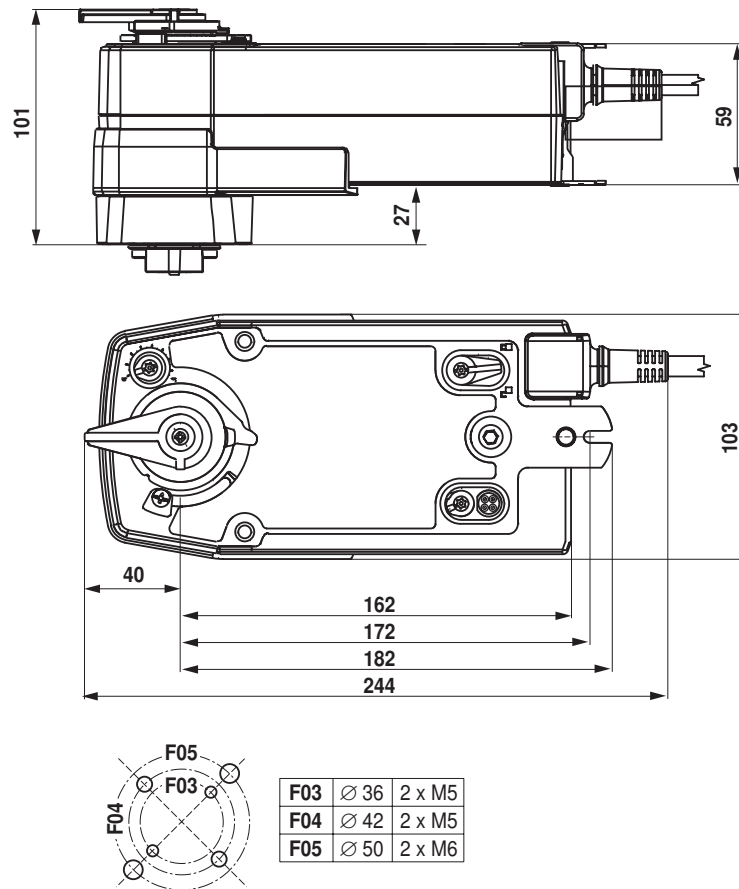
AC 24...240 V / DC 24...125 V, open/close

**Cable colours:**

- 1 = blue  
2 = brown

## Dimensions [mm]

## Dimensional drawings



## Further documentation

- General notes for project planning