

- Torque motor 160 Nm
- Nominal voltage AC 24...240 V / DC 24...125 V
- Control Open/close, 3-point
- with 2 integrated auxiliary switches



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 19.2...137.5 V
	Power consumption in operation	20 W
	Power consumption in rest position	6 W
	Power consumption for wire sizing	with 24 V 20 VA / with 230 V 52 VA
	Auxiliary switch	2 x SPDT, 1 x 10° / 1 x 0...90° (default setting 85°)
	Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), AC 250 V
	Connection supply / control	Terminals 2.5 mm <sup>2</sup>
	Connection protective earth	earth terminal
	Connection auxiliary switch	Terminals 2.5 mm <sup>2</sup>
Parallel operation	Yes (note the performance data)	
<b>Functional data</b>	Torque motor	160 Nm
	Manual override	hand lever
	Running time motor	35 s / 90°
	Running time motor variable	30...120 s
	Sound power level, motor	68 dB(A)
	Position indication	Mechanically (integrated)
<b>Safety data</b>	Protection class IEC/EN	I protective earth (PE)
	Protection class UL	I protective earth (PE)
	Degree of protection IEC/EN	IP66/67
	Degree of protection NEMA/UL	NEMA 4X
	Enclosure	UL Enclosure Type 4X
	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
	Rated impulse voltage supply	4 kV
	Rated impulse voltage auxiliary switch	2.5 kV
	Control pollution degree	3
	Ambient temperature	-30...50°C
	Storage temperature	-40...80°C
	Ambient humidity	Max. 100% r.H.
Servicing	maintenance-free	

<b>Mechanical data</b>	Connection flange	F07 (F05 only with accessory)
<b>Weight</b>	Weight	5.8 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.
- Caution: Power supply voltage!
- The device has a protective earthing. Incorrect connection of the protective earth can lead to hazards due to electrical shock.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- Apart from the connection box, 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 must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.
- The two switches integrated in the actuator are to be operated either on power supply voltage or at safety extra-low voltage. The combination power supply voltage/safety extra-low voltage is not permitted.

**Product features**

<b>Fields of application</b>	The actuator is particularly suitable for utilisation in outdoor applications and is protected against the following weather conditions: - UV radiation - Dirt / Dust - Rain / Snow - Air humidity
<b>Configurable actuators</b>	The factory settings cover the most common applications. The Belimo Assistant App is required for parametrisation via Near Field Communication (NFC) and simplifies commissioning. Moreover, it provides a variety of diagnostic options. The ZTH EU service tool provides a selection of both diagnostic and setting options.
<b>Simple direct mounting</b>	Simple direct mounting on the butterfly valve. The mounting orientation in relation to the butterfly valve can be selected in 90° (angle) increments.
<b>Manual override</b>	The valve can be manually operated using a hand crank. Unlocking is carried out manually by removing the hand crank.
<b>Internal heating</b>	An internal heater prevents condensation buildup. Thanks to the integrated temperature and humidity sensor, the built-in heater automatically switches on/off.
<b>High functional reliability</b>	The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.
<b>Flexible signalling</b>	The actuator has one auxiliary switch with a fixed setting (10°) and one adjustable auxiliary switch (0...90°).

**Accessories**

<b>Electrical accessories</b>	<b>Description</b>	<b>Type</b>
	Connection cable 5 m, A: RJ11 6/4 ZTH EU, B: 6-pin for connection to service socket	ZK1-GEN
<b>Mechanical accessories</b>	<b>Description</b>	<b>Type</b>
	Position indicator and tappet shaft, F07 square, SW 17, DN 125...300	ZPR01
	Tappet shaft, F07 square, SW 17	ZPR02
	Position indicator and tappet shaft, F05, square, SW 14, DN 80...100	ZPR03
	Retrofit adapter kit, F05/F07/F10, flat head/square, SW 17	ZPR05
	Retrofit adapter kit, F05/F07/F10, square 45° turned, SW 14	ZPR06

Retrofit adapter kit with ring, F07, square 45° turned, SW 17	ZPR08
Retrofit adapter kit, F07/F10, flat head/square, SW 14	ZPR09
Retrofit adapter kit, F05, flat head/square, SW 14	ZPR10
Retrofit adapter kit, F05/F07/F10, square 45° turned, SW 18	ZPR11
Retrofit adapter kit, F05/F07/F10, flat head/square, SW 16	ZPR12
Retrofit adapter kit, F05/F07/F10, flat head/square, SW 11	ZPR13
Retrofit adapter kit, F05/F07/F10, flat head/square, SW 12.7	ZPR14
Hand crank for PR/PM actuator	ZPR20

Service tools	Description	Type
	Belimo Assistant App, Smartphone app for easy commissioning, parametrising and maintenance	Belimo Assistant App
	Converter Bluetooth / NFC	ZIP-BT-NFC
	Service Tool, with ZIP-USB function, for parametrisable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH EU

Electrical installation



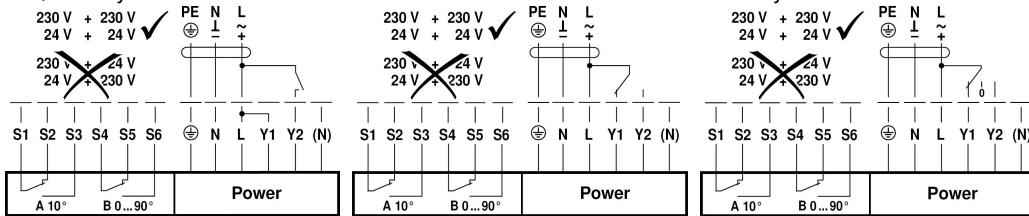
Caution: Power supply voltage!

Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

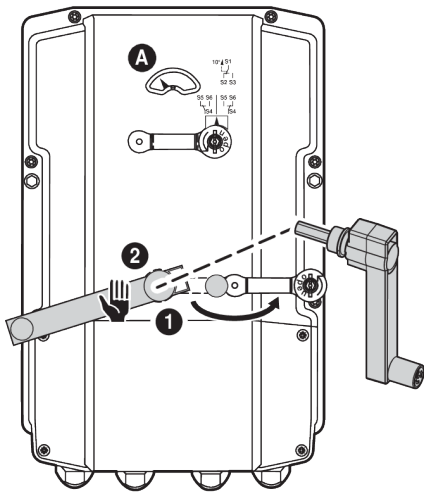
AC 24...240 V / DC 24...125 V, open/close, Auxiliary switches

AC 24...240 V / DC 24...125 V, 3-point, Auxiliary switches



### Operating controls and indicators

#### Auxiliary switch settings



**Note:** Perform settings on the actuator only in deenergised state.

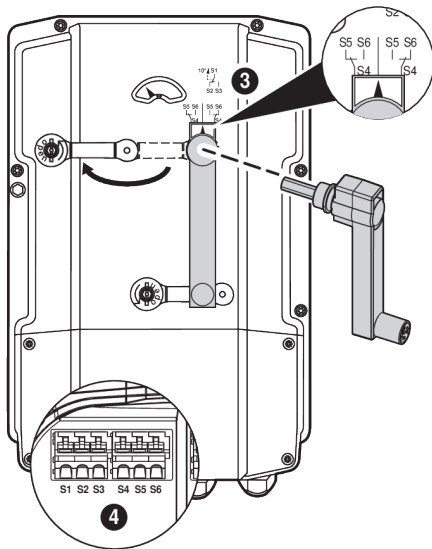
For the auxiliary switch position settings, carry out points 1 to 4 successively.

#### 1 Gear disengagement

Opening the manual override cover and adjusting the hand crank. Manual override is possible.

#### 2 Manual override control

Turn the hand crank until the desired switching position **A** is indicated and then remove the crank.



#### 3 Auxiliary switch

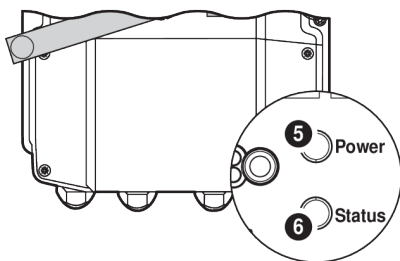
For the auxiliary switch position settings, carry out points 1 to 4 successively. Opening the auxiliary switch adjustment cover and adjusting the hand crank. Turn the crank until the arrow points to the vertical line

#### 4 Terminals

Connect continuity tester to S4 + S5 or to S4 + S6.

If the auxiliary switch should switch in the opposite direction, rotate the hand crank by 180°.

#### Push-button and display



#### 5 Push-button and LED display green

Off: No power supply or malfunction

On: In operation

Press button: Triggers test run, followed by standard mode

#### 6 Push-button and LED display yellow

Off: Standard mode

On: Test run active

### Service

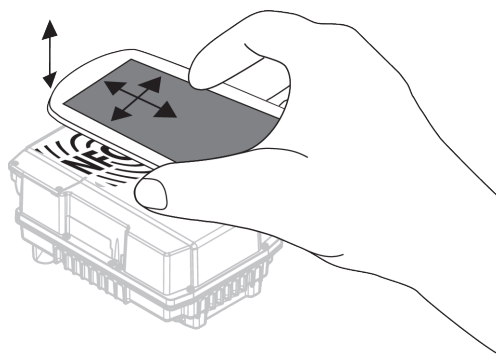
**NFC connection** Belimo devices marked with the NFC logo can be operated with the Belimo Assistant App.

Requirement:

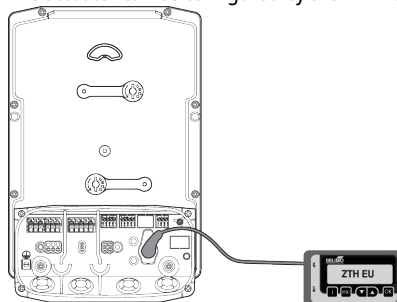
- NFC- or Bluetooth-capable smartphone
- Belimo Assistant App (Google Play & Apple AppStore)

Align NFC-capable smartphone on the device so that both NFC antennas are superposed.

Connect Bluetooth-enabled smartphone via the Bluetooth-to-NFC Converter ZIP-BT-NFC to the device. Technical data and operation instructions are shown in the ZIP-BT-NFC data sheet.

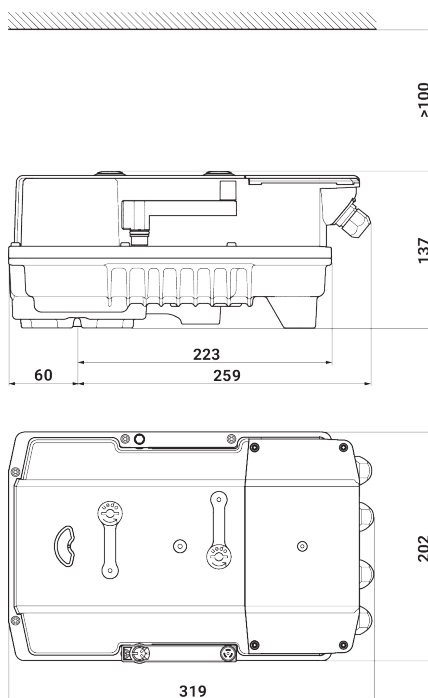


**Service Tools connection** The actuator can be configured by the ZTH EU via the service socket.



**Dimensions**

**Dimensional drawings**



**Further documentation**

- The complete product range for water applications
- Data sheets for butterfly valves
- Installation instructions for actuators and/or butterfly valves
- General notes for project planning