GEMÜ 9468

Motorized quarter turn actuator

EN **Operating instructions**

further information
webcode: GW-9468

Contents

1 General information

1.1 Information

- The descriptions and instructions apply to the standard versions. For special versions not described in this document the basic information contained herein applies in combination with any additional special documentation.
- Correct installation, operation, maintenance and repair work ensure faultless operation of the product.
- Should there be any doubts or misunderstandings, the German version is the authoritative document.
- Contact us at the address on the last page for staff training information.

1.2 Symbols used

The following symbols are used in this document:

Symbol	Meaning
•	Tasks to be performed
▶	Response(s) to tasks
–	Lists

1.3 Warning notes

Wherever possible, warning notes are organised according to the following scheme:

SIGNAL WORD	
Possible symbol for the specific danger	Type and source of the danger ▶ Possible consequences of non-observance. • Measures for avoiding danger.

Warning notes are always marked with a signal word and sometimes also with a symbol for the specific danger.

The following signal words and danger levels are used:

⚠ DANGER

Imminent danger!

▶ Non-observance can cause death or severe injury.

⚠ WARNING

Potentially dangerous situation!

▶ Non-observance can cause death or severe injury.

⚠ CAUTION

Potentially dangerous situation!

▶ Non-observance can cause moderate to light injury.

NOTICE

Potentially dangerous situation!

▶ Non-observance can cause damage to property.

The following symbols for the specific dangers can be used within a warning note:

Symbol	Meaning
	Danger – high voltage

2 Safety information

The safety information in this document refers only to an individual product. Potentially dangerous conditions can arise in combination with other plant components, which need to be considered on the basis of a risk analysis. The operator is responsible for the production of the risk analysis and for compliance with the resulting precautionary measures and regional safety regulations.

The document contains fundamental safety information that must be observed during commissioning, operation and maintenance. Non-compliance with these instructions may cause:

- Personal hazard due to electrical, mechanical and chemical effects.
- Hazard to nearby equipment.
- Failure of important functions.
- Hazard to the environment due to the leakage of dangerous materials.

The safety information does not take into account:

- Unexpected incidents and events, which may occur during installation, operation and maintenance.
- Local safety regulations which must be adhered to by the operator and by any additional installation personnel.

Prior to commissioning:

1. Transport and store the product correctly.
2. Do not paint the bolts and plastic parts of the product.
3. Carry out installation and commissioning using trained personnel.
4. Provide adequate training for installation and operating personnel.
5. Ensure that the contents of the document have been fully understood by the responsible personnel.
6. Define the areas of responsibility.
7. Observe the safety data sheets.
8. Observe the safety regulations for the media used.

During operation:

9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not described in this document without consulting the manufacturer first.

In cases of uncertainty:

15. Consult the nearest GEMÜ sales office.

3 Product description

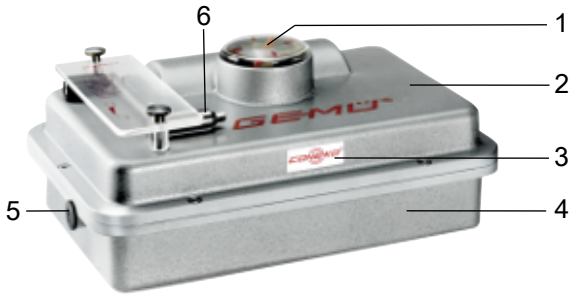
3.1 GEMÜ 2070

Item	Name	Materials
1	Housing cover	ABS
2	CONEXO RFID label (available upon request)	Polyester (PET)
3	Optical position indicator	Natural PP-R
4	Housing base	ABS
5	Manual override	
6	Connection for manual override	

3.2 GEMÜ 4100, 4200

Item	Name	Materials
1	Housing cover	Aluminium
2	CONEXO RFID label (available upon request)	Polyester (PET)
3	Housing base	Aluminium
4	Optical position indicator	Natural PP-R
5	Manual override	

3.3 GEMÜ 6400



Item	Name	Materials
1	Optical position indicator	Natural PP-R
2	Housing cover	Aluminium
3	CONEXO RFID label (available upon request)	Polyester (PET)
4	Housing base	Aluminium
5	Manual override	
6	Connection for manual override	

3.4 Description

GEMÜ 9468 is a motorized quarter turn actuator. The motor is designed for DC and AC operating voltages. A manual override and an optical position indicator are integrated as standard. The torque in the end positions is increased. This enables a closing curve matched to the valves.

3.5 Function

The GEMÜ 9468 motorized quarter turn actuator has a compact design. The motor and gearbox are fitted in an aluminium housing (actuator version 4100/4200/6400) or in a plastic housing (actuator version 2070). The quarter turn actuator is designed for use with AC or DC operating voltages and utilises a DC motor with a secondary spur gear. The 90° movement is achieved by a ball screw and lever based on the scotch yoke principle. An optical position indicator and a manual override are integrated. The end positions are adjustable by means of microswitches. In the end positions, the motor is stopped immediately by a short circuit in the rotor. The limit switches are mounted on a switch mounting plate and are adjustable. This means that an opening and closing limit are possible. When setting the end positions, a distance of approx. 0.5–1 mm must be ensured in the lever of the respective end positions. The power supply can be 12 V/24 V DC, 12 V/24 V AC or 100–250 V AC, depending on the version.

4 CONEXO RFID label

NOTICE

Product surface

► The CONEXO RFID label cannot be read out on metallic surfaces.

CONEXO RFID label

The CONEXO RFID label can be retrofitted on existing components and can also be fitted to products from third-party suppliers. The CONEXO RFID label must be ordered separately and affixed to the desired component for this purpose.

4.1 Construction

4.2 Assembly

1. Degrease the surface of the product in the area to be covered.
2. Pull the transfer paper off the RFID label.
3. Affix the RFID label to the appropriate place on the product.

5 Correct use

⚠ DANGER

Danger of explosion

► Risk of death or severe injury.
● Do **not** use the product in potentially explosive zones.

⚠ WARNING

Improper use of the product

► Risk of severe injury or death.
► Manufacturer liability and guarantee will be void.
● Only use the product in accordance with the operating conditions specified in the contract documentation and in this document.

The product is not intended for use in potentially explosive areas.

6 Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Motorized quarter turn actuator, optical position indicator, manual override	9468

2 Fieldbus	Code
Without	000

3 Actuator use	Code
Accessory	Z

4 Actuator connection	Code
Flange type DIN EN ISO 5211, F07	F07
Flange type DIN EN ISO 5211, F10	F10

5 Location spigot	Code
Without location spigot	N
With location spigot	Y

6 Coupling and wrench size	Code
Star, WAF = 11 mm	S11
Star, WAF = 14 mm	S14
Star, WAF = 17 mm	S17
Star, WAF = 22 mm	S22

7 Voltage/Frequency	Code
24 V DC	C1

8 Control module	Code
On/Off actuator with relay, not reversible	00
On/Off actuator with 2 additional, potential-free limit switches, with relay, not reversible	0E
On/Off actuator with potentiometer output, with relay, not reversible	0P

9 Actuator version	Code
GEMÜ actuator, motorized, size 2, operating time 15 s, torque 70 Nm, supply voltage C1	2070
GEMÜ actuator, motorized, size 4, operating time 20 s, torque 100 Nm, supply voltage C1	4100
GEMÜ actuator, motorized, size 4, operating time 16 s, torque 200 Nm, supply voltage C1	4200

10 Type of design	Code
1 Hirschmann connector N6R	6598

11 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Order option	Code	Description
1 Type	9468	Motorized quarter turn actuator, optical position indicator, manual override
2 Fieldbus	000	Without
3 Actuator use	Z	Accessory
4 Actuator connection	F07	Flange type DIN EN ISO 5211, F07
5 Location spigot	Y	With location spigot
6 Coupling and wrench size	S17	Star, WAF = 17 mm
7 Voltage/Frequency	C1	24 V DC
8 Control module	00	On/Off actuator with relay, not reversible
9 Actuator version	4100	GEMÜ actuator, motorized, size 4, operating time 20 s, torque 100 Nm, supply voltage C1
10 CONEXO		without

7 Technical data

7.1 Temperature

Ambient temperature:	-10 to 60 °C
Storage temperature:	0 to 40 °C

7.2 Product compliance

Machinery Directive:	2006/42/EC
EMC Directive:	2014/30/EU
Low Voltage Directive:	2014/35/EU

7.3 Electrical data

Duty cycle:	Continuous duty
Electrical protection:	Internal for functional module 0x Actuator version 2070: MT 6.3 A Actuator version 4100, 4200: MT 10.0 A
Output signals (option):	Potential-free limit switches (change-over contact 250 V AC/6 A) Actual value potentiometer: 3 kΩ (± 20 %)
Input signal:	24 V DC
Electrical protection class:	I (DIN EN 61140)

7.3.1 Electrical connection

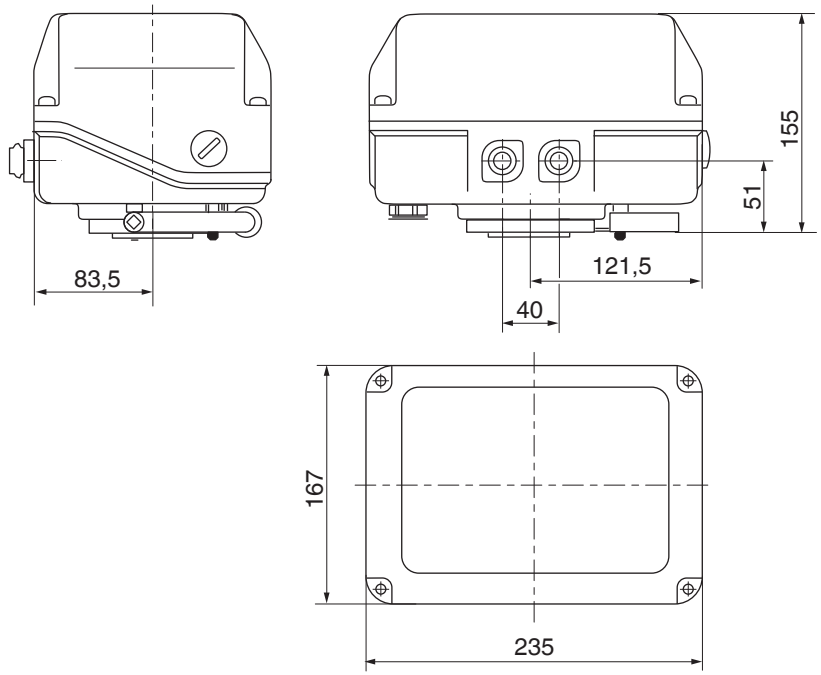
Electrical connection type:	Binder connector series 692/693
Cable diameter:	6.0 to 8.0 mm
Recommended motor protection:	The motor protection must be provided on-site. GEMÜ recommends the following motor protection: Motor protection switch type: Siemens 3RV 1011-1FA10 Set current: 4.0 A
Rated voltage:	24 V DC (+10/-15 %)
Power consumption:	Actuator version 2070: 63 W Actuator version 4100: 105 W Actuator version 4200: 90 W
Current consumption:	Actuator version 2070: 2.6 A Actuator version 4100: 4.4 A Actuator version 4200: 3.6 A
Max. current at start up:	Actuator version 2070: 14.0 A Actuator version 4100: 35.0 A Actuator version 4200: 35.0 A

7.4 Mechanical data

Installation position:	Optional
Protection class:	IP 65 acc. to EN 60529
Weight:	Actuator version 2070: 4.6 kg Actuator version 4100, 4200: 11.6 kg
Manual override:	via enclosed hand crank
Operating time:	Actuator version 2070: approx. 15 s Actuator version 4100: approx. 20 s Actuator version 4200: approx. 16 s
Torques:	Actuator version 2070: 70 Nm Actuator version 4100: 100 Nm Actuator version 4200: 200 Nm
Nominal travel:	90°
Max. travel:	93°
Setting range:	0 to 20° (limit switch Min.) 70 to 93° (limit switch Max.)

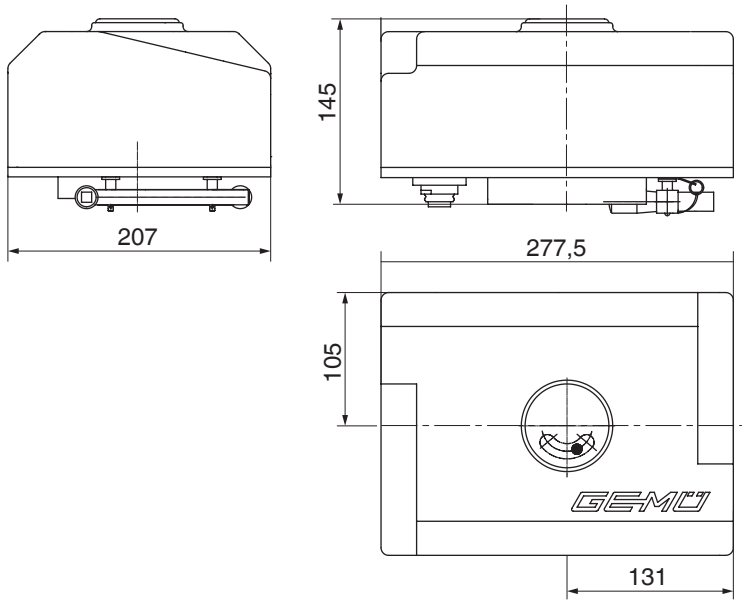
8 Dimensions

8.1 Actuator version 2070



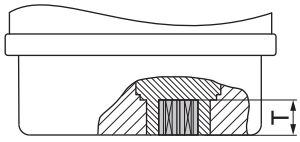
Dimensions in mm

8.2 Actuator version 4100, 4200

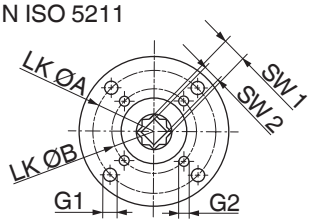


Dimensions in mm

8.3 Connection dimensions



DIN ISO 5211



Actuator version code	Connection size code	With flange type	LK øA	LK øB	G1	G2	SW1	SW2*	SW3*	T
2070	**F07**	F05 / F07	70	50	M8	M6	17	14	11	19.5
4100	**F10**	F07 / F10	102	70	M10	M8	17	14	-	23.0
4200	**F10**	F07 / F10	102	70	M10	M8	22	17	-	23.0

Dimensions in mm

9 Manufacturer's information

9.1 Delivery

- Check that all parts are present and check for any damage immediately upon receipt.

The product's performance is tested at the factory. The scope of delivery is apparent from the dispatch documents and the design from the order number.

9.2 Transport

1. Only transport the product by suitable means. Do not drop. Handle carefully.
2. After the installation dispose of transport packaging material according to relevant local or national disposal regulations / environmental protection laws.

9.3 Storage

1. Store the product free from dust and moisture in its original packaging.
2. Avoid UV rays and direct sunlight.
3. Do not exceed the maximum storage temperature (see chapter "Technical data").
4. Do not store solvents, chemicals, acids, fuels or similar fluids in the same room as GEMÜ products and their spare parts.

10 Functional description

The GEMÜ 9468 is a motorized quarter turn actuator with manual override and an optical position indicator. The housing is made from aluminium (actuator version 4100/4200/6400) or plastic (actuator version 2070). The motor and gearbox are combined in one housing. The actuator has flexible electrical connections (connectors). The quarter turn actuator is designed for use with AC or DC operating voltages and utilises a DC motor with a secondary planetary gear/toothed belt drive. The 90° movement is achieved by a ball screw and lever based on the scotch yoke principle.
Optional accessories:

- Additional adjustable limit switches for potential-free control signals
- Integrated positioner, 4–20 mA
- Analogue position feedback via potentiometer
- Suitable mating connectors are included and can be reordered

10.1 Actuator versions

The following actuator versions are available:

- **2070**: 70 Nm, transmission via a planetary gear and toothed belt on a trapezoidal spindle
- **4100**: 100 Nm, transmission via a planetary gear and toothed belt on a trapezoidal spindle
- **4200**: 200 Nm, transmission takes place via a planetary gear and toothed belt on a ball bearing spindle
- **6400**: 400 Nm, transmission takes place via a toothed belt on a ball bearing spindle

This spindle and a lever can be used to implement a 93° rotary movement. This pivoting movement is transmitted to the shut-off valve via a hub.

10.2 Functional versions

The following functional versions are available:

00 – Relay version
OPEN/CLOSE control via remote change-over switch, with relay, not reversible, one connector (overall height: 1).

0E – Two additional potential-free limit switches (relay version)
For signal detection for indicator (e.g. signal lamp), with relay, not reversible, two connectors. These two additional limit switches can be adjusted by undoing two screws per switch (overall height: 1).

0P – Potentiometer output (relay version)
Position feedback via potentiometer output, with relay, not reversible, two connectors (overall height: 1).

A0 – Design
OPEN/CLOSE control via remote change-over switch, one connector (overall height: 2).

AE – Two additional potential-free limit switches
For signal detection for indicator (e.g. signal lamp), two connectors. These two additional limit switches can be adjusted by undoing two screws per switch (overall height: 2).

AP – Potentiometer output
Position feedback via potentiometer output, two connectors (overall height: 2).

E1 – Control module
Position control via integrated three-point controller with external set value specification 0–10 V
Two connectors (overall height: 2).

E2 – Control module
Position control via integrated three-point controller with external set value specification 0/4–20 mA
Two connectors (overall height: 2).

11 Mechanical mounting

The motorized quarter turn actuator is mounted to a shut-off valve via a flange connection with M6, M8 and M10 screws/ bolts (not included in scope of delivery) depending on the size of the shut-off valve. The actuator can be mounted offset to the shut-off valve in a 90° grid.
In accordance with the optical position indicator, the default state of the actuator is in its open position.

12 Electrical connection

⚠ DANGER	
	**Risk of electric shock** ► Risk of injury or death (if operating voltage is higher than safe extra low voltage). ► Adjustments are made with the actuator cover removed. ► Electric shock can cause severe burns and fatal injury. ● **Always** disconnect the product from power supply! ● Therefore, have all work performed only by qualified electricians.

● The enclosed connectors for the power supply and signal line are connected according to the connection diagram.

Depending on the version, one or two connectors are fitted to the housing:

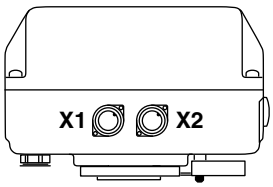
– For power supply (labelled with adhesive label showing the type of voltage)
– For signal line (not available with design A0)

⚠ CAUTION	
	● For design AE (additional potential-free limit switches) and design AP (potentiometer output as position feedback), the plug connections must not be confused with the power supply.

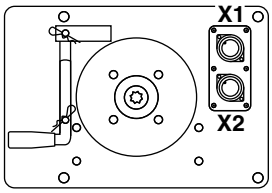
12.1 Connection/wiring diagram

12.1.1 On/Off actuator with relay (code 00), 24 V DC (code C1)

12.1.1.1 Position of the connectors

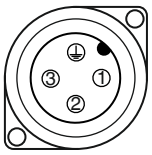


Actuator version 2070



Actuator version 4100, 4200

12.1.1.2 Electrical connection

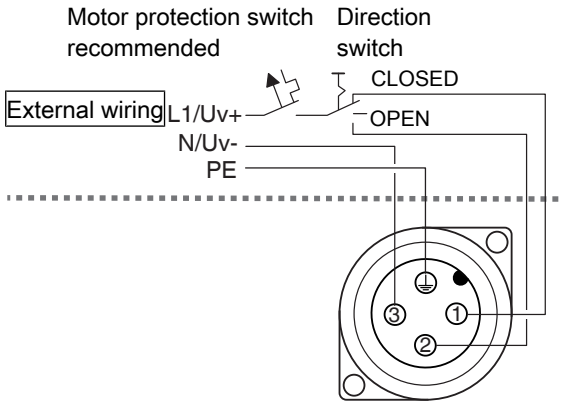


Plug assignment X1

Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
⏚	PE, protective earth conductor

N / L- signals in the unit are separated.
The potential must be assigned by the user.
When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

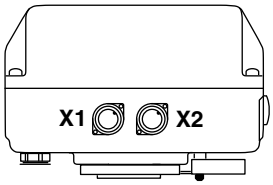
12.1.1.3 Connection diagram



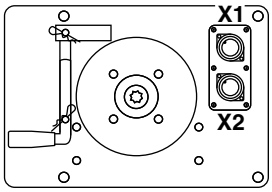
Connection assignment X1

12.1.2 On/Off actuator with 2 additional potential-free limit switches, with relay (code 0E), 24 V DC (code C1)

12.1.2.1 Position of the connectors

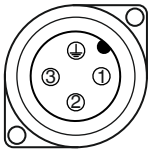


Actuator version 2070



Actuator version 4100, 4200

12.1.2.2 Electrical connection



Plug assignment X1

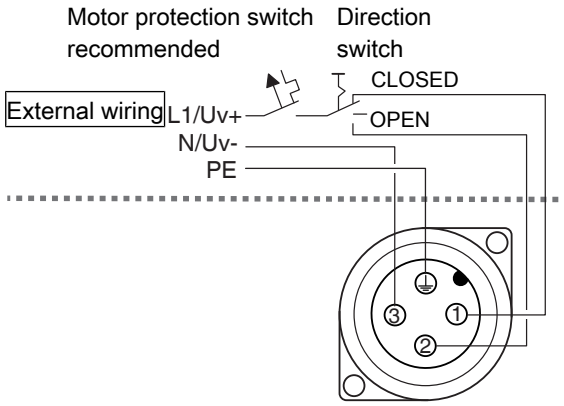
Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
⏚	PE, protective earth conductor

Plug assignment X2

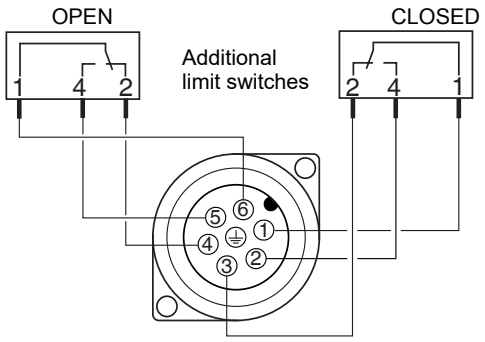
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⏚	PE, protective earth conductor

N / L- signals in the unit are separated.
The potential must be assigned by the user.
When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

12.1.2.3 Connection diagram



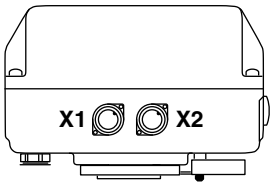
Connection assignment X1



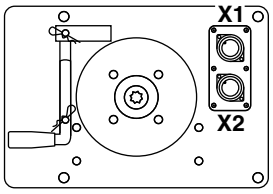
Connection assignment X2

12.1.3 On/Off actuator with potentiometer output, with relay (code 0P), 24 V DC (code C1)

12.1.3.1 Position of the connectors

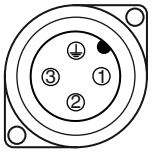


Actuator version 2070



Actuator version 4100, 4200

12.1.3.2 Electrical connection



Plug assignment X1

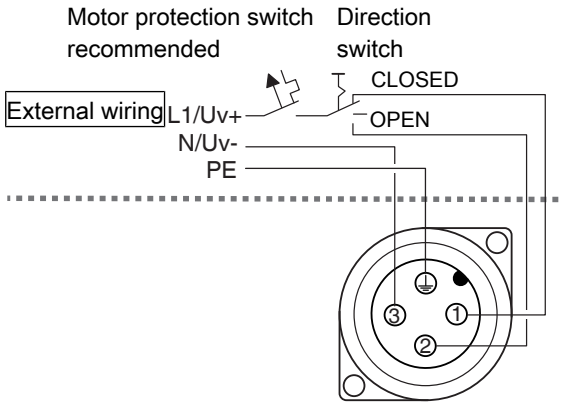
Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
⏚	PE, protective earth conductor

Plug assignment X2

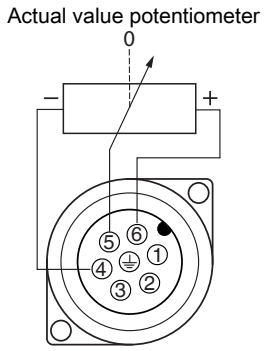
Pin	Description
1	n. c.
2	n. c.
3	n. c.
4	Us-, actual value potentiometer signal voltage minus
5	Us ⌐, actual value potentiometer signal output
6	Us+, actual value potentiometer signal voltage plus
⏚	PE, protective earth conductor

N / L- signals in the unit are separated.
The potential must be assigned by the user.
When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

12.1.3.3 Connection diagram



Connection assignment X1



Connection assignment X2

13 Setting and operation

13.1 Setting the end positions

The GEMÜ 9468 motorized actuator is delivered in its open position.

The "OPEN" and "CLOSED" end positions are set using the limit switch **4**. These are actuated using the lever **9** and can be adjusted by undoing the two screws (see chapter "Product description").

⚠ CAUTION

Destruction of the actuator!

- ▶ Do not move the right limit switch too far to the right and the left limit switch too far to the left, otherwise the actuator will continue running in the end position (i.e. the limit switch cannot be actuated by the lever and the actuator continues to run).

Designs 00, 0E, 0P (see chapter "Functional versions"):

- The actuator is not reversible, i.e. it must be stopped briefly when switching over from "OPEN" to "CLOSED" or "CLOSED" to "OPEN".
- For the above actuator types, overall height 1 applies (see chapter "Dimensions").

Designs A0, AE, AP, E1, E2 (see chapter "Functional versions"):

- The actuator is reversible, i.e. it can be switched directly from "OPEN" to "CLOSED". To this end, a dead zone of 200 ms is integrated into the electronic system, i.e. when switching over, the actuator does not run for this time.
- Independent of the supply voltage, the OPEN/CLOSE control is freely selectable via a mains supply of 24 V DC, 24 V AC up to 250 V AC or operated directly via a PLC.
- An electronic current limitation limits the torque.
- For the above actuator types (except for code 2070), overall height 2 applies (see chapter "Dimensions").

⚠ DANGER

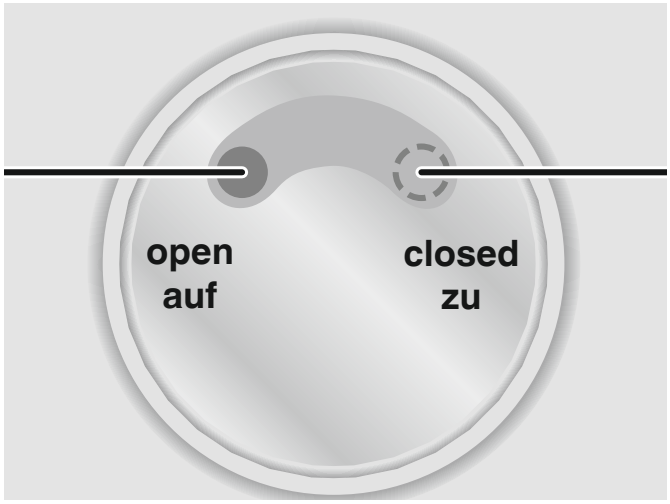
Electric shock by dangerous voltage!

- ▶ Risk of injury or death (if operating voltage is higher than the safe extra low voltage).
- ▶ Adjustments are made with the actuator cover removed.
- ▶ Electric shock can cause severe burns and fatal injury.
- ● **Always** disconnect the product from power supply!
- ● Therefore, have all work performed only by qualified electricians.

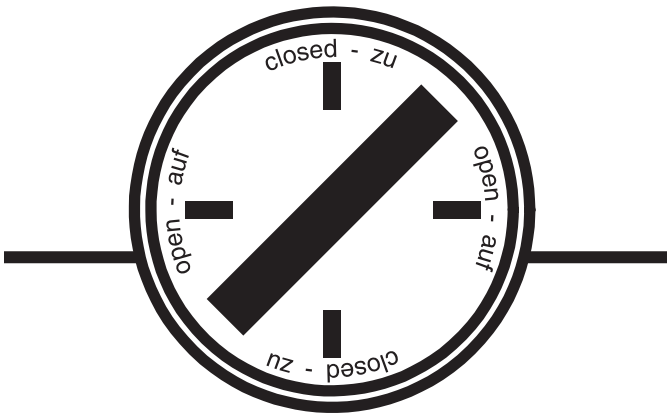
13.2 Optical position indicator

Actuator version 2070

Actuator version 4100, 4200



Actuator version 6400



13.3 Manual override

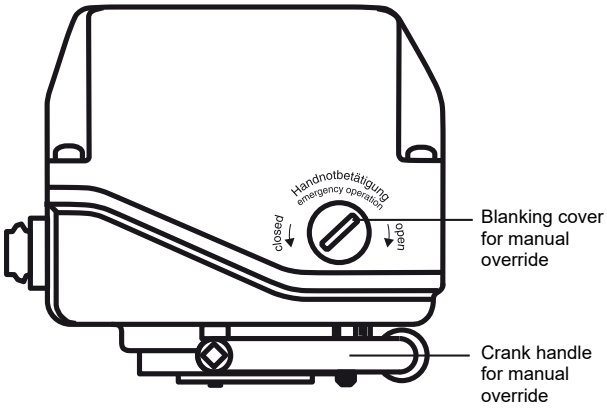
⚠ DANGER

Electric shock from dangerous voltage!

- ▶ Risk of injury or death (if operating voltage is higher than safe extra low voltage).
- ● Switch off power to the actuator before using the manual override.

On the side of the actuator there is a blanking cover for the manual override. The crank handle for manual override is located on the base of the actuator. Actuation of the manual override additionally actuates a switch that shuts off power to the actuator.

Example: Actuator version 2070



If manual override is required, take the following steps:

1. Unscrew the blanking cover using a screw driver.
2. Insert crank handle and actuate the actuator by hand.

Crank into the desired valve position (in the direction indicated on label):

Actuator version 2070	
Clockwise:	OPEN
Anticlockwise:	CLOSED

Actuator versions 4100, 4200, 6400	
Clockwise:	CLOSED
Anticlockwise:	OPEN

14 Commissioning

1. Check the tightness and the function of the product (close and reopen the product). Due to the setting behaviour of elastomers, the screws may need to be retightened following the installation and commissioning of the valve.
2. Flush the piping system of new plant and following repair work (the product must be fully open).
   - ⇨ Harmful foreign matter has been removed.
   - ⇨ The product is ready for use.
3. Commission the product.

⚠ CAUTION

Cleaning agent

► Damage to the GEMÜ product.
● The plant operator is responsible for selecting the cleaning material and performing the procedure.

15 Operation

15.1 Setting the limit switches

⚠ DANGER

Risk of electric shock

► Risk of injury or death (if operating voltage is higher than safe extra low voltage).
► Adjustments are made with the actuator cover removed.
► Electric shock can cause severe burns and fatal injury.
● **Always** disconnect the product from power supply!
● Therefore, have all work performed only by qualified electricians.

⚠ CAUTION

Destruction of the actuator!

► Do not move the right limit switch too far to the right and the left limit switch too far to the left, otherwise the actuator will continue running in the end position (i.e. the limit switch cannot be actuated by the lever and the actuator continues to run).

NOTICE

Tools required for setting the limit switches:

● Allen key SW3
● Small Philips head screw driver

NOTICE

● Always switch the limit switch for signal so that the motor switch is actuated first.
⇨ Limit switches for signal and motor are already preset.

NOTICE

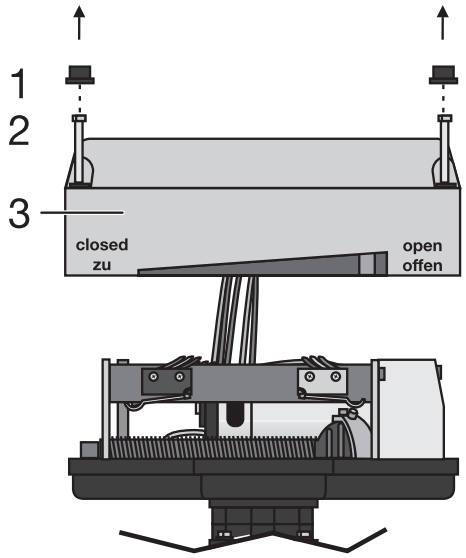
Information for use in damp conditions

► The product may only be used outdoors in an area protected from rain.
► The product must be protected from the direct influence of rainwater.
► An enclosure is recommended.

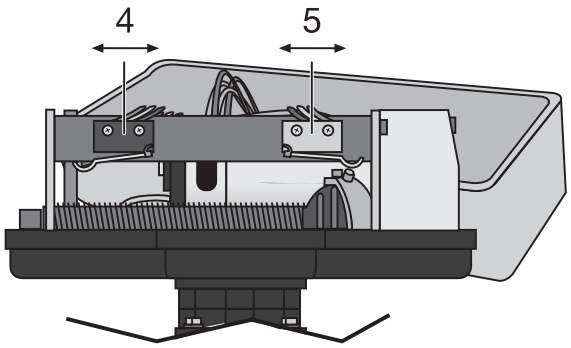
The GEMÜ 9468 motorized actuator is delivered in its open position.

The following drawings differ depending on the actuator version!

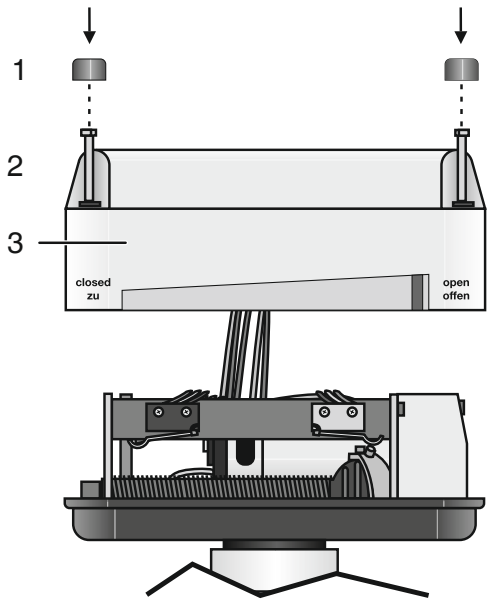
1. Disconnect the plant from power supply and secure against recommissioning.



2. Remove the protective caps **1**.
3. Undo screws **2**.
4. Remove the cover of the actuator **3**.



5. Undo the screws on the corresponding limit switch (**4** = "CLOSED", **5** = "OPEN").
6. Move limit switches to the desired position.
7. Tighten limit switch screws.



8. Put on cover of actuator **3**.
9. Tighten cover **3**.
10. Put on protective caps **1**.

⇨ Limit switches are set.

16 Troubleshooting

Error	Error cause	Troubleshooting
Despite supply voltage according to product label, actuator defective	Wrong product label attached to the actuator	Contact GEMÜ Service
No function	Power supply not OK	Check power supply and connection and correct if necessary
	Actuator defective	Replace actuator
	Cable break in the housing	Contact GEMÜ Service
No function during parallel operation	Actuator not suitable for parallel operation	Contact GEMÜ Service and order K-no. 6410
Actuator does not open or does not open correctly	Actuator defective	Replace actuator
	Power supply faulty	Check power supply and connection and correct if necessary
Actuator doesn't close or doesn't close fully	Working medium pressure of the valve too high	Operate butterfly valve / ball valve with operating pressure specified in datasheet
Actuator doesn't close or doesn't close correctly	Power supply faulty	Check power supply and connection and correct if necessary
Actuator blocked	Transmission damage	Contact GEMÜ Service
	Impediment blocks the valve	Remove impediment from valve
Actuator leaking, water or moisture inside	Leakage at the union	Check the union, contact GEMÜ Service if necessary
Actuator leaking	Rubber seal not assembled correctly	Correctly assemble rubber seal, contact GEMÜ Service if necessary
Actuator continues running in the end position without switching off	Actuator was adjusted beyond end positions by manual override	Adjust the end positions, contact GEMÜ Service if necessary
	Limit switch for motor incorrectly adjusted	Adjust the end positions, contact GEMÜ Service if necessary
Actuator does not actuate valve	Adapter from star to actuator shaft is too small	Contact GEMÜ Service
	Shaft of the valve too short	Install suitable adapter, contact GEMÜ Service if necessary
Actuator has play and moves on valve	Connecting bolts incorrectly tightened	Check / retighten connecting bolts
Motor burnt out	Supply voltage too high, wrong frequency or wrong polarity	Contact GEMÜ Service
	Actuator continues running in the end position as it did not switch off	Contact GEMÜ Service
Manual emergency operation not possible	Actuator still live	Switch off the power supply
	Actuator blocked	Remove impediment from valve
No signal feedback	Signal line wrongly connected	Contact GEMÜ Service
No end position feedback	End position feedback switch incorrectly set	Contact GEMÜ Service
	Actuator is without additional position feedback	Contact GEMÜ Service
No position feedback	Position feedback defective or no 4-20 mA signal version	Contact GEMÜ Service
No optical position indicator visible	Optical position indicator has moved out of viewing window	Reset the actuator

17 Inspection and maintenance

⚠ DANGER

Risk of electric shock

- ► Risk of injury or death (if operating voltage is higher than safe extra low voltage).
- ► Electric shock can cause severe burns and fatal injury.
- ● Work on electrical connections only by qualified trained personnel.
- ● Disconnect the cable from the power supply before making the electrical connection.
- ● Connect the protective earth conductor.

⚠ CAUTION

- ● Servicing and maintenance work must only be performed by trained personnel.
- ● GEMÜ shall assume no liability whatsoever for damages caused by improper handling or third-party actions.
- ● In case of doubt, contact GEMÜ before commissioning.

The operator must carry out regular visual examination of the products depending on the operating conditions and the potential danger in order to prevent leakage and damage.

1. Have servicing and maintenance work performed by trained personnel.
2. Wear appropriate protective gear as specified in plant operator's guidelines.
3. Shut off plant or plant component.
4. Secure plant or plant component against recommissioning.
5. Depressurize the plant or plant component.
6. Actuate products which are always in the same position four times a year.

17.1 Cleaning the product

– Clean the product with a damp cloth.

– Do **not** clean the product with a high pressure cleaning device.

18 Disassembly

1. Disassemble in reverse order to assembly.
2. Unscrew the electrical wiring.
3. Disassemble the product. Observe warning notes and safety information.

19 Disposal

1. Pay attention to adhered residual material and gas diffusion from penetrated media.
2. Dispose of all parts in accordance with the disposal regulations/environmental protection laws.

20 Returns

Legal regulations for the protection of the environment and personnel require that the completed and signed return delivery note is included with the dispatch documents. Returned goods can be processed only when this note is completed. If no return delivery note is included with the product, GEMÜ cannot process credits or repair work but will dispose of the goods at the operator's expense.

1. Clean the product.
2. Request a return delivery note from GEMÜ.
3. Complete the return delivery note.
4. Send the product with a completed return delivery note to GEMÜ.

21 Declaration of Incorporation according to 2006/42/EC (Machinery Directive)

Declaration of Incorporation

according to the EC Machinery Directive 2006/42/EC, Annex II, 1.B for partly completed machinery

We,	GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG Fritz-Müller-Straße 6-8 74653 Ingelfingen-Criesbach, Germany
declare that the following product	
Make:	GEMÜ
Project number:	Quarter turn actuator type 9468
Commercial name:	GEMÜ 9468

meets the following essential requirements of the Machinery Directive 2006/42/EC:

1.1.6., 1.2.1., 1.2.2., 1.3., 1.3.4., 1.5.1., 1.5.2., 1.5.16., 1.6.3.

We also declare that the specific technical documentation has been compiled in accordance with part B of Annex VII.

The manufacturer or his authorised representative undertake to transmit, in response to a reasoned request by the national authorities, relevant information on the partly completed machinery. This transmission takes place:

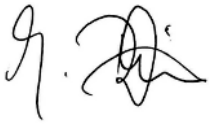
Electronically

Authorised documentation officer	**GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG** **Fritz-Müller-Straße 6-8** **74653 Ingelfingen, Germany**

This does not affect the industrial property rights!

Important note! The partly completed machinery may be put into service only if it was determined, where appropriate, that the machinery into which the partly completed machinery is to be installed meets the provisions of this Directive.

2018-05-02



Joachim Brien
Head of Technical Department

22 Declaration of conformity according to 2014/30/EU (EMC Directive)

EU Declaration of Conformity

in accordance with 2014/30/EU (EMC Directive)

We,

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8
74653 Ingelfingen-Criesbach, Germany

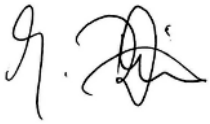
declare that the product listed below complies with the safety requirements of the EMC Directive 2014/30/EU.

Description of the product: GEMÜ 9468

Technical standards used:

Interference resistance: EN 61000-6-2
Interference emission: EN 61000-6-4

2018-05-02



Joachim Brien
Head of Technical Department

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Subject to alteration

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