



Installation Instructions

ELEKTROMAT

SI 40.24-40,00

Model: 10002567 10011

-en-

Status: 30.05.2018



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Symbols



Warning - Potential injury or danger to life!



Warning - Danger to life from electric current!



Note - Important information!



Requirement - Required action!

Schematic representations are based on product examples. Deviations from delivered products are possible.



1 General safety information

Specified normal use

The drive unit is intended for doors, which have to be secured against falling down; a safety brake is included in the gearbox. The drive unit is directly mounted on the door shaft.

The safe operation is only guaranteed with normal specified use. The drive unit is to be protected from rain, moisture and aggressive ambient conditions. No liability for damage caused by other applications or non-observance of the information in the manual.

Modifications are only permitted with the agreement of the manufacturer. Otherwise the Manufacturer's Declaration shall be rendered null and void.

Safety information

Installation and initial operation tasks are to be performed by trained, skilled fitters only.

Only trained electrical craftsmen are permitted to work on electrical equipment. They must assess the tasks assigned to them, recognise potential danger zones and be able to take appropriate safety measures.

The installation is only to be carried out with the supply off.

Observe the applicable regulations and standards.

Coverings and safety devices

Do not operate unless corresponding coverings and safety devices are fitted/installed.

Ensure that gaskets are correctly positioned and cable glands are correctly tightened.

Spare parts

Use only original spare parts.

2 Technical Data

Type	SG 85F	
Output torque	400	Nm
Output speed	24	rpm
Output shaft / hollow shaft	40,00	mm
Locking torque moment	760	Nm
Safety brake (testhouse/approval number)	14-003612-PR03	
Maximum output speed open / close for frequency inverter operation	42 / 30	rpm
Supply voltage	3~ 400	V
Operating current	3,00	A
Operating frequency	50	Hz
Power factor $\cos \varphi$	0,80	
Maximum movement per hour	30	h ⁻¹
Hand forces	255	N
Class of protection	IP 65	
Limit switch range (maximum revolutions of output shaft / hollow shaft)	20	
Braking torque	9	Nm
Braking voltage	103-130	V DC
Rectifier type	EGR 230/103	
Temperature range	-10 / +40 (+60)	°C

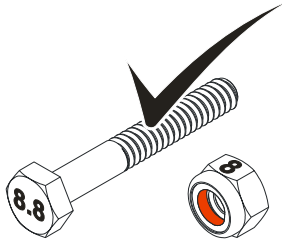
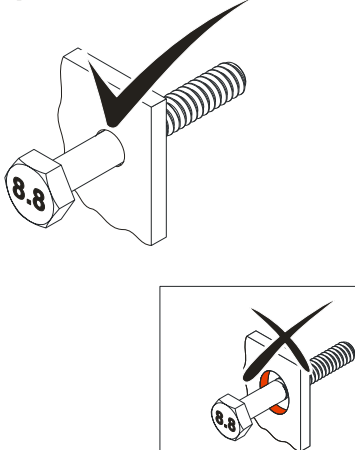
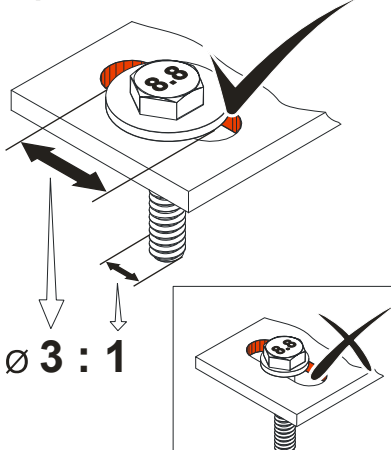
1) When using a temperature range of +40°...+60°C use half of maximum movements per hour.

3 Mechanical installation

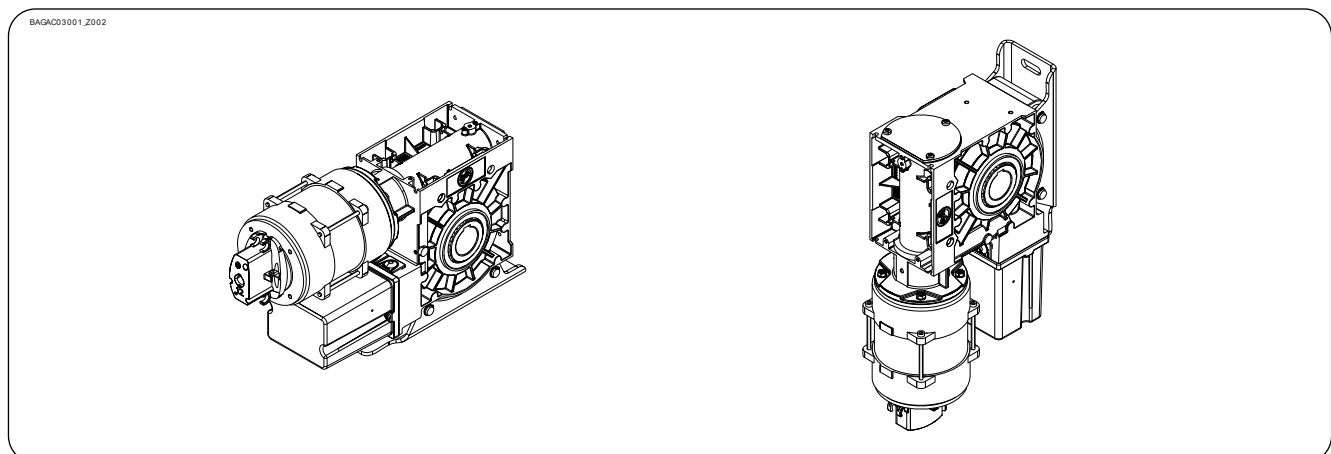
Prerequisites

The permissible loads on walls, fastenings, mountings and transmission elements must not be exceeded, even for maximum holding torques or locking torques (► refer to technical data).

Connection elements

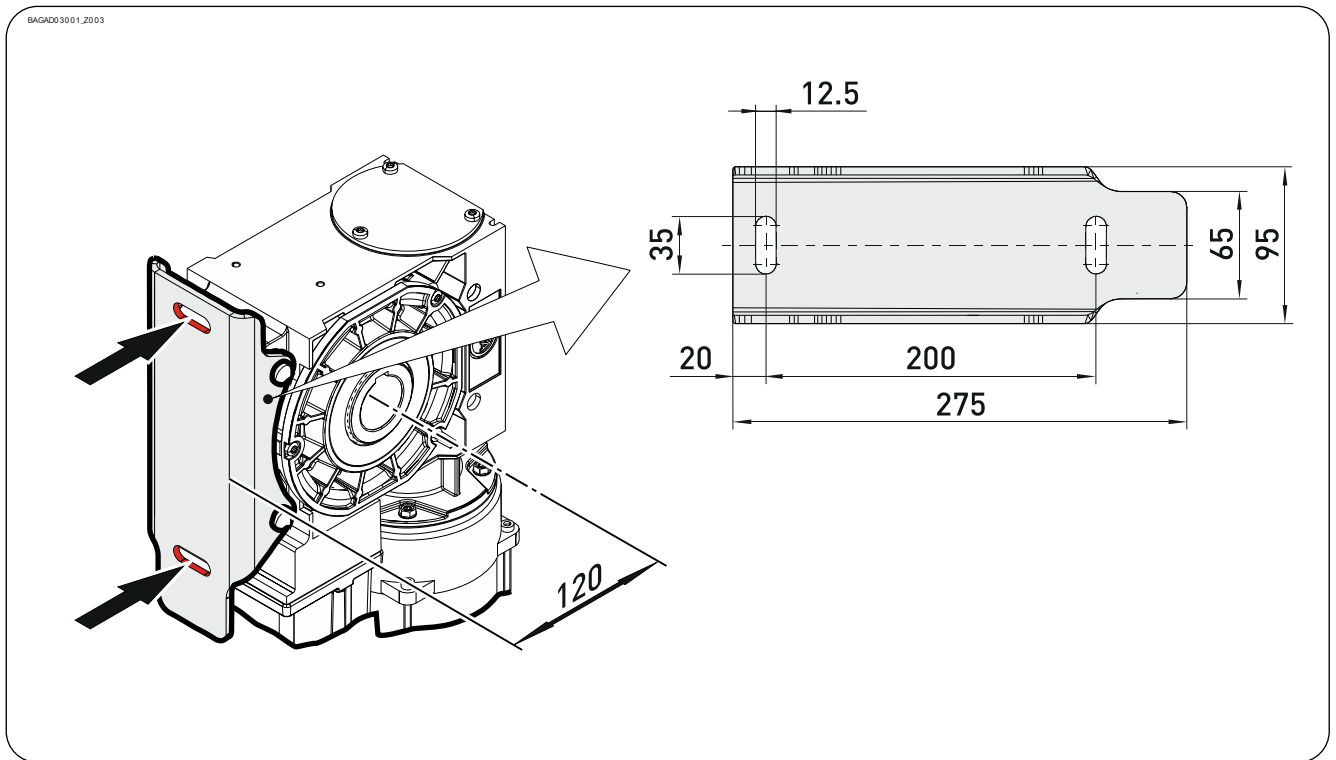
<ul style="list-style-type: none"> ► Self-locking connection elements with a minimum strength of 800 N/mm² (8.8) must be used. 	<ul style="list-style-type: none"> ► Utilize the hole diameter to the full. 	<ul style="list-style-type: none"> ► Use adequately dimensioned washers for elongated holes.
<p><small>BAGAB00001_2002</small></p>  <p>≥ 800 N/mm²</p>	<p><small>BAGAB00002_2002</small></p> 	<p><small>BAGAB00003_2002</small></p>  <p>Ø 3 : 1</p>

Permissible mounting positions



Mounting

Two elongated holes are provided for mounting.



Installation

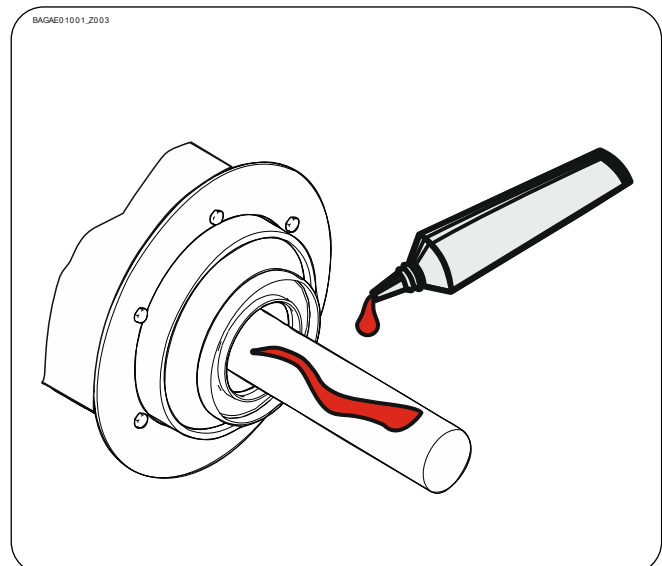
The descriptions below apply to general door specifications. The specifications of the door manufacturer must also be observed during installation.



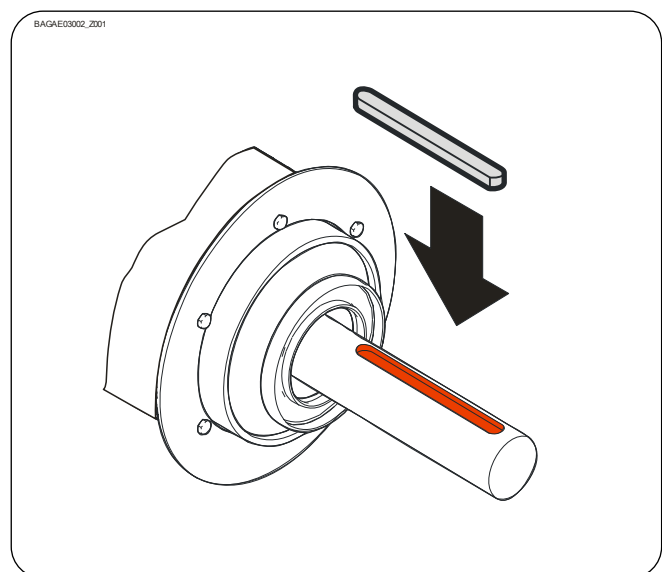
Warning - Potential injury or danger to life!

- During installation, be sure to use a lifting device that has a sufficient load-carrying capacity.

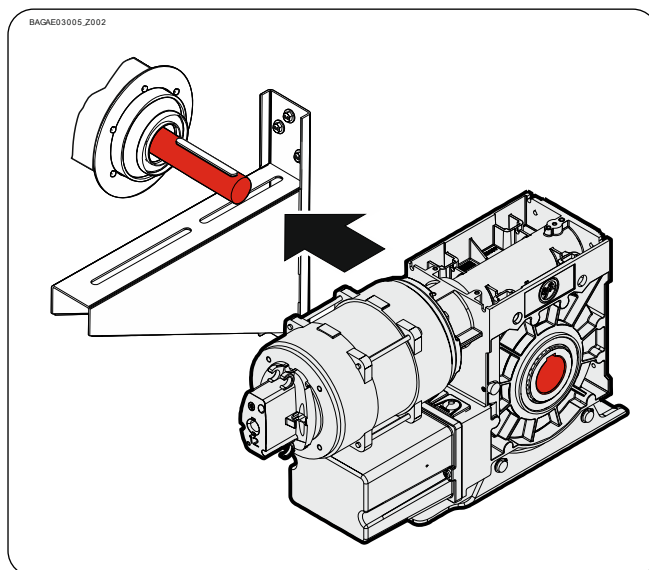
- ▶ Thoroughly grease the door shaft.



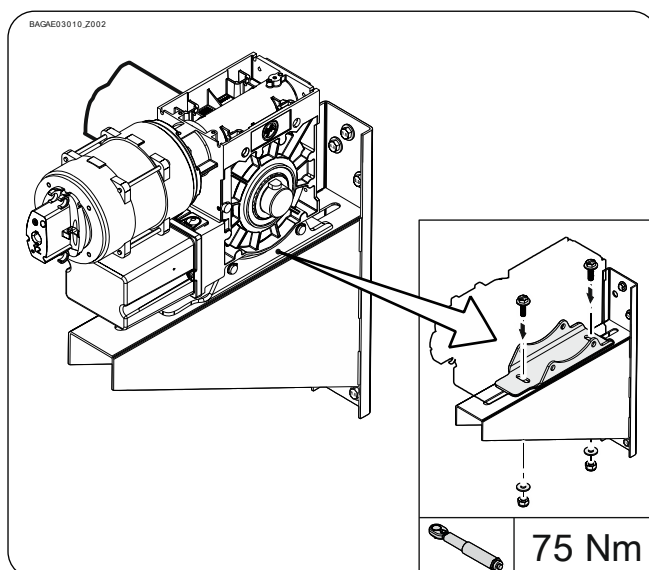
- ▶ Mount the keys.



- ▶ Attach the drive unit.



- ▶ Tighten all connection elements (M12) to 75 Nm. Install all other connection elements according to the specifications of the door manufacturer.



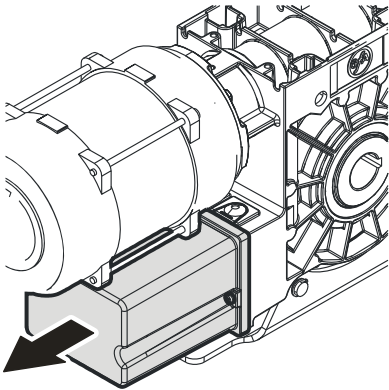
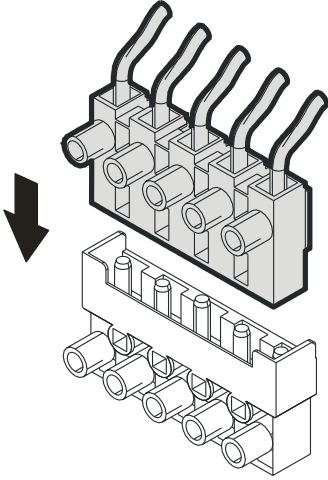
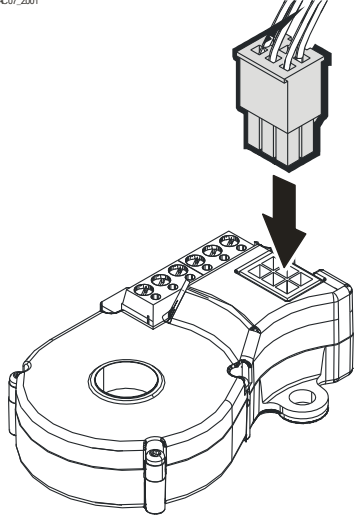
4 Electrical installation



Warning - Danger to life from electric current!

- Switch the mains OFF and check that the cables are de-energised
- Observe the applicable regulations and standards
- Make a proper electrical connection
- Use suitable tools

Performing electrical installation

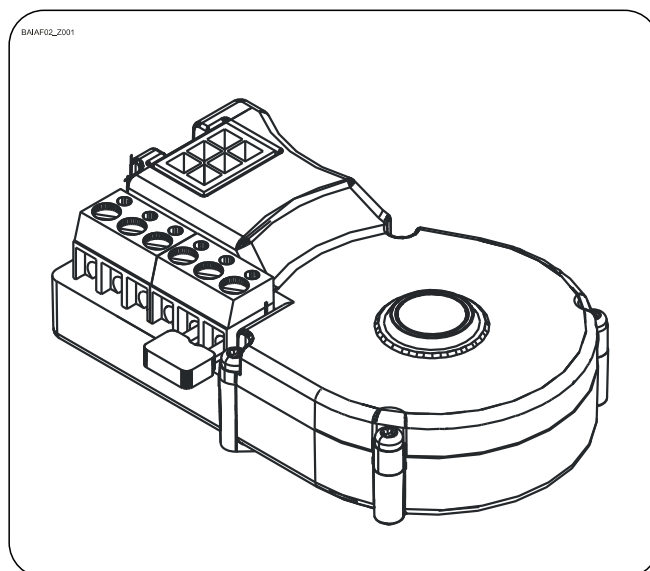
Remove the cover.	Insert the motor plug.	Insert the limit switch plug.
<p><small>BRHAG3_2001</small></p> 	<p><small>BAHAB01_2001</small></p> 	<p><small>BRHAC07_2001</small></p> 

Completing the electrical installation

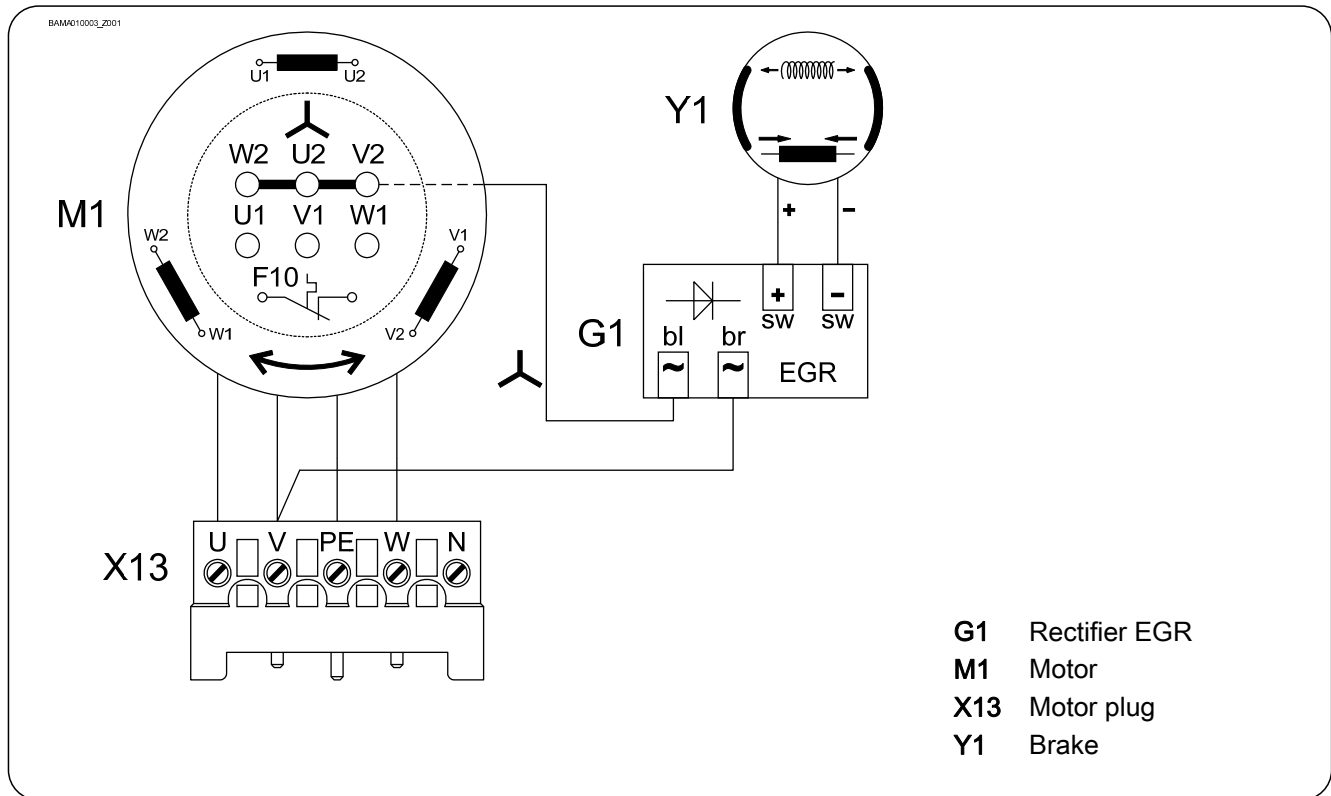
Mount the cable entries and/or cable glands.

5 Limit switch adjustment

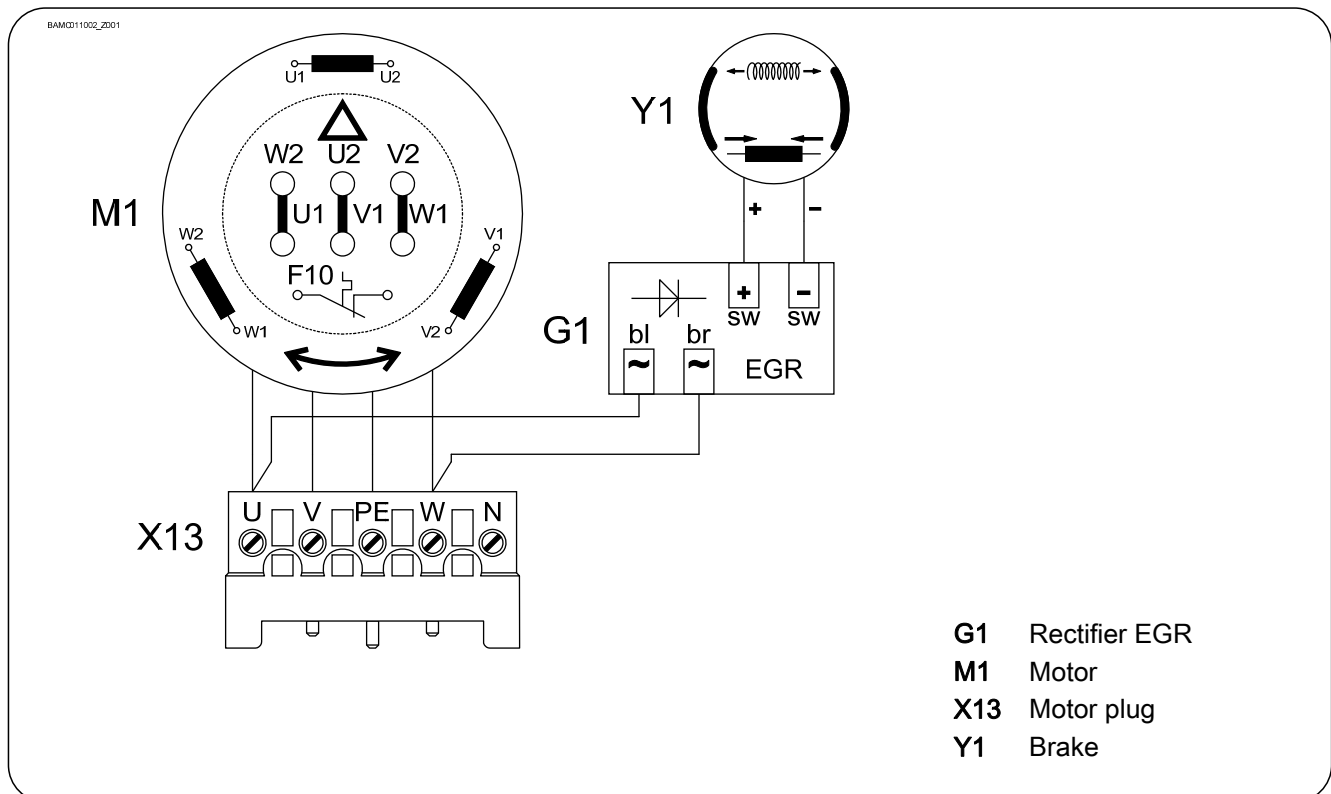
The adjustment of the final limit positions OPEN and CLOSE is described in the instructions for the door control panel.



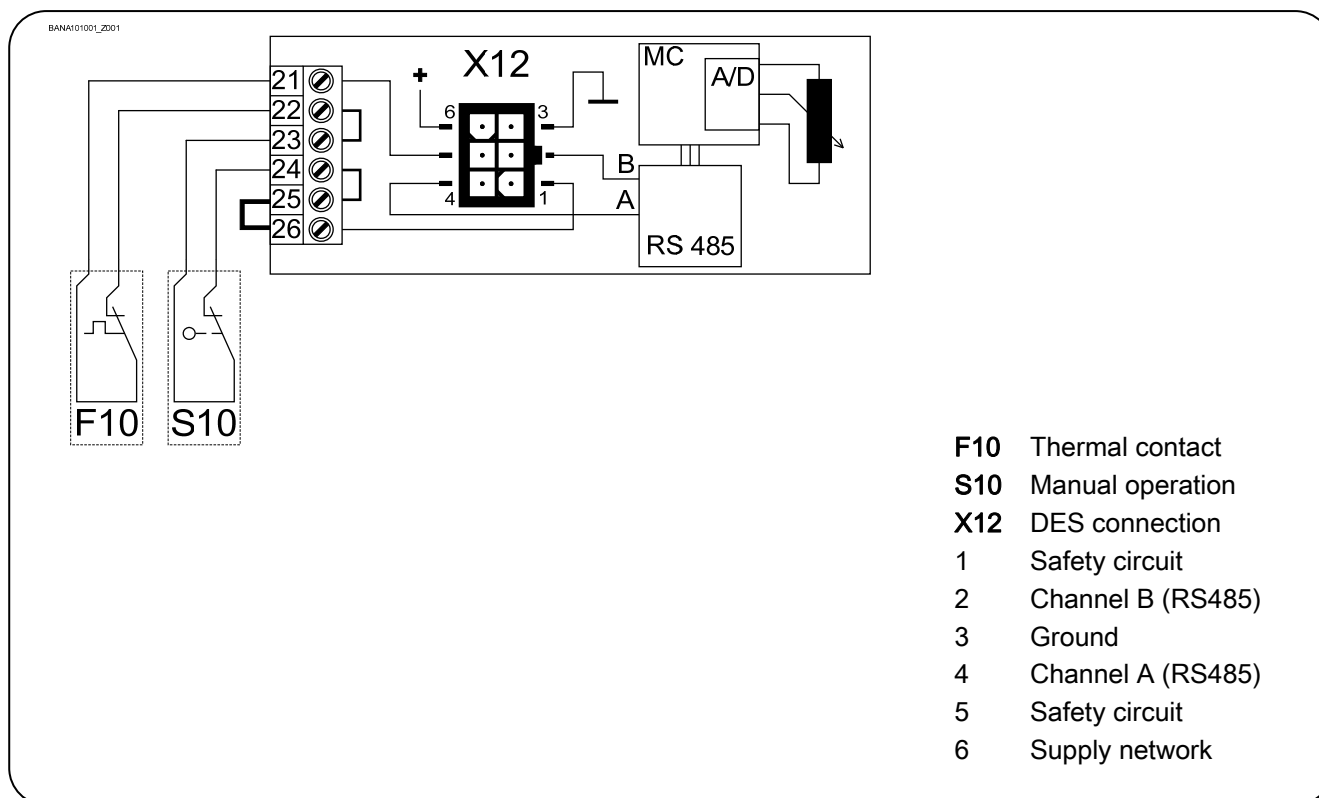
6 Motor connection



7 Alternative motor connection



8 Limit switch connection



9 Emergency manual operation (emergency hand crank)

The emergency manual operation is designed for opening or closing the door without power supply. Its activation interrupts the control voltage. Electrical operation is no longer possible.



Warning – Injuries due to incorrect operation or falling objects!

- Switch off voltage.
- Adopt a secure position.
- For drive units with brake, the emergency manual operation must be carried out against the closed brake.



Warning - Danger of the door dropping!

If you need to apply more than the permissible force of 390N (according to DIN EN 12604/DIN EN 12453) to move the door by emergency manual operation, this indicates a stalling on the drive unit or door. Releasing the stalling may cause the door to drop.

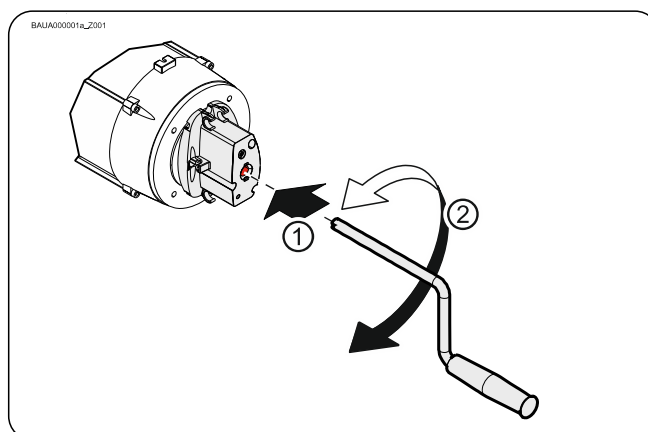
- Adopt a secure position
- For drive units with brake, the emergency manual operation must be carried out against the closed brake.



Caution – Damage to components!

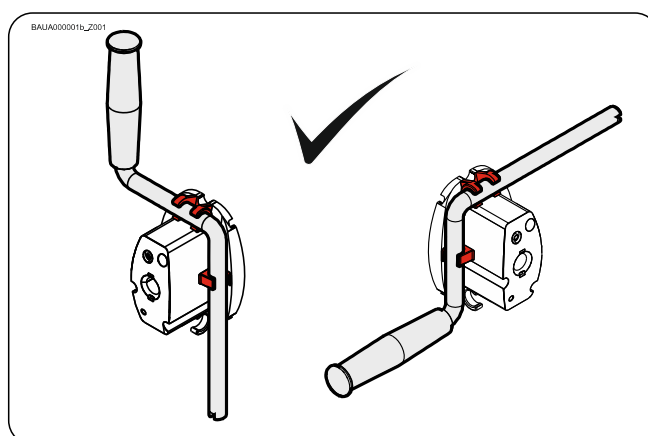
- Do not move the door beyond the final limit positions.

Plug in the crank and turn until it engages
(①). Open or close by turning the crank (②).



After use, the crank may be attached to the
drive unit.

- Attach as illustrated.



10 Completion of commissioning / testing

Check the following components and after that, mount all covers.

Gearbox

Check drive unit for oil loss (a few drops are not critical). Protect output shaft permanently against corrosion.

Safety brake in the gearbox

The safety brake requires no maintenance or inspection.



Warning – Danger of the door dropping

In the case of a gearbox damage, the internal safety brake is triggered to prevent the door from dropping. The gearbox stalls.

Releasing the stalling may cause the door to drop!

- Block the door for pedestrians and vehicles.
- Do not release the stalling. Do not use the emergency manual operation.
- Secure the door against dropping. Please observe the specifications of the door manufacturer.
- The drive unit needs replacement. Please observe the specifications of the door manufacturer.

Mounting

Check all mounting elements (consoles, torque brackets, screws, retaining rings etc.) for tightness and impeccable condition.

Electric wiring

Check connection cables and cables for damage or pinches. Check screw and plug connections for correct seating and electrical contact.

Emergency manual operation

Function to be checked in a de-energised state. Carry out functional test only between final limit positions.

Limit switches

Check the final limit positions by opening and closing the door completely. The safety zone must not be reached.

Brake



Warning – Injury or danger to life possible!

- Carry out brake test. Overrun depends on the door and its equipment. The manufacturer's specifications must be observed.
- The brake release for doors without counter-balancing may only be used in the CLOSE final limit position.



Warning – Injury or danger to life possible!

Service life of the brake - replacement of the entire brake in the case of:

- Operation with mains supply after 250,000 door cycles
- Operation with frequency inverter after 1,000,000 door cycles

Degree of protection IP65i must be used in environments that may change the friction coefficient of the brake pad (atmospheres with oil, solvents, cleaning agents, etc.).

Entire drive unit



Note!

- Have the drive checked annually by a specialist.
- Shorter inspection interval for frequently used doors.
- Observe the applicable regulations and standards.

Declaration of incorporation

in the terms of Machinery Directive 2006/42/EC
for partly completed machinery, Appendix II Part B



Declaration of conformity

in terms of EMC Directive 2014/30/EU

GfA ELEKTROMATEN GmbH & Co. KG
Wiesenstraße 81 · 40549 Düsseldorf
Germany

We, the
GfA ELEKTROMATEN GmbH & Co. KG
hereby declare that the following products are conform with the above
EC Guideline and are only intended for installation in door equipment.

SI 40.24-40,00

Standards applied

DIN EN 12453:2001-02	Industrial, commercial and garage doors and gates - Safety in use of power operated doors - Requirements
DIN EN 12604:2000-08	Industrial, commercial and garage doors and gates - Mechanical aspects - Requirements
DIN EN 60335-1:2012-10	Household and similar electrical appliances - Safety - Part 1: General requirements
DIN EN 61000-6-2:2006-03	Electromagnetic compatibility (EMC) Part 6-2 Generic standards – Immunity standard for industrial environments
DIN EN 61000-6-3:2011-09	Electromagnetic compatibility (EMC) Part 6-3 Generic standards – Emission standard for residential, commercial and light-industrial environments

We undertake to transmit in response to a reasoned request by the appropriate regulatory authorities the special documents on the partly completed machinery.

Authorised representative for the compilation of the relevant technical documents

(internal EU address)
Dipl.-Ing. Bernd Synowsky
Documentation representative

Incomplete machines within the meaning of the EC Directive 2006/42/EC shall only be intended to be integrated into other machines (or into other incomplete machines/systems) or to be assembled with them to form a complete machine within the sense of the Directive. Therefore, this product cannot be commissioned before it is determined that the entire machine/system to which it was integrated shall comply with the provisions of the Machinery Directive indicated above.

Düsseldorf, 10.07.2017

Stephan Kleine
CEO


Signature

