Installation Instructions

ELEKTROMAT

SI 25.15-30,00 Ex

Model: 10002590 00013

-en-

Status: 25.11.2021

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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 use

The drive unit is intended for doors that must be secured against dropping.
A safety brake is integrated into the gearbox. The drive unit must be mounted directly on the shaft of the door. The drive unit can be used in hazardous areas thanks to its explosion protection according to ATEX 2014/34/EU.
The drive unit must be protected against moisture and aggressive environmental conditions (such as corrosive substances). The drive units are only suitable for indoor use. Appropriate protective measures must be taken for outdoor installation. The values specified in the technical data of the drive unit must not be exceeded. The safe operation can only be ensured if used as specified.

Target audience of these installation instructions

These installation instructions are geared towards qualified persons trained in the handling of door systems. Expert knowledge, relevant skills and practical experience are what set apart qualified persons. They are capable of safely carrying out the tasks involving installation, maintenance and modernisation according to the instructions.

Safe operation

The safe operation of the product can only be ensured if it is used as specified. Follow the installation instructions. Observe all specifications, especially warnings, when installing the product in the overall system. GfA is not liable for damage resulting from non-observance of the installation instructions. The resulting overall system must be reassessed for its safety in accordance with applicable standards and directives (e.g. CE marking). These installation instructions refer only to a part of the overall system and are not sufficient as the sole instructions for the overall system. The installer of the system must prepare the instructions for the overall system. We recommend entering the danger area of the system only when the drive unit is at a standstill.

Warning - Failure to follow these installation instructions may result in severe injury or death.

- Please read these instructions before using the product.
- Keep these instructions handy.
- Include these instructions when passing on the product to third parties.

Warning - Danger from improper use of the product!

- Do not let children operate the product unsupervised or use as a toy.

Warning - Danger to life from incorrect installation!

Work carried out improperly may result in death or severe injury from electrical current or falling parts.

- Allow only competent people to carry out the work.
- Disconnect all cables from the power supply.
- Observe valid regulations and standards.
- Use suitable tools.

Warning! Danger to life from falling objects if the drive unit is subjected to impermissible forces.

Inadmissible forces (examples: collision with a forklift, dropping the drive unit, tearing or pulling on the motor) lead to damage to the drive unit. There is a risk of severe injury or death from falling objects.

- Prevent impermissible forces from acting on the drive unit,
- Check the drive unit for damage if impermissible forces have acted on it. Look even for minor damage. Lock the door during the inspection.
- Contact the service department if you have difficulty assessing the damage.

2 Technical data

Designation		Unit
Output speed	15	rpm
Output torque	250 (240) [1)]	Nm
Output / hollow shaft	30,00	mm
Series	SG 85F	-
Limit switch range (maximum revolutions of the output / hollow shaft)	20	-
Supply voltage	3~ 400	V
Operating current	2,70	A
Operating frequency	50	Hz
Power factor cos φ	0,76	-
Safety circuit	24	V
Degree of protection	IP 65	-
Temperature range	-10 / +40	°C
Operating sound pressure level	< 70	dB(A)
Maximum output speed OPEN / CLOSE for frequency inverter operation	15 / 15	min^{-1}
Cycles per hour	14 (14,0)[1)]	h^{-1}
Max. holding torque	250	Nm
Locking torque	635	Nm
Safety brake (testing centre / approval number)	14-003612-PR03	-
Manual force emergency manual operation	85	N
Explosion protection	II 2G Ex db eb h IIC T3 Gb II 2D Ex tb h IIIC 190°C Db	
Installation height	< 1000	m

Components used

Gearbox	SG 85F 92.T3
Motor	F80-2GD CTV C4
Terminal box	8146/1041
Limit switch / emergency manual operation switch	07-2511

3 Technical data gearbox

Designation		
Series	SG85F-92.T3	
Manufacturer	GfA	
Explosion protection	II 2G Ex h IIC T3 Gb II 2D Ex h IIIC 190°C Db	
Max. output torque	400	Nm
Max. output speed	19	min^{-1}
Shaft centre distance	85	mm
Transmission ratio	1 : 92	
Temperature range	-10 / +40	°C
Protection class	IP 65	

4 Technical data motor

Designation		
Type	F80-2GD CTV C4	
Manufacturer	ATAV (CEMP France)	
Explosion protection	II 2G Ex de IIC T4 II 2D IP65 T 125°C	
Certificate of verification	TUV IT 14ATEX021X	
Supply voltage	230 / 400 +/- 10%	V
Operating current	4,68 / 2,70	A
Operating frequency	50	Hz
Power	1,1	kW
Power factor cos φ	0,76	
Motor speed	1430	min^{-1}
Motor torque	7,3	Nm
Operating mode	S1	
Degree of protection	IP 65	
Temperature class	T4	
Ratio I_A / I_N	4,9	
Temperature range	-20 / + 40	°C

5 Technical data terminal box

Designation		
Type	Ex e 8146/1041	
Manufacturer	Stahl	
Explosion protection	II 2G Ex e II T6 II 2D Ex tD A21 IP 66 T80°C	
Certificate of verification	PTB 01 ATEX 1016	
Supply voltage	250 max. 1100	V
Terminal cross-section	2,5	mm^2
Temperature range	T6: -20 / +40 T5: -20 / +55	°C
Degree of protection	IP 65	

6 Technical data limit switch / switch emergency manual operation

Designation		
Type	07-2511-113061G	
Manufacturer	Bartec	
Explosion protection	II 2G Ex d IIC T6 II 2D Ex tD A21 IP 66 T80°C	
Certificate of verification	EPS 14 ATEX 1766 X	
Supply voltage	400	V
Temperature range	-20 / +40	°C
Degree of protection	IP 66	

Attention – Damage to components!

- The maximum allowable current applied to the limit switches is 2A 400V for AC-15 and 0.15 250V for DC-13.

7 Integrated safety brake

A safety brake is integrated into the gearbox of this ELEKTROMATEN. The safety brake protects against the door dropping due to breakage or wear of the gear teeth. The safety brake works regardless of the mounting position, speed and rotating direction. It is maintenance-free. The specification of the locking torque and the approval number of the safety brake are available in the technical data of these instructions.

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.

8 Mechanical installation

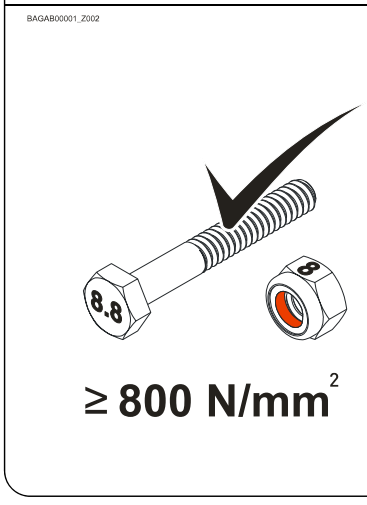
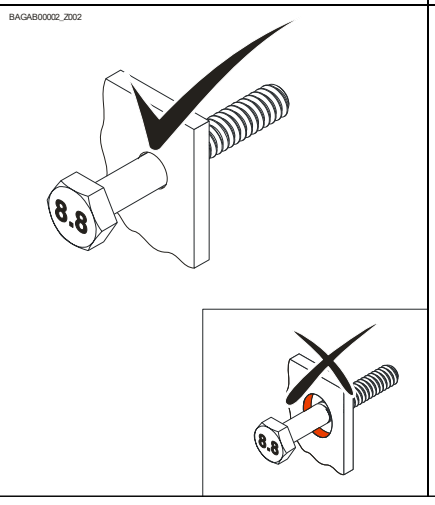
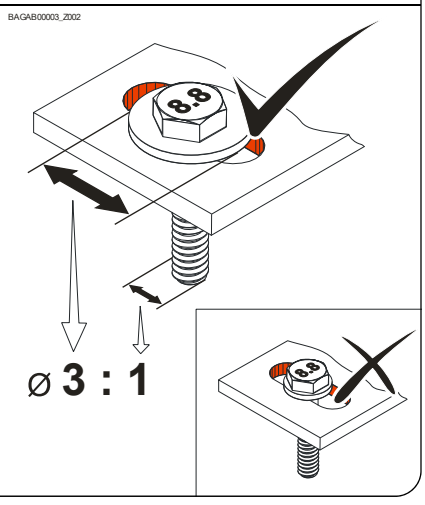
Warning – Explosion hazard!

- Check the atmosphere for explosion hazards before commencing installation tasks.

Requirements

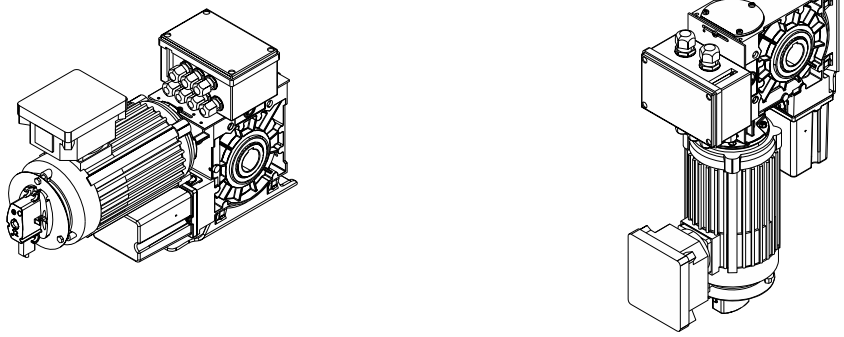
The permissible loads on walls, mountings, connection and transmission elements must not be exceeded even for maximum holding or locking torque (▸ observe technical data).

Connection elements

▸ Use self-locking connection elements with a minimum strength of 800 N/mm² (8.8).	▸ Use a screw that precisely fits the hole.	▸ Use adequately dimensioned washers for elongated holes.
		

Permissible mounting positions

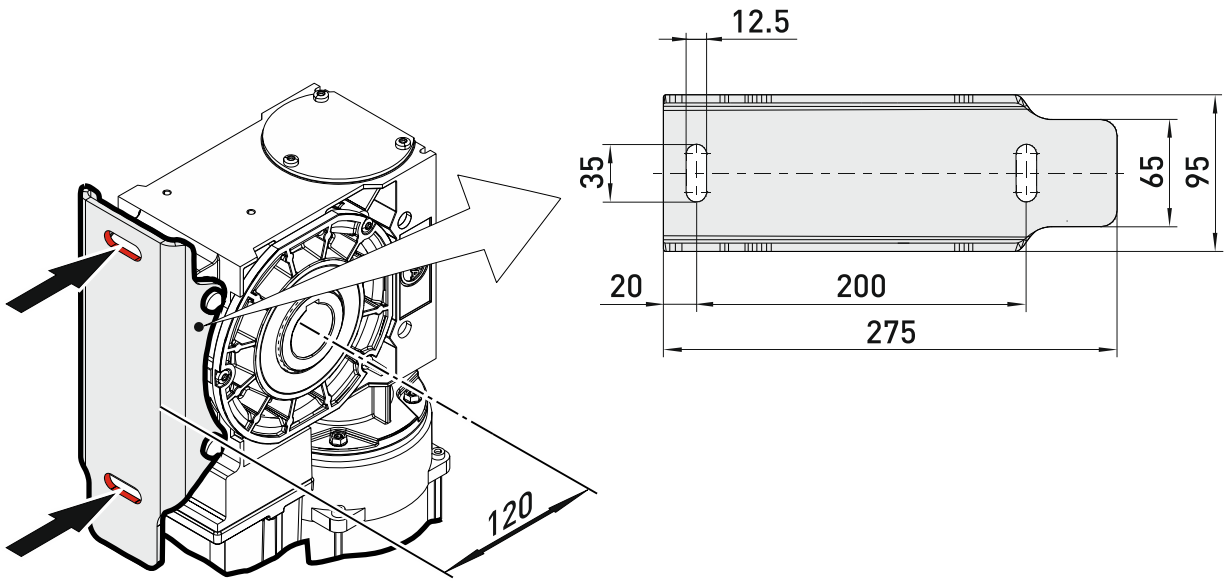
BAGAC03005_Z001



Mounting

2 elongated holes are provided for mounting.

BAGAD03001_Z003



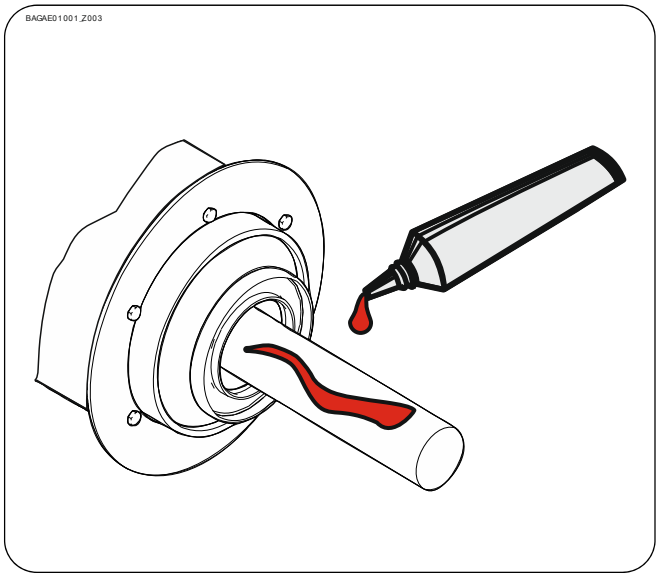
Installation

The following descriptions refer to a door which is not further defined. The door manufacturer's specifications must also be observed.

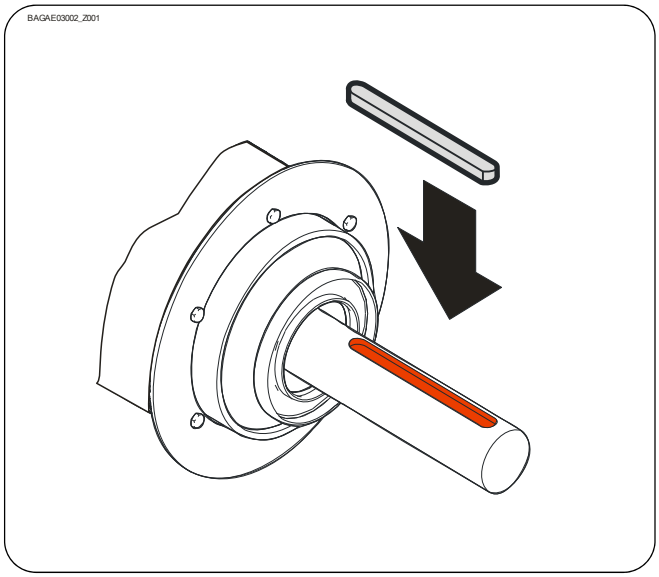
Warning – Injury or danger to life possible!

- Use a lifting device with sufficient load-carrying capacity for installation tasks.

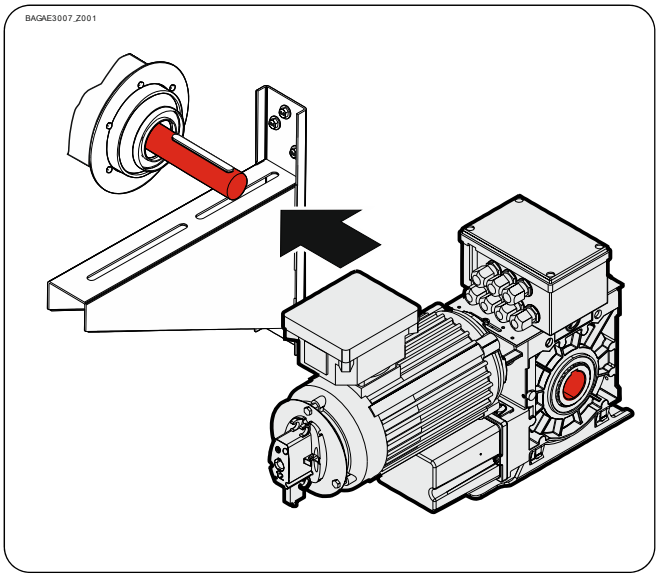
▸ Completely grease the door shaft.



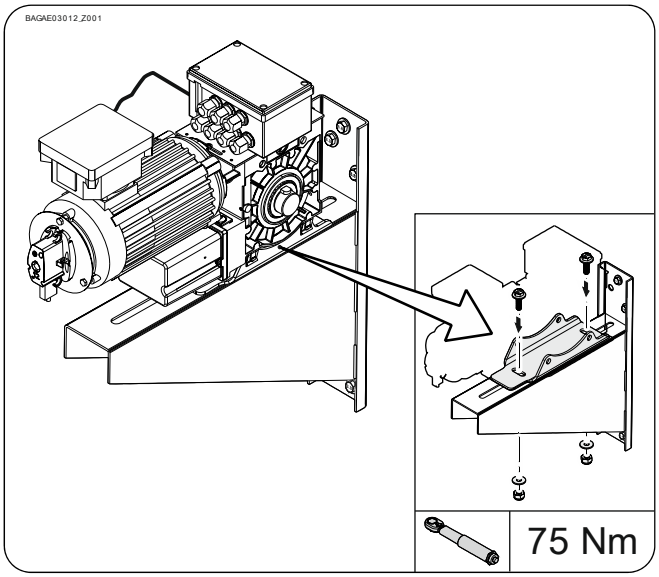
▸ Mount the key.



- Attach the drive unit.



- Tighten all connection elements (M12) with a torque of 75 Nm. Install all further connection elements according to the specifications of the door manufacturer.

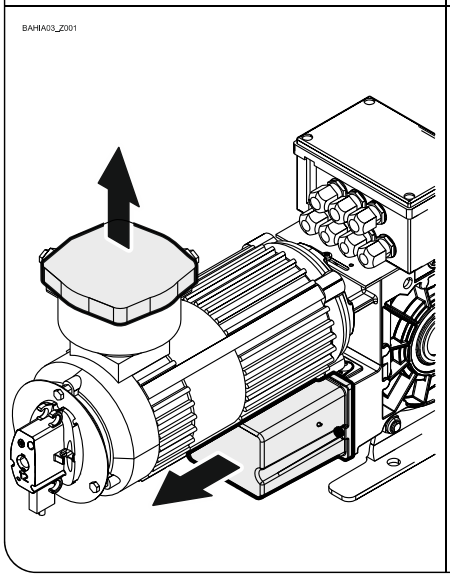
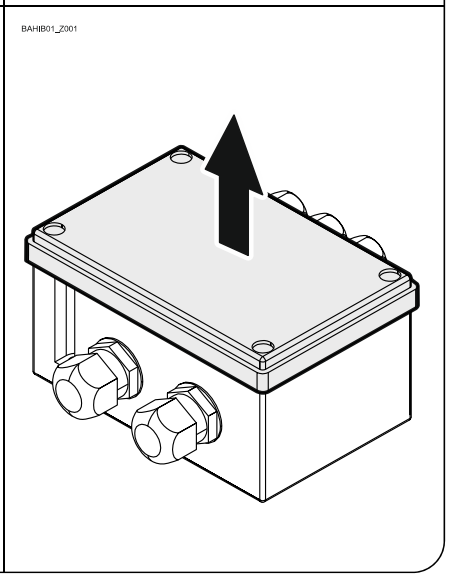


9 Electrical installation

Warning – Danger to life from electrical shock!

- Disconnect the cables (mains OFF) and check that the supply is off
- Observe the applicable regulations and standards
- Ensure proper electrical connection
- Use suitable tools

Carrying out the electrical installation

Remove the cover.	Remove the cover.
	

Connect motor/limit switch connection cable

Protection against overload

Motor protection switch / motor protection relay mains operation

The "Ex" motor must be protected against overload by means of a motor protection switch or a motor protection relay. Only use motor protection relays with manual reset. Short-circuit protection is also required. Excess current must be set on the basis of the I_A / I_N ratio.

Completing the electrical installation

Install cable entries and/or cable glands.

In order to achieve the required tightness, the cable glands are equipped with different sealing inserts. They are available for the following cable diameters:

5.5 – 8.0; 8.0 - 10.5 and 10. – 13 mm.

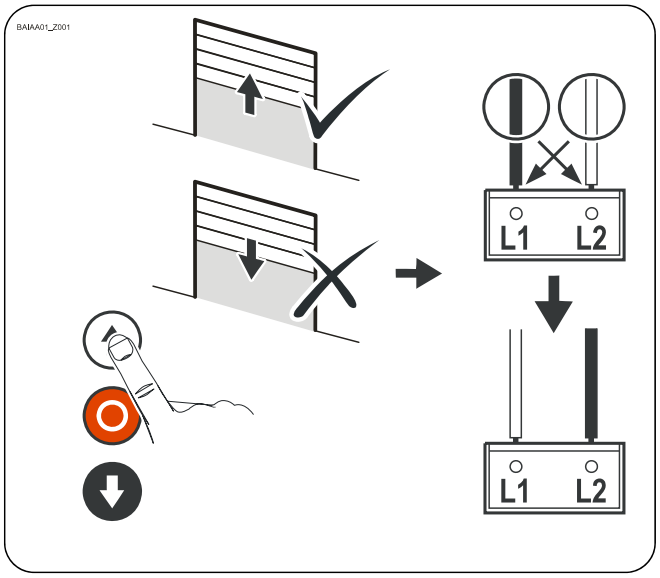
Sealing insert and cable diameter must be aligned. Cable glands are only suited for lines with a smooth surface.

10 Limit switch setting

The limit switch setting defines the final limit positions OPEN and CLOSE.

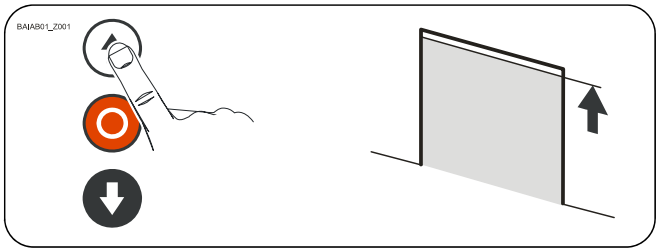
Requirement

The door should open by pressing the OPEN push-button of the control. If the door closes, L1 and L2 must be swapped in a de-energised state.

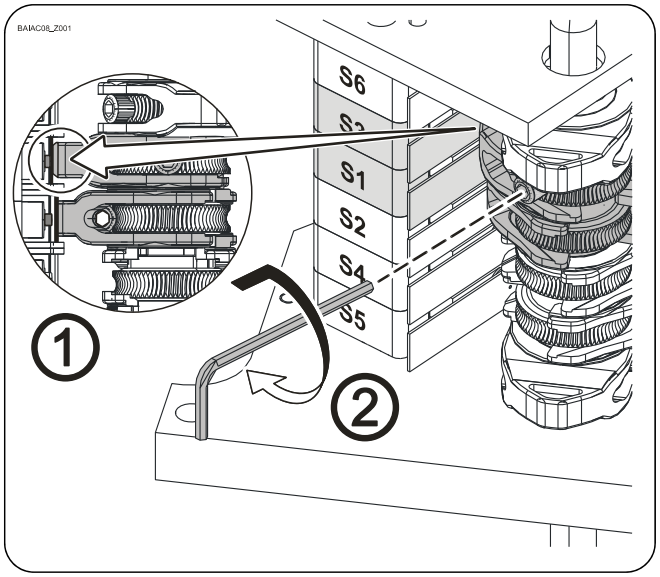


Setting of OPEN final limit position

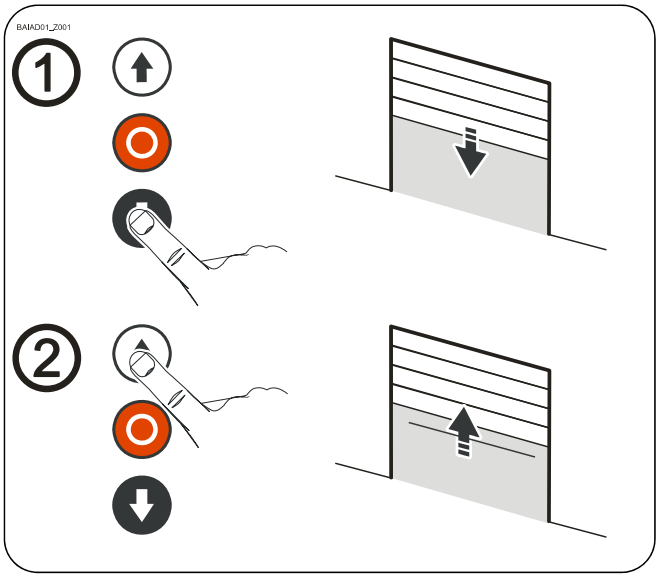
Open to the desired OPEN final limit position using the OPEN push-button.



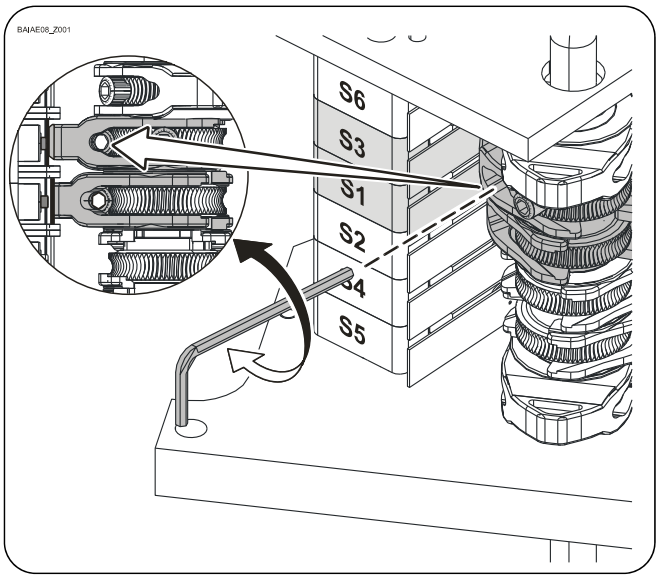
Turn the cam of the S3 OPEN limit switch to the centre of the switch plunger ①.
Tighten the screw of the cam ②.



Check the door position:
Close the door ① until the cam is released and open it again ② until the OPEN final limit position is reached.



The OPEN final limit position can be corrected by following the fine adjustment procedure. Check the door position after each correction.

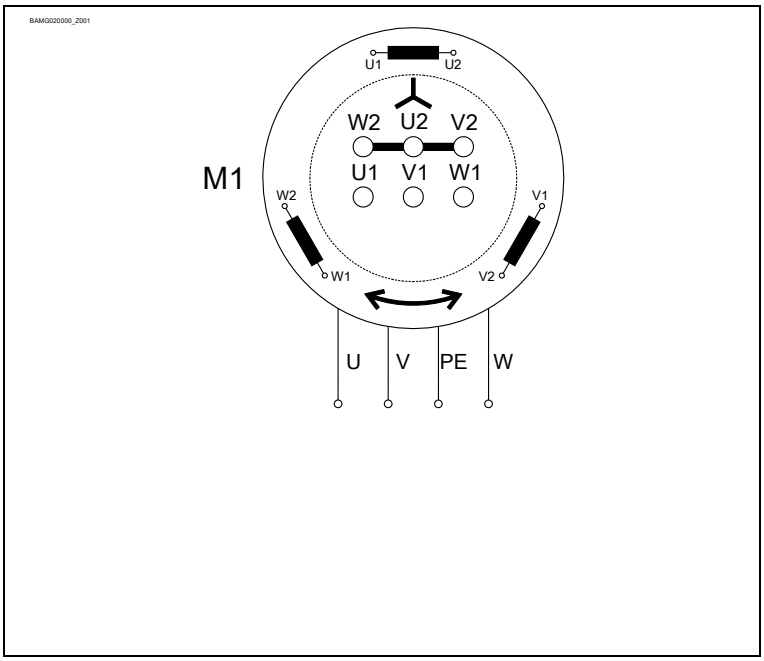


The S1 EMERGENCY OPEN limit switch is preset by the setting of the OPEN final limit position. The door must stop without posing any risks should the rotating direction be incorrect or should there be a fault with the S3 OPEN limit switch. Follow the fine adjustment procedure to correct the switching point of the limit switch as needed.

Setting of CLOSE final limit position and auxiliary limit switch

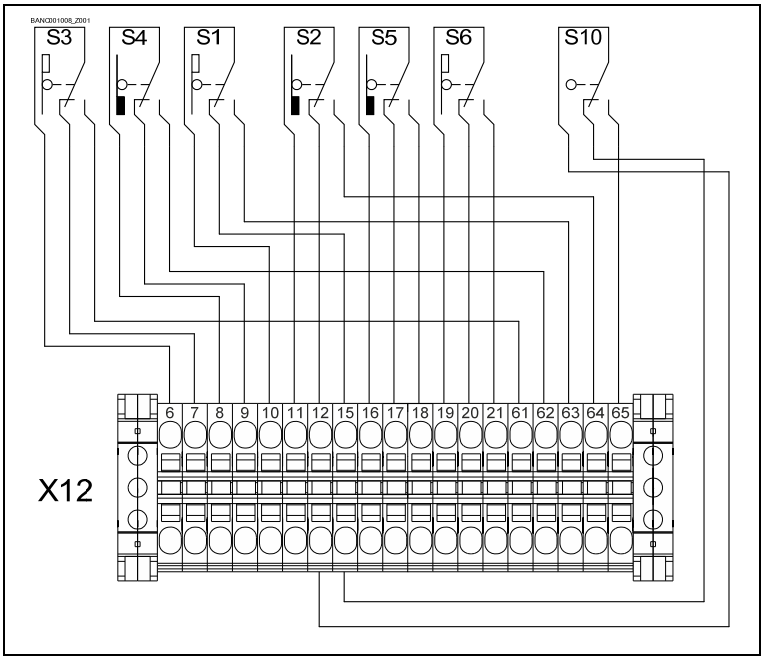
The same setting procedure applies as for setting the OPEN final limit position.

11 Motor connection



M1	Motor

12 Limit switch connection



S10	Emergency manual operation
X12	Terminal strip
S1	Emergency OPEN limit switch
S2	Emergency CLOSE limit switch
S3	OPEN limit switch
S4	CLOSE limit switch
S5	Additional limit switch
S6	Additional limit switch

13 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.

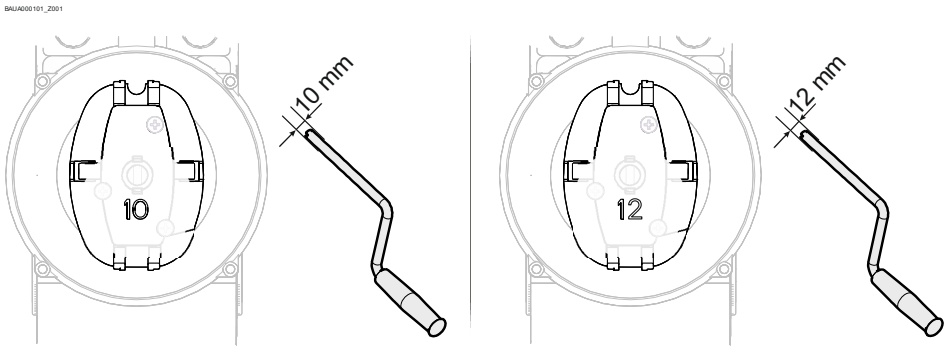
Caution – Damage to components!

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

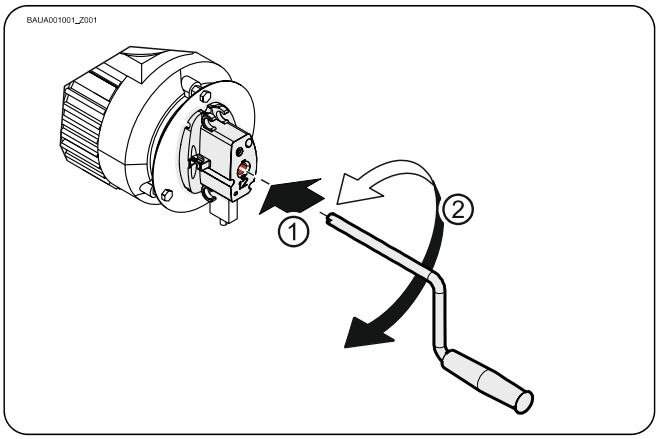
Warning – Risk of injury due to uncontrolled movements and falling objects!

The drive unit could start up unexpectedly and injure people should a wrong emergency hand crank be used. A wrong crank will drop out of the mounting and injure people.

- Only use a crank with the correct diameter. The diameter is indicated on the crank handle switch:

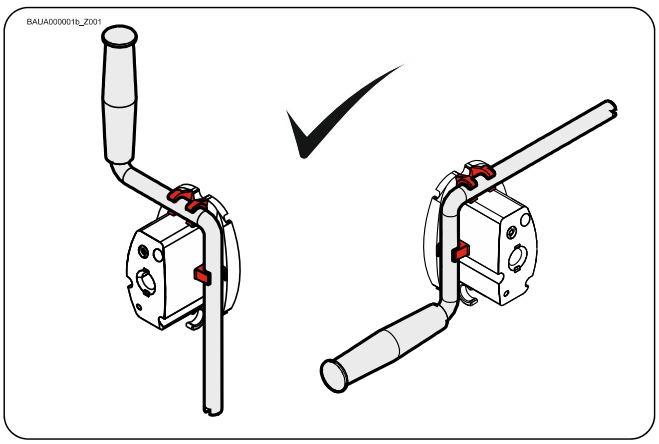


Plug in the crank and turn until it engages (①). Open or close by turning the crank (②).



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

▸ Attach as illustrated.



14 Completion of commissioning / testing / operation

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.

Oil leakage!

- Oil leakage may render explosion protection ineffective. Oil maintenance is inadmissible.

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.

Motor

Check motor for defective bearings.

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 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.

Entire drive unit

Attention – Dust deposits !

- Properly remove dust deposits at regular, adequately short intervals, should these be unavoidable due to operation processes. Performed cleaning tasks should be documented.

Note!

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

15 Disposal

Dispose of packaging

Dispose of the packaging material properly according to the local legal regulations or recycle it.

Dispose of old devices

Dispose of old devices properly according to local legal regulations. Return old devices to the return and collection systems available. You can also return GfA products free of charge. Please apply enough postage to the package and mark it as "old devices".

Notice- Environmental damage!

The gearbox contains oil.

- Ensure proper disposal according to local legal regulations.

Declaration of conformity

within the meaning of Explosion Protection Directive 2014/34/EU
regarding the safe assembly of components

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

We
GfA ELEKTROMATEN GmbH & Co. KG
declare under our sole responsibility that the following modules comply with the above directive and that no new hazards arise from their assembly. The assembled modules are intended only for installation in a door system.

Drive unit
SI 25.15-30,00 Ex
Part no.: 10002590 00013

Consisting of:

Gearbox series:	SG 85F 92.T3
Motor:	F80-2GD CTV C4
Terminal box:	8146/1041
Limit switches:	07-2511

Higher-level product identification code

⟨Ex⟩ II 2G Ex db eb h IIC T3 Gb
⟨Ex⟩ II 2D Ex tb h IIIC 190°C Db

Düsseldorf, 10.08.2018

Stephan Kleine
CEO

Signature

Declaration of conformity

within the meaning of Explosion Protection Directive 2014/34/EU
Appendix VIII, "Internal production control"

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

We,
GfA ELEKTROMATEN GmbH & Co. KG
declare under our sole responsibility that the following module complies with the above directive and that no new hazards arise from assembly. The assembled modul are only intended for installation in a door system.

Gearbox
SG 85F 92.T3

Identification of the product according to Directive:

Ⓔx II 2G Ex h IIC T3 Gb

Ⓔx II 2D Ex h IIIC 190°C Db

Notified body pursuant to Directive:
TÜV Nord Anlagetechnik GmbH
Am TÜV 1
30519 Hannover, Deutschland

Registration number: 8000306986

Standards applied:
EN ISO 80079-36:2016
Explosive atmospheres -
Part 36: Non-electrical equipment for explosive atmospheres - Basic method and requirements.

EN ISO 80079-37:2016
Explosive atmospheres -
Part 37: Non-electrical equipment for explosive atmospheres - Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k".

Düsseldorf, 01.10.2019

Stephan Kleine
CEO

Signature

EU Declaration of conformity / Déclaration UE de conformité / EU Konformitätserklärung Electric

asynchronous motors types / Les moteurs électriques asynchrones types / Elektrische Asynchronmotoren Typ

F56 – F63 – F71 – F80 – L80

bearing the marks / marqués / Kennzeichnung :

CE 0081 Ex **Ex db eb IIB / IIC T4 Gb T6 T5 T4 T3 Gb IP 55**
II2 D Ex tb IIIB / IIIC T150°C – T135°C – T125°C – T100°C – T85°C IP 65
TUV IT 14 ATEX 021 X IECEx TPS 15.0004 X

have been manufactured by ATAV SASU in accordance with the following EU directives / sont fabriqués par ATAV SASU selon les UE directives suivantes / **wurden gefertigt von ATAV SASU in Übereinstimmung mit den folgenden EU-Vorschriften**

2014/34/UE 2014/30/UE

and complying with the following Standards / et conforme aux normes suivantes / und sind entsprechend den folgenden Standards

EN 60079-0 : 2012/A11 :2013 **EN 60079-1 : 2014** **EN 60079-7 : 2015**
EN 60079-31 : 2014 **IEC 60034-1,5,6,7,8,9,12,14** **IEC 60072**
EN ISO/IEC 80079-34 : 2011

* Notes / Note / Bemerkung :

We the company ATAV declare here with that this certification of conformity is established under the full responsibility of ATAV.
Nous société ATAV certifions que la présente déclaration de conformité est établie sous la seule responsabilité d'ATAV.
Wir, die Firma ATAV, erklären hiermit, dass diese Konformitätserklärung unter der vollen Verantwortung von ATAV ausgestellt wird

Above motors, comply by designee with the directive providing that installation is correctly performed by the manufacturer of the machinery. The motor must not be put into service until the machinery into which it has been incorporated is declared in conformity with the Machinery Directive

Les moteurs ci-dessus, sont conformes par conception à la Directive Machine, si l'installation est correctement exécutée par le constructeur de la machine. Le moteur ne doit pas être mis en service avant que la machine dans laquelle il été incorporé soit déclarée conforme à la Directive Machine.

Für die korrekte Installation der oben genannten Motoren, die in ihrer Bauart mit den zu dieser Bescheinigung aufgeführten Vorschriften übereinstimmen, ist der Maschinenhersteller - Betreiber verantwortlich. Die Motoren entsprechen den Vorschriften nur, solang die Anlage, in die sie eingebaut wurden, in Übereinstimmung mit den geltenden Maschinenrichtlinien und Vorschriften errichtet wurde.

The Notified body (ExNB) is : / L'organisme chargé de la notification de la production / Abnahmebehörde (Ex)
Notification number : LCIE 07 ATEX Q 8007

Marcilly la Campagne le 07 Juin 2018

Jef Kevelaers

(Président)

ATAV

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RC Evreux 77 B 134 - Siret 310.999.701.00017

EG/EU-Konformitätserklärung
EC/EU Declaration of Conformity
Déclaration de Conformité CE/UE

R. STAHL Schaltgeräte GmbH • Am Bahnhof 30 • 74638 Waldenburg, Germany
erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: *that the product:* *que le produit:*	**Klemmenkasten** *Terminal box* *Boîte de raccordement*
Typ(en), *type(s), type(s):*	**8146/1** **8146/2**

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.
is in conformity with the requirements of the following directives and standards.
est conforme aux exigences des directives et des normes suivantes.

Richtlinie(n) *Directive(s)* *Directive(s)*	**Norm(en)** *Standard(s)* *Norme(s)*
Bis/*Until/Jusque* 2016-04-19: **Ab/*From/De* 2016-04-20:** **94/9/EG:** **ATEX-Richtlinie** **2014/34/EU:** *94/9/EC:* *ATEX Directive* *2014/34/EU:* *94/9/CE:* *Directive ATEX* *2014/34/UE:*	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-7:2015 EN 60079-11:2012 EN 60079-18:2015 EN 60079-31:2014
Kennzeichnung, *marking, marquage:*	**II 2(1) G Ex db eb [ia Ga] ib mb op pr IIA, IIB, IIC T6...T4 Gb** **II 2(1) G Ex [ia Ga] ib IIA, IIB, IIC T6...T4 Gb** **II 2 D Ex tb IIIC T80 °C...T130 °C Db** **CE 0158**
EG/EU-Baumusterprüfbescheinigung: *EC/EU Type Examination Certificate:* *Attestation d'examen CE/UE de type:*	**PTB 01 ATEX 1016** (Physikalisch-Technische Bundesanstalt, Bundesallee 100, 38116 Braunschweig, Germany, NB0102)
Produktnormen nach Niederspannungsrichtlinie: *Product standards according to Low Voltage Directive:* *Normes des produit pour la Directive Basse Tension:*	EN 61439-1:2011 EN 61439-2:2011
Bis/*Until/Jusque* 2016-04-19: **Ab/*From/De* 2016-04-20:** **2004/108/EG:** **EMV-Richtlinie** **2014/30/EU:** *2004/108/EC:* *EMC Directive* *2014/30/EU:* *2004/108/CE:* *Directive CEM* *2014/30/UE:*	Nicht zutreffend nach Artikel 1, Absatz 3. *Not applicable according to article 1, paragraph 3.* *Non applicable selon l'article 1, paragraphe 3.*
2011/65/EU **RoHS-Richtlinie** *2011/65/EU* *RoHS Directive* *2011/65/UE* *Directive RoHS*	EN 50581:2012

Waldenburg, 2016-03-23
Ort und Datum
Place and date
Lieu et date

i.V.
Holger Semrau
Leiter Entwicklung Schaltgeräte
Director R&D Switchgear
Directeur R&D Appareillage

i.V.
J.-P. Rückgauer
Leiter Qualitätsmanagement
Director Quality Management
Directeur Assurance de Qualité

EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité

Nº 01-2511-7C0001_A

BARTEC
BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Wir	We	Nous

BARTEC GmbH,

erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
Endschalter	**Limit Switch**	**Fin de course**

Typ 07-2511-..../....; 07-2581-..../....

auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht	to which this declaration relates is in accordance with the provision of the following **directives (D)**	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes
ATEX-Richtlinie 2014/34/EU	**ATEX-Directive 2014/34/EU**	**ATEX-Directive 2014/34/UE**
RoHS-Richtlinie 2011/65/EU	**RoHS-Directive 2011/65/EU**	**RoHS-Directive 2011/65/UE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous

EN 60079-0:2012
EN 60079-1:2014
EN 60079-31:2014

Kennzeichnung	Marking	Marquage

II 2G Ex d IIC T6,T5 Gb
II 2D Ex tb III C T80°C, T95°C Db

Verfahren der EU-Baumusterprüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié

EPS 14 ATEX 1766 X
2004, Bureau Veritas Germany GmbH, 86842 Türkheim

CE 0044

Bad Mergentheim, den 22.04.2016

i.V. Ernst Gruber
Head of ExCo/MeCo

i.V. Michael Schulte
Leiter GW PZ

Declaration of incorporation

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

Declaration of conformity

within the meaning of EMC Directive 2014/30/EU
within the meaning of RoHS Directive 2011/65/EU

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

We,
GfA ELEKTROMATEN GmbH & Co. KG
declare under our sole responsibility that the following product complies with the above directives and is only intended for installation in a door system.

Drive unit
SI 25.15-30,00 Ex
Part no.: 10002590 00013

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

This product must only be put into operation when it has been determined that the complete machine/system in which it has been installed complies with the provisions of the above-mentioned directives.

Authorised representative to compile the technical documents is the undersigned.

Düsseldorf, 10.08.2018

Stephan Kleine
CEO

Signature

The following requirements from Appendix I of the Machinery Directive 2006/42/EC are met: 1.1.2, 1.1.3, 1.1.5, 1.2.2, 1.2.3, 1.2.6, 1.3.2, 1.3.3, 1.3.9, 1.5.1, 1.5.2, 1.5.4, 1.5.6, 1.5.7, 1.5.8, 1.5.9, 1.5.10, 1.5.11, 1.5.13, 1.6.1, 1.6.2, 1.6.4, 1.7.2, 1.7.3, 1.7.4.3.

Standards applied:

EN 12453:2001
Industrial, commercial and garage doors and gates - Safety in use of power operated doors - Requirements

EN 12604:2017
Industrial, commercial and garage doors and gates - Mechanical aspects - Requirements

EN 60335-1:2012
Household and similar electrical appliances - Safety - Part 1: General requirements

EN 61000-6-2:2005
Electromagnetic compatibility (EMC) Part 6-2 Generic standards – Immunity standard for industrial environments

EN 61000-6-3:2007
Electromagnetic compatibility (EMC) Part 6-3 Generic standards – Emission standard for residential, commercial and light-industrial environments