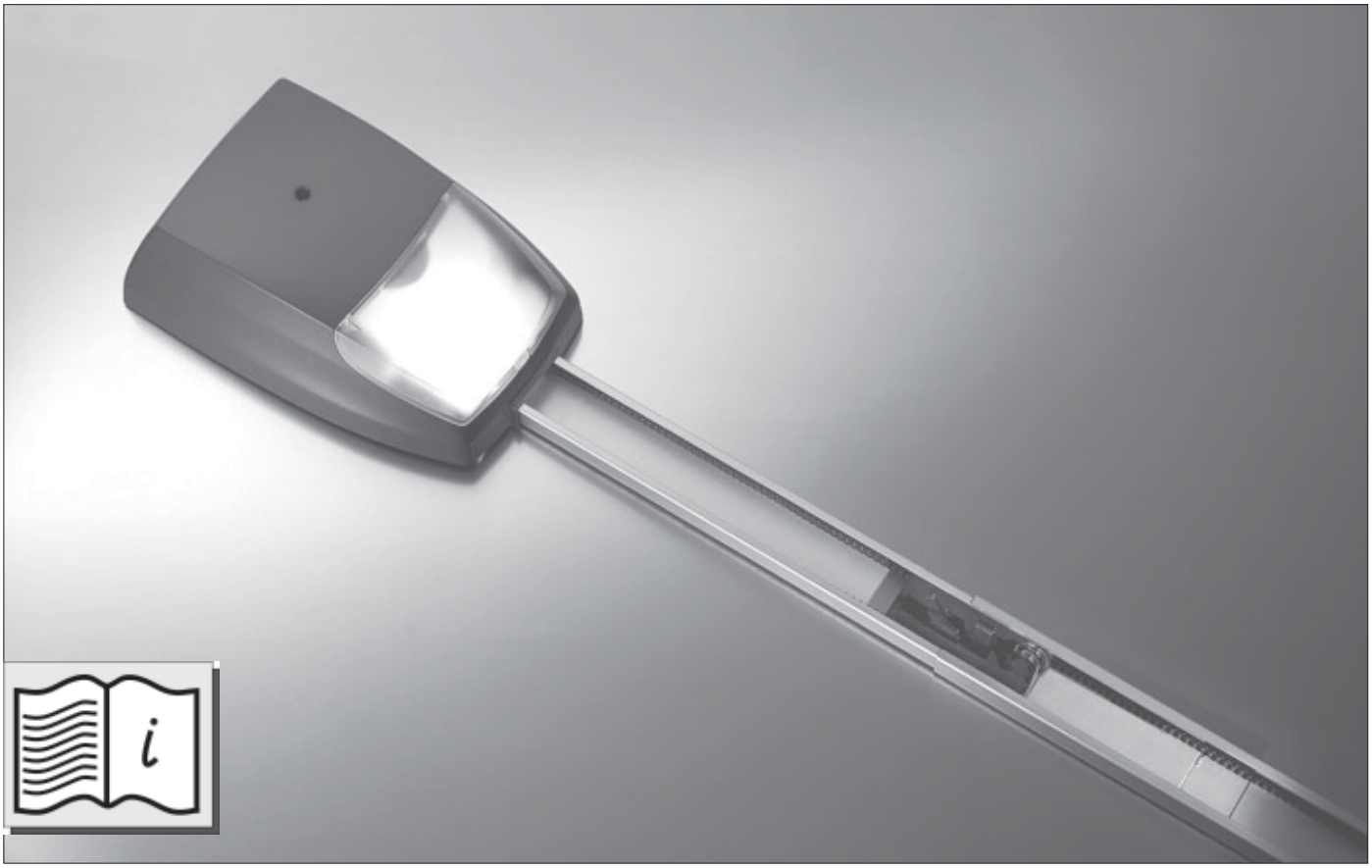
Ultra S

Torantrieb
Motorisation de porte de garage
Elektrische garagedeuropener
Operatore elettrico apriporta per garage
Napęd do bram garażowych
Kapumeghajtás

Garage Door Electric Operator
Elektrisk Portåbner
Elektrisk portåpner for garasjeporter
Elektrisk garageöppnare
Autotallin ovikoneisto



Einbau- und Bedienungsanleitung (D)
Instructions de montage et d'utilisation (F)
Handleiding voor montage en bediening (NL)
Istruzioni per l'installazione e l'uso (I)
Instrukcja montażu i obsługi (PL)
Szerelési és kezelési útmutató (H)
Installation and operating instructions (GB)
Installations- og betjeningsvejledning (DK)
Monterings- og bruksanvisning (N)
Monterings- och bruksanvisning (S)
Kokoamis- ja käyttöohje (FIN)

Table of contents

Introduction

This instruction (text part) is to be used together with the installation scheme (image part). Read and observe text and image part carefully before installation and putting into operation.

Depending on which accessories have additionally been ordered, further instructions are to be observed. These are enclosed in the regarding accessory sets.

CE EC conformity declaration

According to the EC machine guideline 98/37/EC, we hereby declare, that the subsequently designated product complies with the relevant basic EC guidelines because of its design and construction and in its configuration, as we put it in circulation. This declaration loses its validity in case of changes to the product, which are not agreed by us.

Door drives are components for installation to garage doors, and are considered as machines in the sense of EC machine guideline 98/37/EC because of that.

The putting into operation is prohibited until the compliance of the final product with this guideline has been certified.

Product description
Electromechanical garage door drive

Manufacturer
ABON
Antriebe und Sicherheitssysteme GmbH
Thalbach
D-85368 Wang
Germany

Model
Ultra S

Applied relevant EC guidelines
EC Machine Guideline 98/37/EC
EC Low Voltage Guideline (72/23/EEC)
EC Guideline Electromagnetic Compatibility (EMC) (89/336/EEC)
EC Construction Product Guideline (89/106/EEC)

Applied harmonised standards
EN 12 453, EN 12 445, EN 12 978,
EN 55 014-1, EN 55 014-2,
EN 60 335-1:2001,
EN 60 335-2-95:2001, EN 60 335-2-103

Approval
This door drive is approved according to EN 60335-2-95. **This approval is valid only in case of use according to its intended purpose and for the drive of doors that are inspected according to EN 12453/ EN 12445 and listed in the annex of this installation and instruction manual as well (01.05.2005 →)**.

Wang, 10th March 2005

(Hermann Leppert, Managing Director)

Intended application

Application according to intended purpose
The door drive is intended for opening and closing of single or double garage doors in the private sector only.

Any use that exceeds the aforementioned is considered as not in accordance with the intended application. The manufacturer should not be held liable for damages resulting from such use.

Improper application
It is prohibited to use the door drive for:

- Commercial or industrial use
- Atmospheres at risk of explosion
- Garage doors with more than 2.25 m door height
- Automatic operation
- Use for more than one household.

Storage

The door drive, whether in packaged or loose state, has to be stored in a closed, dry room. The storage temperature must not fall below -20°C and must not exceed 80°C.

Directions, remarks

Important directions and remarks are highlighted by:

CAUTION
To be found in connection with working or operating procedures that have to be observed accurately, in order to exclude danger to persons.

ATTENTION
Includes information that has to be observed in order to prevent damage on the device.

NOTE
Stands for technical requirements that have to be particularly observed.

Cross-references

In the text part cross-references to the installation scheme are represented as follows:

[12] = Image number, e.g. 12.

[21-] = Image number, e.g. 21 and subsequent images.

(21) = Position number, e.g. 21

Safety

⚠ **For the safety of individuals it is essential to observe any instruction of this instruction manual. Preserve both instructions (text part and image part) as well as the instructions for accessories close at hand for future use.**

The door drive is designed and built according to state of the art technology and approved safety rules. However, during its use, hazards to persons or impairment to properties might occur.

Unplug mains plug before beginning any works at the door drive.

Rebuilding and changes of the door drive are not permitted for safety and warranty reasons.

Before activating control equipment (e.g. transmitter, buttons) make sure that no persons, animals or objects are in the range of movement of the door. Make sure that unintentional or inattentive operation, e.g. by playing children, is excluded.

If a slip-door is built-in in the garage door, a safety device has to be installed, which blocks operation of the door drive as long as the slip-door is open.

Before door drive installation it has to be checked that the door is easily moveable by hand and that the door mechanics are in working order.

The drive must not be used for unadjusted doors, because the drive construction is not designed for this application.

In the case of the door being equipped with weight balancing in form of steel springs, their correct functioning has to be ensured.

Adjustments and repairs must be performed by the responsible customer service of the doors manufacturer only – never try this yourself (danger of injury by springs under tension).

In connection with installing the door drive to the door, the instructions of the door manufacturer have to be observed too.

Installation requirements

⚠ **Only authorized electricians are allowed to carry out work on the electrical equipment.**

Technical knowledge and craftsmanship are required for installation of this drive.

The installation of door drive must be performed in dry rooms only.

The clearance between the garage ceiling and the highest point of the opened door must be at least 50 mm.

The door must be activated by horizontal pulling force or pressure force. The required pulling/pushing force must not exceed 150 N.

The mounting points on ceiling, wall or lintel and door have to ensure a safe mounting of door drive. If required, additional constructive measures (suspended ceiling, staying, cross supports, reinforcements) have to be carried out.

Have an earthed socket 230 V, 50 Hz installed about 10-50 cm beside the later mounting position of the drive head. For constructive security see technical data.

The mechanical components of the drive should comply with standards EN 12 604 and EN 12 605.

During installation of door drive to the door, compliance with standards EN 12 453, EN 12 445 and EN 12 635, during installation of additional safety equipment (light barrier, optical sensor, safety strip) with the standard EN 12 978 have to be ensured.

In case of garages with no second access, an external emergency button is required. It is, if required, to be ordered separately.

ABON should not be held liable for technical inadequacies of the door concerned, nor for structural deformation during use, as well as in case of inadequate repairing of the door.

Preparations for installation

⚠ **Wrong installation might cause serious injuries. Observe all installation instructions of this instruction manual.**

⚠ **Check and adjust function and easy operation of door before door drive installation. The spring tension has to be adjusted in a way, that the door can easily be opened and closed by hand and runs continuously and smoothly.**

Take mechanical door locking out of use.

Unpack door drive and accessories; check completeness of delivery. Keep packaging for returning in case of repair.

⚠ **Store packaging material (e.g. plastic) out of reach of children.**

ⓘ For the packaging of door drive, only reusable materials have been used. Please dispose of accumulated packaging material according to the country-specific regulations.

Tools

[1] Keep displayed tool ready.

Delivery

[2-3] See installation scheme (image part).

Drive assembly

[4-14] See installation scheme (image part).

Adjusting tension of drive belt

[15-] Tighten safety nut (24), until the drive belt (5) does not lie tight inside the guide rail (10) and is slightly tightened.

Installation

[17-29] See installation scheme (image part).

⚠ **Support drive with suitable aids after lifting towards the ceiling and secure against falling. Inspect mountings at ceiling and lintel again after installation [23,24,29].**

Door connection

⚠ Depending on the door type, there are different installation sets available. Connect door and drive according to the instruction, enclosed in the installation set.

ⓘ If the door cannot be coupled with the drive, the sled (4) has to be run in closing direction by means of button 2 of the transmitter, or the sled has to be unlocked. Couple door for performing of learning runs **[35]**. If the end position has been activated unintentionally, the mains plug has to be unplugged for 2 seconds (=reset).

Control components

Control and display elements [30]

1 „Impulse“ button

2 „Program“ button

3 LED (red)

4 LED „Power“ (green)

External connections [30]

5 Emergency stop

6 Safety strip/optical sensor/light barrier (SE/LS)

7 Impulse

8 Antenna A = Antenna
E = Earthing

Putting door drive into operation

Connect antenna

[31] Unpack hand-held transmitter and antenna.

[32] Connect antenna (8) to external terminal (8, right screw terminal A).

Connect to mains power

[33] Open door slowly by hand until the sled audibly snaps in.

[34] Plug in mains plug. The LED „Power“ (4) must light, the drive lamp flashes 4 times.

⚠ **Make sure that no people, animals or objects are in the range of movement of the door before activating the drive.**

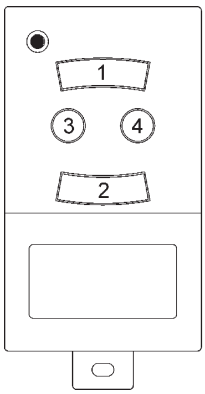
Basic settings (learning of end positions and forces)

⚠ **For performing basic settings the door drive must be coupled with the door. During learning there is still no protection by the safety switch-off due to excess force.**

ⓘ There are two learning possibilities:

- With transmitter **[35]**
- Without transmitter **[36-39]**

Learning with transmitter



U_401

Button 1: Dead man operation and fine-tuning up

Button 2: Dead man operation and fine-tuning down

Button 3: Confirmation (save)

Button 4: Confirmation (save)

End position „UP“

[35] Activate button 1 and keep it pushed, the door moves to open. At the moment, where the desired end position „UP“ is reached, release button 1.

ⓘ A correction of end position „UP“ is possible by pushing button 2.

Confirm reached end position „UP“ by short pushing of button 3 or 4, the drive lamp flashes 3 times. After learning end position „UP“, the door is run automatically in closing direction. The drive stops automatically, once the right closed position is reached.

End position „DOWN“

[35] There are two possibilities for confirming end position „DOWN“:
- 10 seconds after reaching the closed position automatically or
- by pushing of button 3 or 4.

Once the end position „DOWN“ is learned, the drive lamp flashes twice, subsequently the door is run automatically into opened position again.

Force in „UP“-direction

[35] During run into end position „UP“ the control learns the force automatically. The drive stops automatically, once the end position „UP“ is reached. For confirming the learned force, there are two possibilities:
- 10 seconds after reaching the opened position automatically or
- by pushing button 3 or 4.

Once the force values in „UP“-direction have been saved, the drive lamp flashes once, subsequently the door is run into closed position automatically.

Force in „DOWN“-direction

[35] During run into end position „DOWN“, the control is learning the force automatically. The drive stops automatically, once the end position „DOWN“ is reached. At the same time the force values in „DOWN“-direction are saved. 2 seconds after reaching the end position „DOWN“, the door is automatically run into opened position in order to avoid locking out the fitter from the garage.

ⓘ After finishing the above-described learning runs, only the learned button is active, see paragraph „Hand-held transmitter operation“.

Learning without transmitter

End position „UP“

[36] Unlock western plug with yellow bridge (6) and pull out.

[37] Activate „Impulse“ button (1) and keep it pushed. The door moves to open. Release the „Impulse“ button as soon as the desired end position „UP“ is reached.

[38] Plug western plug back in.

ⓘ A correction of end position „UP“ in closing direction is possible now by means of the „Impulse“ button.

[39] Confirm reached end position „UP“ by pushing the „Program“ button (2), the drive lamp flashes 3 times. Once the end position „UP“ is learned, the door is run automatically in closing direction. The door drive stops automatically, if the right closed position is reached.

End position „DOWN“

There are two possibilities for confirming end position „DOWN“:
- 10 seconds after reaching the opened position automatically or

[39]
- by pushing the „Program“ button (2).

Once the end position „DOWN“ is learned, the drive lamp flashes twice, subsequently the door is run automatically back into opened position.

Force in „UP“-direction

During run into end position „UP“ the control learns the force automatically. The drive stops automatically, once the end position „UP“ is reached. For confirming the learned force, there are two possibilities:
- 10 seconds after reaching the opened position automatically or

[39]
- by pushing the „Program“ button (2).

Once the force values in „UP“-direction have been saved, the drive lamp flashes once, subsequently the door is run into closed position automatically.

Force in „DOWN“-direction

During run into end position „DOWN“, the control is learning the force automatically. The drive stops automatically, once the end position „DOWN“ is reached. At the same time the force values in „DOWN“-direction are saved. 2 seconds after reaching the end position „DOWN“, the door is automatically run into opened position in order to avoid locking out the fitter from the garage.

Checking obstruction safeguard

The obstruction safeguard is safety equipment that protects against crushing, and should prevent injuries caused by the closing door (static switching-off force: 150 N).

[40] Perform test run:
Stop door from outside with both hands in hip height. During closing procedure, the door has to stop automatically and run back about 30 cm, if it meets resistance. During opening procedure it has to stop automatically, if it is held back.

Operation

⚠ **Instruct all persons, who are involved in using the door equipment, with respect to safe and proper operation of it.**
There is a risk of injury due to crushing or cutting at the closing edges and with the mechanical device. Open and close the door only when you can see the area of movement of the door and when no people are in the immediate vicinity!

Hand-held transmitter operation

⚠ **Keep transmitters away from children. Activate the hand-held transmitter only, if you can see the door area well. Watch the moving door and keep persons away, until the door is completely closed or opened.**

Learn transmitter

The topmost button of the hand-held transmitter is learned for the radio remote control by the manufacturer already. If you want to learn a further button of the transmitter or a second transmitter, proceed as follows (for learning, hold transmitter as close as possible to the drive head):

[41] Push „Program“ button (2) briefly – the red LED (3) flashes once: Activate within 20 seconds a not-learned transmitter button – the red LED lights continuously (learning is finished).

ⓘ In case of wrong learning, the radio commands can be reset again, see **[46]**. For putting further hand-held transmitters into operation, repeat the entire learning procedure and proceed as aforesaid.

1-channel operation

[42] First button is learned.

Multi-channel operation

[43] 2-channel operation: learn first, second or arbitrary button.

[44] 3-channel operation: learn first, second, third or arbitrary button.

[45] 4-channel operation: learn first, second, third and fourth button.

Reset of all learned radio commands (if needed only)

[46] Activate „Program“ button (2) at least 5 seconds long. The red LED (3) flashes then for 2 seconds quickly and goes out – now the reset procedure (duration about 5 seconds) is finished. Any learned hand-held transmitters are reset.

[47] Terminal configuration

Terminals 1 - 16 of the built-in terminal strip are connected by default (=standard connection).

T**erminals for additional connections**

15 Additional lamp 230 V AC, L-switched, fused

16 Additional lamp 230 V AC, N

17 Antenna for radio

18 Earth connection for antenna

Additional settings

In the manufacturers default setting the soft run in closing direction is switched on and the pre-warning time of drive lamp is switched off. The soft run in opening direction is set as standard and cannot be changed.

If needed, the following additional settings are possible:

Switch on/off soft run

[48] Activate „Program“ button (2) once, the red LED (3) flashes once. Push „Impulse“ button (1) once, the red LED (3) flashes twice. Activate „Program“ button (2) once, the soft run in closing direction is switched off.
In order to switch the soft run back on, repeat the aforesaid working steps.

Switch on/off pre-warning time

By switching on the pre-warning time first only the drive lamp is lighting with each control-device impulse, only four seconds later the motor run is started.

[49] Activate „Program“ button (2) once, the red LED (3) flashes once. Push „Impulse“ button (1) twice, the red LED (3) flashes three times. Activate the „Program“ button (2) once, the pre-warning time will be switched on. In order to switch the pre-warning time back off, repeat the aforesaid working steps.

Setting automatic closure

Only authorized specialists are allowed to carry out this setting.

The automatic closure is a control function, which runs the door automatically from opened position back into closed position. The closing time is freely adjustable (from 2 s to maximal 8.5 minutes). The automatic closure is switched off in the default setting; the jumper is in „SL1“ position **[50]**.

The operation with automatic closure is permitted only if additional safety equipment (light barrier/optical sensor/safety strip) is installed. The setting is carried out with connected mains power. The drive cover has to be removed for carrying out the setting, see [57].

[51] Set automatic closure by jumper (19):
Run door into opened position. After reaching the desired open time, plug the jumper into „AZ“ position, the door runs into closed position. The set time remains saved. Put drive cover back in place.

The set automatic closure remains active even after reset of the control. Learning runs are delayed accordingly.

Additional illumination

Only a qualified electrician may perform the connection of an additional illumination.

In addition to the drive light (40 W) an additional illumination of max. 60 W (no fluorescent tube or energy saving lamp) might be connected.

[47] Connect additional lamp at terminals 15 and 16 (light) parallel to the drive lamp.

Change drive direction

Changing the drive direction is required for double-doors and, if necessary, for lateral-sliding doors.

[52] Unlock western plug (5) with green bridge and pull off.

[53] Activate the „Program“ button once, the red LED flashes once. Push „Impulse“ button (1) 5 times, the red LED flashes 6 times. Activate „Program“ button once, the change of drive direction is carried out and the electronic control is reset.

[54] Plug western plug with green bridge (5) back in. Carry out basic setting (carry out learning runs), see **[35]**.

Additional safety connections

[30] In delivery state, bridged western plugs (5=green, 6=yellow) are plugged in the external connections „Emergency stop“ (5) and „Safety strip/light barrier“ (6).

Terminal „Emergency stop“ (5)

An emergency equipment (slip-door safeguard or emergency-stop pushbutton) can be connected to this input:

[54] Snap off, pull off and store western plug with green bridge. Install emergency stop equipment and connect by means of western plug. Check for function: If the emergency stop equipment is activated during the door run, the motor has to stop immediately.

Terminal „Safety strip/optical sensor/light barrier (SE/LS)“ (6)

A safety strip or an optical sensor (only in combination with a corresponding external evaluation equipment) or a light barrier might be connected to this input.

[54] Snap off, pull off and store western plug with yellow bridge. Connect safety strip, optical sensor or light barrier according to the relevant enclosed instructions for installation. Check for function: If the installed safety device is operated while the gate is closing, the gate must stop and allow the object to move. The next impulse moves the gate into the open position.

Technical data

Mains supply ..... 230 V~, 50 Hz

Device fuse, internal ..... 1,6 A, T (slow)

Operational force ..... 550 N

Nominal load ..... 150 N

Power consumption with nominal load ..... 150 W

Idle current (Stand-by) ..... 7 W

Protection class ..... For dry rooms only

Speed with nominal load ..... > 100 mm/s

Run time limit ..... 80 s

Max. stroke ..... 2540 mm

Flush height ..... 35 mm

Radio control ..... 433 MHz

Permissible ambient temperature ..... -20 °C bis + 50 °C

Hand-held transmitter range* ... 15 - 50 m

Illumination ..... max. 40 W

Transmitter battery ..... 12 V, Typ 23 A

Obstruction safety device setting .. 150 N

Max. number of cycles per hour (with nom. load) 20

Max. number of cycles per hour without interrupt (with nom. load) 8

* The hand-held transmitter range might be significantly reduced by external disturbances under certain circumstances.

Noise emission level

Topmost noise pressure level: <70dB (A)

Search/elimination of malfunctions

⚠ **Only qualified electricians may carry out work on the electrical equipment. Disconnect mains plug before removing drive cover.**

Drive does not run at all:

1. Check fuses of the building
2. Check fuse of motor control
3. Are the bridged western plugs correctly plugged in at the external terminals **[30]** (5 = green, 6 = yellow)?
4. Have mains supply checked by qualified electrician.

Drive runs faulty:

1. Is the sled snapped in **[33]**?
2. Is the drive belt properly adjusted **[16]**?
3. Is the door step/way frozen?
4. Does the drive switch or switch off during run? Obstruction safeguard is activated. Check and adjust door. Carry out basic setting **[35].**
5. Does the program run not work? Reset electronic control into default setting and learn newly **[35]**.

Drive cannot be operated by hand-held transmitter:

1. Does the LED on the hand-held transmitter flash? Renew battery **[55].**
2. Does the red LED (3) on the drive head not light during activation of hand-held transmitter? Reset learned radio commands **[46]** and newly learn hand-held transmitter [**41]** once more.
3. Reception level too low: Check antenna connection, if necessary, install external antenna [**64**].

Drive cannot be operated by the wall-fitted button:

Check wall-fitted button and control lead.

Obstruction safeguard does not work:

Reset electronic control and subsequently carry out basic settings (learning runs) **[35]**.

Malfunction during self-test:

After each motor run and every 2 1/4 hours in idle state, a self-test of the control is carried out. Malfunctions that have been detected during self-test are signalised by flashing of the green LED „Power“.

Flashing signal	Cause of malfunction
2x	Malfunction in main memory
3x	Impermissible motor current values
4x	Safety output of control defective
5x	Thyristor-measurement - values impermissible
6x	motor-relays measurement values impermissible
7x	Program run faulty
8x	Memory for learned values faulty

If a malfunction occurs during self-test, the control blocks, and after 60 s another test is automatically carried out. If during repeated test a malfunction is also detected, the control is reset and remains blocked.

If the control is blocked during self-test due to a detected malfunction, the electronic control has to be reset and the basic settings have to be carried out once more. If the malfunction occurs again, the control has to be replaced by a specialist.

Maintenance

Monthly:

- Check obstruction safeguard: The drive direction must change if the door closing edge meets a 50 mm high obstacle that stands on the ground.
- Check mountings of the door drive at ceiling and wall.
- Check emergency stop for function.
- Check functioning of escape door safeguard (if present).

Yearly:

- Maintain door according to manufacturer data.
- Grease or oil joints of pushing bar.
- Check tension of drive belt, if required tighten it **[16]**.

Repair

[55] Replace battery of hand-held transmitter

- Pull off case lid (2) and remove it.
- Remove battery (1) and replace it.

ⓘ Use leak proof batteries only. Observe correct polarity during inserting. Dispose of old battery environmental-friendly.

- Push case lid back in place.

[56] Replace glow lamp

⚠ **Disconnect mains plug.**

[57] Replace fuse

⚠ **Disconnect mains plug.**

- Remove or unscrew external connections like control lead (14) or antenna (8).
- Loosen mounting screw (3).
- Snap off hood (4) at the four snap pieces and remove it.
- Pull defective fuse (1) out of the fuse holder (2) and replace it. Observe fuse value!
- Push hood back in place.
- Tighten mounting screw.
- Re-establish external connections.

[30] Reset of electronic control

If the electronic control has to be reset, proceed as follows:

- Push „Program“ button (2) first, then „Impulse“ button (1) simultaneously for longer than 5 seconds. The red LED (3) flashes first and goes out afterwards – the reset is finished. The drive lamp now starts flashing four times and in this way indicates that learning runs have to be carried out.

ⓘ The learned run stretches for the soft run and the threshold current for the switching off due to excess force are deleted by the reset. The learned radio commands remain saved.

- Carry out basic setting (learning runs).

Customer Service

If you ask for help at any of the company addresses on the back, please indicate manufacturing number and model designation. You will find these data on the type plate on the drive head.

Accessories

ⓘ Western plugs are required for external connections on the drive head. Accessories that can separately be ordered are listed as follows:

[58] 4-command hand-held transmitter for multiple uses

[59] 1-command hand-held transmitter

[60] Wall mounting for hand-held transmitter

[61] Wall-fit button

[62] Key turn button

[63] Code button

[64] External antenna

[65] Light barrier

[66] Optical sensor

[67] External emergency unlocking device

[68] Internal emergency unlocking device

[69] Safety strip

Spare parts

[70] See list of spare parts in installation scheme (image part).

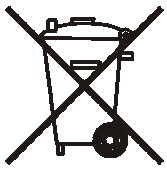
Spare parts have to comply with technical requirements, which are defined by the manufacturer. Only with original spare parts this is always ensured.

In case of purchase orders the item number has to be indicated.

⚠ **Spare parts, which are marked with „*“, may be replaced by authorized specialists only.**

Disposal

The national and local regulations and statutes for disposal are to be followed.



Electric and electronic parts have to be recycled and are not to be discarded in residential waste!