

HALO

Garage door opener



Management
System
ISO 9001
www.tuv.com
ID 9105043769

IMAGES P. 45

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1 - SAFETY WARNINGS

⚠ ATTENTION !

ORIGINAL INSTRUCTIONS - important safety instructions. Follow the instructions since incorrect installation can lead to severe injury! Save these instructions.

Read the instructions carefully before proceeding with installation.

The design and manufacture of the devices making up the product and the information in this manual are compliant with current safety standards. However, incorrect installation or programming may cause serious injury to those working on or using the system. Compliance with the instructions provided here when installing the product is therefore extremely important.

If in any doubt regarding installation, do not proceed and contact the Key Automation Technical Service for clarifications.

Under European legislation, an automatic door or gate system must comply with the standards envisaged in the Directive 2006/42/EC (Machinery Directive) and in particular standards EN 12445; EN 12453; EN 12635 and EN 13241-1, which enable declaration of presumed conformity of the automation system.

Therefore, final connection of the automation system to the electrical mains, system testing, commissioning and routine maintenance must be performed by skilled, qualified personnel, in observance of the instructions in the "Testing and commissioning the automation system" section.

The aforesaid personnel are also responsible for the tests required to verify the solutions adopted according to the risks present, and for ensuring observance of all legal provisions, standards and regulations, with particular reference to all requirements of the EN 12445 standard which establishes the test methods for testing door and gate automation systems.

⚠ ATTENTION !

Before starting installation, perform the following checks and assessments:

ensure that every device used to set up the automation system is suited to the intended system overall. For this purpose, pay special attention to the data provided in the "Technical specifications"

section. Do not proceed with installation if any one of these devices is not suitable for its intended purpose;

check that the devices purchased are sufficient to guarantee system safety and functionality;

perform a risk assessment, including a list of the essential safety requirements as envisaged in Annex I of the Machinery Directive, specifying the solutions adopted. The risk assessment is one of the documents included in the automation system's technical file. This must be compiled by a professional installer.

Considering the risk situations that may arise during installation phases and use of the product, the automation system must be installed in compliance with the following safety precautions:

never make modifications to any part of the automation system other than those specified in this manual. Operations of this type can only lead to malfunctions. The manufacturer declines all liability for damage caused by unauthorised modifications to products;

if the power cable is damaged, it must be replaced by the manufacturer or its after-sales service, or in all cases by a person with similar qualifications, to prevent all risks;

do not allow parts of the automation system to be immersed in water or other liquids. During installation ensure that no liquids are able to enter the various devices; should this occur, disconnect the power supply immediately and contact a Key Automation Service Centre. Use of the automation system in these conditions may cause hazards;

never place automation system components near to sources of heat or expose them to naked lights. This may damage system components and cause malfunctions, fire or hazards;

⚠ ATTENTION !

The drive shall be disconnected from its power source during cleaning, maintenance and when replacing parts. If the disconnect device is not in a visible location, affix a notice stating: "MAINTENANCE IN PROGRESS":

connect all devices to an electric power line equipped with an earthing system;

the product cannot be considered to provide effective protection against intrusion. If effective protection is required, the automation system must be combined with other devices;

the product may not be used until the automation system "commissioning" procedure has been performed as specified in the "Automation system testing and commissioning" section;
the system power supply line must include a circuit breaker device with a contact gap allowing complete disconnection in the conditions specified by class III overvoltage;

use unions with IP55 or higher protection when connecting hoses, pipes or cable glands;

the electrical system upstream of the automation system must comply with the relevant regulations and be constructed to good workmanship standards;

this appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved;

before starting the automation system, ensure that there is no-one in the immediate vicinity;

before proceeding with any cleaning or maintenance work on the automation system, disconnect it from the electrical mains;

special care must be taken to avoid crushing between the part operated by the automation system and any fixed parts around it;

children must be supervised to ensure that they do not play with the equipment;

drive is not to be used with doors having openings exceeding 50mm in diameter or having edges or protruding parts a person could grip or stand on;

that the drive cannot be used with a driven part incorporating a wicket door unless the drive can only be operated with the wicket door in the safe position;

in the case of detection of an obstacle during its closing travel, the garage door reverses its travel direction, releasing the obstacle until it opens completely;

install the actuating member for the manual release at a height less than 1,8m. If removable,

the actuating member should be stored in direct vicinity of the door;

install any fixed control at a height of at least 1,5m and within sight of the door but away from moving parts;

permanently fix the labels warning against entrapment in a prominent place or near any fixed controls (Fig. 1 Pag. 54);

after installation, ensure that the mechanism is properly adjusted and that the drive reverses or the object can be freed when the door contacts a 50mm high object placed on the floor (for drives incorporating an entrapment protection system depending on contact with the bottom edge of the door);

after installation, ensure that parts of the door do not extend over public footpaths or roads;

when the appliance is provided with a separate stop button, that stop button shall be unambiguously identifiable.

ATTENTION !

Frequently examine the installation for imbalance where applicable and signs of wear or damage to cables, springs and mounting. Do not use if repair or adjustment is necessary.

ATTENTION !

The automation system component packaging material must be disposed of in full observance of current local waste disposal legislation. Key Automation reserves the right to amend these instructions if necessary; they and/or any more recent versions are available at www.keyautomation.it.

2 - PRODUCT INTRODUCTION

2.1 - Product description

Halo is an irreversible electromechanical gearmotor suitable for automating overhead doors up to 17m² and sectional doors up to 19m². Halo is equipped with an encoder, a control unit and an integrated 4-channel receiver. The rail is pre-assembled with a belt, in one piece or 3 pieces.

A special aluminium rail, powder coated and with integrated LEDs, allows for garage lighting both during movement and at any other

time.

The special flat design of the motor housing also makes it possible to install it less invasively near the door cross beam or the spring holder shaft.

2.2 - Composition

The automation system for garage doors is contained in two boxes forming the automation system's and the rail system's packaging:

FIG. 1 head package contents with parts list

FIG. 2 LED rail

FIG. 3 single piece steel rail

FIG. 4 3-piece steel rail

2.3 - Models and technical characteristics

CODE	DESCRIPTION	POWER
900HA8	For sectional doors up to 11 sqm (with 3 m guide) or 12 sqm (with 4 m guide), a 24 Vdc motor and a control unit with an integrated receiver	800N
900HA12	For sectional doors up to 16 sqm (with 3 m guide) or 19 sqm (with 4 m guide), a 24 Vdc motor and a control unit with an integrated receiver	1200N
900HA12E	For sectional doors up to 16 sqm (with 3 m guide) or 19 sqm (with 4 m guide), "Low Energy" with 24 Vdc motor and a control unit with an integrated receiver	1200N
900HA12L	For sectional doors up to 16 sqm (with 3 m guide) or 19 sqm (with 4 m guide), a 24 Vdc motor and a control unit with an integrated receiver and 120Vac power supply	1200N

HEAD/RAIL COMPATIBILITY

	HA8	HA12 - HA12E - HA12L
900RAB31	X	X
900RAB3X1P	X	X
900RAB41	X	X
900RAB61		X
900RAL31		X
900RAL41		X

TECHNICAL SPECIFICATIONS	900HA8	900HA12	900HA12E	900HA12L
Speed	15 cm/s	15 cm/s	15 cm/s	15 cm/s
Force	800 N	1200 N	1200 N	1200 N
Max cycles/hour ⁽¹⁾	20	20	20	20
Max consecutive cycles/hour ⁽¹⁾	10	10	10	10
Rated power	80w	100w	100w	100w
Stand-by power	5,5 W	5,5 W	<0,5 W	5,5 W
Power supply	230vac (±10%) 50hz	230vac (±10%) 50hz	230vac (±10%) 50hz	120vac (±10%) 50/60hz
Flashing	3 W Max	3 W Max	3 W Max	3 W Max
Courtesy light on rail with integrated LEDs	-	40 W Max	40 W Max	40 W Max
Accessories power output	100mA (24 Vdc not regulated)			
Fuse 1 power line	1AT	1AT	1AT	2AT
Max no. of transmitters that can be stored	90	90	90	90
ROLLING CODE				
Degree of protection	IP 20	IP 20	IP 20	IP 20
Use in highly acid, saline or explosive atmosphere	No	No	No	No
Dimensions (L x D x H):	235-330-84 mm	235-330-84 mm	235-330-84 mm	235-330-84 mm
Weight	6,25 Kg	6,8 Kg	6,8 Kg	6,8 Kg
Working temperature	-10°C/+45°C	-10°C/+45°C	-10°C/+45°C	-10°C/+45°C
Maximum door size	12 m ²	19 m ²	19 m ²	19 m ²
Maximum door weight	120 Kg	200 Kg	200 Kg	200 Kg

⁽¹⁾ for door up to 2m in height

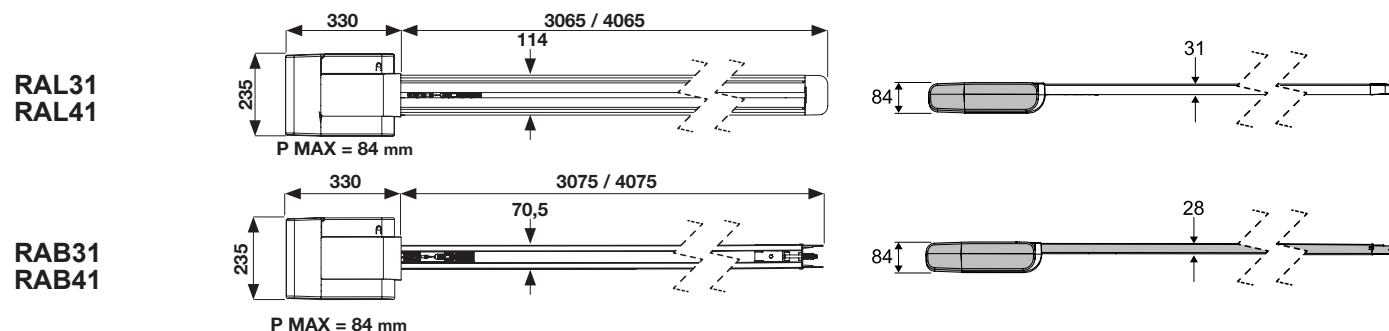
USE LIMITS		USE LIMITS	
Sectional	Up-and-over slide-away	Sectional	Up-and-over slide-away
900HA8 with 3 m rail		900HA12, 900HA12E, 900HA12L with 3 m rail	
S max=11m ² H max = 2,6m	S max=10m ² H max = 3m	S max=16m ² H max = 2,6m	S max=16m ² H max = 3m
900HA8 with 4 m rail		900HA12, 900HA12E, 900HA12L with 4 m rail	
S max=12m ² H max = 3,6m	S max=11m ² H max = 3,4m	S max=19m ² H max = 3,6m	S max=17m ² H max = 3,4m

2.4 - Technical specifications

Recommended model and use - Available rails and dimensions

MODEL	MATERIAL	NOTES	DRIVE TYPE	TOTAL LENGTH	RAIL TRAVEL
900RAL31	Aluminium	With integrated LED lighting	Belt	3090 mm (1x3m)	2660 mm
900RAL41	Aluminium	With integrated LED lighting	Belt	4090 mm (1x4m)	3660 mm
900RAB3X1P	Steel		Belt	3100 mm (3x1.03m)	2670 mm
900RAB31	Steel		Belt	3100 mm (1x3.1m)	2670 mm
900RAB41	Steel		Belt	4100 mm (1x4.1m)	3670 mm

The data shown may vary according to the sliding and balancing performance of the door and the type of rail used.



2.5 - List of cables required

In a typical plant, the cables necessary for connection of the various devices are shown in the cable list table. The cables used must be suitable for the type of installation, for example we recommend a

H03VV-F type cable for indoor installation or H07RN-F for outdoor installation.

CABLE LIST TABLE		
CONNECTION	CABLE TYPE	MAX LENGTH PERMITTED
Power supply line	Schuko CEE 7/4	
Flashing light, courtesy light	1 x cable 3 x 0.5 mm ²	20 m
Antenna	1 x RG58 type cable	20 m (recommended < 5 m)
Transmitter photocells	1 x cable 2 x 0.5 mm ²	20 m
Receiver photocells	1 x cable 4 x 0.5 mm ²	20 m
Radio sensitive edge (*)	1 x cable 4 x 0.5 mm ²	<2 m
Key selector	1 x cable 2 x 0.5 mm ²	20 m

If there is not a suitable power outlet near the equipment, contact qualified personnel for its installation.

(*): refer to the manufacturer's instructions

3 - PRELIMINARY CHECKS

Before installing the product, check and verify the following points:

- Check that the door is suitable for automated control
- The weight and the size of the door must be within the limits of use specified for the automation system in which the product is integrated
- Check that the mechanical safety stops required on the door are solid and properly installed
- Check that the product fixing area is not subject to flooding
- Heavy acidity or salinity conditions or proximity to sources of heat may cause product malfunction
- In case of extreme weather conditions (for example snow, ice, sudden temperature changes, high temperatures) friction could increase and consequently, the force necessary for movement and initial start-up could be higher than that required under standard

conditions

- Check that the manual movement of the door is smooth and free from peak friction points and that there is no risk of the door going off its rails
- Check that the door is well balanced and will not move notwithstanding the position it is left in
- Check that the power line to which the product is to be connected is equipped with an adequate safety earthing system and protected by a magnetothermic circuit breaker and differential cutoff device
- Provide a disconnecting device in the system power supply network with a contact opening gap that allows for complete disconnection in the conditions provided by the overvoltage category III.
- Check that all the material used for installation complies with the regulations in force

4 - PRODUCT INSTALLATION

4.1 - Halo assembly and installation with LED rail

Before starting assembly operations, make sure to have all the necessary tools available (FIG. 5).

Place the rail on a flat surface, protecting it from any scratches. Remove the plastic cap and take out the contents.

Cause the transmission pulley to slide until the screw protrudes more from the end of the rail, unscrew the nut, insert the tensioning spring and re-tighten the nut until belt tension is ensured (FIG. 6, 7). Bring the head close to the rail and place it on a flat surface, protecting the bottom cover from potential scratches. Remove the rear cover by applying pressure to the two points indicated (FIG. 8).

Remove the white cover (FIG. 9), use a utility knife to cut the two rectangles on the white cover and remove them (FIG.10).

Open the indicated door by cutting the plastic material with a utility knife and lifting it gently (FIG. 11), then insert the LED adjustment board (contained in the rail package) with the cables already inserted (FIG. 2, 12). Gently close back the cover. Place the cables in the special slots, inserting the cable without connector into the indicated hole (FIG. 12).

Insert the metal adapter inside the hole on the rail with the help of a rubber mallet (FIG. 13) then insert the rail on the head, taking care to match the adapter grooving to the motor pin's (FIG. 14) and connect the connector (FIG. 15).

ATTENTION !

Check that the cables are inside their provided seats before positioning and tightening the upper plate (FIG. 16) to avoid crushing them. Tighten the 4 cross-head screws.

Open the side door, remove the cable and connect the wires to the control unit (FIG. 17). Close back the side door.

Place the motor on the spring holder shaft (FIG. 18), lift the rail until parallel to the ground, measure the dimension A (distance between the rail and ceiling) and then cut the threaded bar to **a measure corresponding to A - 5 cm** (FIG. 19). The threaded bar and the fixing components are included with the LED rail.

Assemble the components of the threaded bar (FIG. 20). Fix the threaded bar to the ceiling using suitable screws or anchors (not supplied) (FIG. 21). Assemble and insert the lower part of the bracket into the rail causing it to slide in the slots (FIG. 22) then insert the plastic cap in the rail.

Connect the threaded bar to the hexagonal nut at the top of the rail, turning the bar, until it goes in by about 1 cm, in order to have a per-

fectly horizontal rail. Then tighten the nuts in the indicated sequence (FIG. 23).

Insert the long screws and turn them by hand, to allow the nuts to fit back inside their seats (FIG. 24). Allow the screws to protrude by a few millimetres, so that the bracket can be inserted in the provided slot. Use the slot to position the bracket on the cross beam and mark the positions of the holes (FIG. 25).

Move the motor to the side and fix the bracket using suitable screws and anchors (not supplied) (FIG. 26).

Reposition the motor on the bracket.

ATTENTION !

Now turn the long side screws only slightly (FIG. 38). Do not tighten hard so as not to damage the nut seats.

Tighten the lock nuts (FIG. 27) hard, while holding the screws in place with a hexagonal wrench.

ATTENTION !

Do not turn the screws to avoid breaking the nut seats, turn exclusively the lock nuts until tight.

Fix the lower jaws (FIG. 28).

Fix the bracket to the upper part of the door, in a central position (FIG. 29) and exactly in the middle of the C-shaped bracket (FIG. 26). Measure the indicated dimensions (TAB. 1A) and put together the connecting arm with the indicated parts (TAB. 2).

Release the slider by operating the release cord (FIG. 30).

Pull the slider clip, insert the curved arm and its pin inside it (FIG. 31, 32, 33, 34) and tighten the 2 countersunk-head screws to close the clip. Also tighten the 2 countersunk head screws symmetrically at the opposite end of the slider.

Connect the arm to the door (FIG. 35), then reset the slider by moving the release cord to allow the lever to retract and lock it, moving the door manually until it engages (FIG. 36).

Remove the transparent stickers provided to protect the rail and LED diffuser profiles (FIG 37).

After completing the programming (next paragraphs), fix the safety screw (FIG. 52) and place the white cover back (FIG. 53).

4.2 - 3-part rail assembly

Assemble the rail (FIG. 4) then pull the belt (FIG. 7)

4.3 - Single rail assembly

Pull the belt (FIG. 7)

4.4 - Connection of the motor casing to the steel rails

Follow the instructions in section 4.1 (FIG. 13, 14, 16)

4.5 - Installation with motor casing on cross beam

ATTENTION !

For anything not indicated, please refer to paragraph 4.1

Follow the instructions in section 4.1 from FIG. 25; please be careful not to connect the bracket to the slot, but to the single hole (FIG. 38) and to follow the instructions of TAB. 1B and TAB. 2. Then continue following the instructions in section 4.1

4.6 - Standard installation

ATTENTION !

For anything not indicated, please refer to paragraph 4.1

ATTENTION !

DO NOT REMOVE THE REAR COVER!

Fix the bracket to the cross beam (FIG. 26), then connect the steel rail using one of the two long screws supplied (FIG. 39) and to follow the instructions of TAB. 1C and TAB. 2.

Raise the rail until parallel to the ground, measure the dimension A and then cut the two ceiling brackets as shown: dimension **A + 3 cm** (FIG. 40). Insert the quick coupling plate, then connect it to the ceiling brackets (FIG. 41, 42). Fix the brackets to the ceiling using suitable screws and anchors (not supplied).

Follow the instructions in section 4.1 from FIG. 29 to FIG. 35, by inserting the arm in the slit of the slider previously cut open with a utility knife (FIG. 43).

4.7 - Manual opening of the door

In the event of a power failure and if the optional buffer battery is not available, to unlock the automation system:

PHASE DESCRIPTION

1	Pull the cord in order to bring the release lever to its vertical position (FIG. 30)
2	Lift or lower the door manually
3	To reset the automation system, move the cord so as to allow the release lever to fit fully back into the pulling slider (FIG. 36)
4	Lift or lower the door manually until it engages with the rail

4.8 - Fixing the LED rail opening limit stop

Unlock the slider, manually lift the door until it is in its maximum possible indicated opening position **H - 10 cm** (FIG. 44). Mark the end position of the slider with a pencil (FIG. 45), then drill a

hole and fix with the screw (FIG. 46).

4.9 - Fixing the steel rail opening limit stop

Unlock the slider, manually lift the door until it is in its maximum possible indicated opening position **H - 10 cm** (FIG. 44).

Firmly fasten the limit stops (FIG. 47).

4.10 - Electrical wiring

ATTENTION !

Before connecting, check that the control unit is not powered

Follow the connection instructions (FIG. 48)

ELECTRICAL WIRING

COM	FLASH, LED output common
FLASH	Flashing output 24Vdc (not regulated), maximum 3W
LED	Courtesy light output 24Vdc (not regulated), maximum 20W
PH-POW	Photocell power positive output 24Vdc (not regulated), maximum 100mA
NEG	Photocell power negative output
PH	Photocells (closing) NC contact between PH and COM
EDGE/EDGE	Sensitive edge input, NC contact, 8k2 resistive or 8k2 double resistive (parallel)

SBS	STEP BY STEP NO contact control between SBS and COM Open/Stop/Close/Stop control or control based on software selection
STOP	NO contact STOP between STOP and COM. The contact can be activated at any time and will immediately lock the automation system, disabling any function including automatic closing
COM	SBS, STOP input common
L1	RED LED indicating programming of control panel parameters
MENU	Key for programming control panel parameters
RADIO	Key for programming integrated radio parameters
L2	GREEN LED indicating programming of radio parameters
KUBE/DYL	DYL and KUBE connector
SBS	SBS (STEP-BY-STEP) key for automation system control
DIP1/PH DIP2/EDGE	Dip switch for disabling safety devices (PH, EDGE) see FIG. 48
SHIELD	Antenna - sheath -
ANT	Antenna - signal -

The LED flashing light must be connected to the COM and FLASH terminals.

The courtesy light must be connected to the COM and LED terminals.

The SBS step by step contact must be connected to the COM and SBS terminals (normally open NO contact).

The photocell contact must be connected to the COM and PH terminals. **To bypass the photocell, move the left-hand dip switch upwards. After having activated the dip switch, the LEDs L1 and L2 start to flash at a fast rate.**

⚠ ATTENTION !

CONFIRM INPUT PH DEACTIVATION BY PRESSING THE MENU

AND RADIO BUTTONS SIMULTANEOUSLY AND HOLDING THEM DOWN UNTIL THE LEDs L1 AND L2 STOP FLASHING.

The inputs of the sensitive EDGE must be connected to the EDGE and EDGE terminals. **To bypass the sensitive edge, move the right-hand dip switch upwards. After having activated the dip switch, the LEDs L1 and L2 start to flash at a fast rate.**

⚠ ATTENTION !

CONFIRM INPUT EDGE DEACTIVATION BY PRESSING THE MENU AND RADIO BUTTONS SIMULTANEOUSLY AND HOLDING THEM DOWN UNTIL THE LEDs L1 AND L2 STOP FLASHING.

4.11 - Memorising a remote control

If you have a KUBE PRO wireless module, connect it to the control unit (FIG. 49, 50) and follow the instructions on the screen.
If you have a DYL cable module, connect it to the control unit and

follow the instructions on the screen.
Otherwise proceed as described below:






MEMORISING A REMOTE CONTROL

⚠ ATTENTION !




By activating the memorising phase any transmitter within the range can be stored. To reduce the receiver range, disconnect the antenna temporarily.

PHASE	DESCRIPTION	EXAMPLE
1	Press and release the RADIO button for a number of times equal to the feature that you wish to activate: 1 time for the feature: SBS (STEP-BY-STEP or OPEN - STOP - CLOSE - STOP), 2 times for the feature: PARTIAL OPENING, 3 times for the feature: OPENING ONLY, 4 times for the feature: LIGHT ON/OFF, 5 times for the feature: PRE-SET (key 1 = SBS, key 2 = PARTIAL OPENING, key 3 = OPENING ONLY, key 4 = LIGHT ON/OFF) 6 times for the feature: WALL BUTTON (key 1 = CLOSES/STOP, key 2 = OPENS/STOP, key 3 = VENTILATION, key 4 = LIGHT ON/OFF)	
2	LED L2 flashes a number of times corresponding to the selected output at 1 second intervals	
3	Within 10 seconds, press and hold the button of the radio control that you wish to store for at least 2 seconds	
4	If the memorisation has been successful, the LED L2 will emit a long flash	
5	To memorize another remote control on the same output, repeat point 3	
Note	After 10 seconds of inactivity, the receiver automatically exits the programming phase	

DELETING A REMOTE CONTROL

PHASE	DESCRIPTION	EXAMPLE
1	Press the RADIO button until the LED L2 lights up (about 3 seconds)	
2	Within 10 seconds, press and hold a button of the remote control that you wish to delete until the LED L2 on the receiver goes off. Release the remote control button	
3	After about 1 second from releasing the button the LED L2 on the receiver starts to flash	
4	Confirm deleting by pressing the RADIO button	
5	If deleting has been successful, the LED L2 will emit one long flash	
Note	After 10 seconds of inactivity, the receiver automatically exits the deleting phase	





CLEARING THE ENTIRE RECEIVER MEMORY/RECEIVER RESET

PHASE	DESCRIPTION	EXAMPLE
1	Press and hold the RADIO button until the LED L2 lights up (about 3 seconds) and then goes off (about 3 seconds). Release the button	
2	After about 1 second from releasing the button the LED L2 on the receiver starts to flash	
3	To delete all the memory, press the RADIO button upon the third flash	
4	If deleting/resetting has been successful the LED L2 will emit one long flash	

REMOTE MEMORISATION OF A REMOTE CONTROL WITH A REMOTE CONTROL ALREADY MEMORISED

A transmitter can be memorised without accessing the receiver. The user needs to have a transmitter memorised previously, after which the procedure is as described below. The remote

copy procedure must be carried out in the area served by the receiver.

PHASE	DESCRIPTION	EXAMPLE
1	Press and hold the button of the new radio control that you wish to store for at least 5 seconds	
2	Press and hold the button of the old radio control to be copied for at least 3 seconds (if the previous phase 1 was successful, the automation system will not move)	
3	Press and hold the button of the new remote control that you wish to store for at least 3 seconds	
4	Press and hold the button of the old remote control to be copied for at least 3 seconds to confirm and exit the programming phase	
Note	After 10 seconds of inactivity, the receiver automatically exits the programming phase	

4.12 - Learning opening and closing values

If you have a KUBE PRO wireless module, connect it to the control unit (FIG. 49, 50) and follow the instructions on the screen.
If you have a DYL cable module, connect it to the control unit and follow the instructions on the screen.

⚠ ATTENTION !

If you had previously connected the KUBE PRO module, KUBE or the DYL programmer, power the device off for a few seconds to be able to use the manual procedure.

The photocell contact must be connected to the COM and PH terminals. To bypass the photocell, move the left-hand dip switch upwards. After having activated the dip switch, the LEDs L1 and L2 start to flash at a fast rate.

⚠ ATTENTION !

CONFIRM INPUT PH DEACTIVATION BY PRESSING THE MENU

PHASE	DESCRIPTION
1	Program a remote control if you do not have a remote control already stored or work the SBS button of the control unit
2	If the slider has never been moved by hand, the door, with the slider attached to the rail, must be in its partial opening position
3	Press the SBS button of a stored remote control or the SBS button on the control unit or an external button connected to the SBS input of the control unit

AND RADIO BUTTONS SIMULTANEOUSLY AND HOLDING THEM DOWN UNTIL THE LEDs L1 AND L2 STOP FLASHING.

The inputs of the sensitive EDGE must be connected to the EDGE and EDGE terminals. To bypass the sensitive edge, move the right-hand dip switch upwards. After having activated the dip switch, the LEDs L1 and L2 start to flash at a fast rate.

⚠ ATTENTION !

CONFIRM INPUT EDGE DEACTIVATION BY PRESSING THE MENU AND RADIO BUTTONS SIMULTANEOUSLY AND HOLDING THEM DOWN UNTIL THE LEDs L1 AND L2 STOP FLASHING.

Note: Led intensity will decrease during movement of the door

Otherwise proceed as described below:

	The door must perform a slow-speed opening
4	<p>⚠ ATTENTION !</p> <p>If the door closes, press the button again to stop it then press it again to reverse the direction. This procedure can only be successful if the first operation is an opening stroke and it ends with the slider impacting the mechanical stop previously positioned</p>
5	The door reaches full opening position as the slider reaches its mechanical stop, stops for a second and then restarts in the closing direction until the operation is complete
6	The values are stored
7	Perform AT LEAST one second full opening operation and one second full closing operation from the limit stop point without breaks, to allow the control unit to store the motor stress along the travel
8	If the automation system fails to complete the operation, check that there are no mechanical jams along the travel, the balancing of the door and possibly change and reduce the obstacle sensitivity parameter
9	<p>To reset opening and closing values:</p> <p>press and hold the MENU button until the LED L1 lights up and then goes off. Release the MENU button. LED L1 emits long flashes. Press the MENU button again upon the:</p> <p>5th flash for the HALO 800 motor 6th flash for the HALO 1200 motor</p> <p>If the procedure is successful, LED L1 will emit a long flash, otherwise it will flash repeatedly at a fast rate</p> <p>Repeat the procedure from point 4 above</p>

4.13 - Changing a control unit parameter

If you have a KUBE PRO wireless module, connect it to the control unit (FIG. 49, 50) and follow the instructions on the screen. follow the instructions on the screen.
If you have a DYL cable module, connect it to the control unit and Otherwise proceed as described below:

PHASE DESCRIPTION

1	Press the MENU button a number of times corresponding to the parameter to be changed (TAB. 3 - P. 51)
2	LED L1 emits quick flashes followed by a pause corresponding to the parameter to be changed
3	Press and hold down MENU for more than 3 seconds
4	The LED L1 remains off
5	Release the MENU key
6	The LED L1 will start emitting long flashes, the number of flashes matches the maximum settable parameter value. At the end of the last flash the procedure ends without any parameter change
7	Briefly press the MENU button upon the flash corresponding to the desired parameter value
8	If the procedure is successful, LED L1 will emit a long flash, otherwise it will flash repeatedly at a fast rate

4.14 - Control unit parameter resetting

PHASE DESCRIPTION

1	Press and hold the MENU button until the LED L1 lights up and then goes off
2	Release the MENU key
3	LED L1 will start emitting long flashes
4	Press the MENU button again upon the 3rd flash
5	If the procedure is successful, LED L1 will emit a long flash, otherwise it will flash repeatedly at a fast rate

4.15 - Hole for access control mechanism

Close the garage door (controlled by the motor); using a pencil, mark the position of the slider on the opposite side with respect to the door. Release the slider, then drill a 10 mm hole in the centre of the rail where marked (FIG. 51).

Check the efficient operation of the mechanism by closing the door manually, resetting the slider and trying to open the garage door manually.

4.16 - Using the display programmer

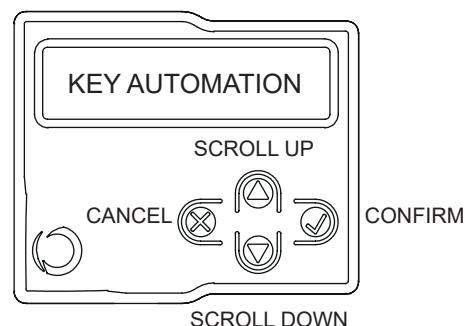
To customise the programmer's language, proceed as follows:



N.B.: When the display is turned on for the first time, the user will be prompted to select a language. Press ▲ or ▼ to select the desired language and then confirm with V.

If no language is selected (press the X key), the control unit will use the default language (ENGLISH) until the next power-on.

In normal mode, i.e. when the system is powered on normally and the display programmer is connected, press X until the wording "Key Automation" is displayed. In this way, you will be able to view the following status messages:



EVENT	DESCRIPTION	FLASHING INDICATION AND CONTROL UNIT CONTROL LEDS
opening	Door opening	
ventilation opening	Door opening for ventilation	
closing	Door closing	
automatic closing	Open door with timed closing active	
stop in closing	Door stopped in closing phase	
stop in opening	Door stopped in opening phase	
open	Door fully open without automatic closing	
open in ventilation	Door open in ventilation without automatic closing	
closed	Door fully closed	
programming	During the programming phase	2 fast flashes + pause + 1 flash
obstacle	Detected motor obstacle	4 fast flashes + pause 3 times
photo!	Photocell operation	2 fast flashes + pause 3 times
sensitive edge!	Sensitive edge operation	5 fast flashes + pause 3 times
partial opening	Partial opening in progress	
partial automatic closing	Partial door opening with active timed closing	
ventilation automatic closing	Open door in ventilation with active timed closing	
FLASH/LED error	FLASH and LED output overload	6 fast flashes + pause 3 times
phototest error	Phototest error detected	3 fast flashes + pause 3 times
limit switch error!	Limit switch/mechanical stop error detected	8 fast flashes + pause 3 times
memory error	Memory error detected	10 fast flashes + pause 3 times

4.17 - KUBE PRO / KUBE wireless module connection

Before carrying out any operation, power off the equipment.

Remove the plastic protection cover of the KUBE module connector. Remove the plastic shells (FIG. 49) and insert the card in its special input slot (FIG. 50).

⚠ ATTENTION !

Once removed from its container, handle the KUBE module with extreme care.

⚠ ATTENTION !

Carefully check the position of the KUBE module on the control unit connector (FIG. 50).

With the KUBE PRO and DYL programmers it is possible to change, in addition to the parameters (TAB. 3), the following parameters:

opening speed* - slowing speed in opening* - closing speed* - slowing speed in closing* - slowing extent in opening* - slowing extent in closing* - phototest - sensitive edge test - partial opening extent - garage ventilation function extent - partial automatic closing time - ventilation automatic closing time - flashing operation mode - pre-flashing time - light intensity at end of movement - integrated

courtesy light operation - operation after power failure - flashing activation for maintenance - default - input lock with password - receiver lock with password - stop contact.to change follow the instructions on the screen.

* After adjusting the parameter it is mandatory to control at least two complete operations to allow the control unit to store the motor stress throughout the stroke

⚠ ATTENTION !

5 - TESTING AND COMMISSIONING THE AUTOMATION SYSTEM

The system must be tested by a qualified technician, who must perform the tests required by the relevant standards in relation to the risks present, to check that the installation complies with

the relevant regulatory requirements, especially the EN12445 standard which specifies the test methods for gate and door automation systems.

5.1 - Testing

All system components must be tested following the procedures described in their respective operator's manuals

ensure that the recommendations in Chapter 1 - Safety Warnings - have been complied with

check that the gate or door is able to move freely once the automation system has been released and is well balanced, meaning that it will remain stationary when released in any position;

check that all connected devices (photocells, sensitive edges, emergency buttons, etc.) are operating correctly by performing gate or door opening, closing and stop tests using the connected control devices (transmitters, buttons or switches);

perform the impact measurements as required by the EN12445 standard, adjusting the control unit's speed, motor force and deceleration functions if the measurements do not give the required results, until the correct setting is obtained.

5.2 - Commissioning

Once all (and not just some) of the system devices have passed the testing procedure, the system can be commissioned;

the system's technical dossier must be produced and kept for 10 years. It must contain the electrical wiring diagram, a drawing or photograph of the system, the analysis of the risks and the solutions adopted to deal with them, the manufacturer's declaration of conformity for all connected devices, the operator's manual for every device and the system maintenance plan:

fix a dataplate with the details of the automation, the name of the person who commissioned it, the serial number and year of construction and the CE marking on the gate or door:

also fit a plate specifying the procedure for releasing the system by hand:

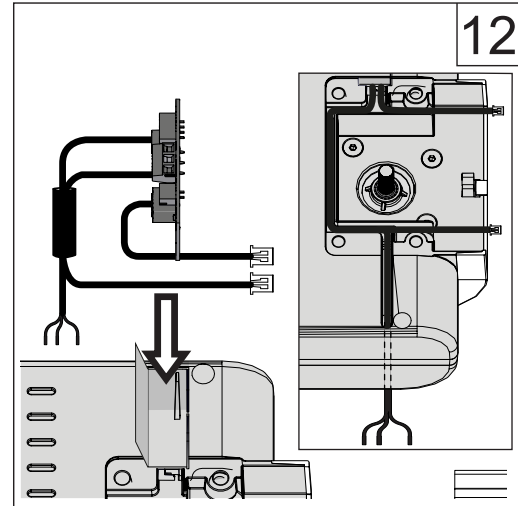
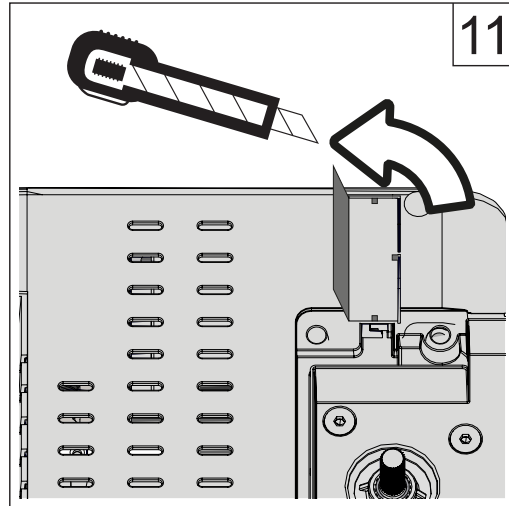
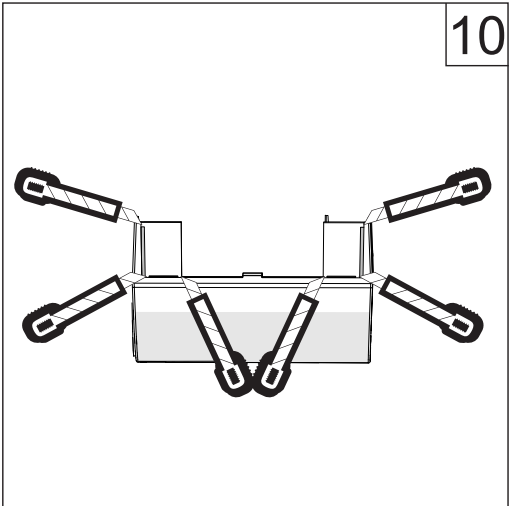
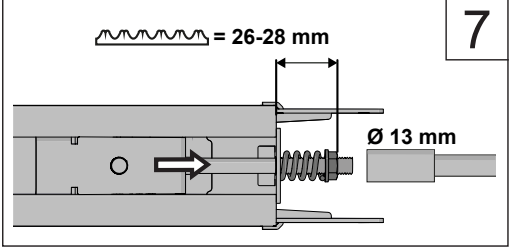
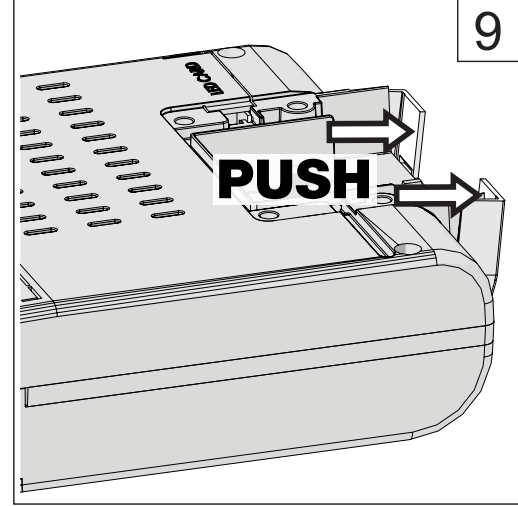
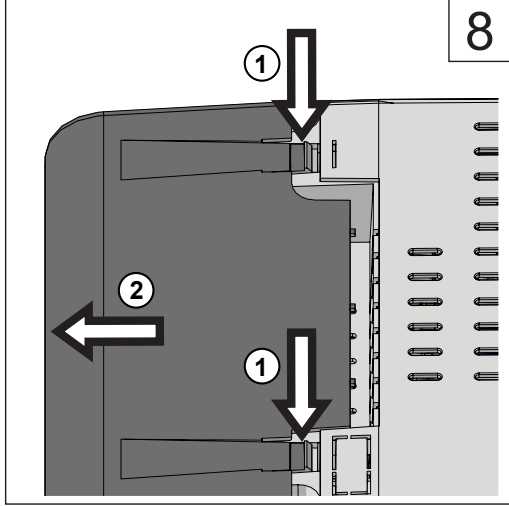
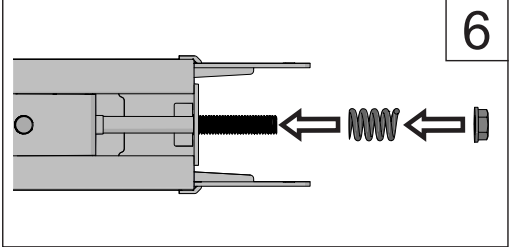
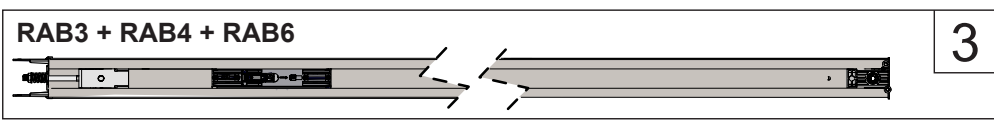
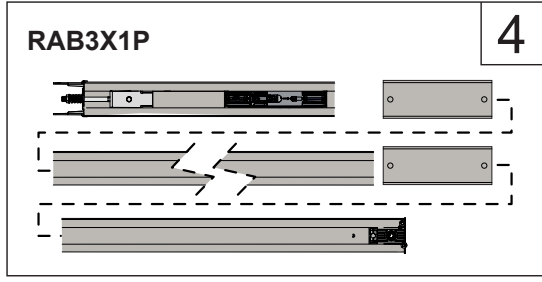
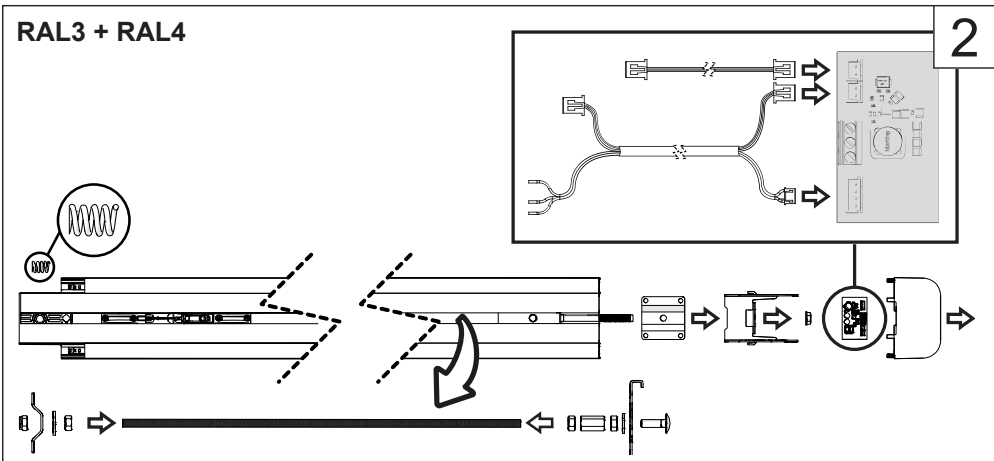
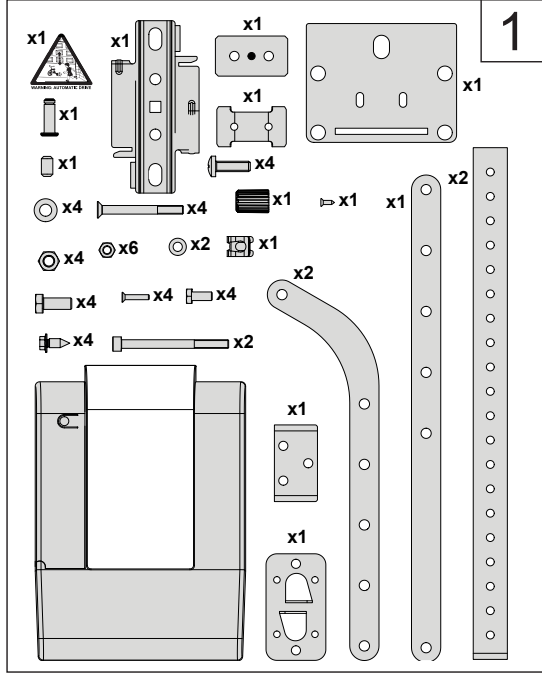
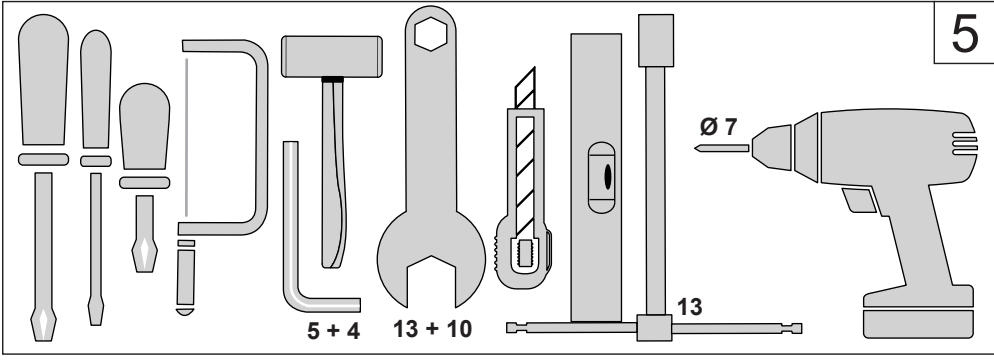
draw up the declaration of conformity, the instructions and precautions for use for the end user and the system maintenance plan and consign them to the end user;

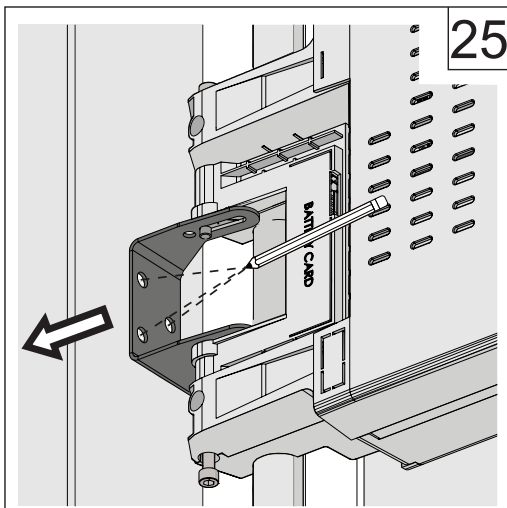
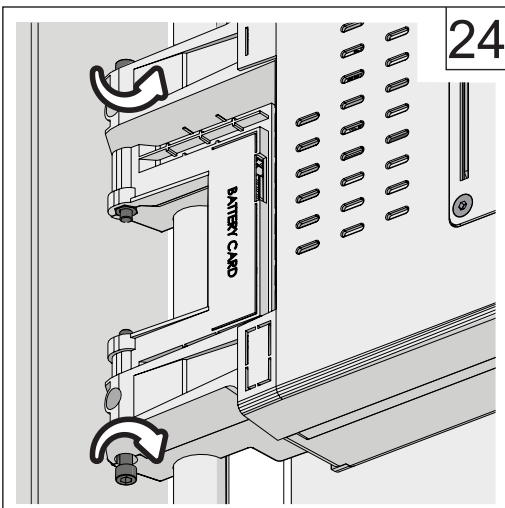
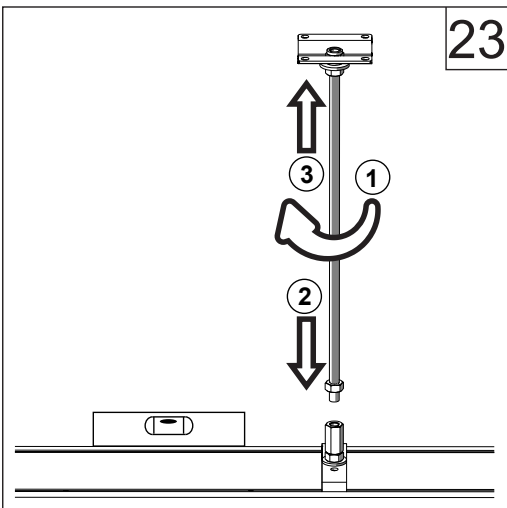
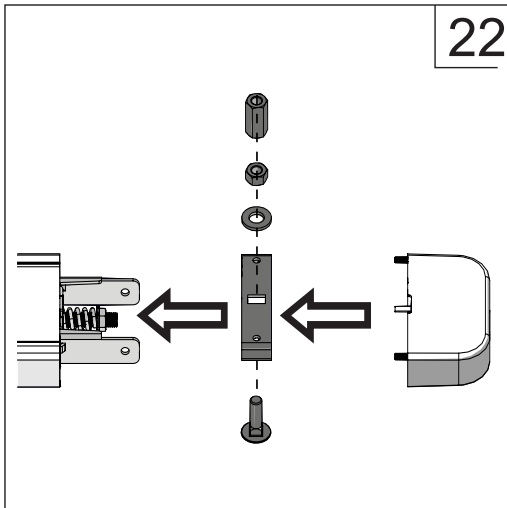
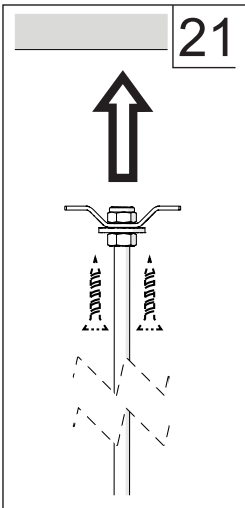
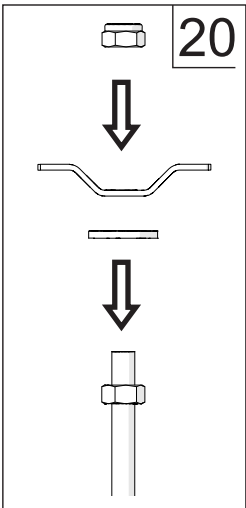
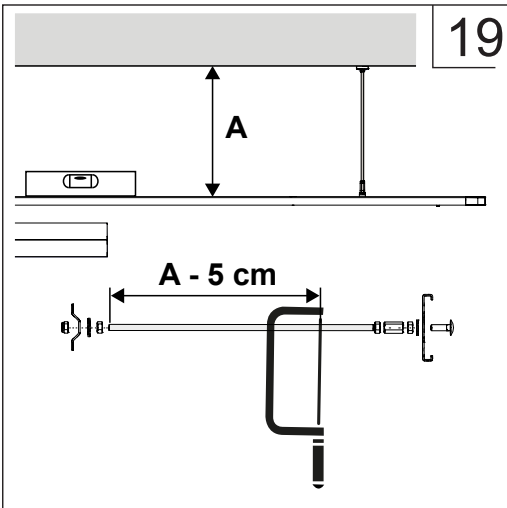
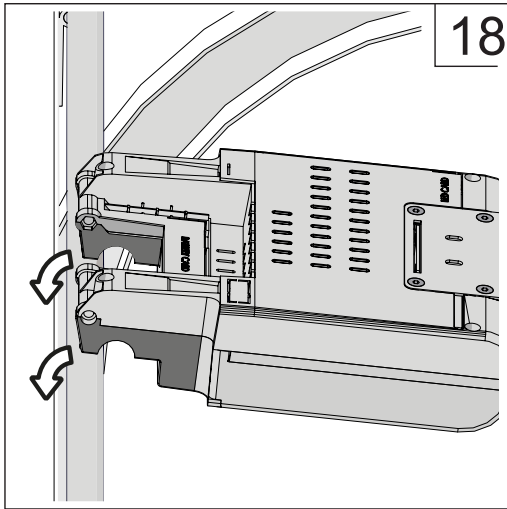
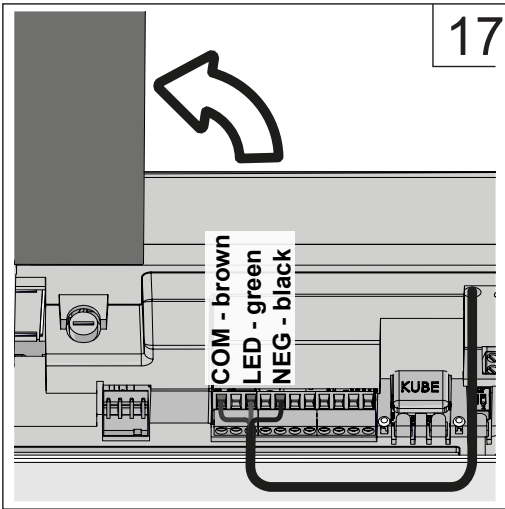
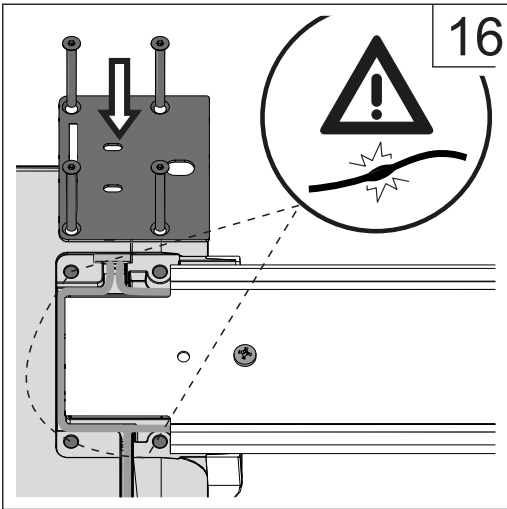
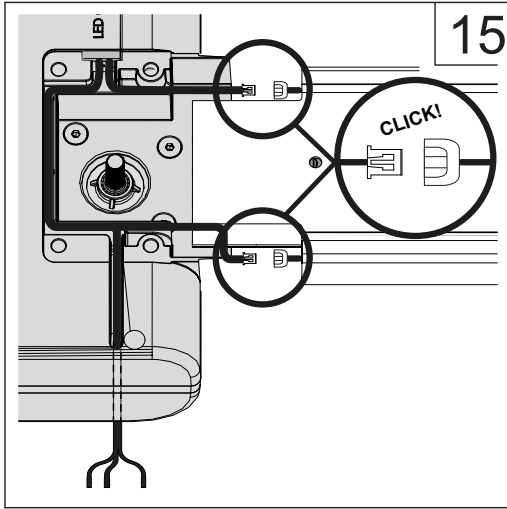
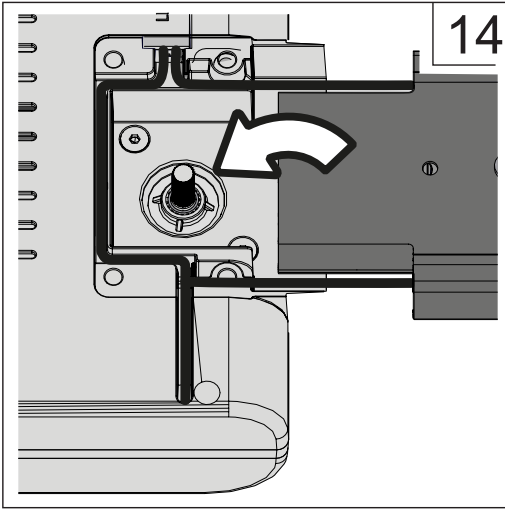
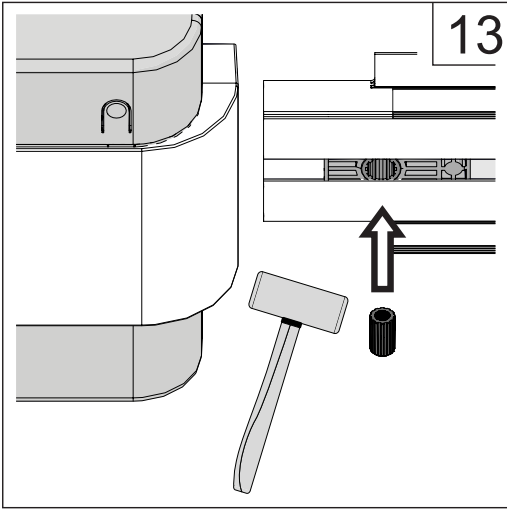
ensure that the user has fully understood how to operate the system in automatic, manual and emergency modes;

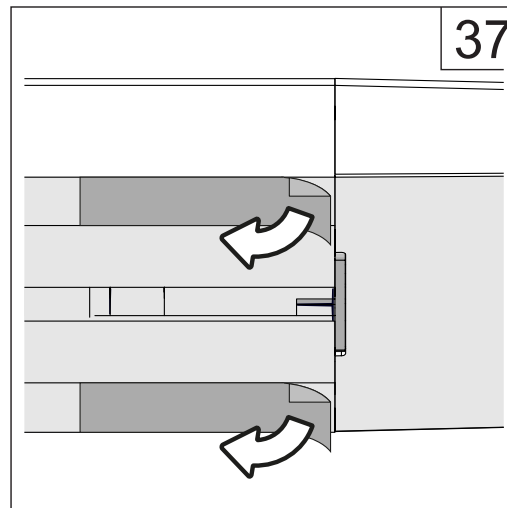
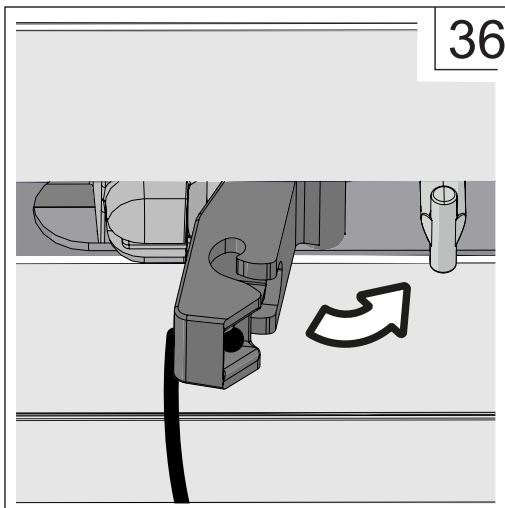
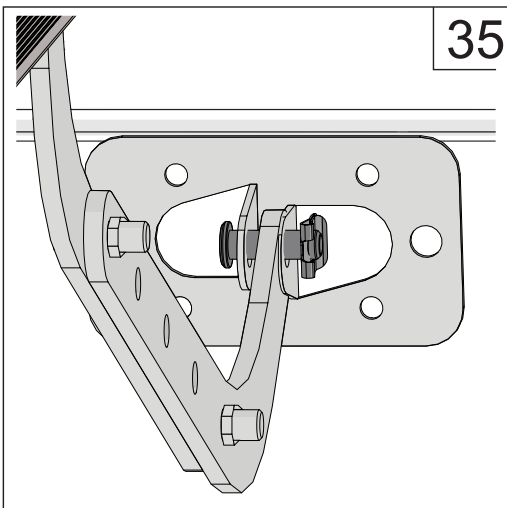
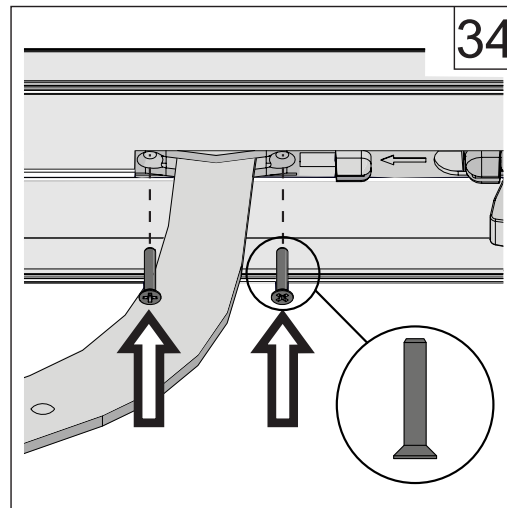
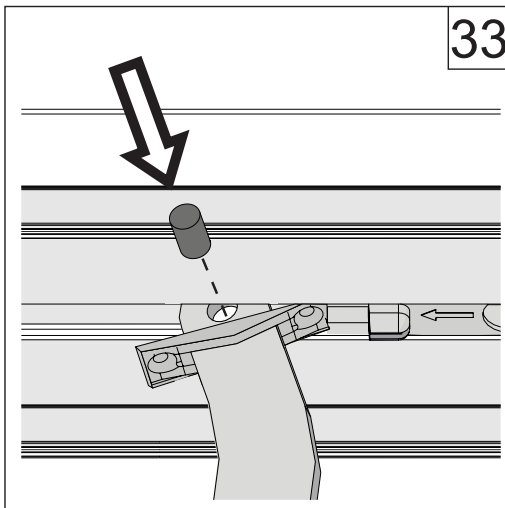
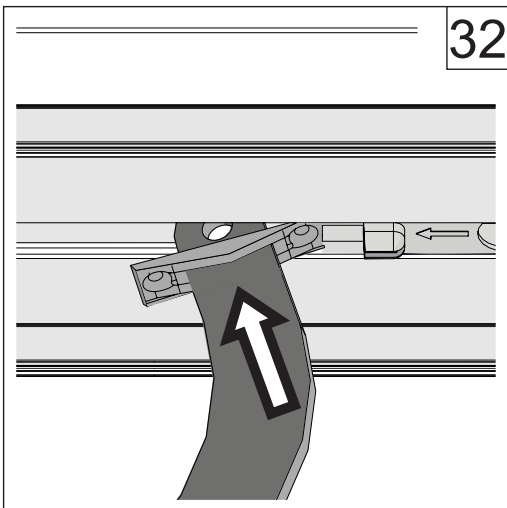
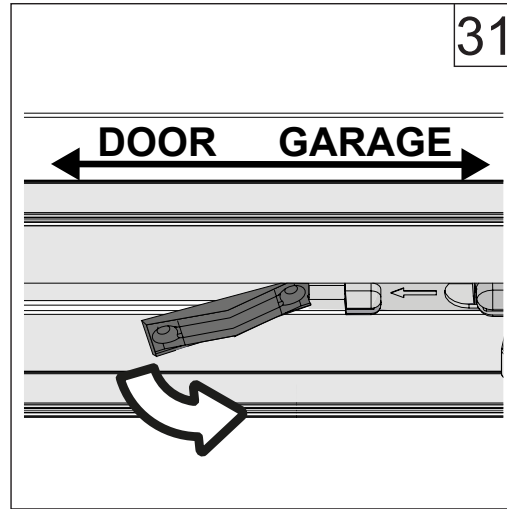
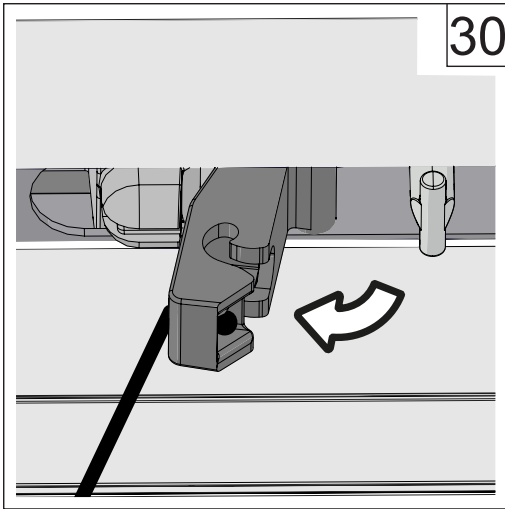
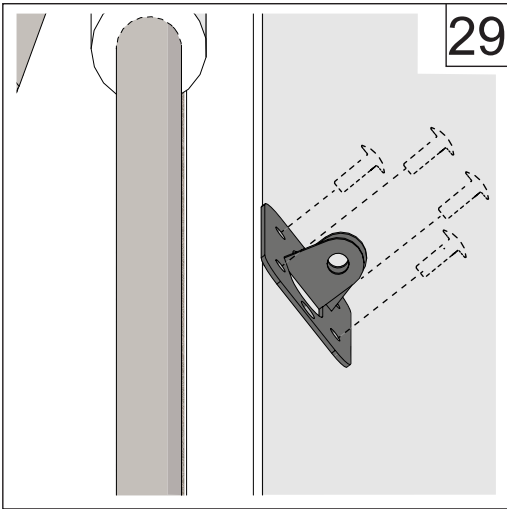
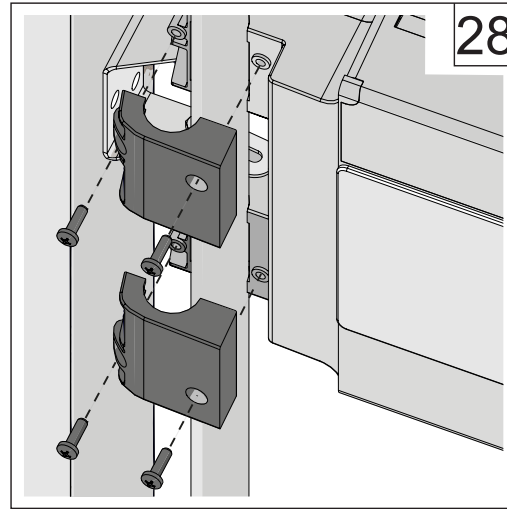
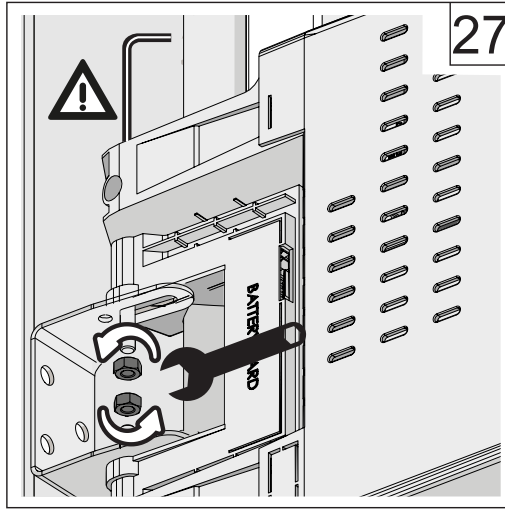
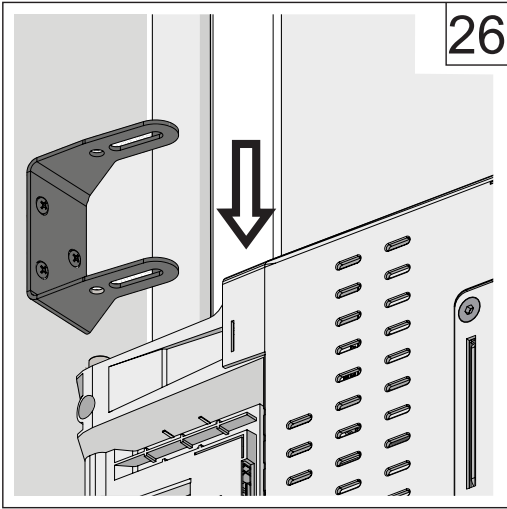
the end user must also be informed in writing about any risks and hazards still present;

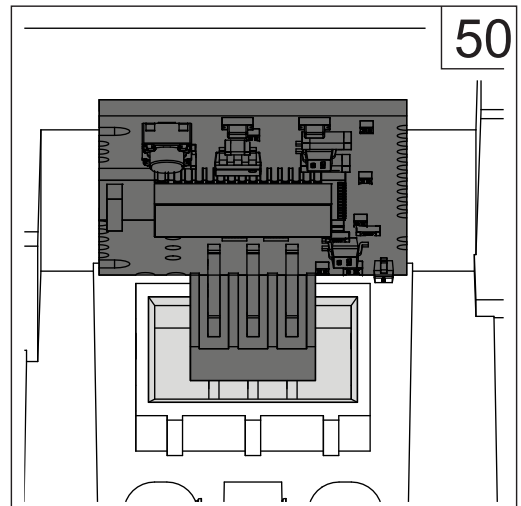
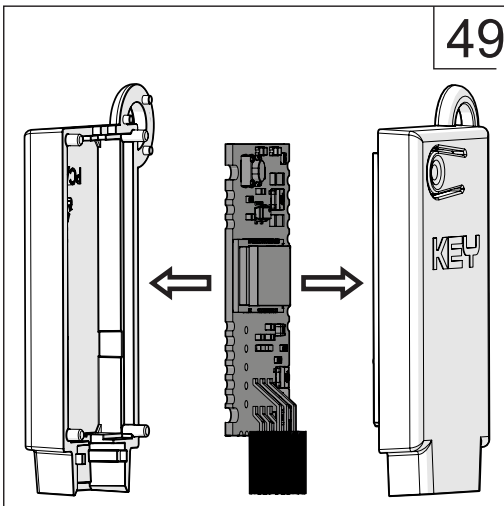
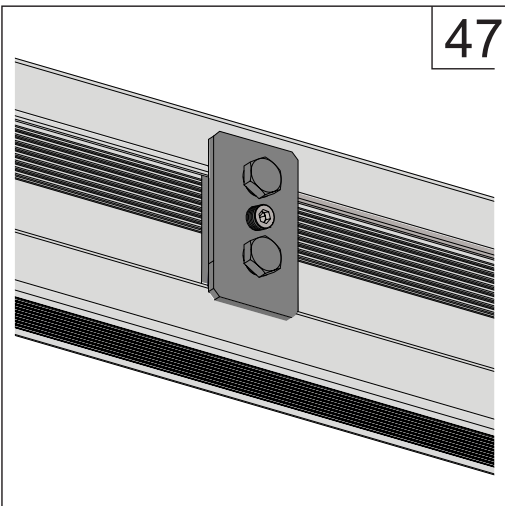
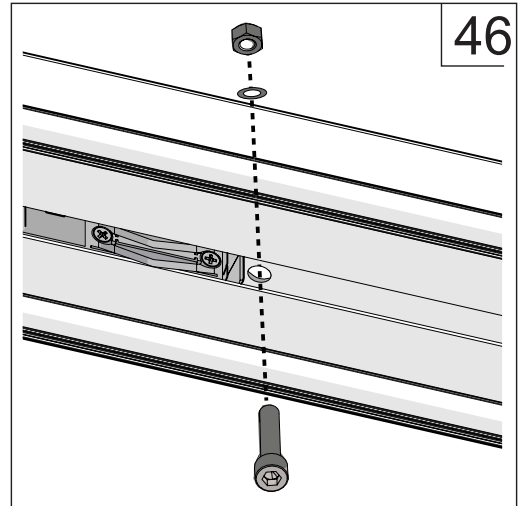
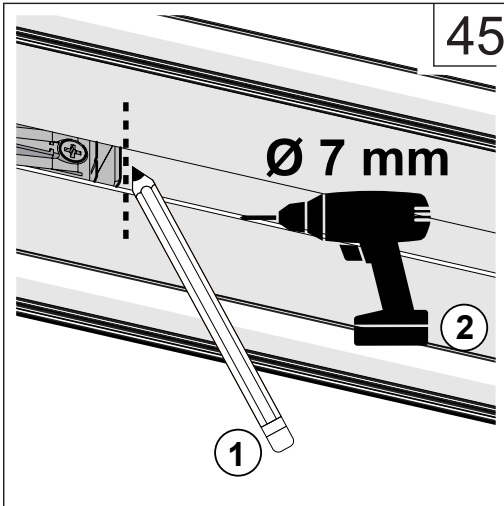
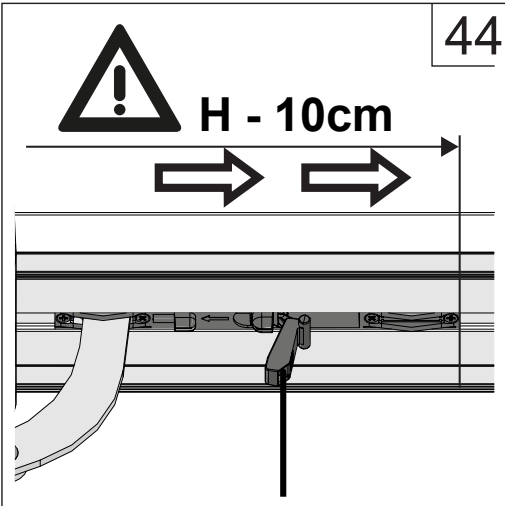
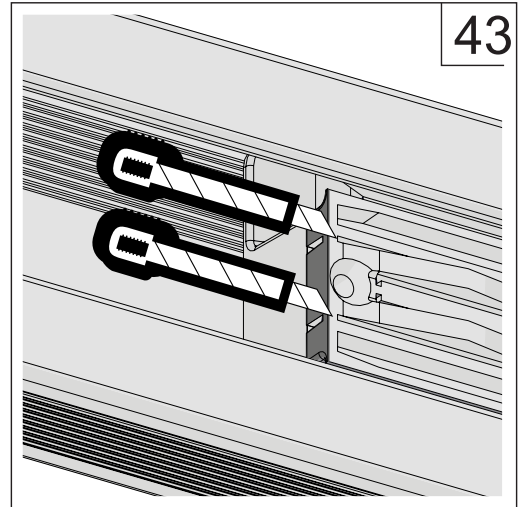
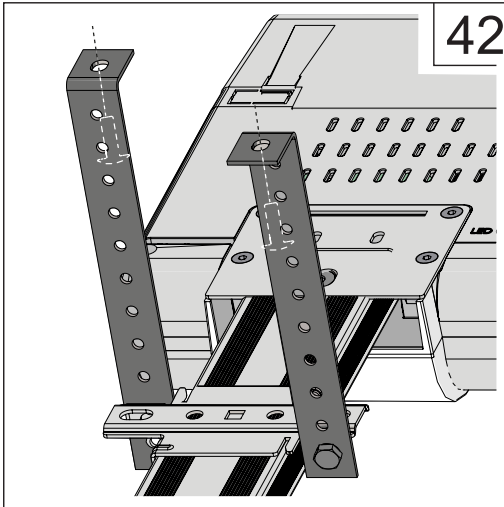
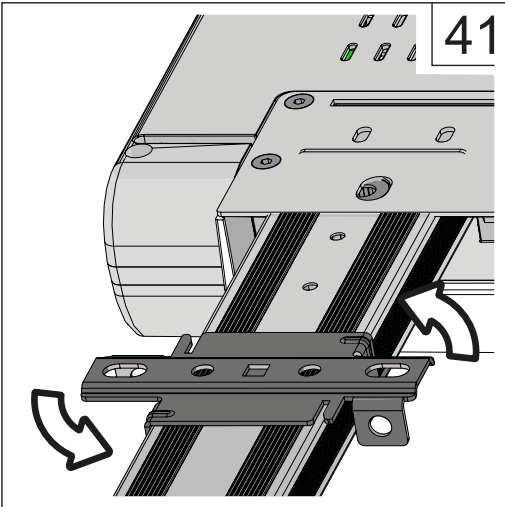
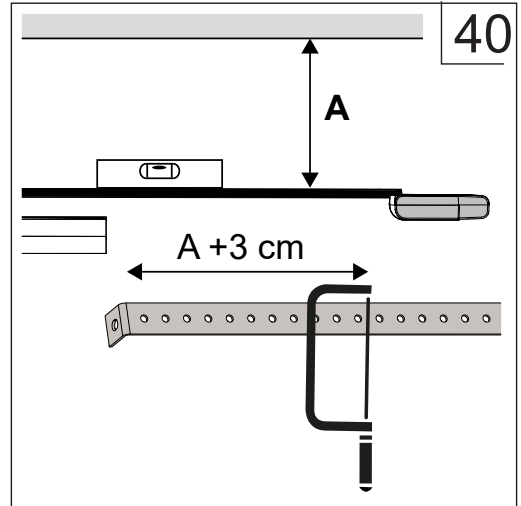
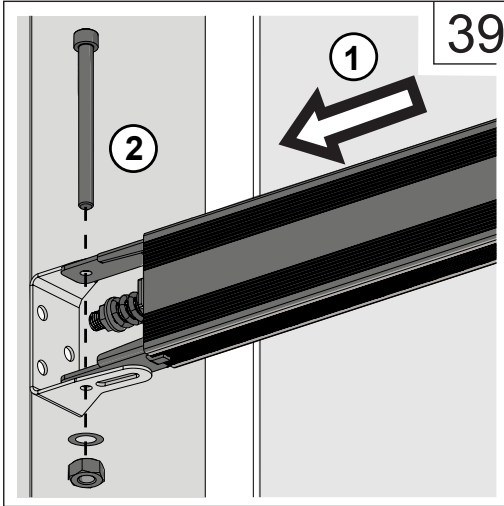
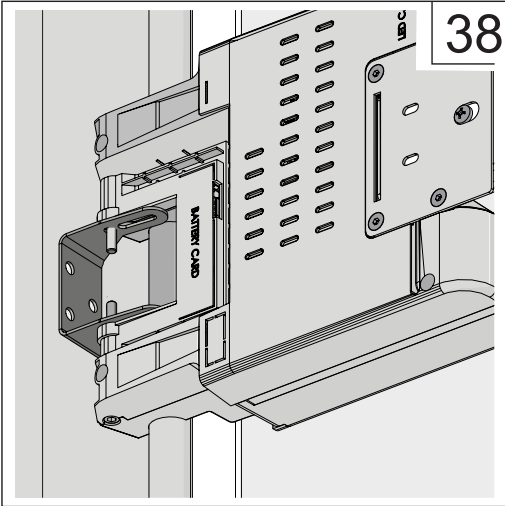
WARNING!

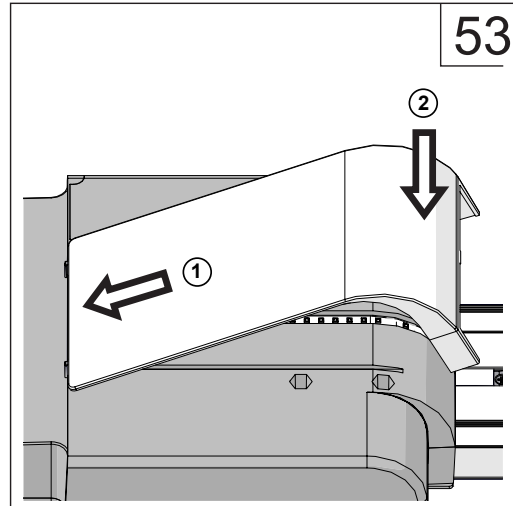
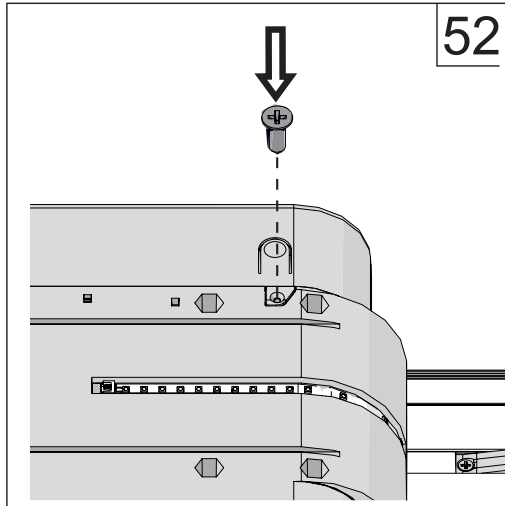
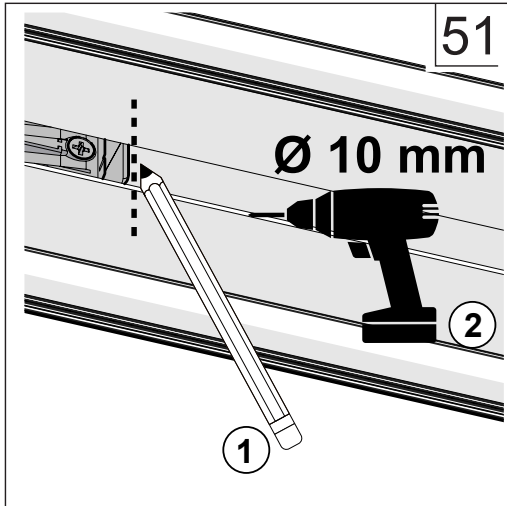
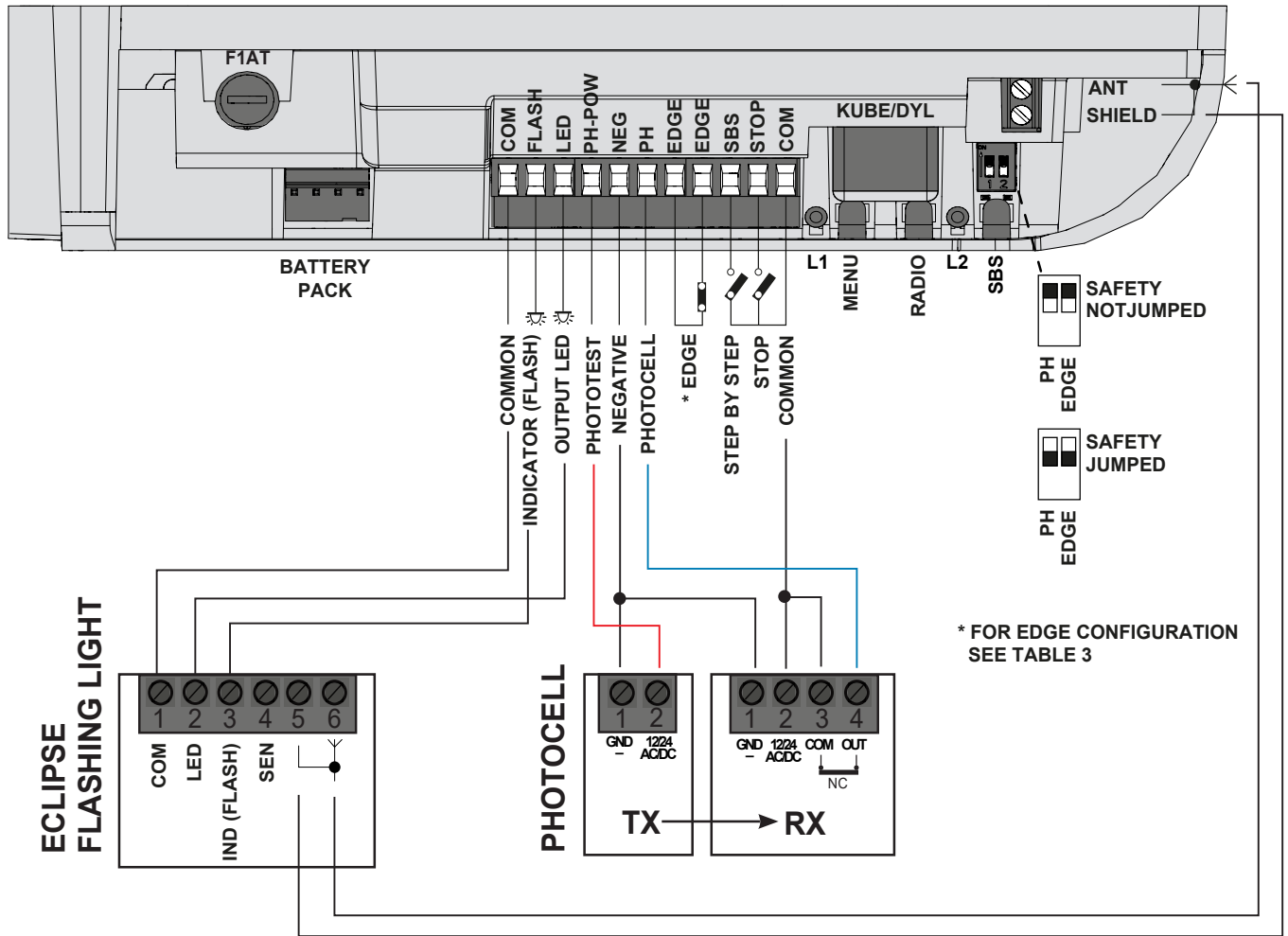
After detecting an obstacle, the gate or door stops during its opening travel and automatic closure is disabled; to restart operation, the user must press the control button or use the transmitter.



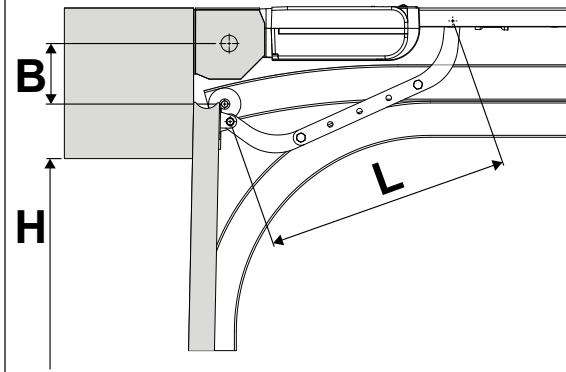






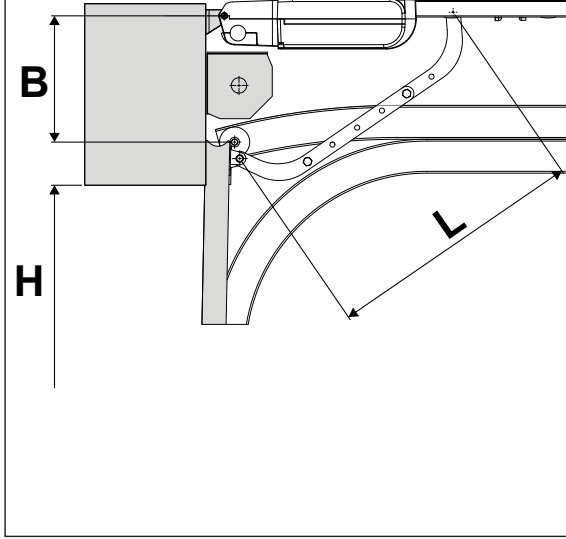


TAB. 1A



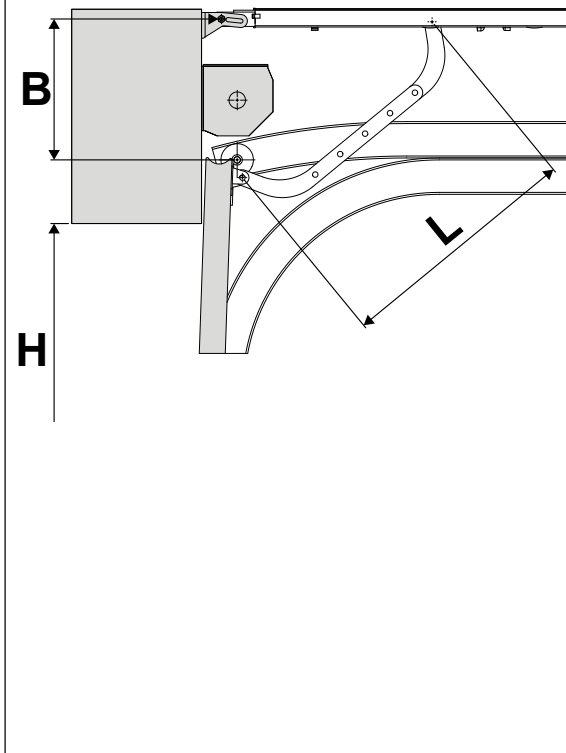
B (mm)	L (mm)	Arm Type	Clear passage H-10 cm [m]	Door Height H [m]	Note
90	380	L2	2,5	2,6	
110	380	L2	2,5	2,6	
130	430	L3	2,5	2,6	
150	430	L3	2,5	2,6	
170	430	L3	2,5	2,6	
190	430	L3	2,5	2,6	

TAB. 1B



B (mm)	L (mm)	Arm Type	Clear passage H-10 cm (m)	Door Height H (m)	Note
130	380	L2	2,5	2,6	door springs in the back
150	380	L2	2,5	2,6	
170	430	L3	2,5	2,6	
190	430	L3	2,5	2,6	
210	430	L3	2,5	2,6	
230	480	L4	2,5	2,6	
250	480	L4	2,5	2,6	
270	530	L5	2,5	2,6	
290	530	L5	2,5	2,6	
310	530	L5	2,5	2,6	

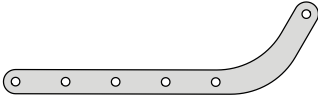
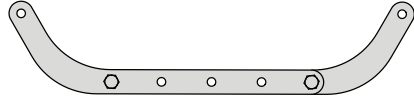
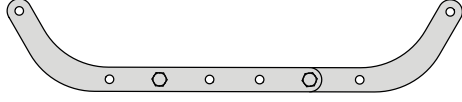
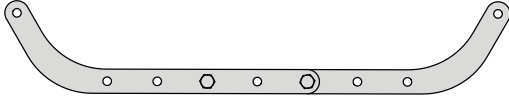
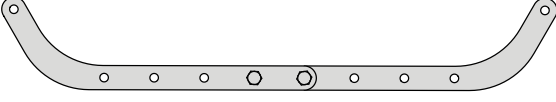
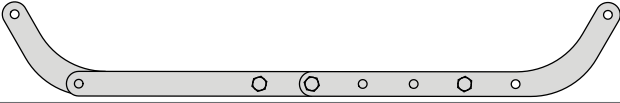
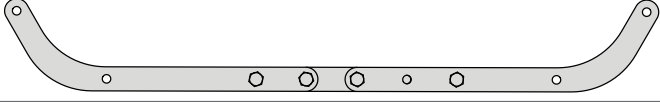
TAB. 1C









B (mm)	L (mm)	Arm Type	Clear passage H-10 cm (m)	Door Height H (m)	Note
110	300	L1	2,5	2,6	door springs in the back
130	300	L1	2,5	2,6	
150	300	L1	2,5	2,6	
170	300	L1	2,5	2,6	
190	380	L2	2,5	2,6	
210	380	L2	2,5	2,6	
230	380	L2	2,5	2,6	
250	430	L3	2,4	2,5	
270	430	L3	2,4	2,5	
290	480	L4	2,3	2,5	
310	480	L4	2,4	2,5	
330	530	L5	2,3	2,5	
350	580	L6	2,2	2,4	
370	580	L6	2,2	2,4	
390	630	L7	2,2	2,4	
410	630	L7	2,2	2,4	

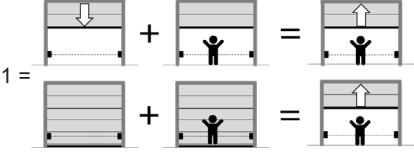
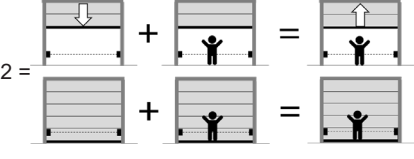

EN - The passage clearance may vary with respect to the dimensions shown in the tables according to the different geometry and curvature values of the sectional garage door rail profiles

TAB. 2

L1		L= 300
L2		L= 380
L3		L= 430
L4		L= 480
L5		L= 530
L6		L= 580
L7		L= 630

TAB. 3

	PARAMETERS	VALUES	DEFAULT
1	Automatic closing time (sec)	1 = off 2 = 5 sec 3 = 10 sec 4 = 20 sec 5 = 30 sec 6 = 60 sec 7 = 120 sec 8 = 180 sec 9 = 240 sec 10 = 600 sec	1 = off
2	Automatic closing time after passage on photocells (sec)	1 = off 2 = 5 sec 3 = 10 sec 4 = 15 sec 5 = 20 sec 6 = 25 sec 7 = 30 sec	1 = off
3	Obstacle sensitivity	1 =  2 =  3 =  4 =  5 =  6 = 	4 = average sensitivity
4	Step by step or SBS	1 = open/stop/close/stop 2 = open/close/stop 3 = open/close 4 = open only 5 = open only/close if fully open	1 = open/stop/close/stop

<p>5</p> <p>Photocells</p>	 <p>1 =</p>  <p>2 =</p>  <p>3 =</p>	<p>2</p>
<p>6</p> <p>Safety sensitive edge</p>	<p>1 = board edge sensitivity 8k2 2 = board edge sensitivity NC 3 = board edge sensitivity 2x8k2</p>	<p>1 = 8k2 sensitive edge</p>
<p>7</p> <p>Photocell detection override at end of travel</p>	<p>1 = Detection always enabled</p> <p>2 = 10 cm 3 = 20 cm 4 = 30 cm 5 = 40 cm 6 = 50 cm 7 = 60 cm 8 = 70 cm 9 = 80 cm 10 = 90 cm</p>	<p>1 = off</p>
<p>8</p> <p>Closing limit stop advance (cm)</p>	<p>1 = off 2 = 0,5 cm 3 = 1 cm 4 = 1,5 cm 5 = 2 cm 6 = 2,5 cm 7 = 3 cm 8 = 3,5 cm 9 = 4 cm 10 = 4,5 cm 11 = 5 cm</p>	<p>1 = off</p>
<p>9</p> <p>Courtesy light time (minutes)</p>	<p>1 = off 2 = 1 min 3 = 2 min 4 = 3 min 5 = 4 min 6 = 5 min 7 = 6 min 8 = 7 min 9 = 8 min 10 = 9 min</p>	<p>3 = 2 min</p>
<p>10</p> <p>Maintenance (number of cycles)</p>	<p>1 = off 2 = 10.000 3 = 20.000 4 = 30.000 5 = 40.000 6 = 50.000 7 = 60.000 8 = 70.000 9 = 80.000 10 = 90.000 11 = 100.000</p>	<p>1 = off</p>

DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

The undersigned Nicola Michelin, General Manager of the company

Key Automation srl, Via Meucci 23 - 30027 San Dona' di Piave (VE) – ITALIA

declares that the product type:

HALO

Motor for sectional and overhead doors with 433,92MHz built-in radio receiver

Model:

HA8, HA12

Is in conformity with the following community (EC) regulations:

Direttiva macchine / *Machinery Directive 2006/42/EC*
Direttiva compatibilità elettromagnetica / *EMC Directive 2014/30/EU*
Direttiva bassa tensione / *LVD Directive 2014/35/EU*
Direttiva radiofrequenza / *RED Directive 2014/53/EU*
Direttiva RoHS / *RoHS Directive 2011/65/EU*

In accordance with the following harmonized standards regulations:

EN 55014-1:2017, EN 55014-2:2015
EN 61000-3-2:2014, EN 61000-3-3:2013+A1:2018,
EN 301489-1 V2.2.0, EN 301489-3 V2.1.1, EN 301489-17 V3.2.0
EN 61000-6-3:2007 + A1:2011, EN 61000-6-2:2017
EN 60335-1:2012 + A11:2014 + A1:2015 + A2(IEC):2016 + A12:2017 + A13:2017, EN 60335-2-95:2015 + A1:2015
EN 62233:2008
EN 13849-1:2015, EN 13849-2:2012

Declares that the technical documentation is compiled in accordance with the directive 2006/42/EC Annex VII part B and will be transmitted in response to a reasoned request by the national authorities.

He also declares that is not allowed to use the above-mentioned product until the machine, in which this product is incorporated, has been identified and declared in conformity with the regulation 2006/42/EC.

San Donà di Piave (VE), 28/10/2020

Amministratore Delegato
General Manager
Nicola Michelin



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Designed and engineered in Italy, manufactured in Extra-EU

Instruction version

580HALO REV.08