HATO

THE NAME OF QUALITY

HATO 120/200

AUTOMATION MANUAL
FOR GARAGE DOORS

CE

ATTENTION !!!

Please read the manual carefully before installation and use.

The installation of a new door opener must be carried out by a technically qualified or licensed person.

Attempting to install or repair a door opener without the appropriate technical qualifications may result in serious personal injury, death and / or property damage.

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Thank you for purchasing a sectional door drive designed to operate garage doors. These installation and operating instructions must be read, understood and observed by the person installing, operating and maintaining the drive..

PURPOSE ND RECOMMENDATIONS

1. Purpose and recommendations

1.1. Purpose

Sectional door drive is designed to open and close overhead garage doors in buildings.

1.2. Recommendations

- In accordance with the provisions of the Machinery Directive 2006/42 / EC, it is declared that the product may not be put into operation until the final machine, into which it is built or a subassembly of which it is built, obtains a declaration of compliance with the directives and relevant regulations, which the final machine must meet.
- Installation must be performed by qualified personnel and in accordance with the regulations in force.
- For the time of installation or service, secure the place of work against the entry of unauthorized persons, especially minors and children.
- Before starting the installation, check the condition of the gate: it should not sway excessively, it should move easily and smoothly. To do this, it must be opened and closed manually.
- To avoid electric shock, always disconnect the drive from the mains before removing its cover and starting repair or maintenance.
- The remote controls should be kept out of the reach of children to avoid accidental activation.
- Do not walk or drive through the door while it is closing or opening.
- To avoid accidents, the doors should only be operated when they are within sight of the actuator.
- The manufacturer reserves the right to change the design of the drive, and thus the technical specifications, without prior notice.
- Check that the socket from which the drive will be powered has a ground connection and is installed in an easily accessible place.
- The control buttons and the red emergency release knob must be more than 1.5 meters high.
- The use of the products must be in accordance with their intended purpose. Any other use is dangerous. The manufacturer is not liable for any damage caused by improper installation, application or use.
- Children may not use the drive.
- People with limited sanity, with mental illness, with mental retardation cannot operate the drive.

2. Characteristics

2.1. Device description

The drive is designed to operate overhead garage doors. The control panel regulates and provides efficient operation of all functions such as automatic lighting control, memory, closing, reversing, photocell function, ensuring efficient operation.
When using the gate, the light automatically turns on and goes off after 3 minutes.
The drive's control unit remembers the programmed end settings of the gate, and the unique braking system, which reduces the speed of the gate's movement at the end positions, ensures quiet and trouble-free operation. If the door encounters an obstacle while closing, it reverses automatically. The control panel has a LOCK security system that prevents accidental remote opening of the gate. In the event of a power cut, the release lever allows you to manually open and close the door. You can also use the battery for emergency power. The drive has a special connector for its connection and a charging system. Automated control unit and coding system (rolling code) allows you to connect up to 25 control devices (pilots). The drive can also be controlled by a wall switch (optional). A special emergency lock with a rope is used for emergency opening of the gate from the outside.

Switch, emergency lock with rope, battery and infrared photocells are not included

2.2. Technical specification

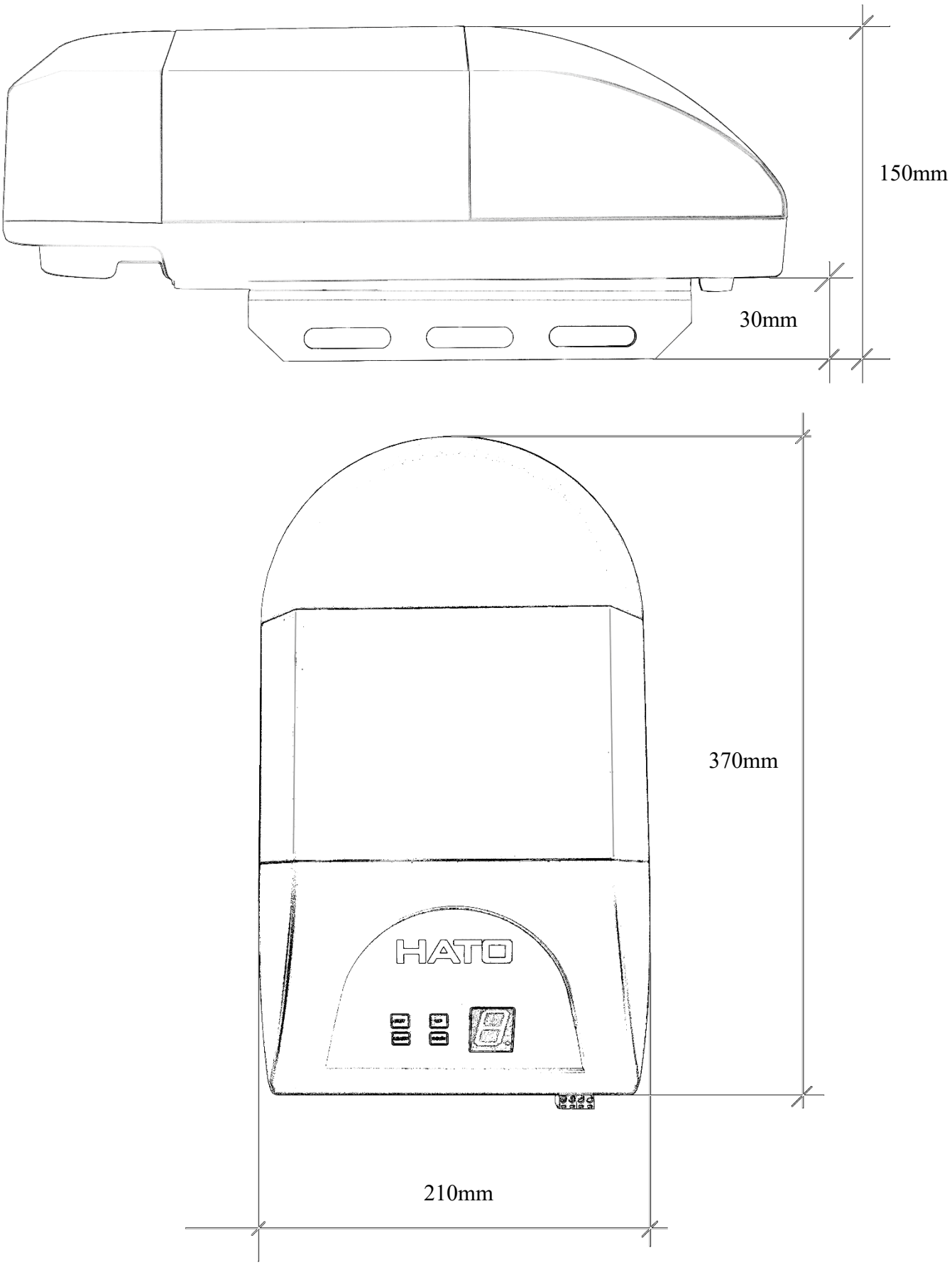
	HATO 120	HATO 200
Power	230V AC 50HZ	230V AC 50HZ
Engine	24V DC 80W	24V DC 120W
Standby power consumption	<4W (without accessories)	<4W (without accessories)
Thrust	600N	1000N
Remote control range	Up to 30m	Up to 30m
Working temperature	-20°C - +50°C	-20°C - +50°C
Linear speed	0,1m/s	0,1m/s
Radio receiver frequency	433,92 MHz	433,92 MHz
Remote	HATO rolling code (CR2032 battery - 1 pc *)	HATO rolling code (CR2032 battery - 1 pc *)
Garage lighting time	3 minutes	3 minutes
Fuse type	2,5A/250V	2,5A/250V
Level of security	IP30	IP30
Operating time factor	S3 25%	S3 25%

* The manufacturer reserves the right to change the model and number of pilots attached to the HATO 120/200 engine set

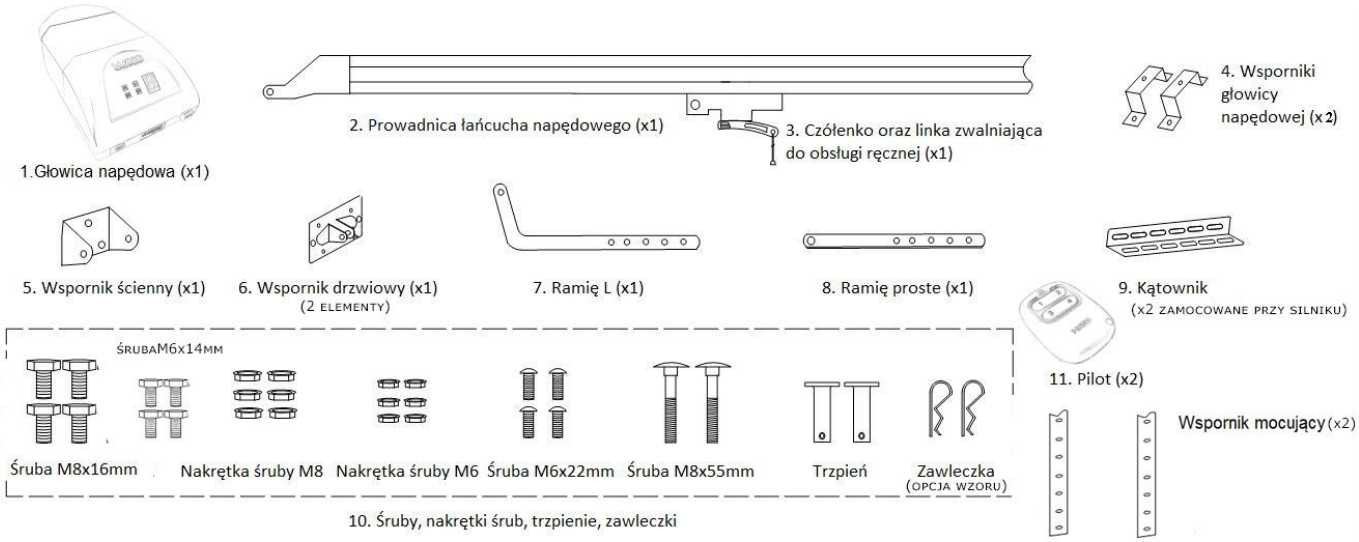
2.3. Maximum working ranges

The length of the guide	**3,3m**	**3,6m**	**3,9m**
Drive working range	2,4m	2,8m	3,1m

2.4. External dimensions



2.5. Elements included in the package



1. DRIVE HEAD
2. GUIDE DRIVE CHAIN
3. DISENGAGEMENT
4. DRIVE HEAD BRACKETS X2
5. GUIDE WALL BRACKET
6. GATE BRACKET (TWO ELEMENTS)
7. ARM L
8. STRAIGHT ARM
9. ANGLE (OPTIONAL)
10. BOLT KIT
11. REMOTE CONTROL X2

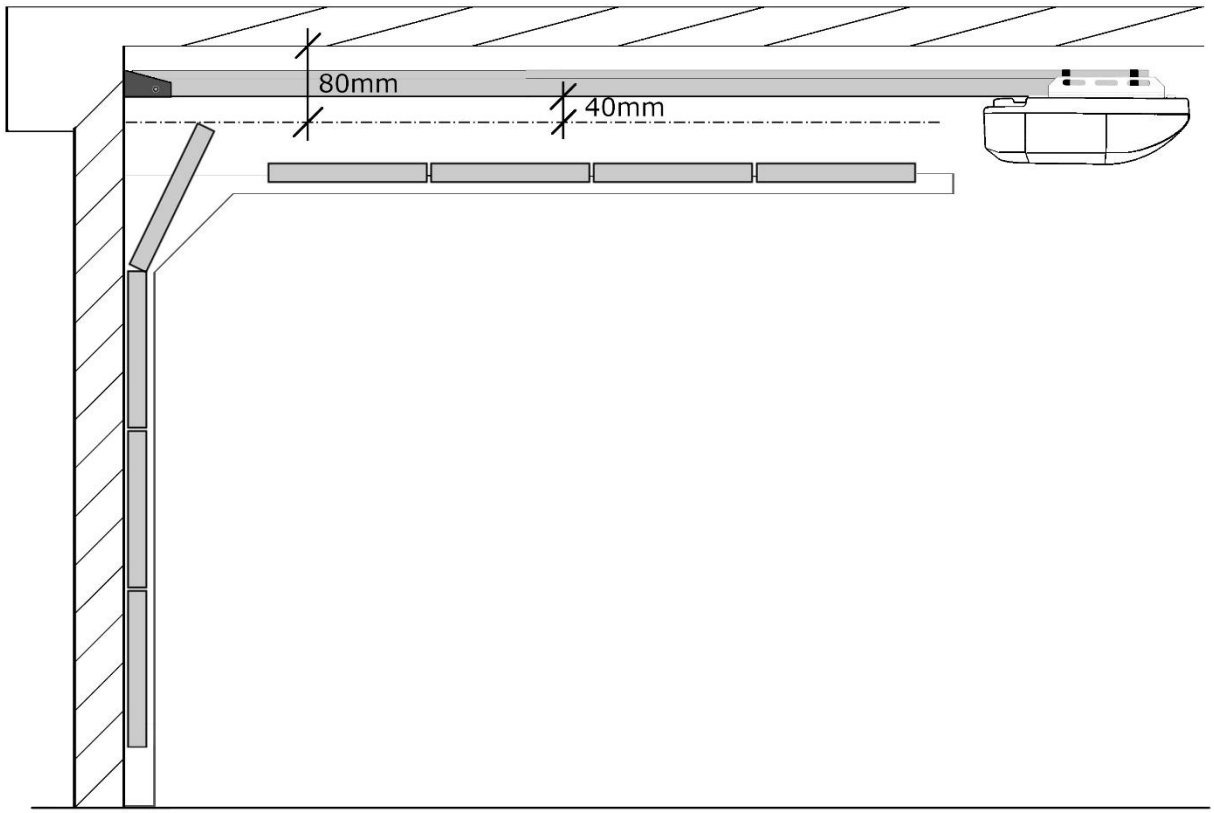
*The manufacturer reserves the right to change the pattern of the remote control included in the set

3. Installation

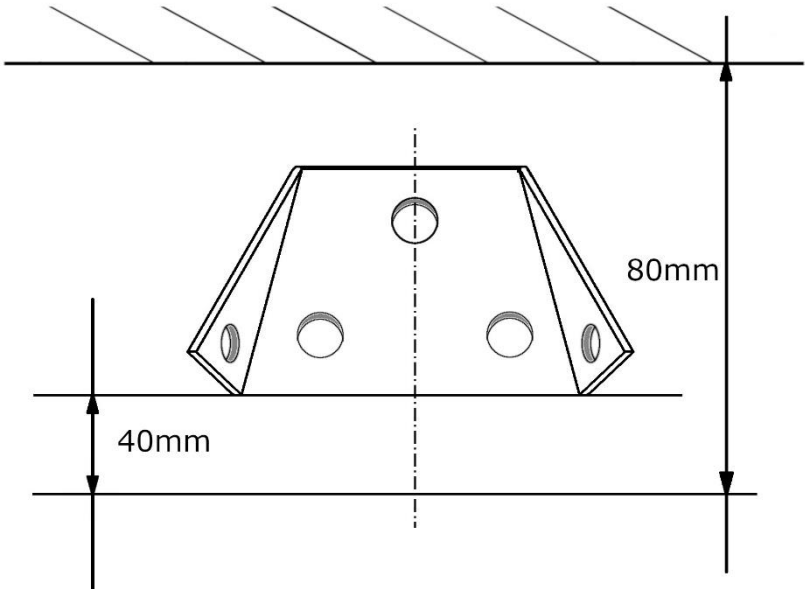
ATTENTION !
Before starting the assembly, make sure that all the recommendations of section 1.2 are met

3.1. Assembly

Step 1.
Check that the door is well balanced and free to move by manually opening and closing it. Make sure the center section of the wall above the door is strong enough to support the wall bracket. Close the door. Measure the door width, mark the center with a pencil, then draw a line down the door and up on the wall above it. Check the height at which the drive should be mounted. To do this, slowly open the garage door and observe when the door reaches its highest point in its movement. Close the door again and mark this point on the wall. Then draw it on the wall a horizontal line crossing the vertical center line approximately 40 mm above the highest marked point. (Note: the distance from the horizontal line to the ceiling should be 80mm. If there is not enough space, please use the maximum possible height that allows you to properly fix the wall bracket.)

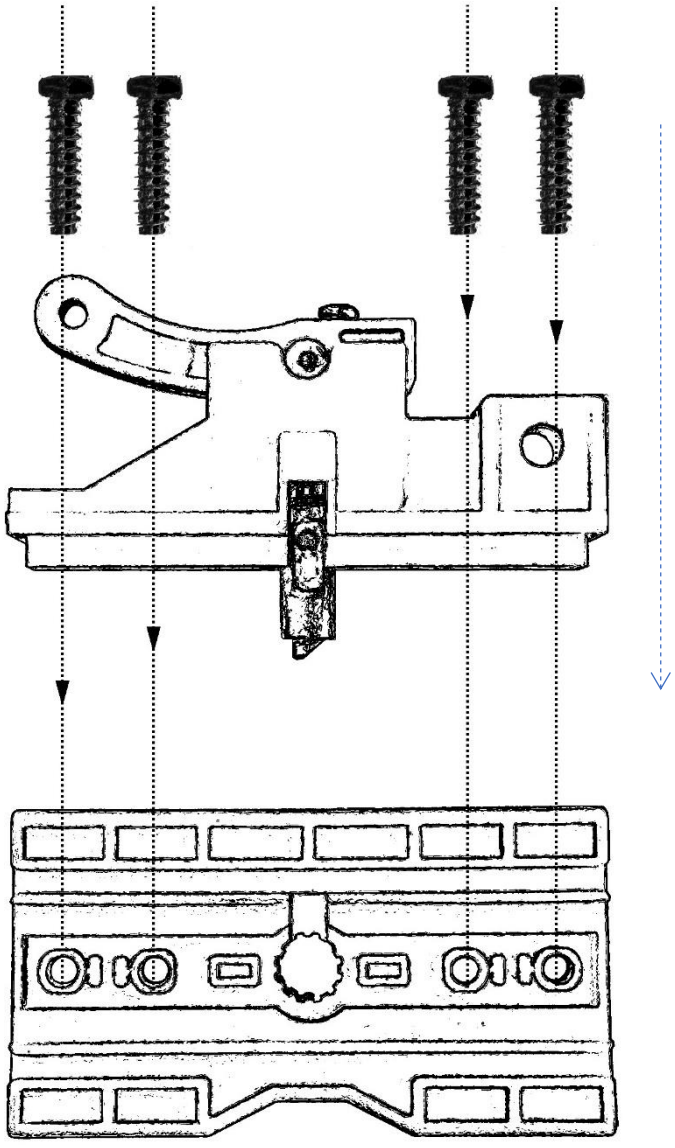


Attach the wall bracket above the garage door with the center line through the door aligned with the center of the bracket. The bottom edge of the bracket should be level with the horizontal line. Attach the bracket with expansion bolts.

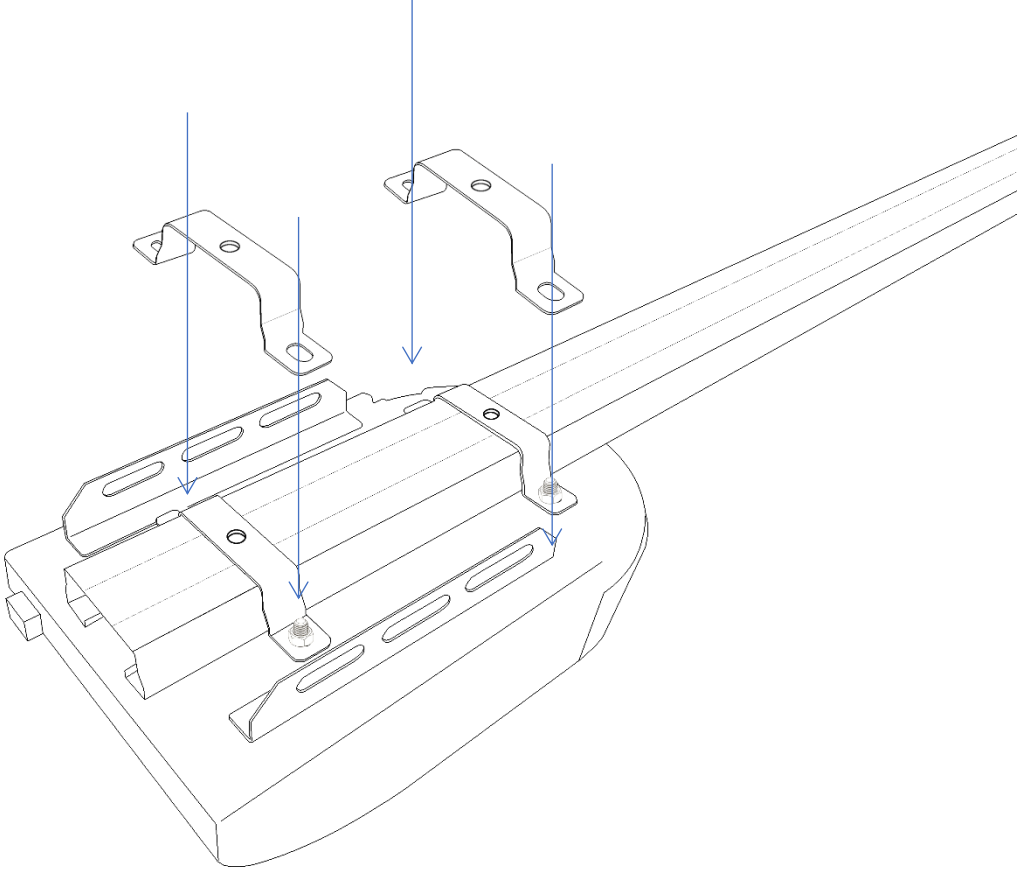


Step 2.
Place the shuttle in the groove of the drive chain guide (make sure it points with the manual arm towards the drive). Tighten the **4 screws (M6 x 22mm).**

In the case of a split guide, first put it together. To do this, put the attached connector on the place of dividing, and finally with the screw and spring we put on the end of the guide. We regulate the chain tension. The chain should sag slightly but should not rub against the guide bar.



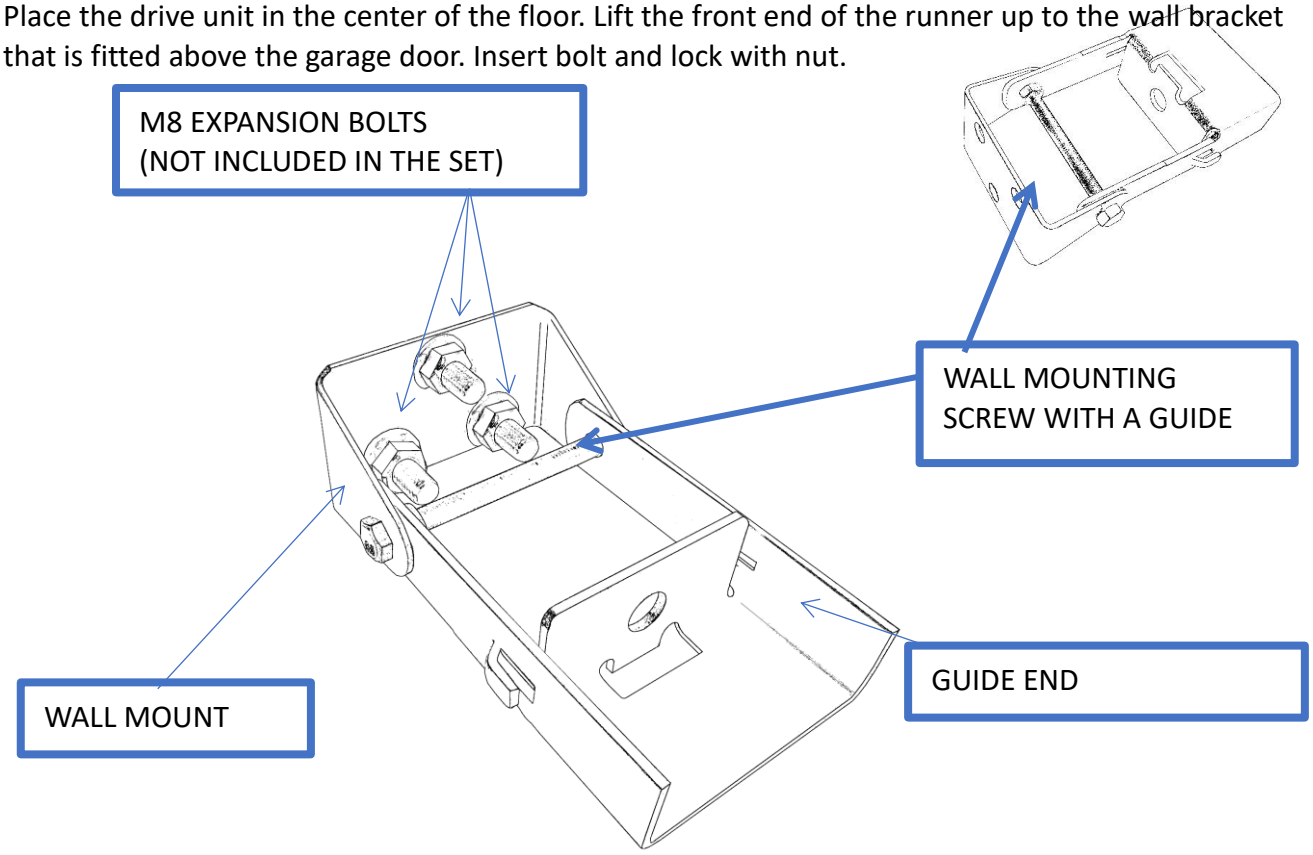
Step 3.
Place the motor head on the floor with cardboard underneath it so as not to scratch the head. Place the drive against the drive chain guide, making sure that the drive spindle fits into the guide, then fasten the drive brackets.



Step 4.

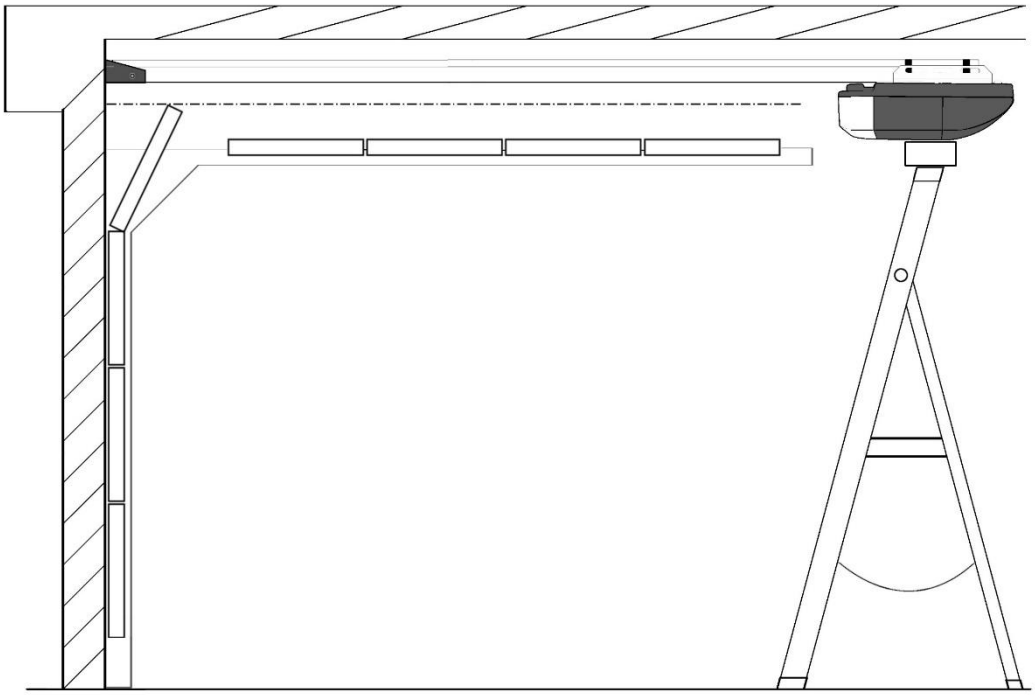
Close the door.

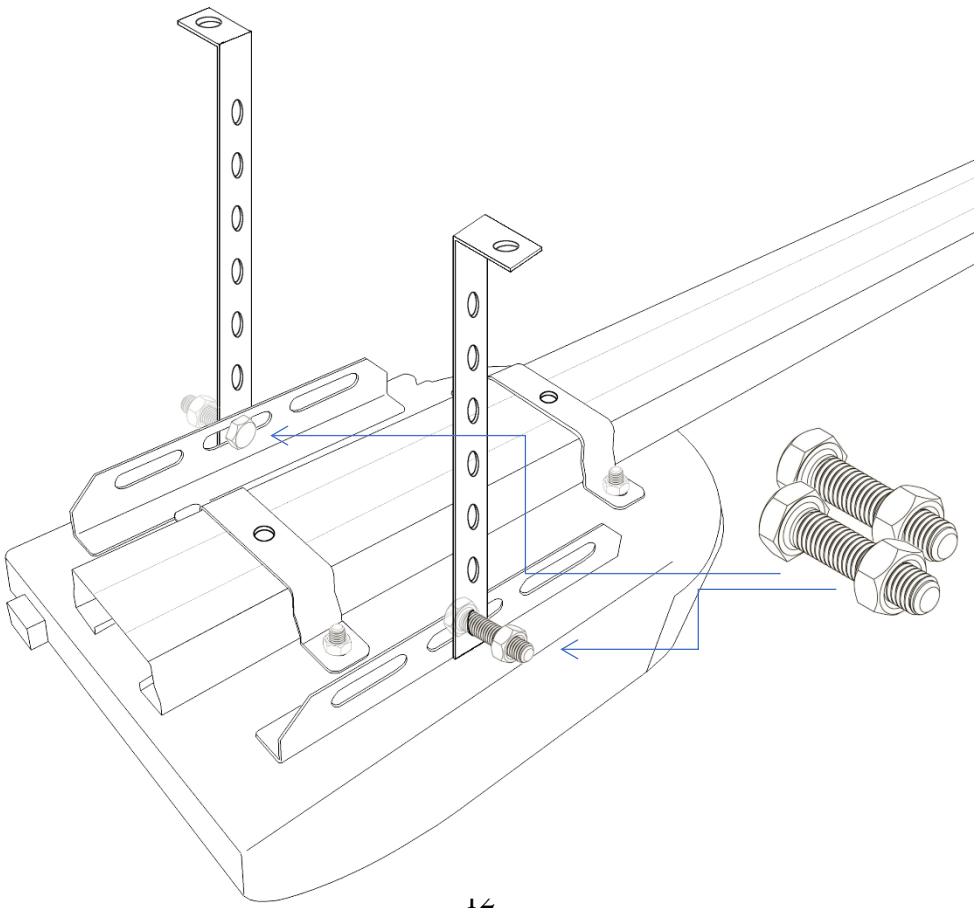
Place the drive unit in the center of the floor. Lift the front end of the runner up to the wall bracket that is fitted above the garage door. Insert bolt and lock with nut.



Step 5.

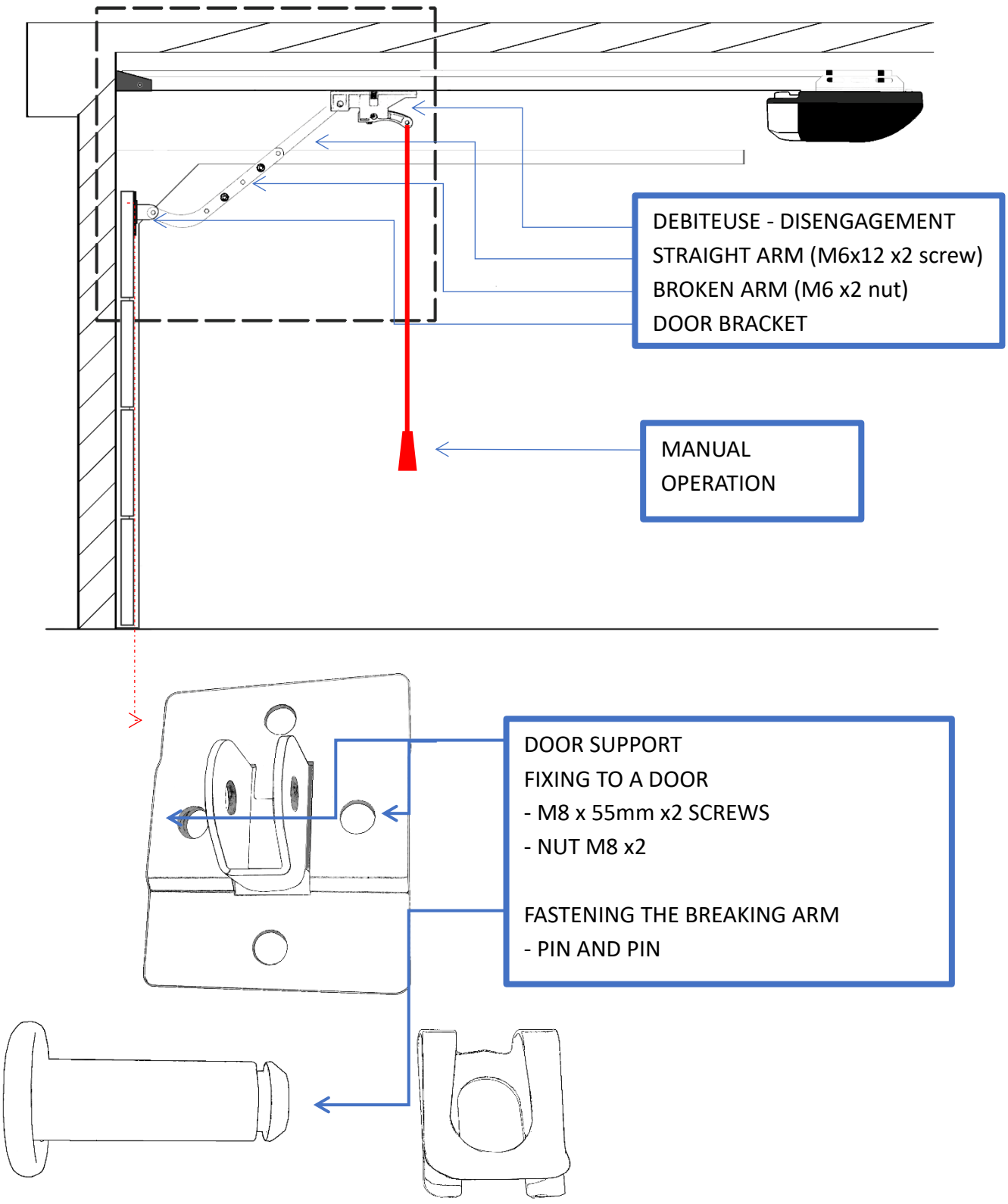
Lift and support the operator with a ladder at such a height that the guide is horizontal and aligned with the center line drawn on the door. Secure the drive to the ceiling with the mounting brackets (not included) and the angle bar, always making sure it is level. If necessary, check that the door does not touch any part of the guide by opening and closing it by hand





Step 6.

Attach the door bracket to the top of the door with M8 x 55mm bolts and M8 bolt nuts. Connect the L arm to the door bracket with the pin and the split pin. Connect the straight arm to the shuttle with the pin and split pin, then connect the L arm to the straight two M8 x 16mm bolts and nuts, making sure the door can move freely..

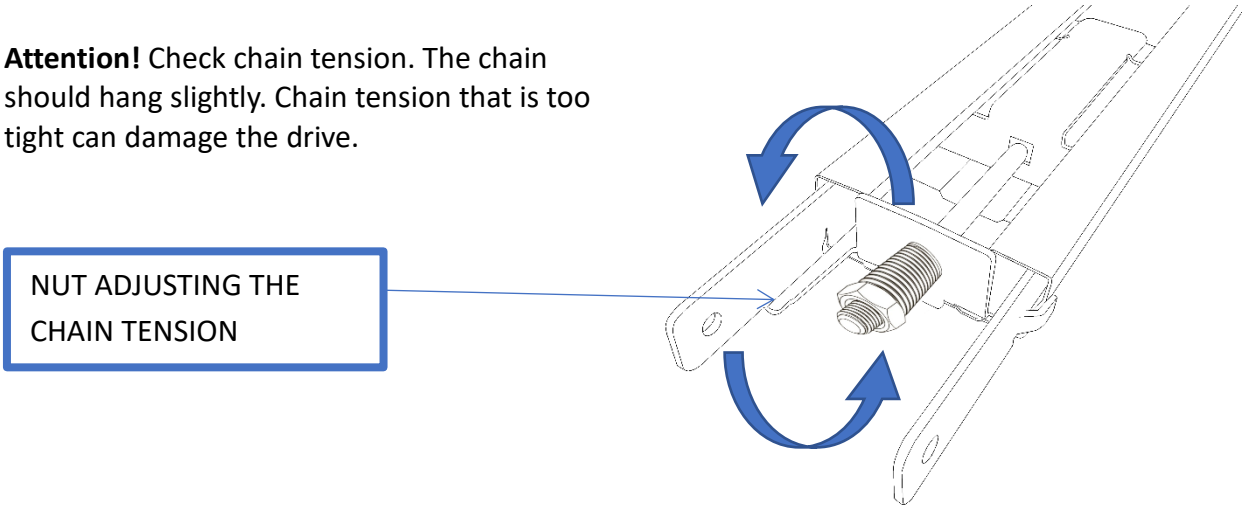


Manual operation

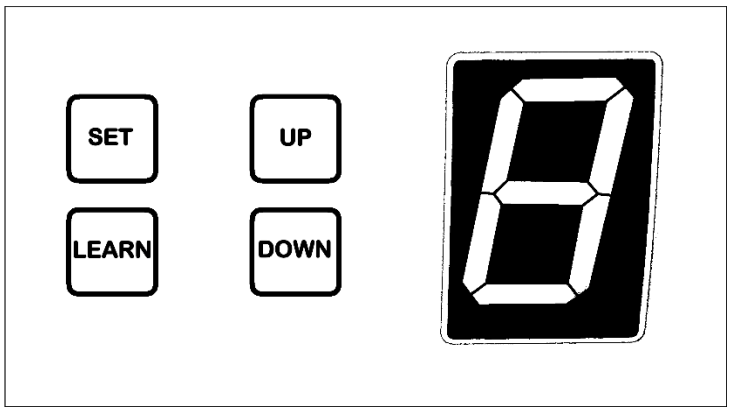
If it is necessary to manually operate the door due to a power cut or failure of the automatic system, pull the release cord and open / close the door. To reconnect the door to the automatic system, slide the door until it engages again with the shuttle. If the entrance to the garage is possible only through the gate, it is necessary to use an emergency lock with a rope (option available at an additional cost).

Chain tension

Attention! Check chain tension. The chain should hang slightly. Chain tension that is too tight can damage the drive.



3.2 Operation buttons

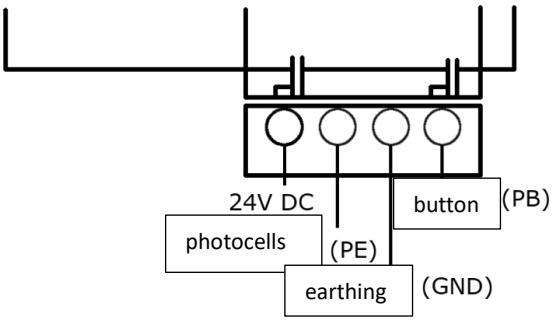


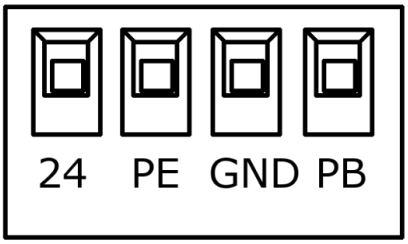
(1) Programming button (SET).
Confirm and enter
(2) Remote control programming button (LEARN).
Set a remote control code
(3) UP button.
Programming the settings
(4) DOWN button.
Programming the settings

3.3 External connector

(1) (1) GDN & PB: to connect a `` bell '' type wall button (one contact of the button is connected to the GDN, the other to the PB)
(2) 24V & GND & PE: for connecting photocells (GND & 24V - power supply)
GDN & PE: output contacts of the photocell receiver in NC mode

Before making any connections on the board, disconnect the power supply





3.4 Checking the correctness of assembly

After all cables are connected, the mechanism should be checked and tested.

1) Check that the arm works well and the door does not jam and does not fall out of the guides.
2) Connect the power. As soon as the device is turned on, the 7-segment display will show numbers from 9 to 0 and the bulb will turn on for 2 seconds. After the bulb goes out, the display will show the sign '' - '' which means that the end positions should be programmed. If the '' ll '' sign appears, it means that the end positions have been programmed (they must be set anew for each gate).
3) After programming, check that the safety devices such as photocell and obstacle stop are working properly. This very important test must be performed carefully, as the safety of using the gate depends on the efficient operation of these devices. The overload sensor contributes significantly to minimizing damage, but only the correct installation of the photocells will ensure that the door can be stopped before it hits a person or vehicle. This operation must be performed after programming the drive.

4. Programming and adjustment

4.1 Programming the opening and closing positions

- Press and hold the SET button until the display shows the number 1.
- Press and hold the UP button until the door is fully open.
- Press the SET button, the display will show the number 2.
- Press and hold the DOWN button until the door is fully closed. Releasing the DOWN button should take place at the moment of touching the door to the threshold. Do not set the end position to the so-called "pressure", because in normal operation the drive slows down before the end position and may not reach such a set position and will not react until the end positions are correctly set.
- Press the SET button to complete programming. The door will open and close automatically. After closing, the display should show '' || '' If `` - '' appears, repeat programming, paying attention to the above point.
- The door open and close positions have been set.

WARNING! Objects and people should not be near the gate during installation.

IMPORTANT! To ensure continued safety, safety systems should be checked regularly.

4.2 Adjusting the sensitivity oft he overload sensor

- If necessary, the maximum engine power may only be adjusted by a qualified mechanic.
- Press and hold the SET button until the display shows the number 3, release the button. The device is in force regulation mode and shows the amount of force set.
- Press the UP button to increase the force by one step, press DOWN to decrease it one step. The maximum rank is 9, the minimum rank is 1.
- Press the SET button to confirm the setting.

If it encounters an obstacle when closing the door, it will move back 15-20 cm.

4.3 Installation of photocells

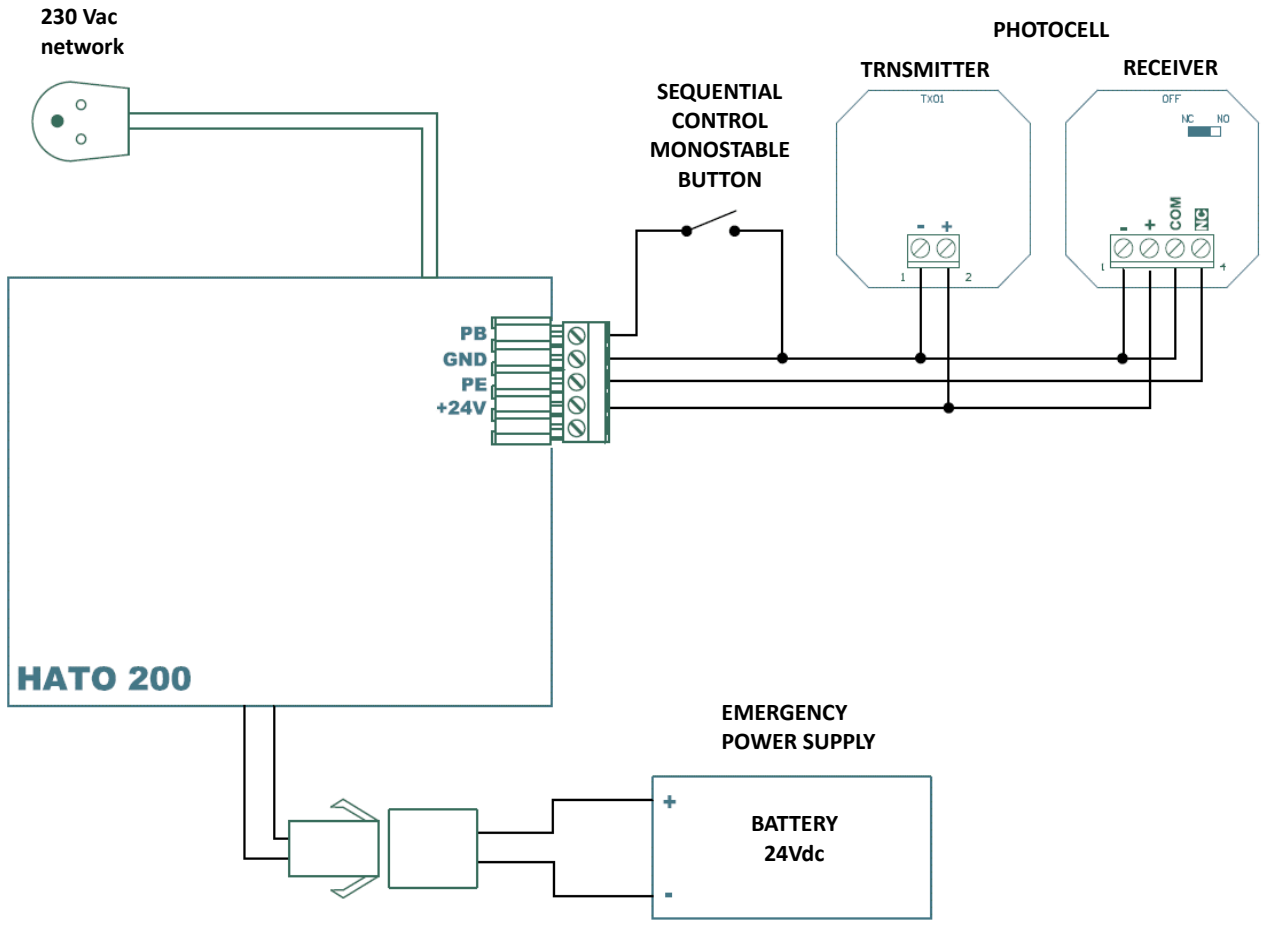
Before setting the photocell function, make sure that the device is properly installed. The receiver of the photocells must work in the NC mode - if there is no obstacle between the transmitter and the receiver, the receiver's output contacts should be closed.

(1) Press and hold the DOWN button, the mark will appear on the display " - " , followed by " H " or " | | "
" H " means that the drive supports the photocells
" | | " means that the drive does not react to the photocells

(2) Pressing the UP button activates the photocells (" H " lights up)
Pressing the DOWN button disables the photocells support ("| |" is lit)

(3) After setting the correct option, press the SET button and the system enters the normal operation mode

Installing photocells prevents the gate from closing when there is an obstacle in its light (eg a car). Use photocells specifically designed for garage doors.



4.4 Enable/disable auto closing.

(1) Press and hold the UP button, the display will show "-" followed by a number from 0 to 9.

(2) Pressing the UP button once extends the auto-close time by one minute. Pressing the DOWN button once reduces the closing time by one minute. The current closing time is shown on

the display.

(3) The auto-close function is disabled when the auto-close time is 0.

(4) Press the SET button to confirm and exit.

4.5 Gate lock function

The gate lock function (LOCK system) protects against accidental opening (e.g. after putting the remote control in your pocket). After activating this function, the gate can be opened only after pressing the lock button on the remote control (it is a button that cannot be programmed to operate the drive - button code 3), and then the appropriate button (directly after itself). To activate the gate lock function:

(1) Press and hold the SET button, the display will show a number from 1 to 4. Release the button. The display will show '' 0 '' or '' 1 ''.

(2) Press the UP button, the display will show the number 1 - the door locking function is active. Press the DOWN button, the display will show the number 0 - the blocking function is inactive.

(3) After setting the correct option, press the SET button and the system enters the normal operation mode.

4.6 Programming the remote control

- Press the LEARN button - a dot will light up on the display. Then press the selected button on the remote control twice. The dot should blink and the drive will go into normal operation. The button on the remote control has been programmed.
- Repeat the above for all remotes. You can program up to 20 transmitters or buttons.
- To clear all memorized remotes, press and hold the LEARN button for more than 8 seconds until the display shows C. All remotes have been cleared.
- The button code 3 cannot be used to operate the drive - it serves only for the blocking function (the button generating the code 3 may be described differently on the remote control housing).

4.7 Final steps

- Check that all bolts and nuts are tightened.
- Check that the control button and the emergency release knob are installed above a height of 1.5 meters
- Check that the installation has been carried out in accordance with the applicable regulations
- Check the effectiveness of the safety and control devices.
- Check the balance of the garage door leaf.
- Carry out multiple attempts to close and open the garage door to make sure that all mechanisms are working properly. Maintain the ratio of working time to rest time in the proportion of 1: 2. Operating the drive without adequate idle time may result in damage.
- Check the effectiveness of the protective circuit of the residual current system.
- Mark the garage door with appropriate signs in potentially dangerous places.
- Stick a sticker on the door in a visible place with the text *Warning!*

5. Environmental protection

Disposing of packaging:

Packaging elements (cardboard, plastic, etc.) are classified as solid waste suitable for recycling. Before disposing of the packaging, please check the local regulations for the material in question.

Device scrapping:

The product consists of many types of different materials. Most of the materials used (aluminum, plastic, steel, tubing, etc.) can be disposed of in normal recycling bins. Other materials (control units, remote control batteries, etc.) may contain harmful substances and should be returned to specialized companies for disposal.

6. Maintenance

In order to ensure the greatest possible safety measures and to extend the service life of all components of the set, the user should perform maintenance on the drive once a month.

These are the maintenance operations while the power is off:

- disconnect the drive from the power supply
- check the condition of the garage door and the chain, especially in terms of stability
- metal, moving parts of the drive should be regularly lubricated to prevent their rusting and to ensure failure-free operation of the device.
- clean the photocell housings with a damp cloth. Do not use solvents or any other chemical products that may damage the device
- before changing the bulb, the device should be disconnected from the power source
- If the chain squeaks, lubricate it with chain oil
- maintenance activities must always be carried out according to the manufacturer's recommendations

7. Troubleshooting

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Nothing is displayed on the LED display. The gate is down.	1. No power	1. Make sure the power is on
	2. Blown fuse	2. Check the fuse and, if necessary, replace it with a new one (2.5A)
After turning the supply on, the drive does not carry out the test (the digits should change from "9" to "1") the display shows a different character.	Defective microcontroller	Send the drive to the service with a description of the fault and the purchase document
The sign appeared on the LED display 	Photocells support function enabled, no photocells connected	Connect the photocells or disable the photocell support function.
The gate moves slightly	End positions not set	Program the end positions anew in accordance with the instructions
The selected button on the remote control cannot be logged in	1. The selected button is used for the lock function	1. Select a different button for logging in
	2. Defective remote control	2. Send the remote control to the service together with a description of the fault and the purchase document
After programming the end position, the actuator is inoperative	1. End positions incorrectly set (LED displays "-").	1. Re-program the end positions. Please note that we set the top position first, and then the bottom position. Neither position can be set to pressure.
	2. The gate lock function has been activated (the display shows "||" and yet the drive does not work)	- if switching on the blocking function was accidental, turn this function off - if the activation of the lock function was intentional, first press the button "3" on the remote control and then the one that is logged in.
	3. Remote control button for the drive not logged in	3. Log the remote control into the drive according to the instructions.
The door opens but does not close	1. The photocells support function is enabled but the photocells are not installed	1. Disable the photocell operation function according to the instructions
	2. The path of infrared rays has been interrupted	2. Remove the obstacle
	3. Faulty photocells	3. Send the photocells to the service together with a description of the fault and the purchase document
	4. Insufficient drive force	4. Set the correct drive force in

		accordance with the instructions and standards.
When closing, the gate stops suddenly and moves backwards	1. Increased resistance to door sliding	1. Unblock the drive and, by manually moving the gate, check that the gate moves easily and that it is well balanced with springs.
	2. Insufficient drive force	2. Set the correct drive force in accordance with the instructions and standards.
When closing the door, the drive does not react to the obstacle in the light of the photocells	Incorrect photocells	If the gate is open and we cover the photocells, the gate will not close, and if the gate does not respond to an obstacle, it means that the photocells are not compatible with the drive. Suitable photocells for the HATO 200 model must be used
The drive moves the gate in steps of a few centimeters	Engine speed sensor defective.	Send the drive to the service with a description of the fault and the purchase document
The remote control does not work	1. Battery discharged	1. Replace the battery
	2. The remote control is not logged into the drive	2. Log in the remote control according to the instructions
	3. Faulty remote control	3. Send the remote control to the service together with a description of the fault and the purchase document
The range of the remote control is too small	1. Drive located in a steel or reinforced concrete garage	1. Installation of an external antenna by a specialist
	2. Battery running low	2. Battery replacement
	3. Faulty remote control	3. Send the remote control to the service together with a description of the fault and the purchase document
	4. Defective radio module in the drive	4. Send the drive to the service together with a description of the fault and the purchase document
After a power failure and restarting, the drive automatically moves the gate	1. Wrong type of wall switch to control the door	1. To control the gate with a wall button, a "bell" type button with normally open contacts should be used. Replace the button with the correct one.
	2. Defective microcontroller	2. Send the drive to the service with a description of the fault and the purchase document
Other problem	Other causes	Send the drive to the service with a description of the fault and the purchase document.

8. Recommendations for users

Safety Instruction

- This product may only be used for its intended purpose. Using it against the intended purpose is improper and dangerous. The manufacturer is not liable for damage caused by improper or negligent use.
- Installation must be performed by qualified personnel and in accordance with the regulations in force.
- Open and close the gate from where we can see it.
- Before opening or closing the gate, make sure that it can be safely closed or opened.
- Be especially careful when opening or closing the gate.
- Remote controls and other control devices should be kept out of the reach of children and people with reduced sanity, mental illness or mental retardation in order to prevent accidental activation of the gate and avoid potentially dangerous situations.
- Children may not open and close the gate.
- Do not allow children to play or be near the gate to avoid potentially dangerous situations.
- Do not put any pressure on the gate leaf while it is moving to avoid potentially dangerous situations.
- Perform emergency opening of the gate with the drive's power disconnected.
- Be aware that the gate may open or close at any time without warning.
- Disconnect drive power before replacing bulb or fuse.
- Clean the casing of the devices with a slightly damp cloth, do not use solvents or other chemicals.
- Maintain cleanliness in the maneuver area of the gate leaf, remove all obstacles for the gate leaf.
- Users are not allowed to perform any other activities not specified in the manual.
- If the drive is damaged, disconnect its power supply and do not use it until the failure is corrected.
- All repairs and adjustments of the drive must be performed by qualified personnel.
- Be careful when you are near the garage door.
- Keep these warnings in mind when using the product.

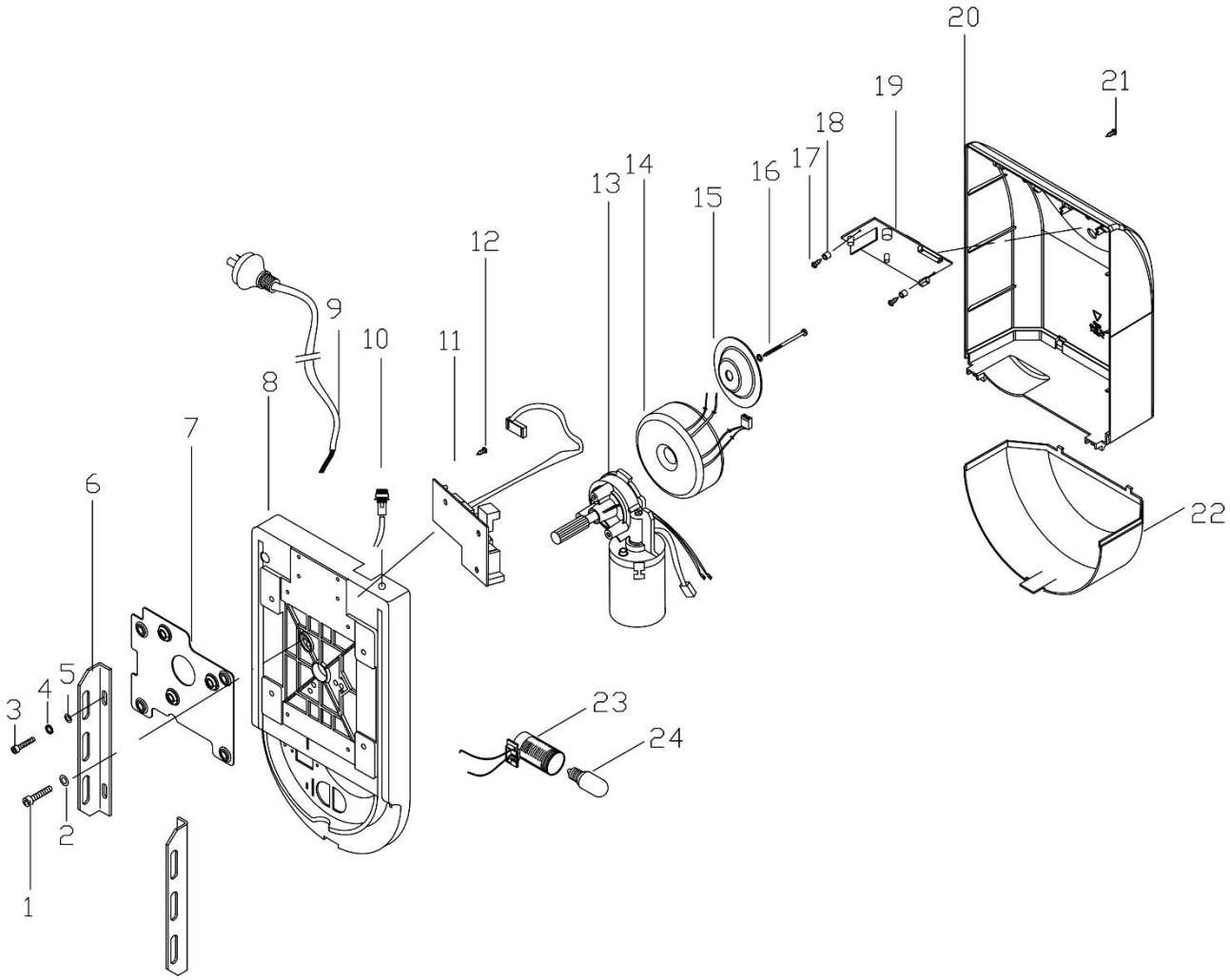
9. Emergency gate opening and closing

Note: Emergency opening and closing of the gate should be performed with the motor power off.

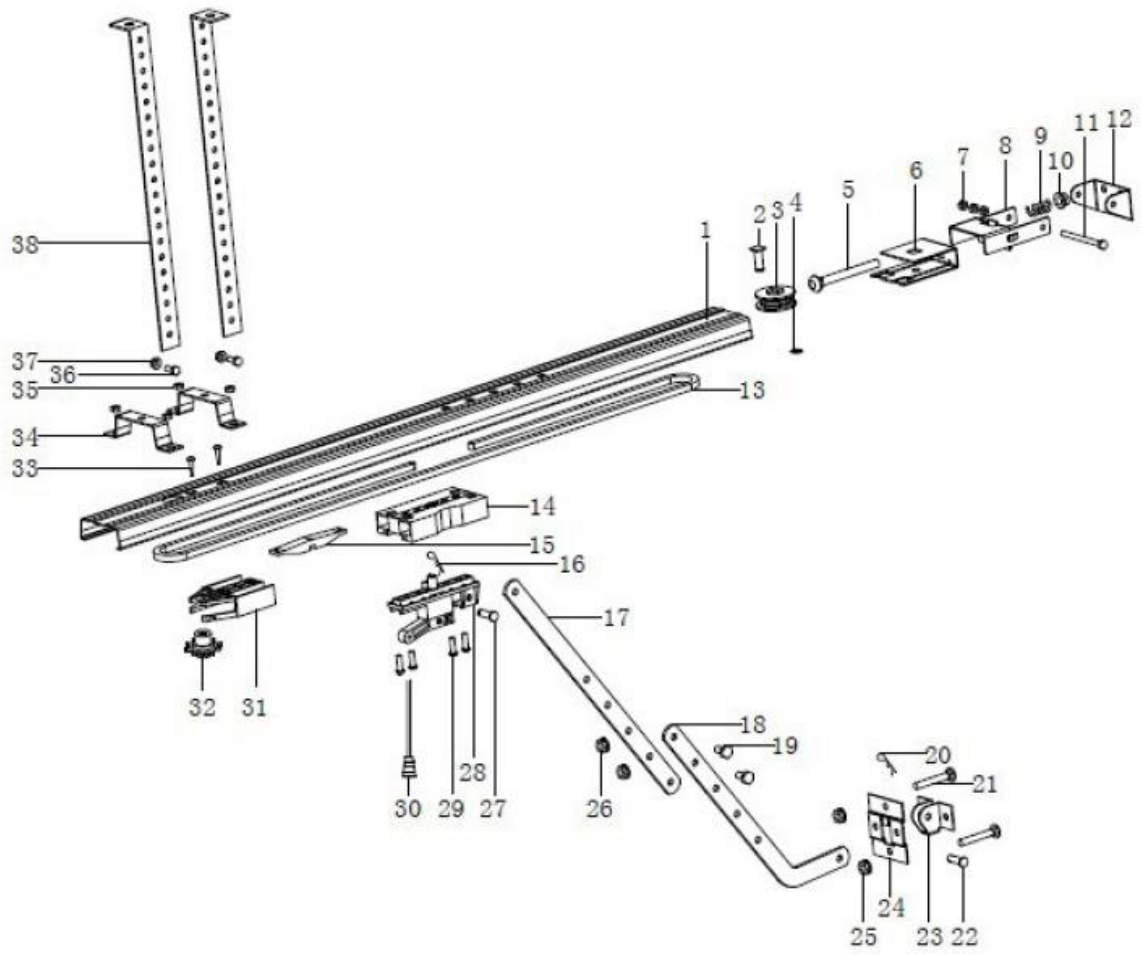
To unlock the gate, pull down the red emergency release knob and move the gate in the direction of opening.
After leaving the gate, the mechanism engages and prevents it from being lifted from the outside. To raise it, pull the red emergency release knob.

After the failure is removed, the gate driving mechanism is automatically latched at the first opening and closing cycle
After unblocking, the gate leaf may start to move by itself, suddenly move down or up, especially when the gate is not balanced.

1. Screw (M6x30)
2. Washer
3. Screw (M6x30)
4. Spring washer
5. Washer
6. Angle iron
7. Base plate
8. Housing
9. Power cord
10. Fuse holder
11. Electronics board
12. Screw (2,9x8)
13. Motor
14. Transformer
15. Mounting element for the transformer
16. Screw (M8x50)
17. Screw (2,9x16)
18. Plastic washer
19. Control electronics board
20. Housing cover
21. Screws (4,2x16)
22. Lampshade
23. Bulb holder
24. 15W/230V light bulb



1. Steel rail
2. Axis
3. Nylon wheel
4. The ring
5. Screw (M10x95)
6. Nylon wheel bracket
7. M6 nuts
8. Nylon wheel bracket holder
9. The spring
10. Nut M10
11. Screw (M6x75)
12. The front bracket of the transmission rail
13. Chain
14. Trolley
15. The tendon
16. Cotter pin
17. Straight arm
18. L-arm
19. Screws (M8x15)
20. Split pin
21. Screws (M8x55)
22. The bolt
23. Door handle A
24. Door handle B
25. M8 nuts
26. M8 nuts
27. The bolt
28. Trolley's disengagement mechanism
29. Screws
30. A string with a knob
31. Gear wheel bracket
32. Gear wheel
33. Screws (5,5x25)
34. Mounting bracket for the power head
35. M6 nuts
36. Screws (M8x15)
37. M8 nuts
38. Brackets



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