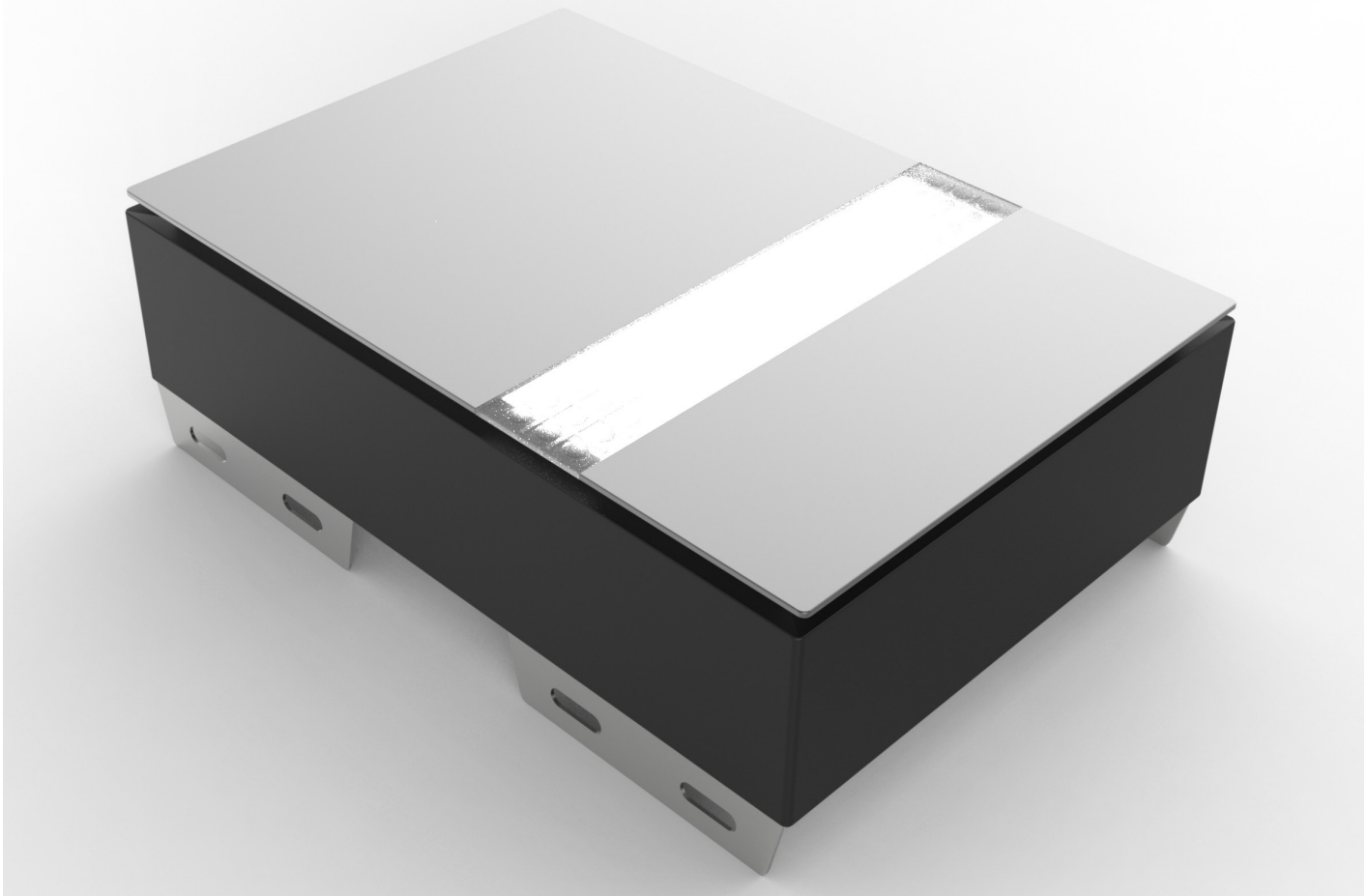
GARAGE DOOR OPENER

Control System Instructions And User Guide

CB 700 **CB 1100** **CB 1500**

S/N



GARAGE DOOR OPENER

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Warning:

⚠ **This manual has been especially written for use by qualified fitters.**
No information given in this manual can be considered as being of interest to end users!
This manual refers to the CUBE gear motor and may not be used for different products!

The control unit has been designed to control electromechanical actuators for automated sectional and up-and-over doors; any other use is considered improper and is consequently forbidden by current laws. Do not install the unit before you have read all the instructions at least once!

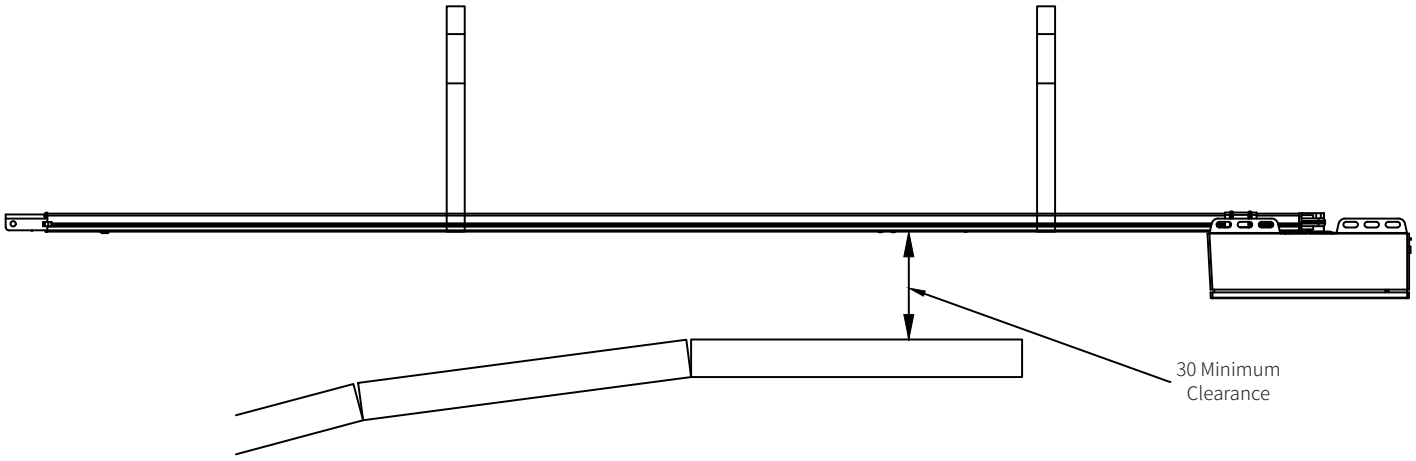
1) Installation

Automatic gate and door systems may only be installed by qualified fitters in the full respect of the law. Comply with the warnings shown in the "Warnings for fitters" chapter.

1.1) Pre-installation recommendations

1. Garage door must be able to be lifted and closed easily by hand and without much effort. A well balanced & spring door is critical for proper installation.
2. The garage door opener can't compensate for a badly installed garage door and should not be used as a solution for a "hard to open" door.
3. If the unit is being installed on an existing door, make sure any existing locking devices are removed or warranty will be void.
4. An approved outlet must be installed near where the opener is begin installed.
5. There should be a minimum gap of 30mm between the bottom of the drive rail and the top of the garage door at its closest point.

Important note: As for additional safety rules, we strongly recommend the fitting of photo electric SAFETY BEAMS on all installations.

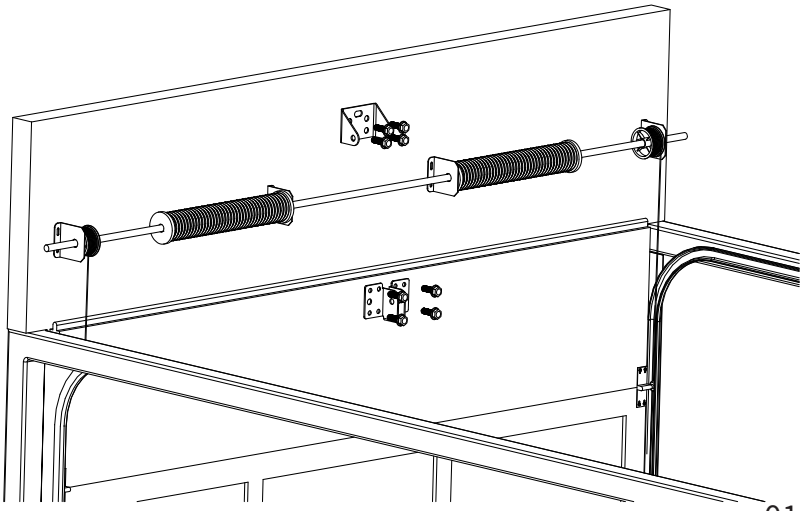


1.2) Installation instructions

Mount wall bracket and door bracket

Wall Bracket - Close the garage door and measure the garage door width at the top and mark the centre. Locate and mount the wall bracket 2cm-15cm above the door on the inside wall. (Depend on the actual installation space).

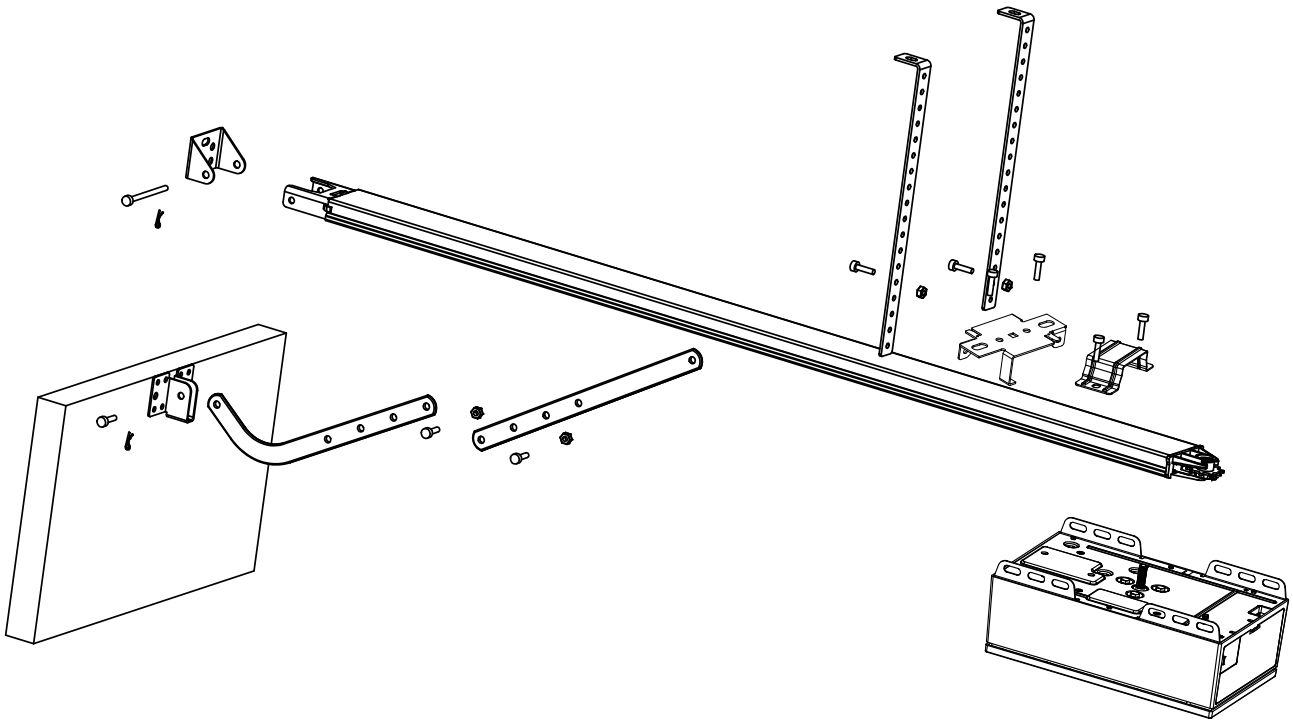
Door Bracket – Fix the door bracket to a structural part of the door as close to the top edge as possible.



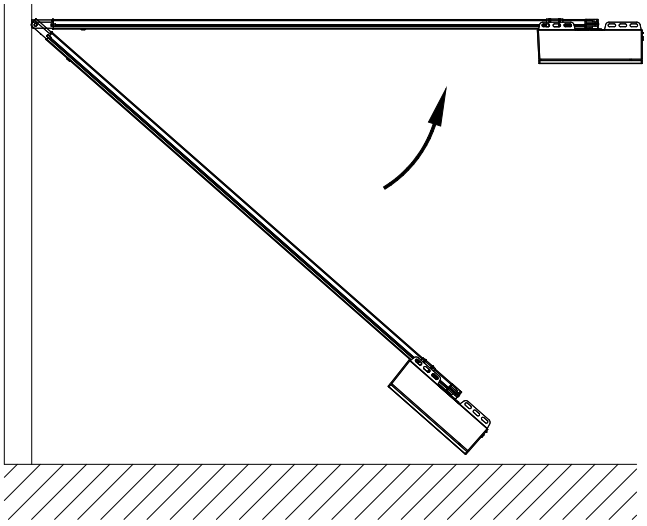
1.3) Installation (Steel C-Rail)

① Attach the opener head to the steel track. Assembly the 2 "U" Hanging brackets with 6mm nuts supplied.

② Place the steel track and opener head assembly centrally on the garage floor,
with the open head furthest away from the door. Lift the front of the track up to the door bracket.
Insert the pivot pin and secure it with the split pin supplied.

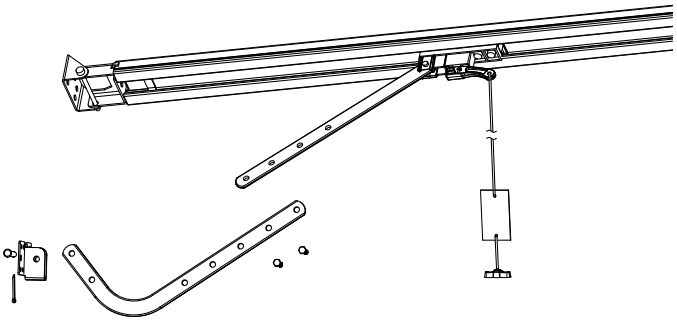


③ Lift and support the opener head (with a ladder) so it is positioned centrally and level. Fix the opener and track on ceiling by Iron bracket A & B.



④ **WARNING:** Do not allow children around the door, opener or supporting ladder serious injury and/or damage may result from failure to follow this warning.

Connect the straight arm to the bent arm with the bolt.
Position and bolt the arms to the top edge of the door using the bolt supplied.

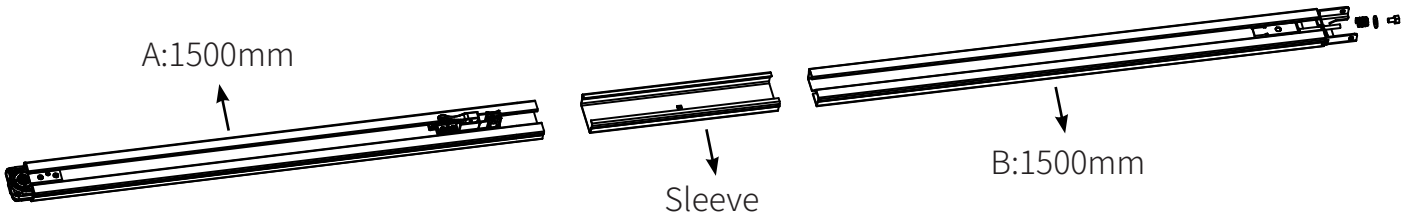


⑤ Lift the garage door until the trolley locks into the drive chain/belt. Then, ready to program the openers.

1.4) Sectional steel C-rail assembly

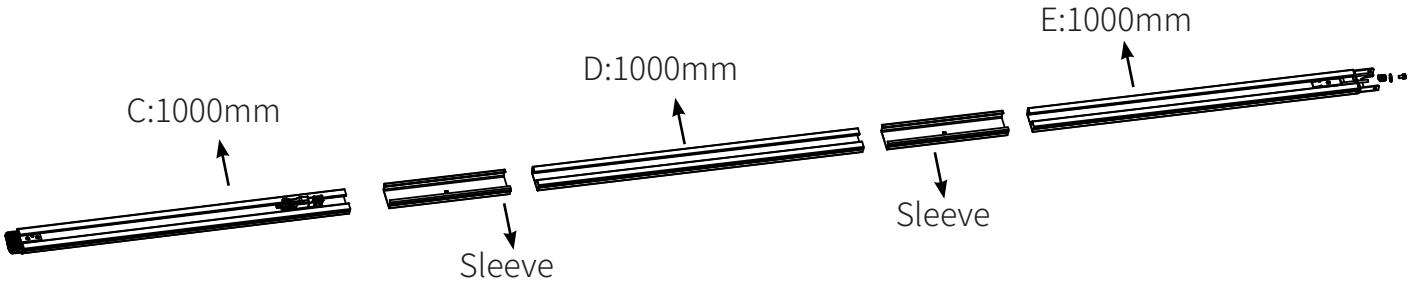
① 2-Parts Steel Track

Slide the A rail into the sleeve, slide the B rail into the sleeve.

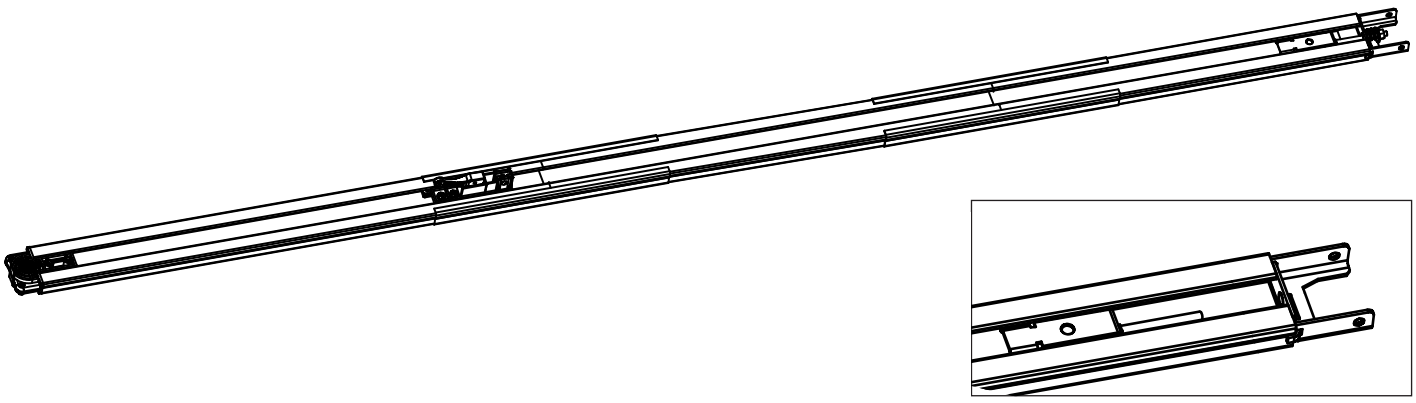


② 3-Parts Steel Track

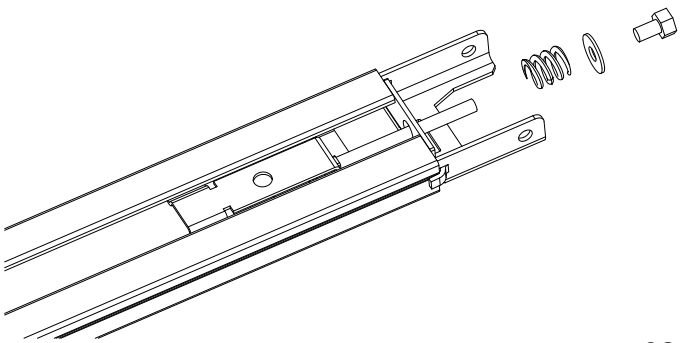
Slide the C rail into the sleeve, slide the D rail into the sleeve; slide the E rail into the sleeve.



③ Cut the plastic thread; pull the screw rod along with inner chain/belt to the end rail position.



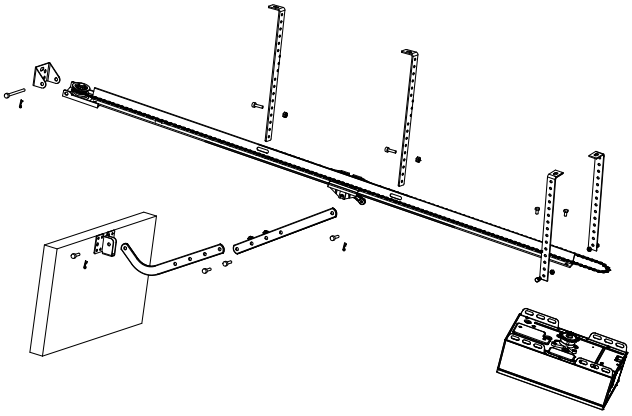
④ Tighten the spring and screw.



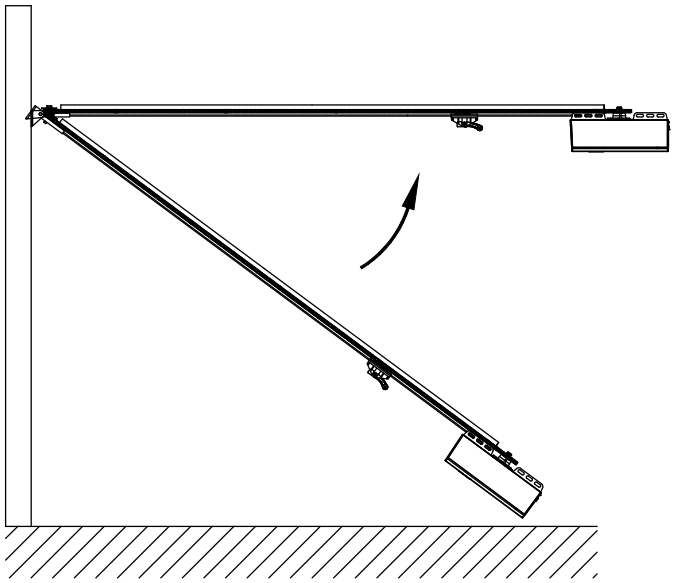
1.5) Installation (Steel T-Rail)

① Attach the opener head to the steel T-rail

② Place the steel T-rail and opener head assembly centrally on the garage floor, with the open head furthest away from the door. Lift the front of the track up to the door bracket. Insert the pivot pin and secure it with the split pin supplied.

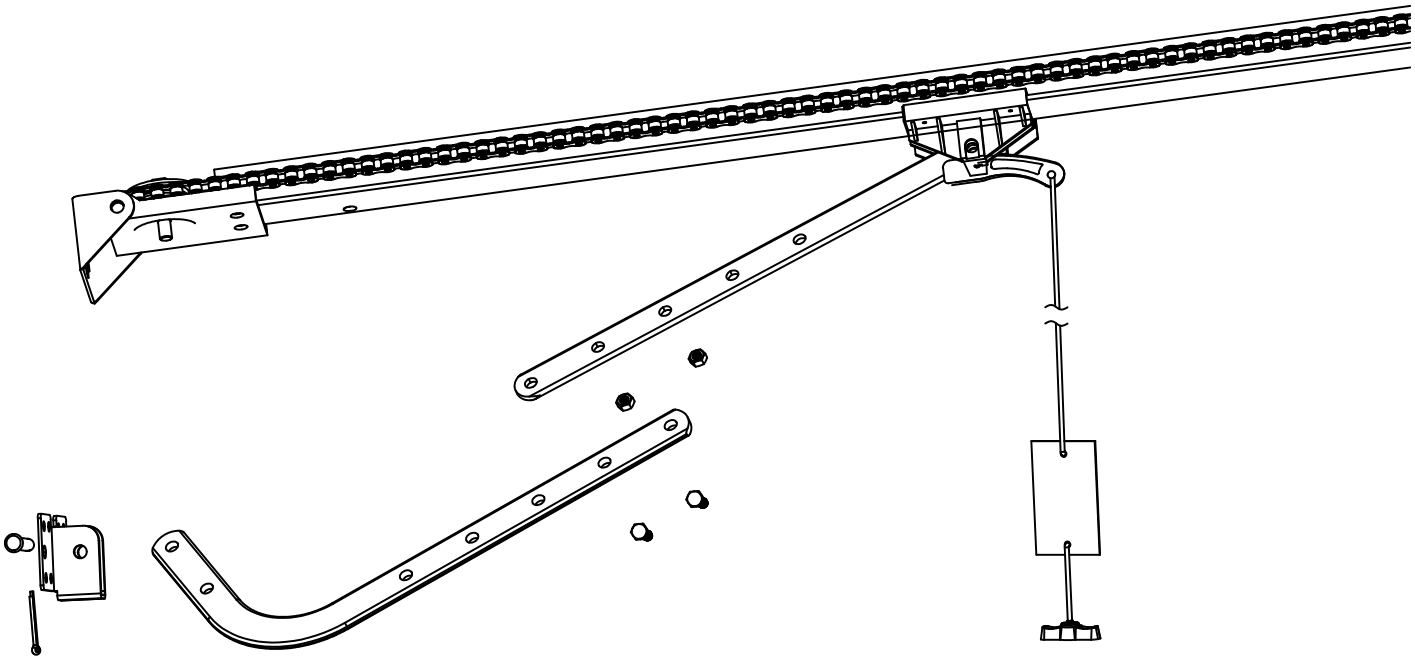


③ Lift and support the opener head (with a ladder) so it is positioned centrally and level. Fix the opener and track on ceiling by 2 mounting brackets.



④ **WARNING:**Do not allow children around the door, opener or supporting ladder serious injury and/or damage may result from failure to follow this warning.

Connect the straight arm to the bent arm with the bolt.
Position and bolt the arms to the top edge of the door using the bolt supplied.

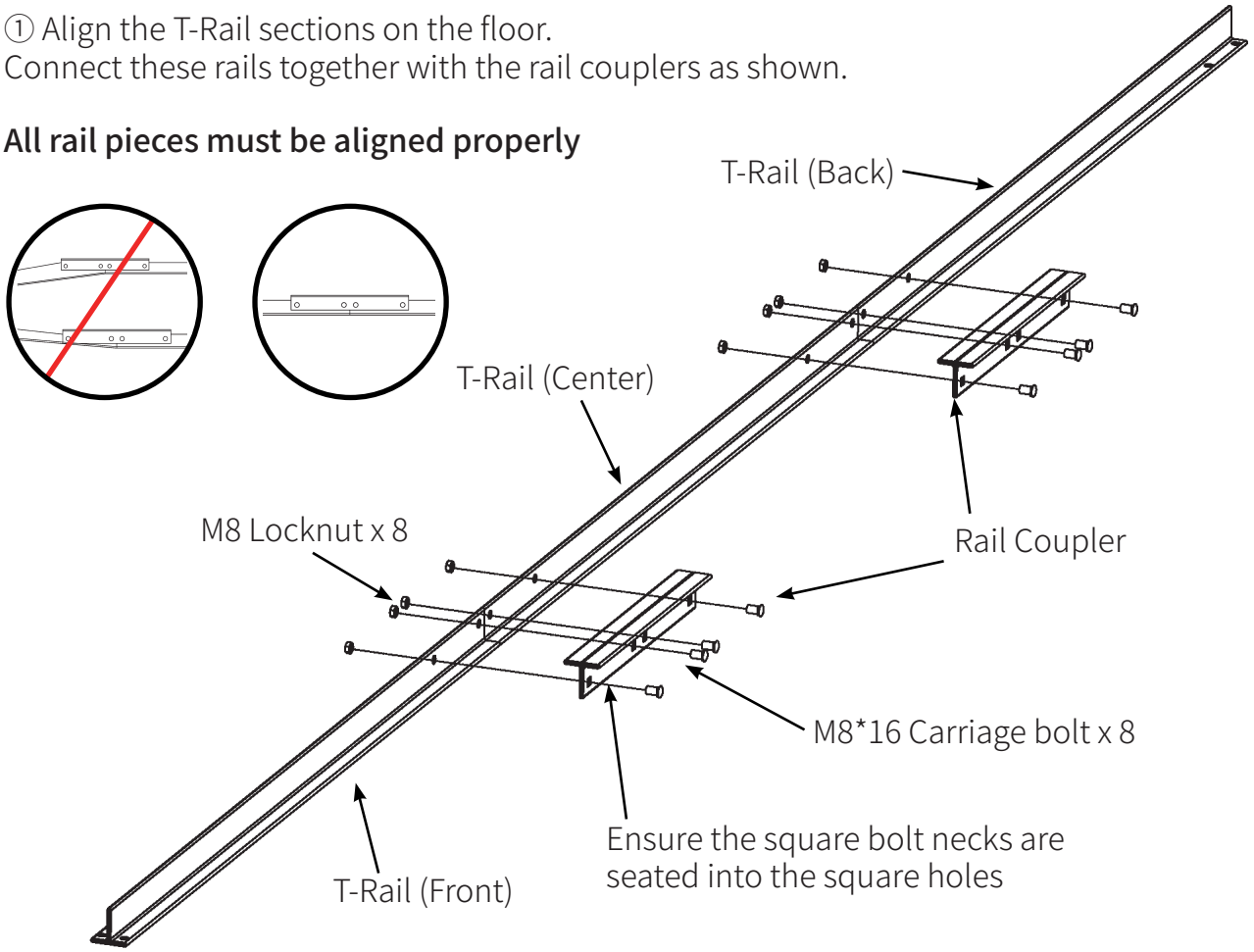


⑤ Lift the garage door until the trolley locks into the drive chain. Then, ready to program the openers.

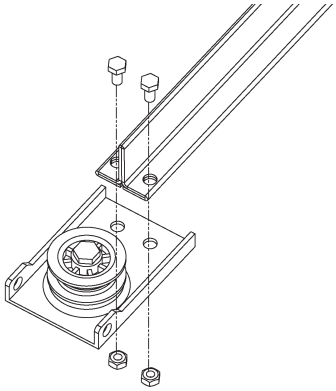
1.6) Sectional steel T-rail assembly

① Align the T-Rail sections on the floor.
Connect these rails together with the rail couplers as shown.

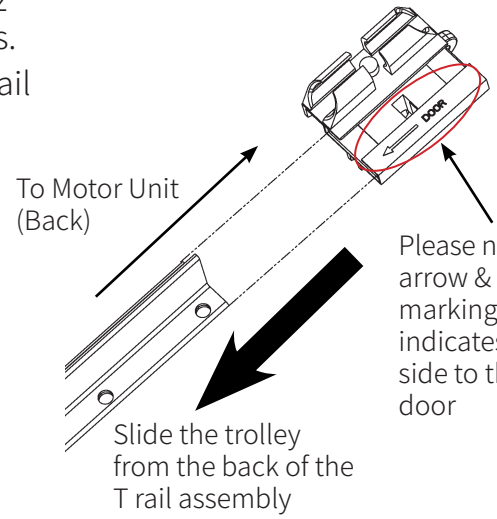
All rail pieces must be aligned properly



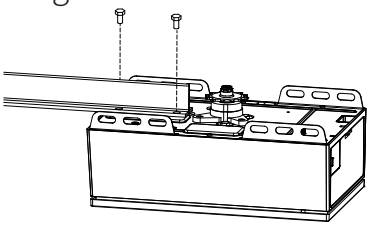
② Attached the Pulley Bracket Assembly to the end of the front rail with 2 M8*12 hex bolt s and 2 M8 locknuts.
Align the Pulley Bracket & Rail



③ Slide the trolley

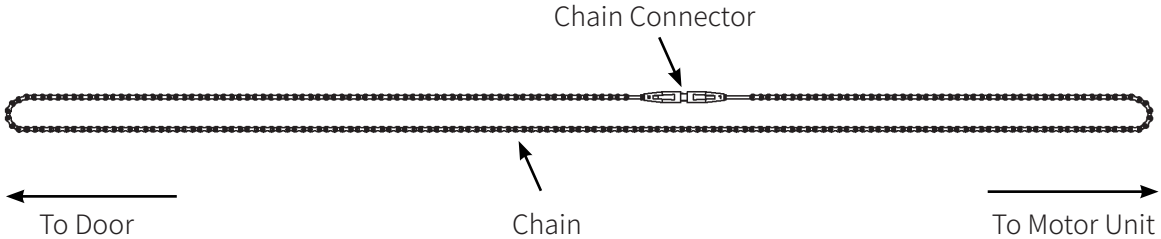


④ Raise the pulley end of the rail so the rail can sit on the motor unit properly.
Attached the rail to the motor unit by tightening 2 M8*12 self locking bolts.

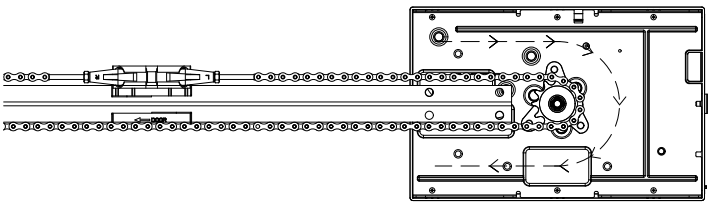


WARNING: Use only the specified bolts to attach the T-rail to the opener. Any other bolts will cause serious damage to the opener.

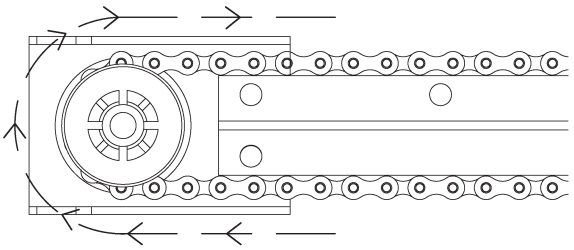
⑤ Lay down the chain on the floor, as shown. Do not twist the chain.



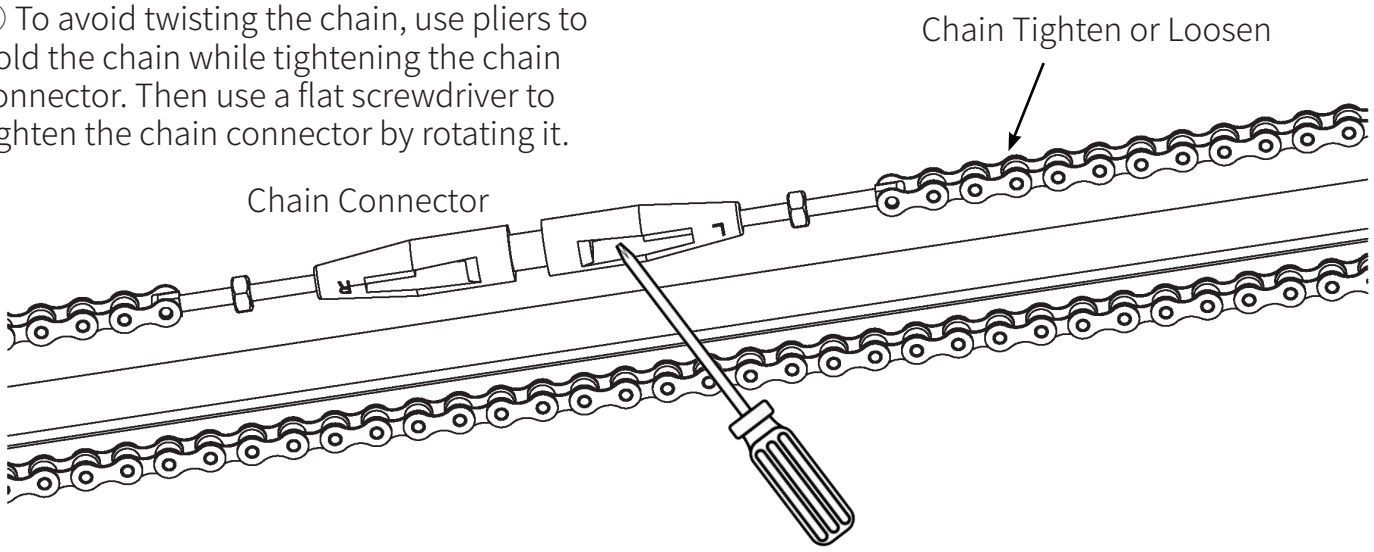
⑥ Starting aligning the chain on the sprocket.
Wrap the chain around the sprocket.
The sprocket teeth must engage the chain as shown.



⑦ After aligning the chain on the sprocket.
Wrap the chain on the pulley.

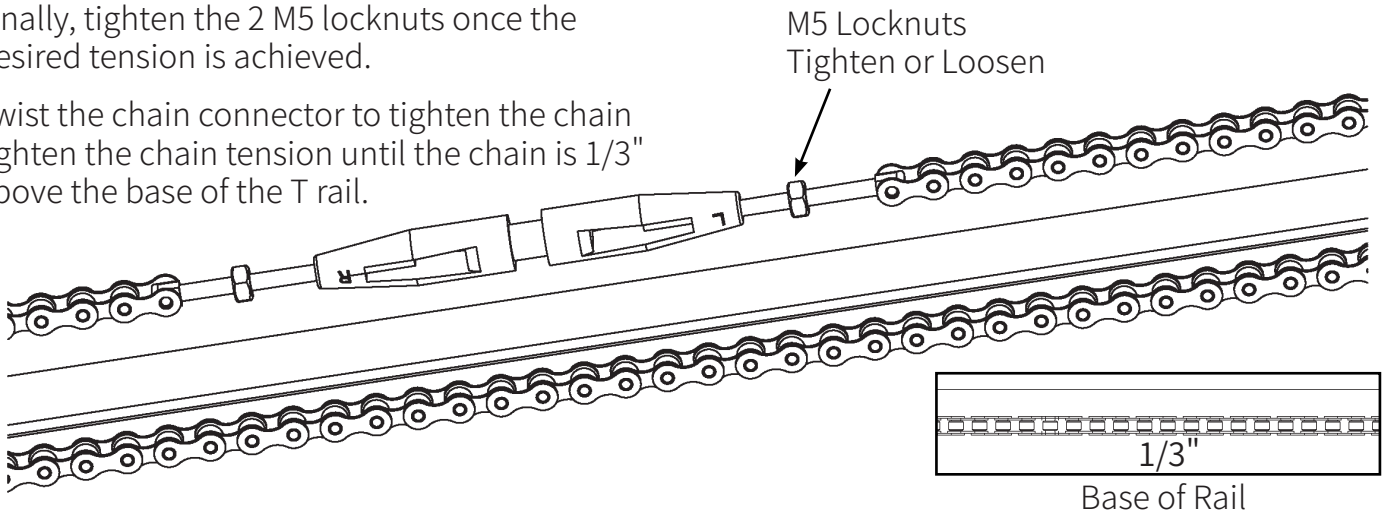


⑧ To avoid twisting the chain, use pliers to hold the chain while tightening the chain connector. Then use a flat screwdriver to tighten the chain connector by rotating it.



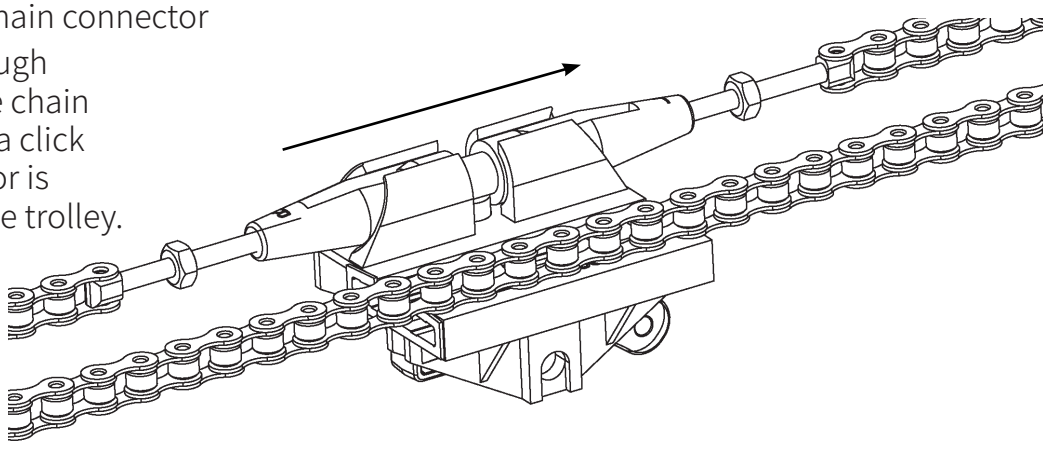
Finally, tighten the 2 M5 locknuts once the desired tension is achieved.

Twist the chain connector to tighten the chain tighten the chain tension until the chain is 1/3" above the base of the T rail.



⑨ Insert the trolley intochain connector

Ensure chain passes through the trolley guides into the chain connector until you hear a click where the chain connector is completely seated into the trolley.



WARNING

1. After completing the installation, you may notice some chain drop with the door fully closed. The chain should return to the position as shown when the door is open.

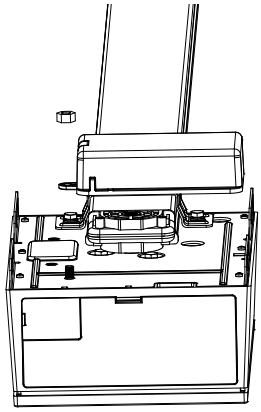
2. Too much or too little tension will cause excessive noise.

3. Always keep hand clear of sprocket and chain while operating opener.

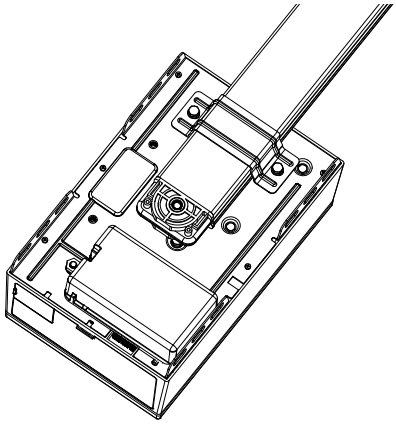
1.7) Battery backup assembly for c-rail (optional)

Please choose the installation method according to the actual situation.
Side fixed (for lithium battery, metal base motor)

① Screw the bracket

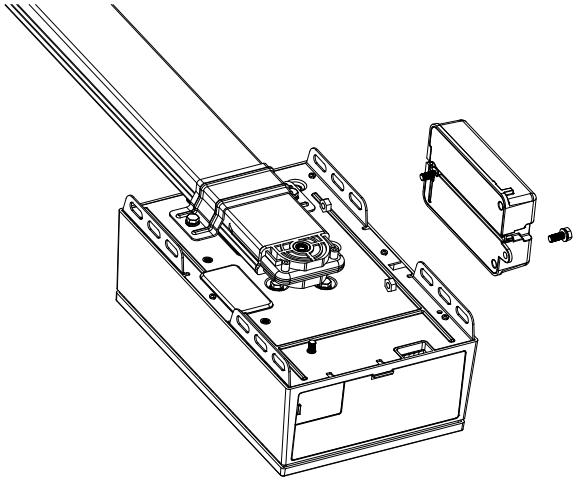


② Fix the battery to the bracket with screws.

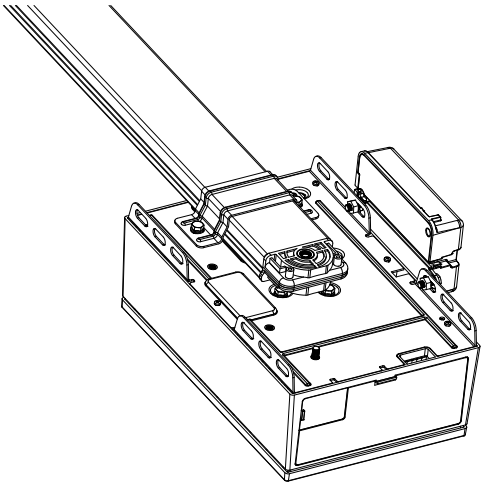


Battery connection instructions (optional accessory)

1: Pre-assembled battery wire connection
Connect the pre-assembled battery wire from the motor to the battery (Male and female)



2: Separate assembled battery wire connection
Part of the motor battery port connection - schematic diagram, as shown below

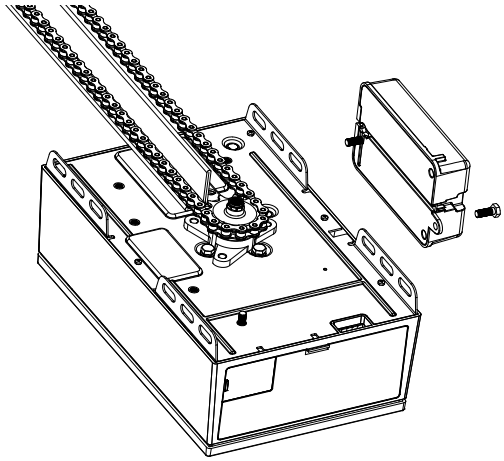


1. Get the extra battery wire from the motor carton box.
2. Connect the battery wire from the motor to the battery (Male and female)
Red battery wire connected to "+" pole
Black battery wire connected to " -" pole

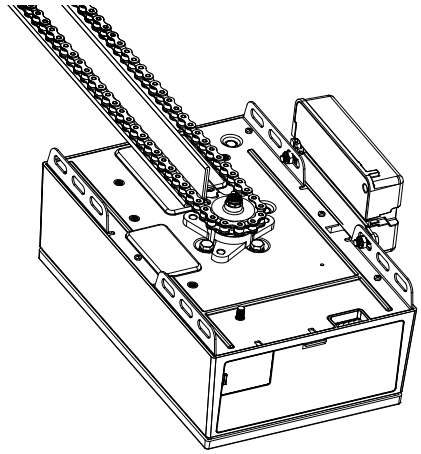
1.8) Battery backup assembly for T-rail (optional)

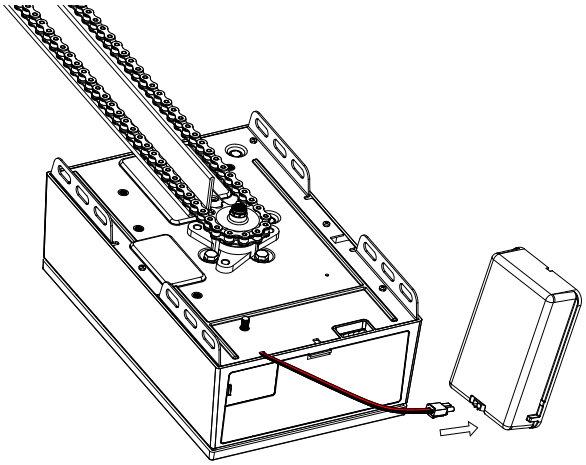
Please choose the installation method according to the actual situation.
Side fixed (for lithium battery, metal base motor)

① Screw the bracket



② Fix the battery to the bracket with screws.





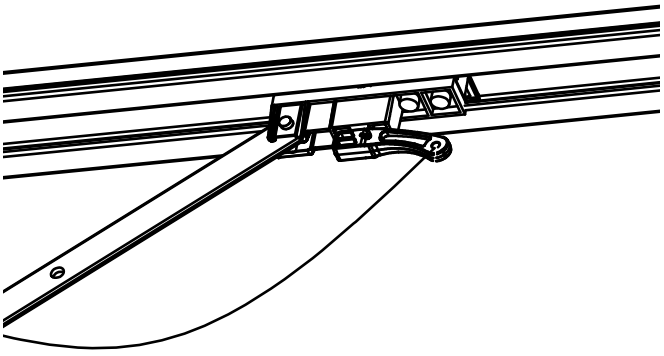
Battery connection instructions (optional accessory)

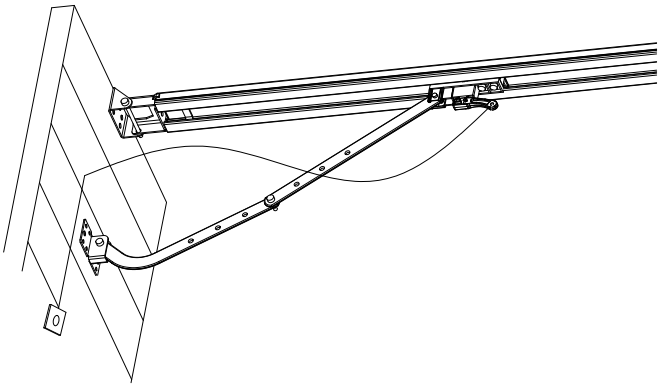
1: Pre-assembled battery wire connection
Connect the pre-assembled battery wire from the motor to the battery (Male and female)

1.9) Manual disengagement for C-rail opener

The opener is equipped with a manual release cord to disengage shuttle and move door by hand while holding the handle down. Pull on the handle to disengage the shuttle. To re-engage the door simply run opener in automatic mode or move door by hand until the trolley engages in the chain shuttle.

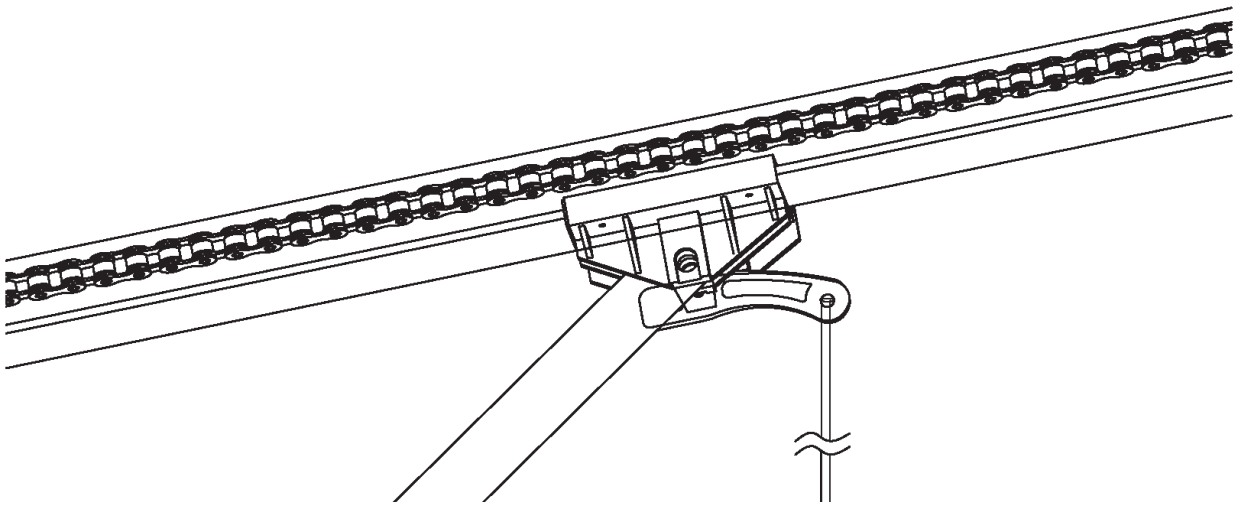
In some situations that a pedestrian door is not in state, it is recommended that an external disengagement device should be fitted.



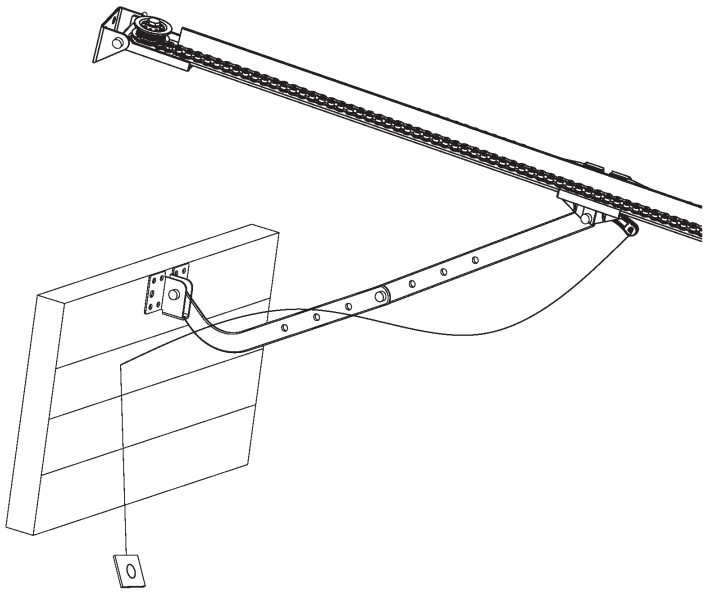


1.10) Manual disengagement for T-rail opener

The opener is equipped with a manual release cord to disengage shuttle and move door by hand while holding the handle down. Pull on the handle to disengage the shuttle. To re-engage the door simply run opener in automatic mode or move door by hand until the trolley engages in the chain shuttle.



In some situations that a pedestrian door is not in state, it is recommended that an external disengagement device should be fitted.



1.11) Maintenance

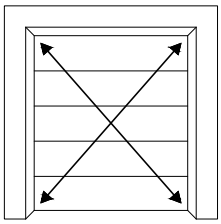
1. No particular maintenance is required for the logic circuit board.
Check the door at least twice a year if it is properly balanced, and all working parts are in good working condition or not.
Check the reversing sensitivity at least twice a year, and adjust if it is necessary. Make sure that the safety devices are working effectively (photo beams, etc.)
2. Regarding the maintenance alarm function:
LED light flashes 10 times quickly means the door lost balance, strong recommend the maintenance for garage doors. "Check" the status, or "Re-learn" the travel limit after maintenance alarm cautions.

Notice: A rude operating door can affect the life of the automatic opener due to incorrect loads, and will avoid the warranty.

2) Technical specifications

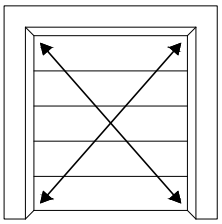
Model	CB700	CB1100	CB1500
Input voltage	220-240V, 50-60 Hz/110-127V, 50-60Hz		
Max. pull force	700 N	1100 N	1500 N
Max. door area	7 ㎡	12 ㎡	18 ㎡
Max. door weight (Balanced)	100 kg	150 kg	180kg
Max. door height	2400 - 3500mm	2400 - 3500mm	2400 - 3500mm
Drive mechanism	Chain / Belt	Chain / Belt	Chain / Belt
Opening / Closing speed	160mm / Second		
L.E.D supply voltage (DC)	24V		
Limit setting	Electronic	Electronic	Electronic
Transformer	Overload protection technology		
Radio frequency	433.92 / 868.35 MHz		
Coding format	Rolling code (7.38×10^{19} Combinations)		
Code storage capacity	30 different codes（Subject to the actual）		
Caution light terminal	Included	Included	Included
Working temperature	-20°C - +60°C	-20°C - +60°C	-20°C - +60°C
Safety protection	Soft start & Soft stop, Photo cell option, Caution light option		
Protection level	IP20	IP20	IP20

CB700



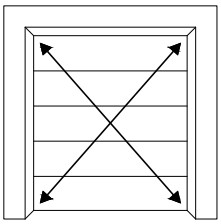
Rated door area: ⩽ 7 ㎡

CB1100

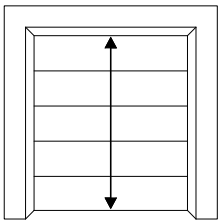


Rated door area: ⩽ 12 ㎡

CB1500



Rated door area: ⩽ 18 ㎡



Standard door height: 2400mm
Maximum door height: 3500mm

3) Basic button instructions

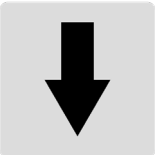
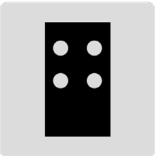
Short press: Confirm setting.
Long press: Enter the function menu setting.

Short press: Open the door.
Long press: Increase the over load mode force during closing.

Short press: Remote coding.
Long press: Clear the coded remote.

Short press: Close the door.
Long press: Restore factory settings.

4) Quick setting instructions

 **Over load mode** Long press for 4 seconds	Press and hold the UP button for 4 seconds. The digital display will increment and cyclically show levels 0-3. Release the button to select the current level. 0: means the function is disabled （default） 1: increase the overload force 25% based on your current force. 2: increase the overload force 50% based on your current force. 3: increase the overload force 75% based on your current force.
 **Restore factory settings** Long press for 4 seconds	Keep press DOWN button, after 4 seconds, it will scroll to display  , then the garage door opener will restart. PS: Restart means all settings are back to factory settings, all learning things need to be done again except the transmitter learning code.
 **Remote coding** Short press	1. In the Setting Status, short press CODE, it will exit the current operation and return to the standby interface. 2. In the Standby Status, short press the CODE, A dot will be indicated in the corner, now entering the code leaning mode. Now first click the button on the hand transmitter you want to use, the dot may disappear ,then press again the same button on the hand transmitter, the dot will flash, here, the code learning is finished.
 **Remote clearing** Long press	Press and hold CODE button until a letter  is indicated on the display. All stored remote controls, wireless keypads and wireless wall switchs will be deleted. **Note:** Clearing the remote will not clear all paired wireless accessories, such as wireless photo beam, wireless E-lock etc.

Operation	Default	Function Description
OP Force OP OBS Sen		Set the door opening force and obstacle sensor sensitivity. Range 1-9, door opening force gear is 5 (Default)
CL Force CL OBS Sen		Set the door closing force and obstacle sensor sensitivity. Range 1-5, door closing force gear is 3 (Default)
PE		Set the photo beam on or off. Range 0-1 0: Off (Default) 1: Open the photo beam After the function is activated, the LED indicator lights up.
Auto Close		Set the automatic door closing delay. Range 0-9, 0 is off, and the remaining levels correspond to 15s each 0: Automatic door closing off (Default) After the function is activated, the LED indicator lights up.
OP Speed		Adjust the door opening speed. Range 7-8-9-A The range corresponds to a percentage of the maximum speed. For example, A corresponds to 100% (Default)
CL Speed		Adjust the door closing speed. Range 7-A The range corresponds to a percentage of the maximum speed. For example, 8 corresponds to 80%
LED Off Delay	LED Off Delay 	Set the delay before the light turns off after the door is opened. Range 1-9 3: LED light turns off after a 3-minute delay (Default) The remaining 1-9 levels correspond to 1 minute each.
CL Soft Stop		Set the soft stop distance at the end of the door closing stroke. Range 1-3 1-2-3: Long-Medium-Short 2: Midium range of soft stop distance (Default)

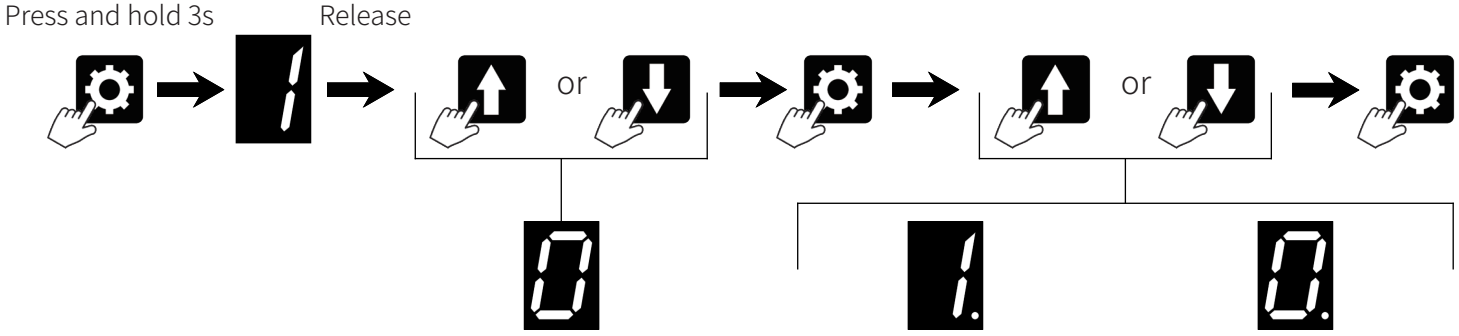
5) Parameter overview

Par	Function Description	Description of default parameters
	Programming motor reversal function	The motor is forward rotation (Default) 
	Programming open & close limits	Learning the door open limit and close limit.
	Community function (Parking lot function) ON/0FF	Community function is disabled (Default) 
	The partial open/height setting	The Parial Open/Hieght function is not enabled (Default) 
	Maintenance alarm	Maintenance alarm function is disabled (Default) 
	Automatic closing condition setting	The door only can automatic close while in the open limit position (Default) 
	Obstacle reverse mode	Full open running to the open limit after resistance rebound (Default) 
	Reversal height ignorance setting	The parameter range is 0-9*1cm (Default) 
	Transmitter buttons recognition function setting	Only the initially programmed button can control the opener (Default) 
	Pass door switch type setting	Normally open port (Default) 

6) Parameter details

6.0) Programming motor reversal function

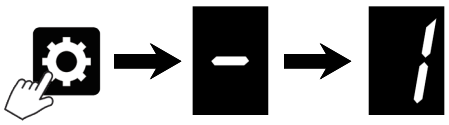
ⓘ This function is applicable to swing doors. When enabled, the trolley moves forward during door opening and backward during closing.

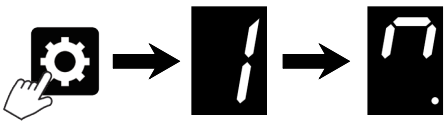


6.1) Parameter: Programming open & close limits

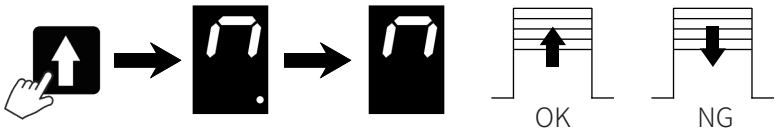
ⓘ Pre-Setup Preparation: Manually open the door to half-height to avoid incorrect rotation during setup. Entering the travel limit menu will clear previous settings.
ⓘ Motor Direction Verification: Confirm motor output direction aligns with door movement.

1. Enter travel limit setting



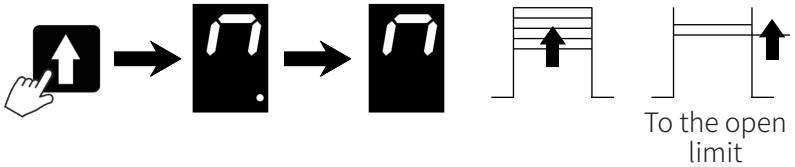


2. Check the direction of motor output and the door running operation

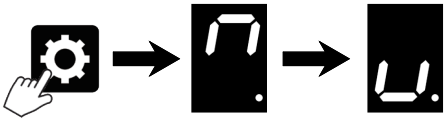


Note: If the motor running direction does not match the door running direction, please exit the learning process first and adjust the motor running direction in the 0 menu.

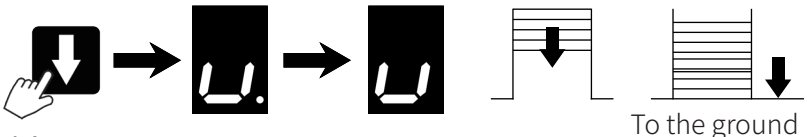
3. Start the travel limit set, open the door and move the door to the open limit position



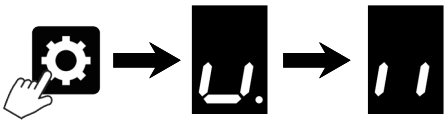
4. Save open limit position



5. Close the door and move the door to the close limit.



6. After confirming the close limit position, the motor enters into self-learning. When the motor self-learning is complete, the travel limit set is complete.



6.2) Community function (Parking lot function) ON/OFF

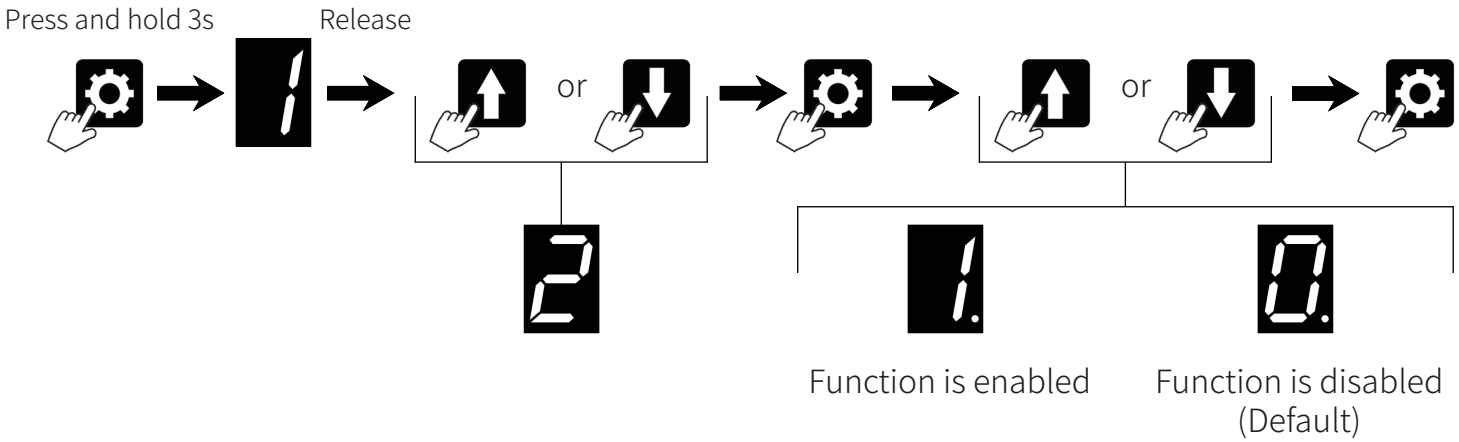
Attention: This function cannot operate properly if enabled alone. Please refer to the function description below.

Function Description:

First, enable function Auto close, then enable function PE, and finally enable function 2.

· When triggered by the remote control, PB port, or Up button, the door opens normally. During the opening process, if a trigger signal is received, the door will not stop.

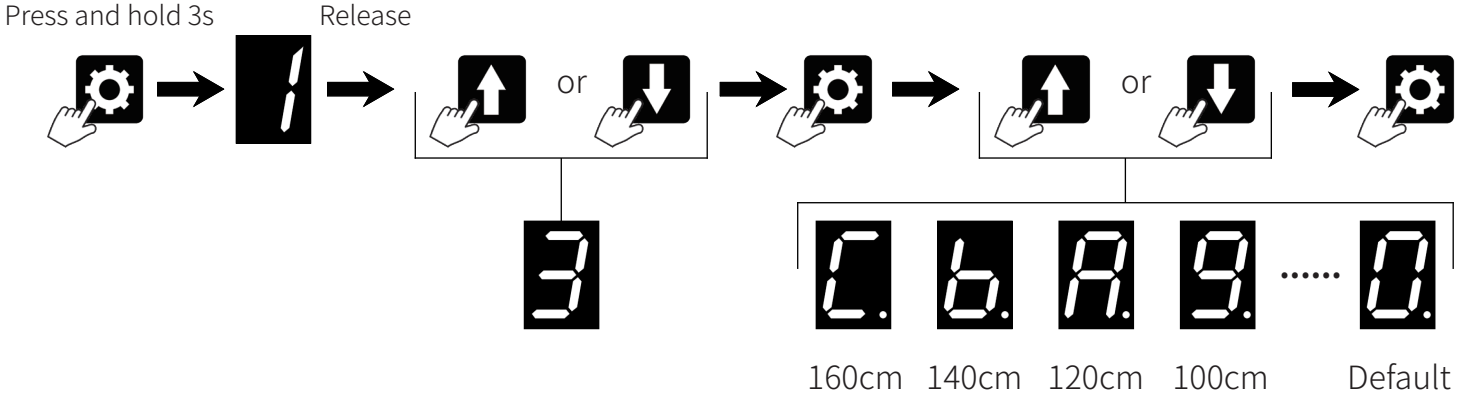
· After reaching the open limit, triggering via remote control, PB port, or DOWN button will have no effect. At this point, the door can only be closed through the automatic closing function.



6.3) The partial open/height setting

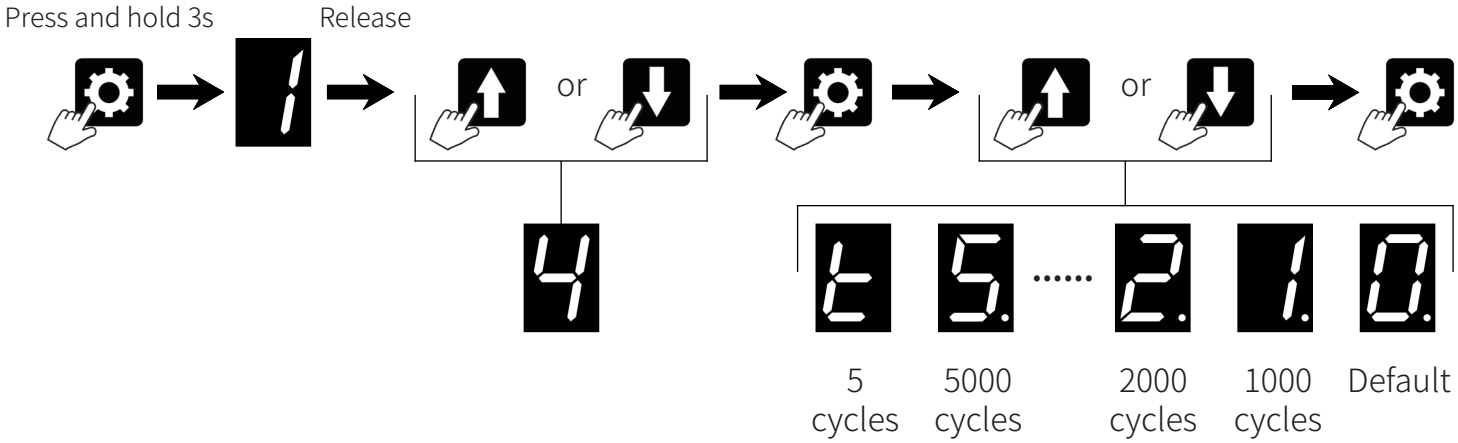
ⓘ When the partial open/height function is activated, the button's recognition function will be deactivated.

ⓘ When the partial open function was initially enabled and subsequently disabled, that only the initially programmed button can now control the opener.



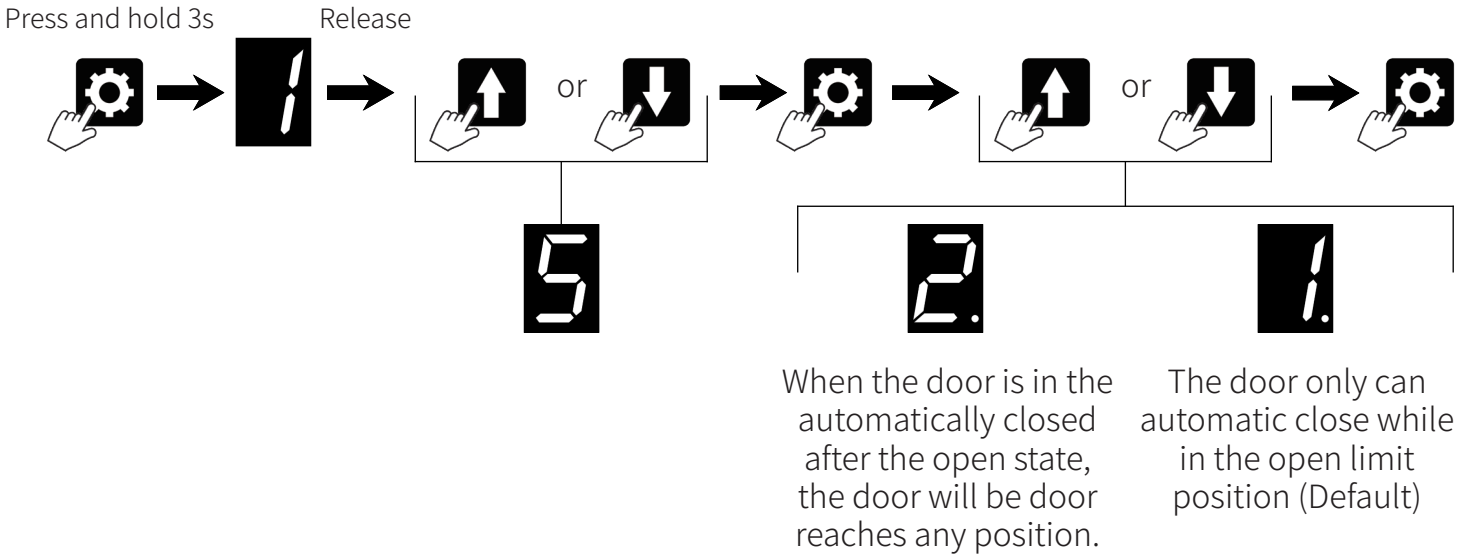
6.4) Maintenance alarm

ⓘ **Note:**
LED flashes 10 times upon imbalance or maintenance requirement. Check the door balance or re-learn the travel limit of the garage door.

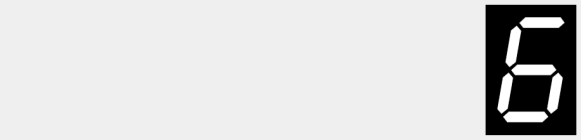


6.5) Automatic closing condition setting

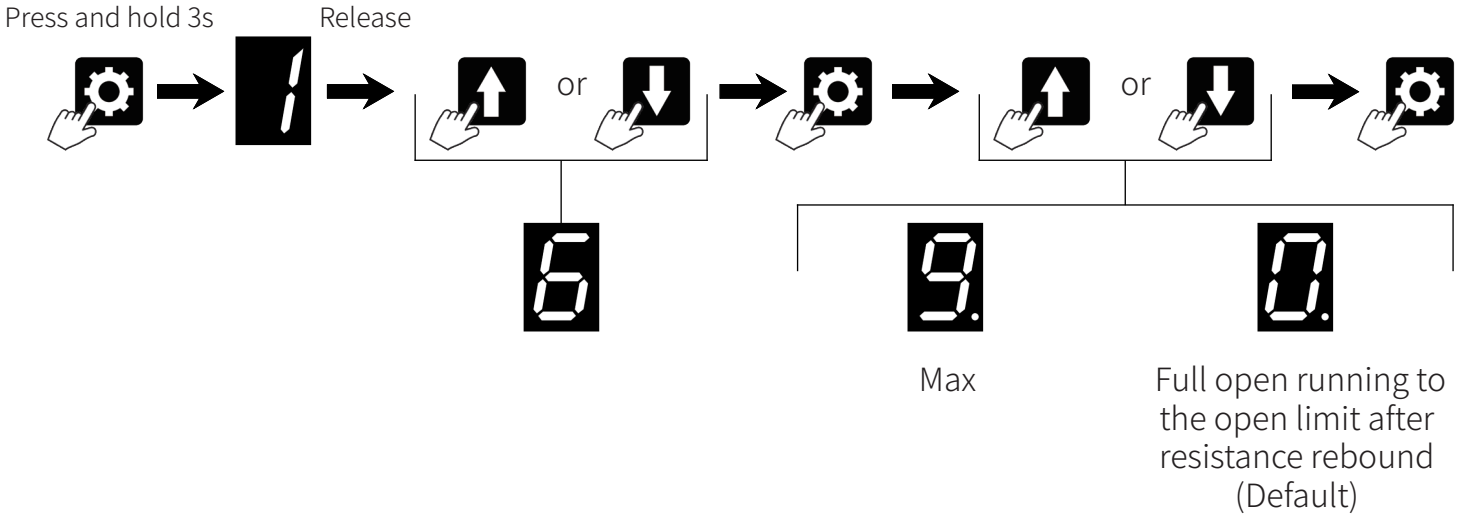
ⓘ Default: Door closes only from the fully open limit position
ⓘ Alternative: Door closes from any intermediate position
ⓘ This function requires photo beam to be installed and activated to be enabled.



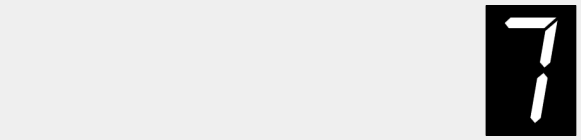
6.6) Obstacle reverse mode



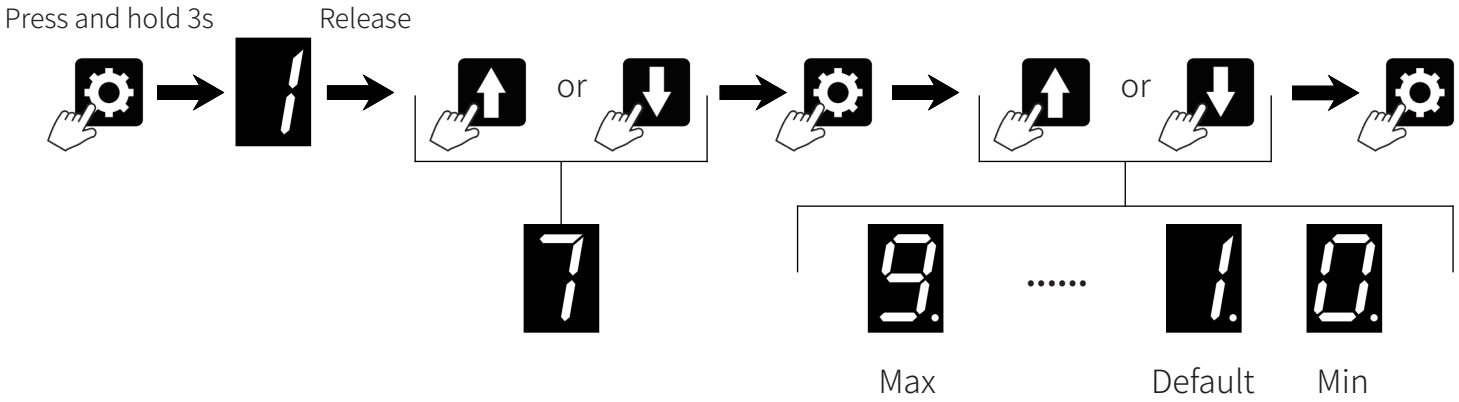
ⓘ Option 0: Door stops at open limit upon reversal (default)
ⓘ Options 1–9: Door reverses for 1–9 seconds



6.7) Reversal height ignorance setting

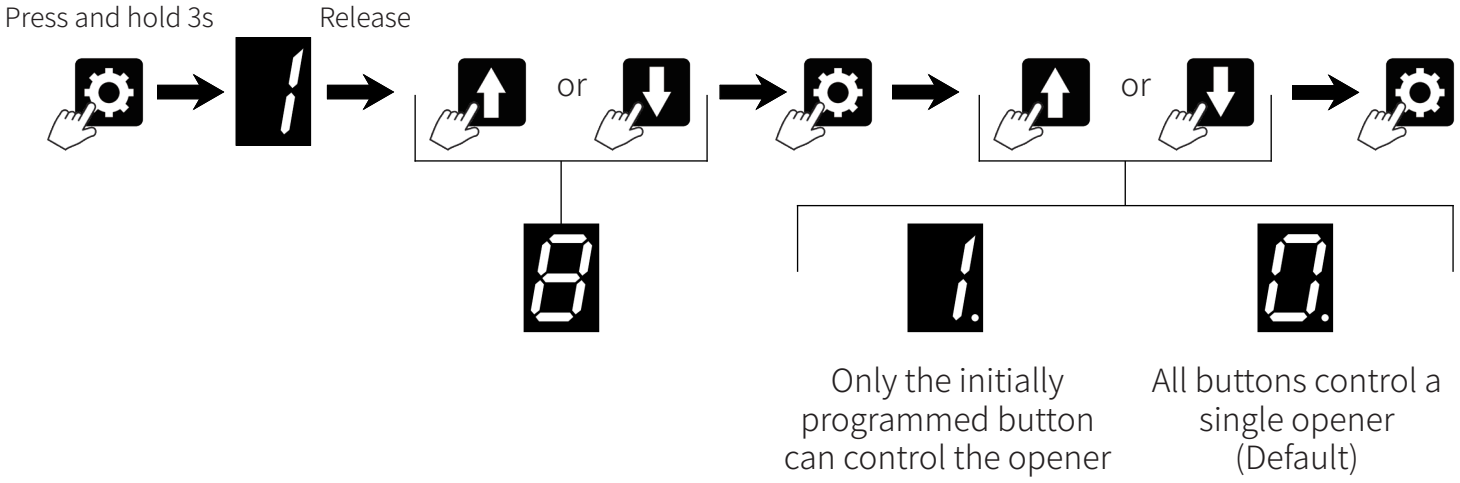


ⓘ Range: 1–9 cm (door ignores obstructions near the closed position).
ⓘ Use Case: Ideal for snowy environments.



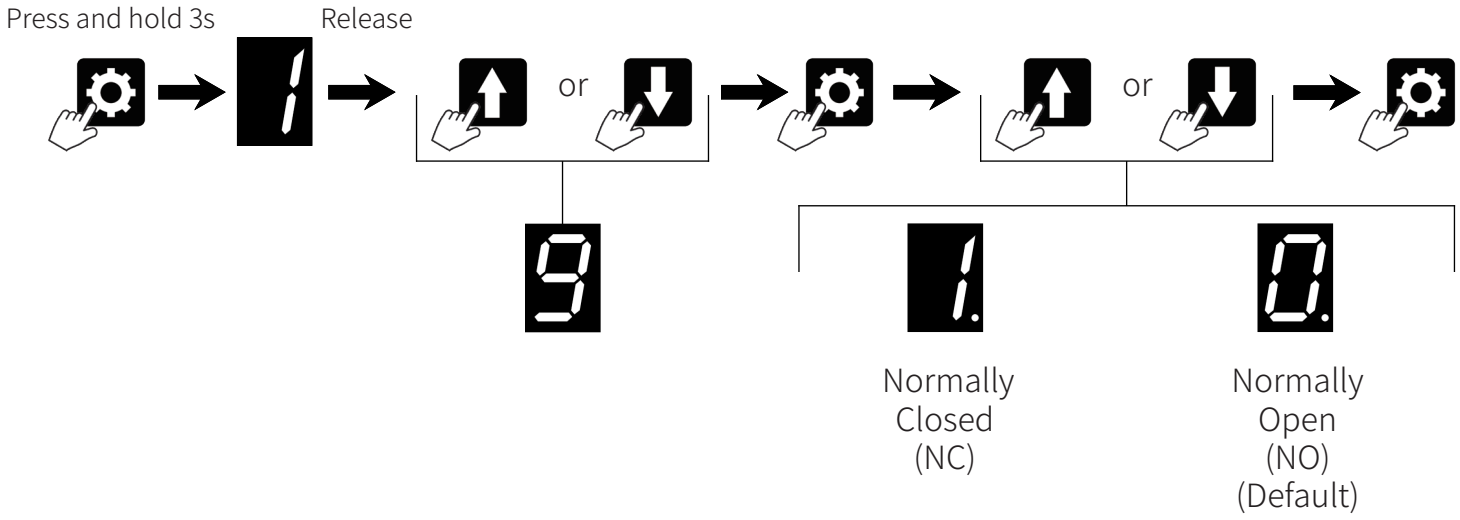
6.8) Transmitter buttons recognition function setting

ⓘ Note: The "3" function (Partial Open/Height Setting) must be turned off before using the transmitter recognition function
ⓘ Parameter "0" disables button recognition. If you have only one automatic door, all four buttons on the remote can control it.
ⓘ Parameter "1" enables button recognition. Only the first button will control the opener if it is coded to the first opener. This is suitable for users with multiple automatic doors or gates.



6.9) Pass door switch type setting

ⓘ Connection Description: SD-GND port



OPEN / STOP / CLOSE TERMINALS

The O/S/C facility can be used for an external push button switch to operate the opener. The switch must have voltage free normally open NC contacts (Fig. 1)

Photo beam connection (optional) – Fig.1, Fig.2
Switch control connection (optional) – Fig.1

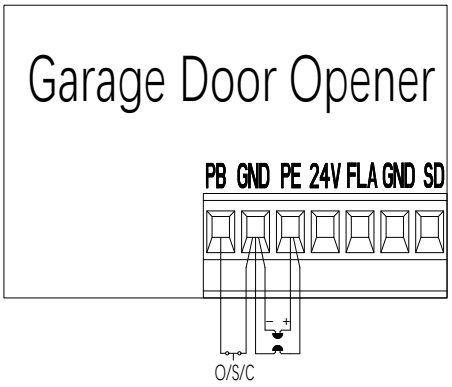


Figure 1

Remark:
1. Flash (Caution Light) should be less than 10w
2. PB(External Push Button) should be " NO" contact

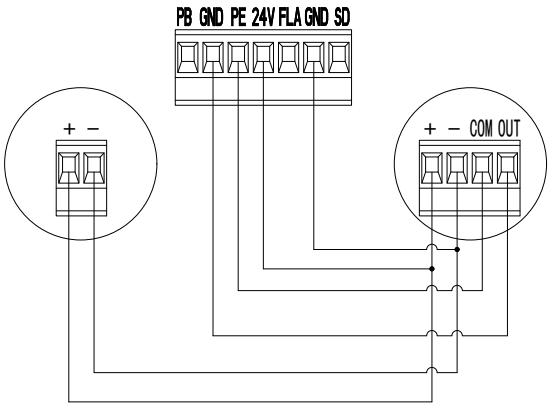


Figure 2

Other terminal introduction and application

1. The O/S/C interfaces available.(Fig.1)
Add a new O/S/C button to open or close the door.

2. Flash light function.(Fig.3,Fig.4)
There are corresponding interfaces for this function and provide 24V-35V flash light voltage. Connect the flash light with DC 24V-28V, currents ⩽ 100mA. When use AC 220V power flash lights, please match an adapter, and wiring as required.

3. Pass door (SD)protection (Fig.3, Fig.4)
This function ensures that the door can't be opened unless the small pass door is closed. The door panel won't be damaged.

4. External power supply (BAT) and antenna (ANT), WIFI port.(Fig.4)
External power connection port, red is connected to "+", black is connected to"-".
"WIFI" This port is inserted into the WIFI module.
"ANT" receiving signal function antenna interface.

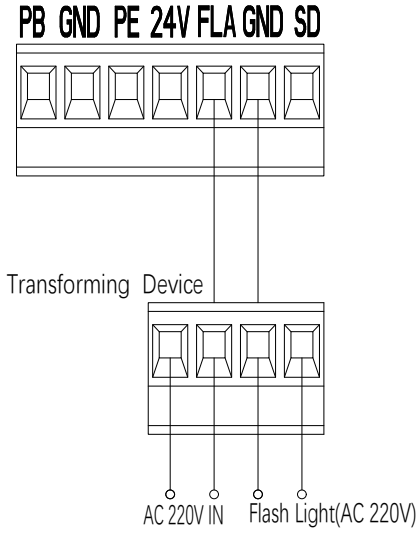


Figure 3

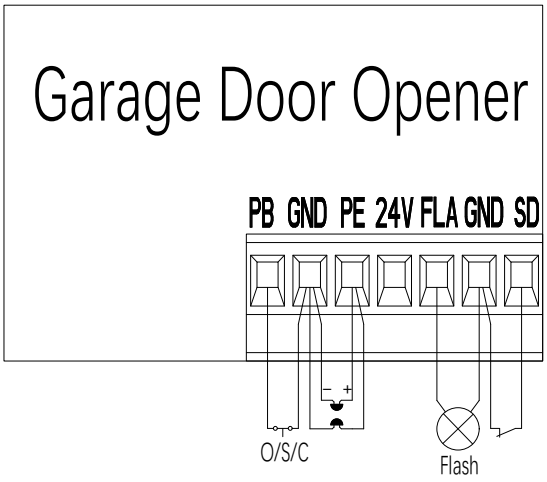


Figure 4

MAINTENANCE

1. No particular maintenance is required for the logic circuit board.
Check the door at least twice a year if it is properly balanced, and all working parts are in good working condition or not.
Check the reversing sensitivity at least twice a year, and adjust if it is necessary.
Make sure that the safety devices are working effectively (photo beams, etc.)

2. Light bulb replacing:
Notice: Make sure the power supply has been cut off before replacing the light bulb. And ensure the voltage of the new light bulb is in accordance with the local voltage and the power is within 10 Watt.
Demount the screws on the lamp cover. Take the lamp cover away then twist off the old L.E.D light anti-clockwise. Fix the new L.E.D light and lamp cover.

3. Regarding the maintenance alarm function:
LED light flashes 10 times quickly means the door lost balance, strong recommend the maintenance for garage doors. "Check" the status, or "Re-learn" the travel limit after maintenance alarm cautions.

Notice: A rude operating door can affect the life of the automatic opener due to incorrect loads, and will avoid the warranty.

7) Running display codes

Display Information	
	No travel limit set
	Standby status display
	Open limit learning status display
	Close limit learning status display
	Door is opening
	Door is closing
	Pass door triggered
	Wired photo beam triggered
	Transmitter learnning

8) Common fault & solutions

Problem Description	Solution
1. Door travel range exceeds maximum threshold (9m) or falls below minimum requirement (30cm). 2. The door loses balance and affects the proper operation of the motor. 	1. Learn the proper travel limit range. 2. Check the door balance (Mechnical parts and springs) or replace a stronger power motor.
Abnormal voltage input (A low input voltage), or unbalanced door weights. 	1. Check the power supply for a right input voltage. 2. Check the door balance (Mechnical parts and springs) or replace a stronger power motor.
Fail to learn the up and down limit setting. Improperly learn the up and down limit setting. 	Learn "UP" and "DOWN" limit setting again follow the manual
Hall sensor/wiring fault/ Component fault on PC board. 	1. Inspect connections. 2. Replace the PC board.
Reversed Motor Wiring to PC board. 	1. Disconnect from main power supply. 2. Reverse the polarity of gear motor wiring connections at the terminal block. 3. Programme the travel limit.
The wired photo beam function remains active despite no photo beam being installed. 	1. Deactivate the wired photo beam function refer to the manual. 2. Verify proper wiring termination and ensure no physical obstructions are interfering with photoelectric detection.
Exceeds limit of paired remote controls. 	Delete all stored codes on the opener (Refer the instruction manual).
Pass door safety protection function is triggered 	1. Check the pass door and ensure it has been closed compeletly. 2. Check the pass door sensor performance.

Fault Symptom	Potential Causes	Recommended Solutions
No Response from Openers	1. Power supply interruption	1. Inspect E-Lock wiring integrity
	2. Loose wiring connections	2. Verify E-Lock functionality (ensure bolt retracts properly)
LCD Screen Inoperative	1. Power supply failure	1. Check main power input
	2. Faulty E-Lock mechanism	2. Replace damaged E-Lock components
Position Calibration Error	System limit setting misalignment	Reset travel limits via control panel
LED Indicator Continuously On	1. Control panel malfunction	Replace control board or power supply board
	2. Power board failure	
Caution Light Persists	Circuit board damage	Replace main circuit board
LED Failure	1. Disconnected LED wiring	1. Reconnect LED cables
	2. LED unit defect	2. Install new LED module
	3. Circuit board fault	3. Replace circuit board
Premature Door Reversal	1. Obstruction detected	1. Clear obstruction path
	2. Incorrect door installation	2. Reinstall door track
	3. Travel limit misaligned	3. Adjust force sensitivity and reset travel limits

Fault Symptom	Potential Causes	Recommended Solutions
Door Halts During Opening	1. Safety sensor activation	1. Clean sensor lenses
	2. Track misalignment	2. Realign door track
	3. Foreign object blockage	3. Remove obstructions
Remote Control Malfunction	1. Depleted battery	1. Replace battery
	2. Antenna disconnection	2. Secure/extend antenna
	3. Signal interference	3. Eliminate nearby RF sources
Remote Pairing Failure	Incompatible remote model	Use manufacturer-approved remote control
Motor Runs, Door Static	Motor-rail coupling failure	Inspect and reattach motor-drive rail linkage
Battery Failure	1. Discharged battery	1. Recharge battery
	2. Reverse polarity connection	2. Verify terminal orientation (+/-)
	3. Damaged wiring	3. Replace defective cables
Other Anomalies	External device incompatibility	1. Disconnect non-certified devices
		2. If unresolved, replace circuit board