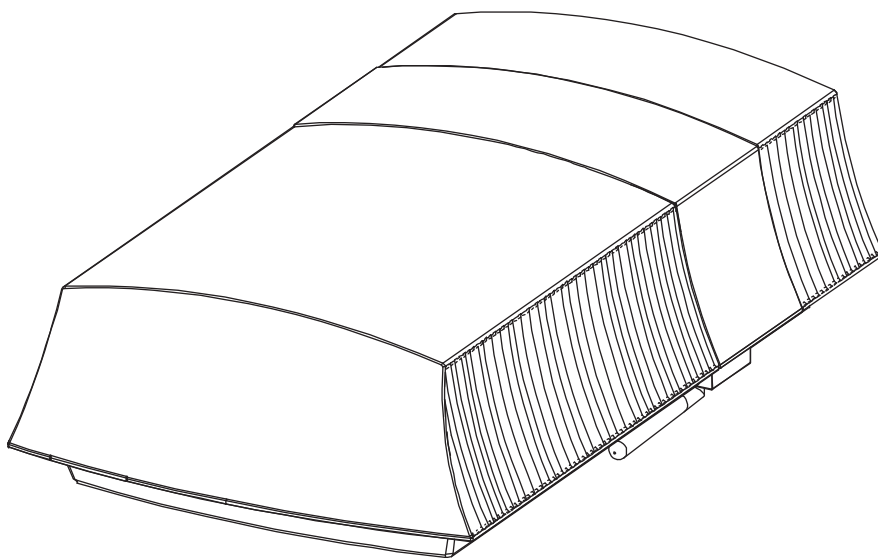


Marble SERIES

Garage Door Openers

USER MANUAL



Reuse
Reduce
Recycle



1. Warnings	2
2. Product description	3
2.1 Applications	3
2.2 Description of the automation	3
3. Installation	4
3.1 Inventory of a garage door opener	4
3.2 Rail assembly	5
3.3 Attach the rail to the motor	6
3.4 Attach the rail on the header wall and ceiling	6
3.5 Connect release section to the garage door	7
3.6 Final steps before system learning	8
3.7 Introduction of the emergency release	8
4. Operation	9
4.1 Accessory connection	9
4.2 Door position for start-up phase	9
4.3 Transmitter memorizing and erasing process	10
4.4 System learning, reset process, and LED display	10
4.5 Programmable function indication LED	12
4.6 How to set the parameter	12
4.7 Programmable function setting	13
5. Function of terminals	14
5.1 Photocells	14
5.2 Installation of Photocells	14
6. Specification	15
7. Wi-Fi Box User Manual	16
8. Accessory	17

1. WARNINGS

WARNING :

Please read this instruction manual carefully before the installation.

This manual is exclusively for qualified installation personnel. TMT Automation Inc. is not responsible for improper installation and failure to comply with local electrical and building regulations.

Keep all the components for the garage door opener and this manual in hand for further consultation.



- In this manual, please pay extra attention to the contents marked by the symbol: 
- Be aware of the hazards that may exist in the procedures of installation and operation of the garage door opener. Besides, the installation must be carried out in conformity with local standards and regulations.
- If the system is correctly installed and followed all the regulations, it will ensure a high degree of security.
- Make sure that the door works properly before installing the garage door opener and confirm the doors are appropriate for the application.
- Do not let children operate or play with the garage door opener.
- Do not cross the path of the garage door opener when it is in operation.
- Please keep all the control devices and any other pulse generator away from children to avoid the system being activated accidentally.
- Do not make any modifications to any components except that it is mentioned in this manual.
- Do not try to manually open or close the doors before you release the opener.
- If there is a failure that cannot be solved and is not mentioned in this manual, please contact a professional installer.
- Do not use the garage door opener before all the procedures and instructions have been carried out and thoroughly read.
- Install warning signs (if necessary) on the both sides of the door to warn the people in the area of potential hazards.

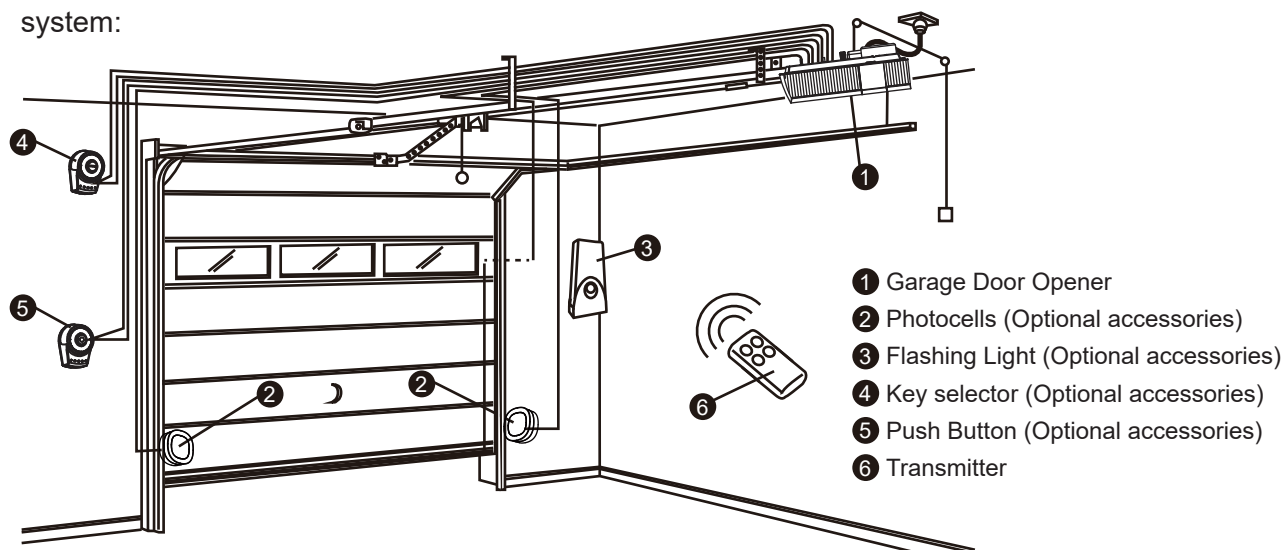
2. PRODUCT DESCRIPTION

2.1 APPLICATIONS

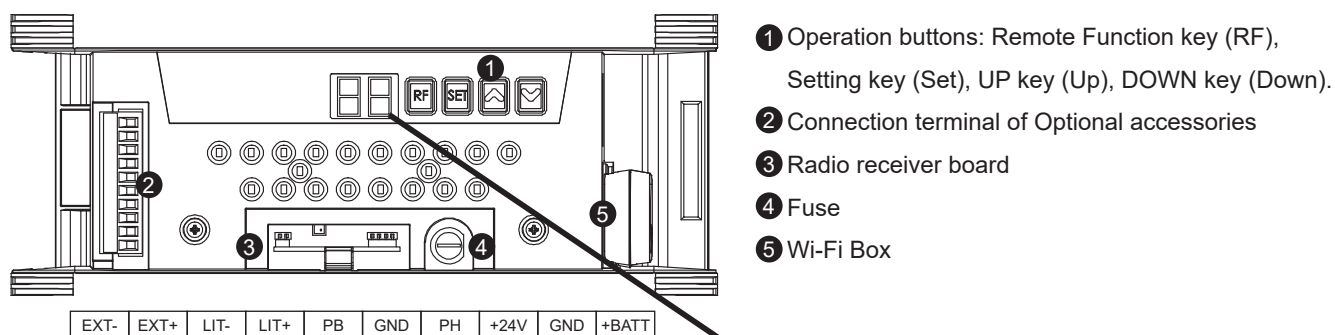
Garage door opener is applied for residential automation of up and over doors and sectional doors. It has to be operated with electricity. It's forbidden to be operated by back-up batteries for normal use. Back-up batteries are only allowed for emergent operation when there is a power failure, and the carriage can be released by pulling the cord to move the door manually.

2.2 DESCRIPTION OF THE AUTOMATION

1). The following diagram of typical installation describes some terms and accessory of the door automation system:

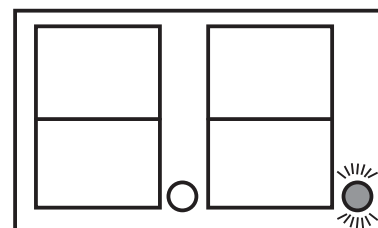


2). The indication of control panel



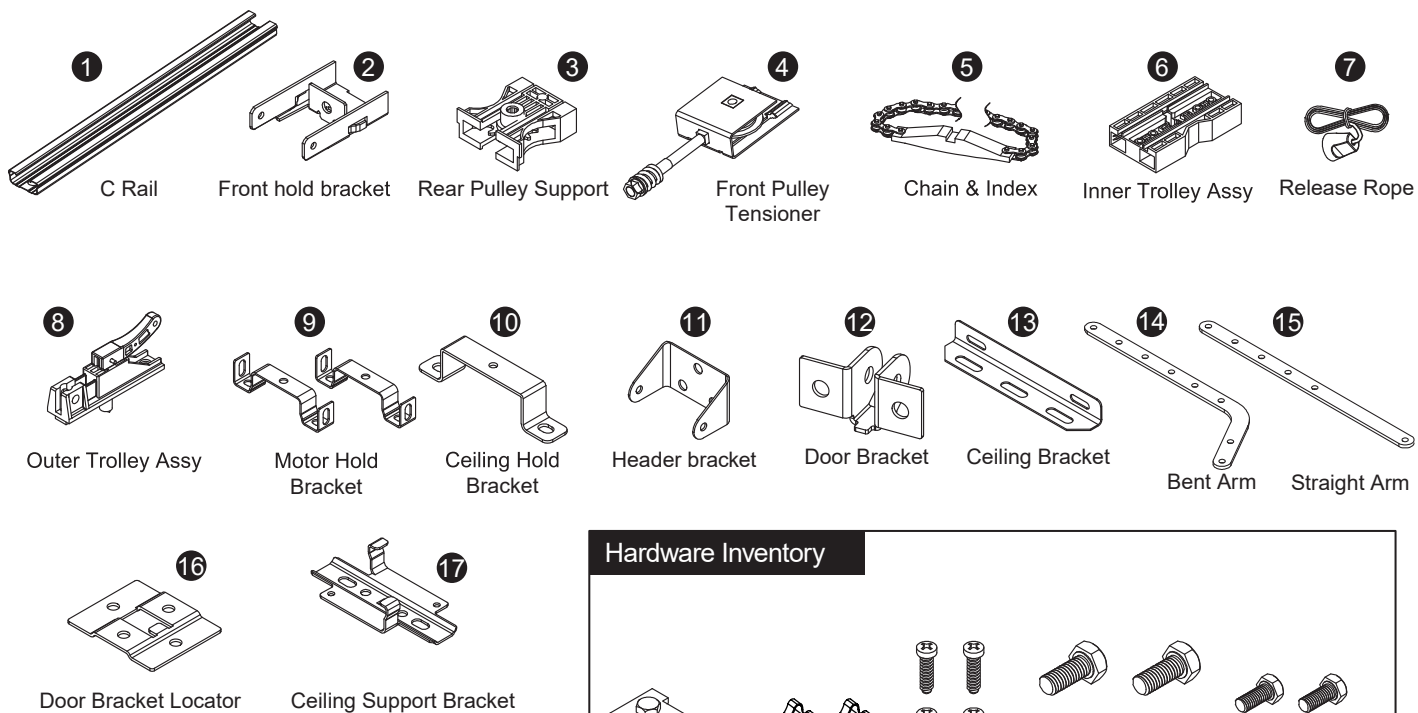
3). The LED indication

- 1 The power indicator is on the bottom right of the display. When the motor is powered, the LED dot indicator is alight.
- 2 When entering to the power-saving mode, the LED power indicator is flashing (light for 0.5 second and then no light for 5 seconds)

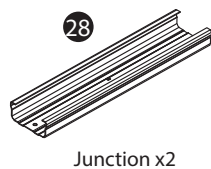


3. Installation

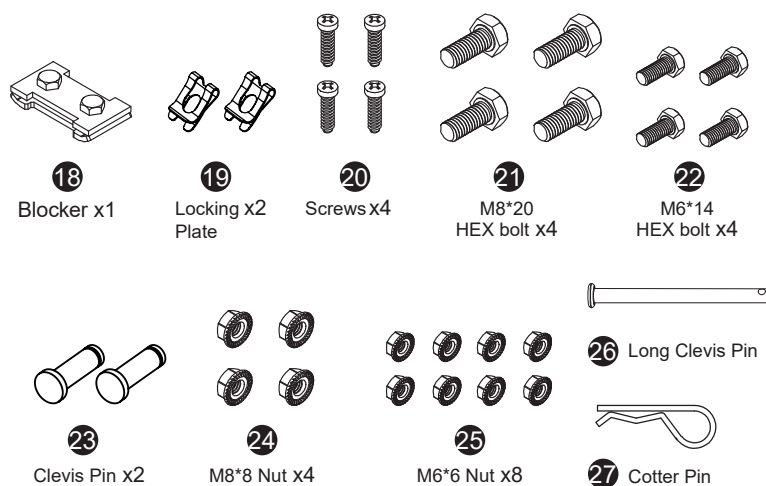
3.1 Inventory of a garage door opener



Optional for 1pcs x 1M Rail

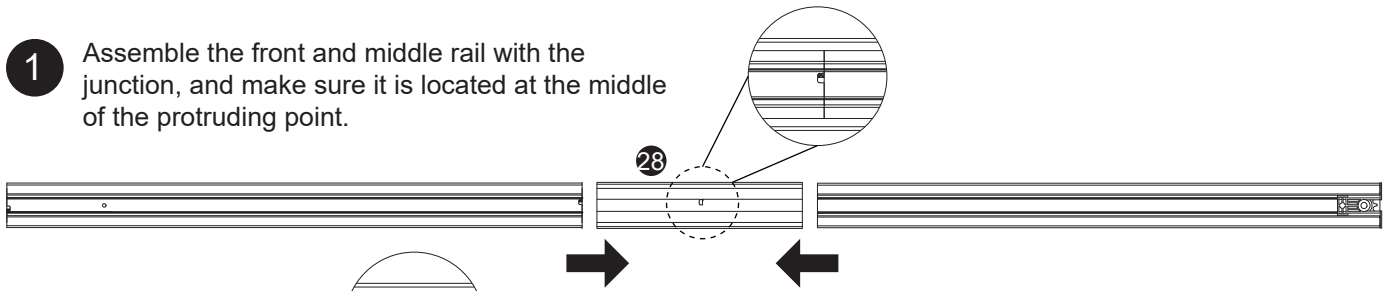


Hardware Inventory

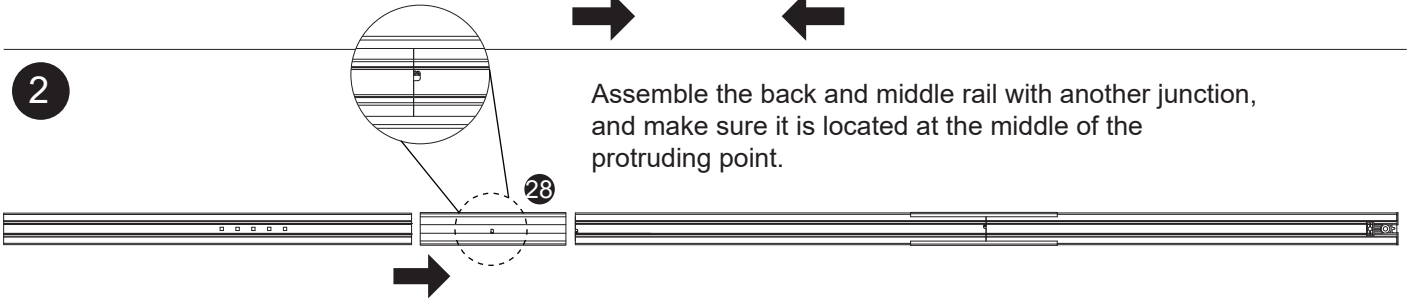


3.2 Rail assembly

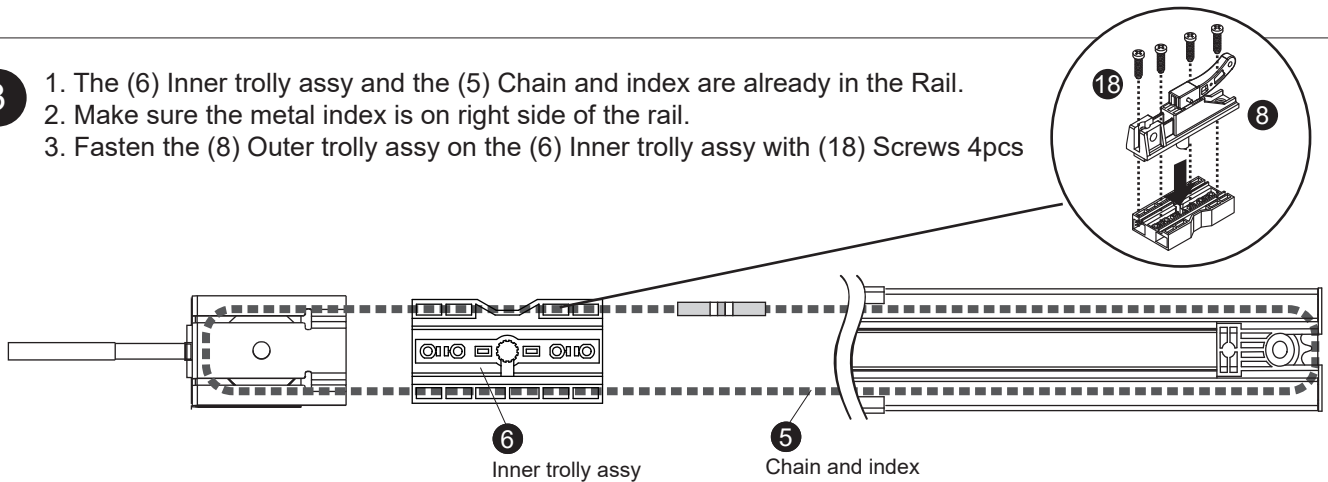
- 1 Assemble the front and middle rail with the junction, and make sure it is located at the middle of the protruding point.



- 2 Assemble the back and middle rail with another junction, and make sure it is located at the middle of the protruding point.

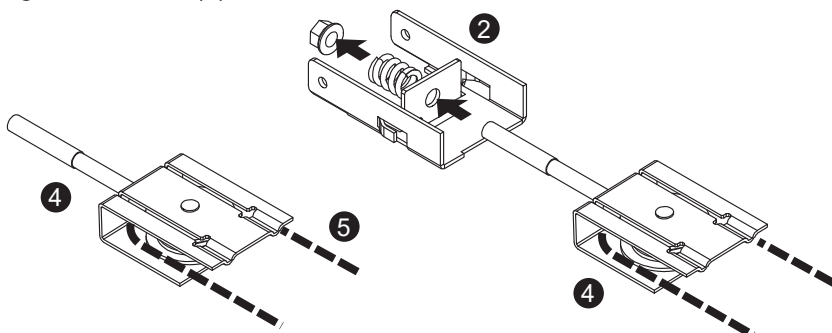


- 3
 1. The (6) Inner trolley assy and the (5) Chain and index are already in the Rail.
 2. Make sure the metal index is on right side of the rail.
 3. Fasten the (8) Outer trolley assy on the (6) Inner trolley assy with (18) Screws 4pcs

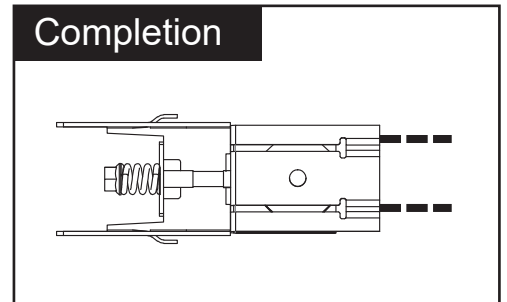


- 4

Remove the nut and the spring in the (4) Front pulley tensioner. Make sure the metal chain is placed in the gap of the pulley on the two sides. Insert the (2) Front hold bracket against the rail. Use the spring and the nut to adjust the tightness of the (5) Chain.



Completion

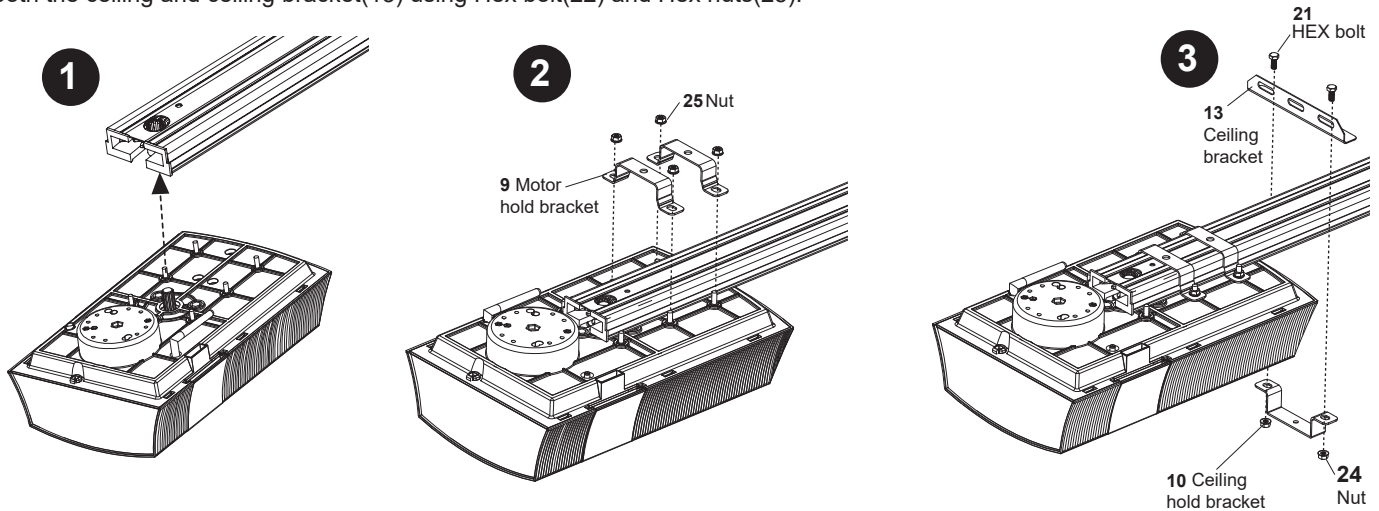


Note: Remember to lubricate the front and rear pulley before use.

3.3 Attach the rail to the motor

1. Connect the (3) Rear pulley support to the output shaft of the motor.
2. Fasten the rail on the motor with (9) Motor hold bracket and the (25) Hex nuts.
3. Fasten the (10) Ceiling hold bracket and (13) Ceiling bracket at the rear side between the motor and the rear blocker with Hex bolt (21) and Hex nuts (24).

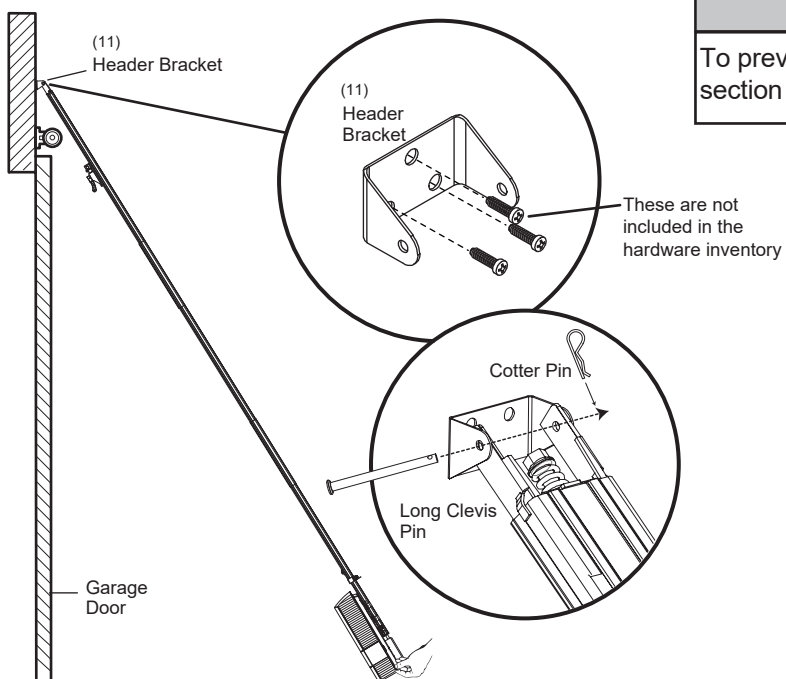
Remark: Optional choice is to use L-bracket to hold the brackets to the ceiling, and fasten to both the ceiling and ceiling bracket(13) using Hex bolt(22) and Hex nuts(25).



3.4 Attach the rail on the header wall and ceiling

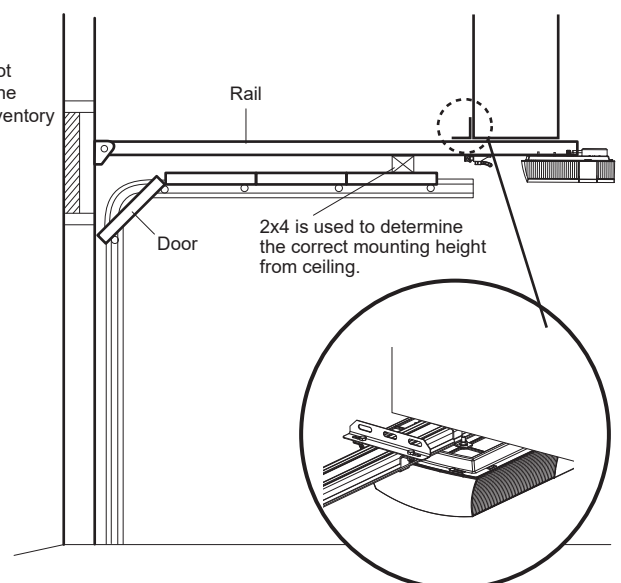
1. Position (11) Header bracket on the header wall.
 - * It is recommended to align the (11) Header bracket with the horizontal center of the door
 - * It is recommended to position the (11) Header bracket at a height 30-50cm from the top of the door.
2. Install the (11) Header bracket with screws.
3. Attach the front rail to header bracket with bolts.
4. Attach the (13) Ceiling bracket on the crossbeam of ceiling with crews.

Attach Rail to the Header Bracket



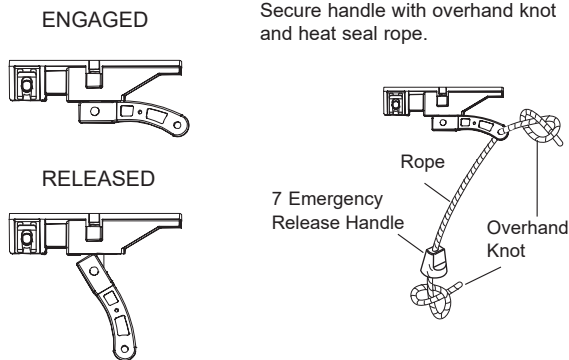
CAUTION

To prevent damage, place the garage door on the top section to create a temporary support.



3.5 Connect release section to the garage door

- 1** Connect the (7) Emergency release rope on the (8) Outer trolley assy



! WARNING

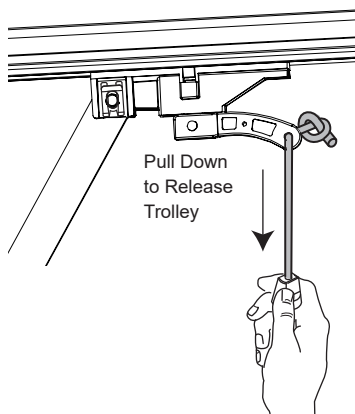
To prevent possible **SERIOUS INJURY** or **DEATH** from a falling garage door:

- If possible, use emergency release handle to disengage trolley **ONLY** when garage door is **CLOSED**. Weak or broken springs or unbalanced door could result in an open door falling rapidly and/or unexpectedly.
- **NEVER** use emergency release handle unless garage doorway is clear of persons and obstructions.
- **NEVER** use handle to pull door open or closed. If rope knot becomes untied, you could fall.

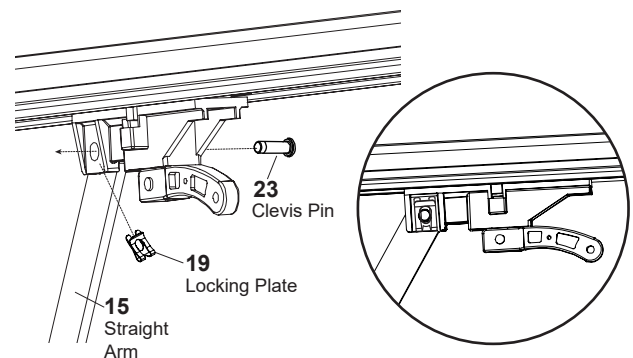
NOTE: Handle should hang 6 feet (1.5 m) above floor. Ensure that the rope and handle clear the tops of all vehicles to avoid entanglement.

CONNECT DOOR ARM TO TROLLEY

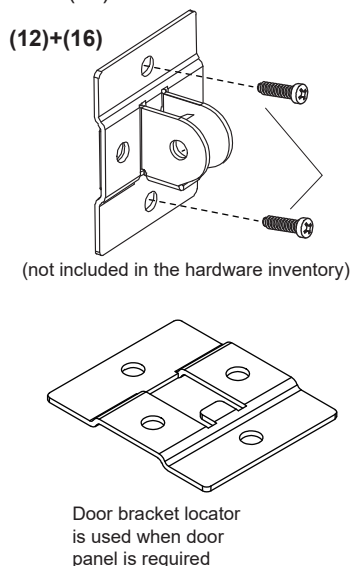
- 2** Pull the (7) Release rope to disengage the (8) trolley



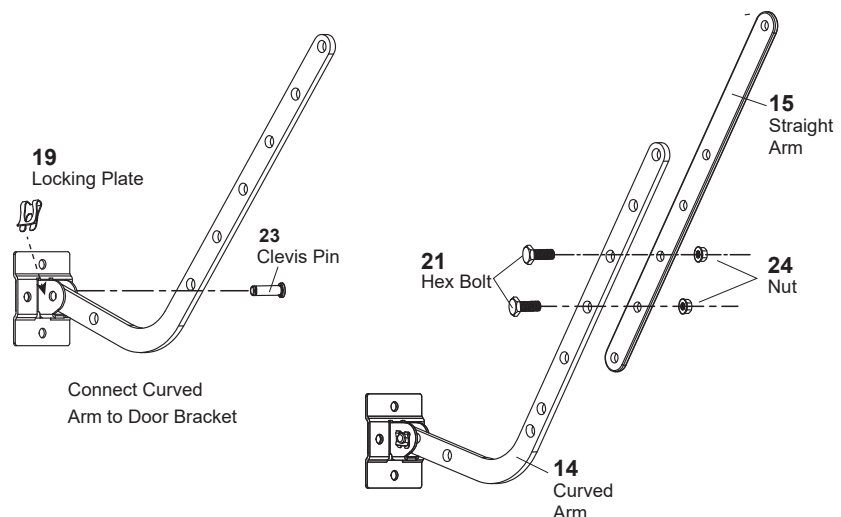
- 3** Connect (15) Straight door arm to Release trolley



- 4** Fasten the (12) Door bracket and (16) Door bracket locator on the center of the garage door. Connect (14) Curved arm to (12) Door bracket.

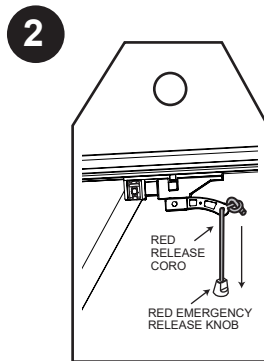
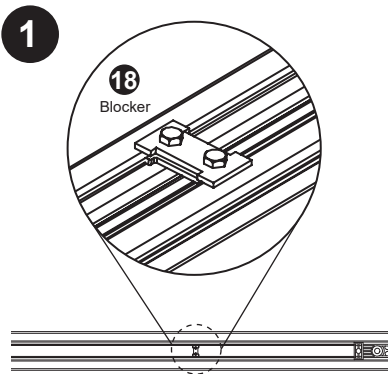


- 5** Connect the (14) Curved arm and the (15) straight arm with bolts and nuts.



3.6 Final steps before the system learning

1. Install the (18) Blocker at the door open position.
2. Attach the warning sign to the (7) Emergency release rope.
3. Connect the power to the motor. Ensure the electric plug and socket are well connected.



3

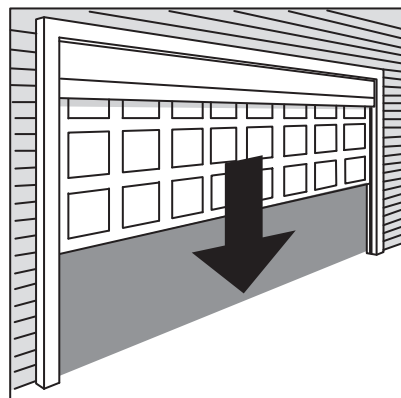
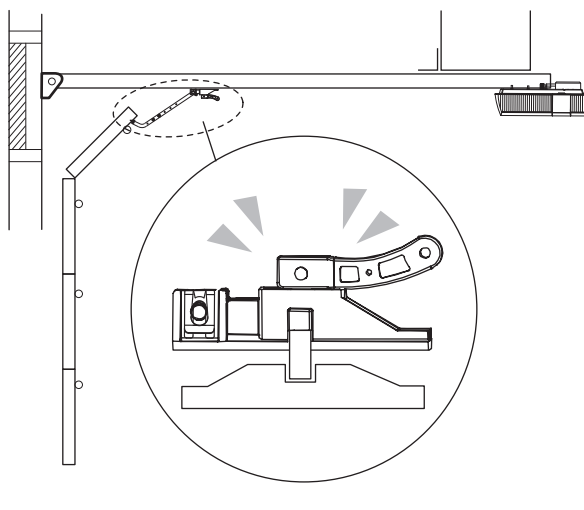
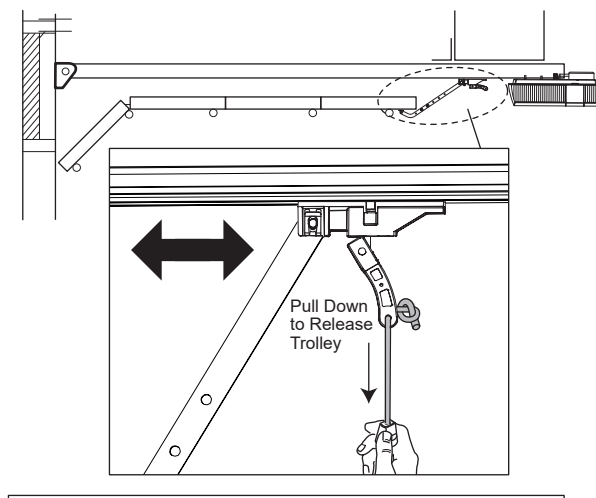
WARNING

To prevent possible **SERIOUS INJURY** or **DEATH** from electrocution or fire:

- Ensure power is not connected to the opener, and disconnect power from the circuit **BEFORE** removing cover to establish permanent wiring connection.
- Garage door installation and wiring **ARE** in compliance with all local electrical and building codes.
- **NEVER** use an extension cord, 2-wire adapter, or change plug in **ANY** way to make it fit an outlet. Ensure the opener is grounded.

3.7 Introduction of the emergency release

1. Pull the (7) Emergency release rope to release the trolley. Make sure the trolley is disengaged. The garage door can be operated manually.
2. Before restarting the motor, manually move the garage door until the trolley is engaged.



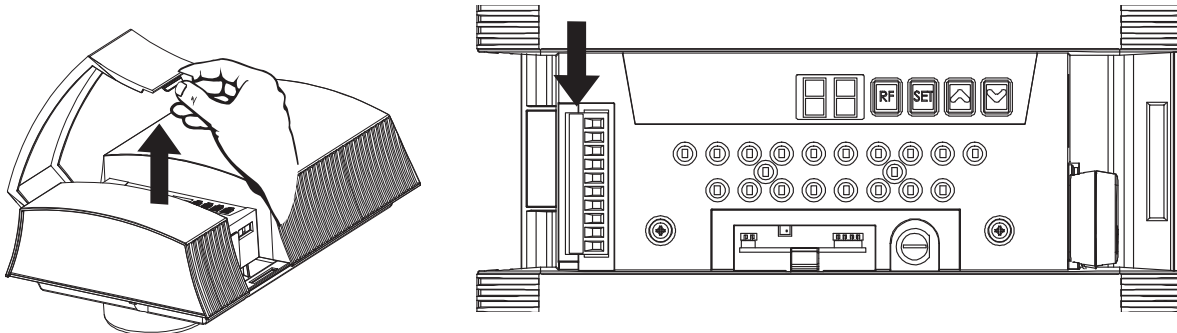
4. Connection

4.1 Accessory connection

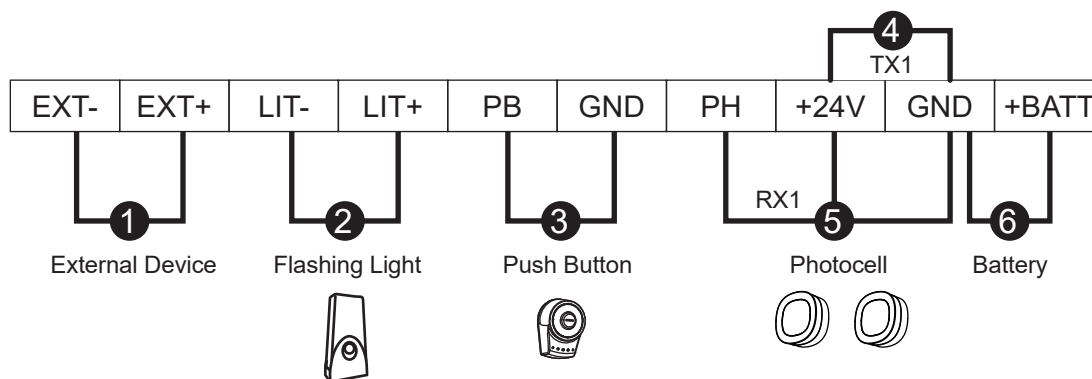


Only establish electrical connections when the electricity supply to the system is OFF.

A. Open the cover in order to access the electronic connection terminal of the garage gate opener.



B. Connect the wires of each accessory to the terminal.



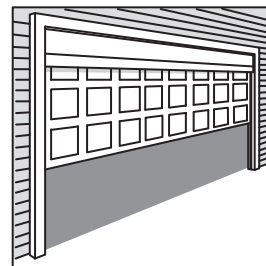
C. Function of external push button:

Door operation when pressing the push button: open-stop-close-stop



4.2 Door position for start-up phase

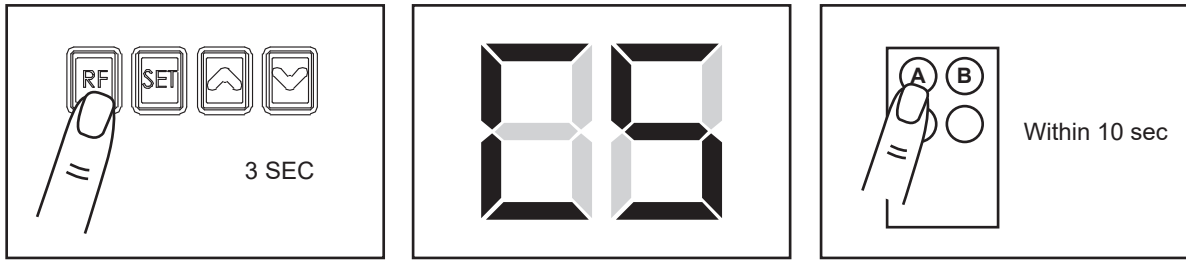
1. Use a commercial adaptor if the plug on the Marble Series unit does not correspond to the socket available. When the system is powered up, check if the LED is ON.
2. Never cut or remove the cable supplied with the Marble Series garage opener. The power socket of Marble garage opener connection must be fitted by skilled and qualified personnel in strict observance of current legislation, standards and regulations.
3. The power supply line must be protected from short circuits and ground leakage.
4. The garage door is recommended to be set at half travel. This will ensure the leaf is free to move both during opening and closure.



4.3 Transmitter memorizing and erasing process

A. Transmitter Memorizing:

Press "RF Learn" button for 3 seconds, and the LED display will show "CS"; then press the transmitter A button within 10 seconds; "CS" will blink three times and stay ON After 10 seconds without any movement, "CS" will disappear The transmitter learning is completed.



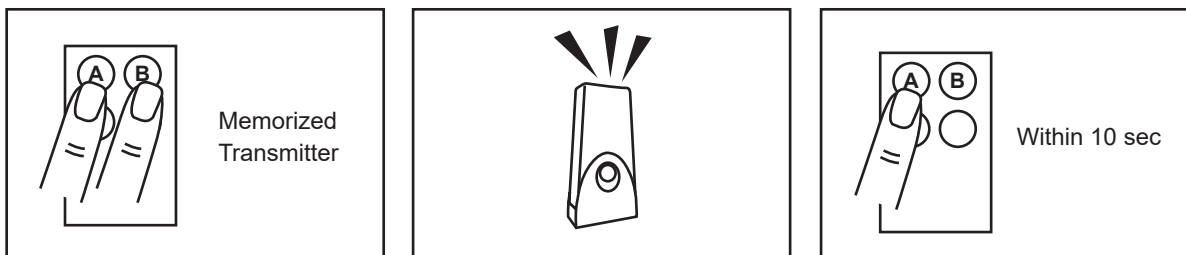
B. Erasing Transmitter Memory:

Press and hold "RF Learn" button for 10 seconds, the display will show "CS". When "CC" is displayed, the memory is cleared.



C. Memorizing an additional transmitter by a memorized one:

Press and hold A and B buttons for 5 seconds, LED light and external flash light will blink at the same time. Within 10 seconds, press any button on the un-memorized transmitter for 2 seconds, the transmitter will be memorized after LED light and external flash light are off. To program by memorized transmitter, just can do the transmitter learning one by one.



4.4 System learning, reset process, and LED display

A. System Learning:

Step1: Press and hold "RF" and "SET" buttons for 3 seconds, the LED display shows "OL" and the motor enters the system learning program.

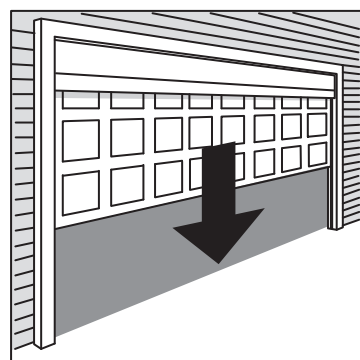
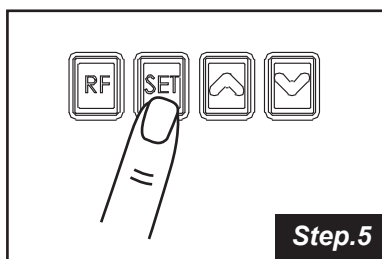
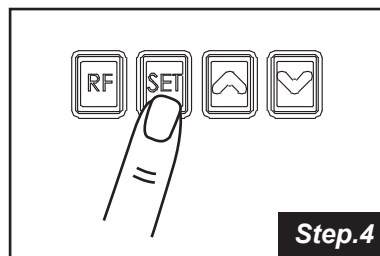
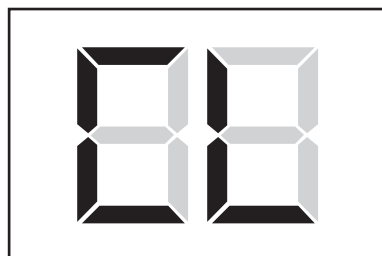
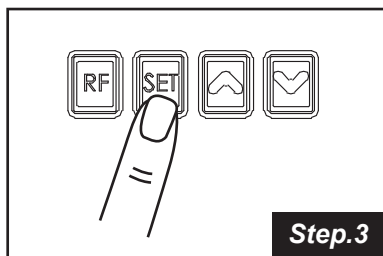
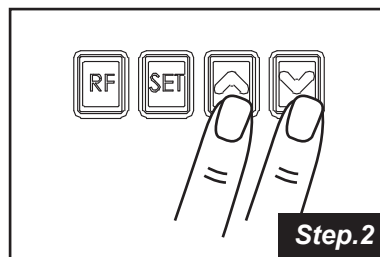
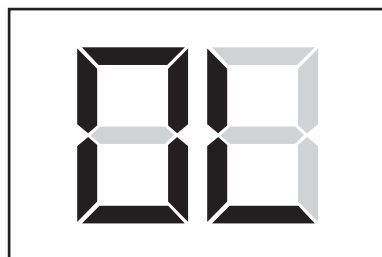
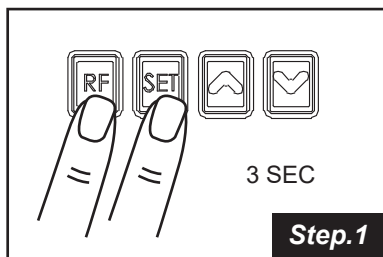
Step2: Set the open limit and LED shows "OL". Press and hold "UP" or "DOWN" button to adjust the door. When the door is at the proper open position, press "SET" button.

Step3: Set the close limit and LED shows "CL". Press and hold "UP" or "DOWN" button to adjust the door. When the door is at the proper close position, press "SET" button.

Step4: When the LED shows "GE". Press "SET" button to proceed operation testing. The LED will show the operation current value in the process and memorize overcurrent value.

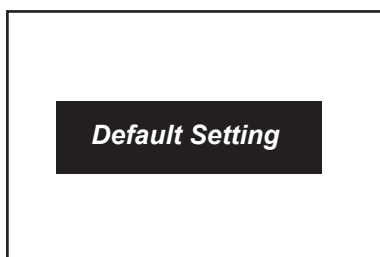
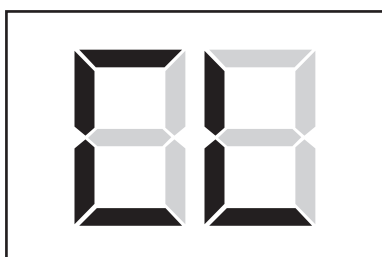
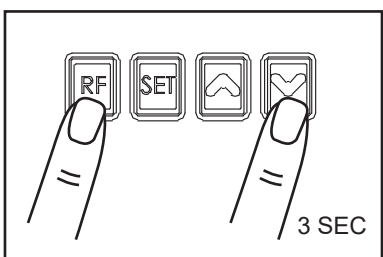
Step5: The motor opens and closes automatically with full speed. The LED shows "SO" while the system learning is completed. Otherwise, the LED will show "SF" when the system learning is failed. The LED will be off after 10 seconds.

Note: The overcurrent function and flashing light function will be activated automatically after the learning process is completed.



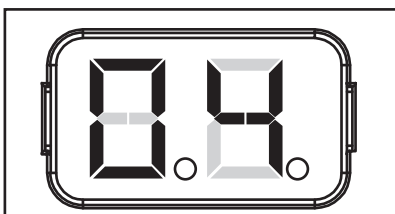
B. Return to the Default Setting:

Press "RF" and "DOWN" buttons for 3 seconds, and the whole setting will be defaulted when the LED shows "CL".



C. Motor current auto-detection

The LED shows the current consumption of the motor



During the system learning process, the control panel will automatically detect the current consumption from each motor, indicate the resistance level of the gate whiling the motor operation. If this reading increase instantly or stay in high reading, please DO check if any object is in between the gate moving area, and contact your installer for further inspection.

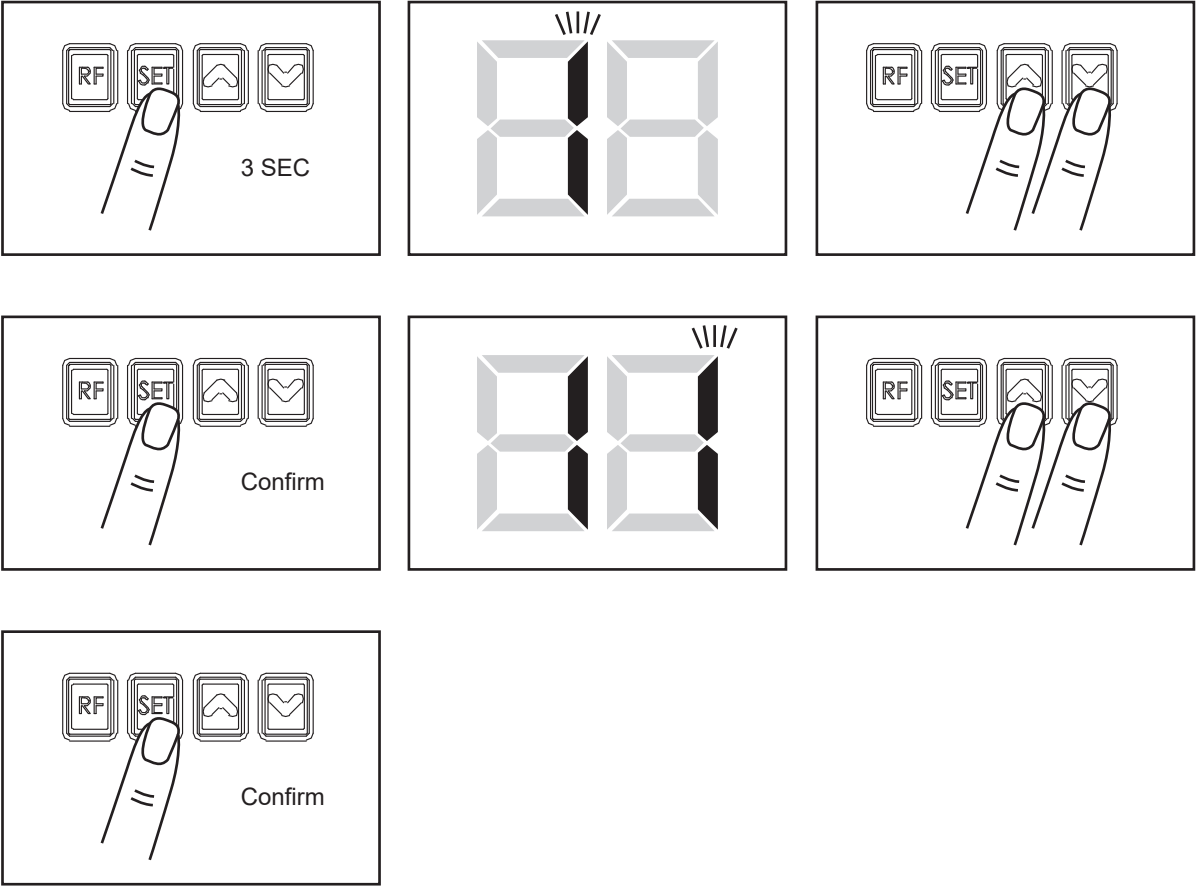
4.5 Programmable function indication LED

LED Display	Programmable Functions	LED Display	Programmable Functions
	Start transmitter learning mode.		Operation testing
	Cleaned all studied transmitter.		System Learning Fail.
	Set up Open Limit.		System Learning Completely.
	Set up Close Limit.		System setting clear

4.6 How to set the parameter:

Step 1: Press the“Set” key for 3 seconds, the LED will show the function code.

Step 2: Choosing the function by “Up” or “Down” keys. Press the “Set” key to enter the setting of parameters. Please refer to the following sections for further details of the function setting



4.7 Programmable function setting

LED Display	Definition	Function	Value	Description
1	Deceleration Point (% full operation)	1-1	75%	1.The default setting is "1-3"
		1-2	80%	
		1-3	85%	
		1-4	90%	
		1-5	95%	
2	Main Operation Key	2-0	Function off	1.The default setting is "2-1"
		2-1	A Key	
		2-2	B Key	
		2-3	C Key	
		2-4	D Key	
3	Lighting Key	3-0	Function off	1.The default setting is "3-2"
		3-1	A Key	
		3-2	B Key	
		3-3	C Key	
		3-4	D Key	
4	External Device Key	4-0	Function off	1.The default setting is "4-3"
		4-1	A Key	
		4-2	B Key	
		4-3	C Key	
		4-4	D Key	
5	Photocell Function Mode PH Terminal	5-0	Function off	1.The default setting is "5-0 "
		5-1	Mode 1	2. Please refer to page 14_ Function of photocells
		5-2	Mode 2	
6	Alarm Buzzer	6-1	Function off	1.The default setting is "6-1"
		6-2	Function on	2. IF the door left opened for longer than 10mins then buzzer start beeping and turn off until the door been closed.
7	Auto-closing	7-1	Function off	1.The default setting is "7-1"
		7-2	30 sec	
		7-3	60 sec	
		7-4	90 sec	
		7-5	120 sec	
		7-6	150 sec	
		7-7	180 sec	
		7-8	210 sec	
		7-9	240 sec	
8	Lighting	8-1	Function off	1.The default setting is "8-4"
		8-2	LED light starts running 1 minute	
		8-3	LED light starts running 2 minutes	
		8-4	LED light starts running 3 minutes	
9	Overcurrent reaction	9-1	Stop when over-current	1.The default setting is "9-2"
		9-2	Reverse 2 seconds when over-current	
		9-3	Reverse to the end when over-current	
A	Overcurrent setting	1-0	Learning current add 0.2A as overcurrent	1. The default setting is "3-0"
		2-0	Learning current add 0.4A as overcurrent	
		3-0	Learning current add 0.5A as overcurrent	
		4-0	Learning current add 0.6A as overcurrent	
		5-0	Learning current add 0.8A as overcurrent	
		6-0	Learning current add 1.0A as overcurrent	
		7-0	Learning current add 1.2A as overcurrent	
		8-0	Learning current add 1.4A as overcurrent	
		9-0	Learning current add 1.6A as overcurrent	
		9-9	Learning current add 1.8A as overcurrent	

LED Display	Definition	Function	Value	Description
C	Overcurrent setting of open limit	C1	2A as overcurrent value of open limit	1. The default setting is "C-3"
		C2	3A as overcurrent value of open limit	
		C3	4A as overcurrent value of open limit	
		C4	5A as overcurrent value of open limit	
		C5	6A as overcurrent value of open limit	
		C6	7A as overcurrent value of open limit	
		C7	8A as overcurrent value of open limit	
E	Overcurrent setting of close limit	E1	2A as overcurrent value of close limit	1. The default setting is "E-3"
		E2	3A as overcurrent value of close limit	
		E3	4A as overcurrent value of close limit	
		E4	5A as overcurrent value of close limit	
		E5	6A as overcurrent value of close limit	
		E6	7A as overcurrent value of close limit	
		E7	8A as overcurrent value of close limit	
F	Power supply for +24V terminal	F1	Continuously power supply	1. The default setting is "F-1"
		F2	Sleep mode	2. Sleep mode: Power supply only when motor is operating

5. Function of external accessory

5.1 Photocells

F5-1 Mode 1

Gate Status	The reactions of the photocells when obstacles are detected
Closed	No effect
Opened	1. Stop till next command is given 2. Stop and reload the auto-closing time if the auto-closing feature is on
Stop during moving	1. Stop till next command is given 2. Stop and reload the auto-closing time if the auto-closing feature is on
Closing	Stop till next command is given
Opening	Stop till next command is given

F5-2 Mode 2

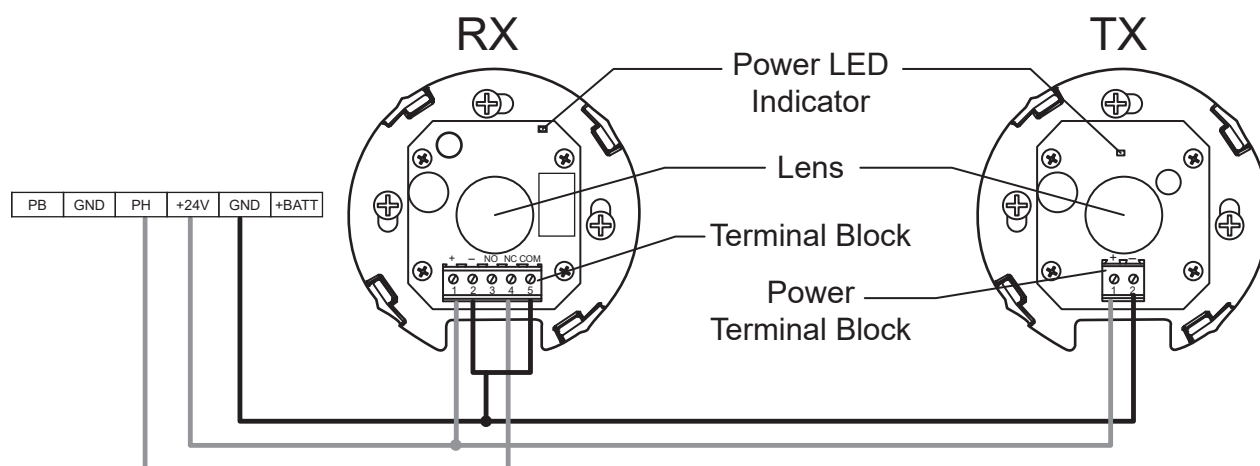
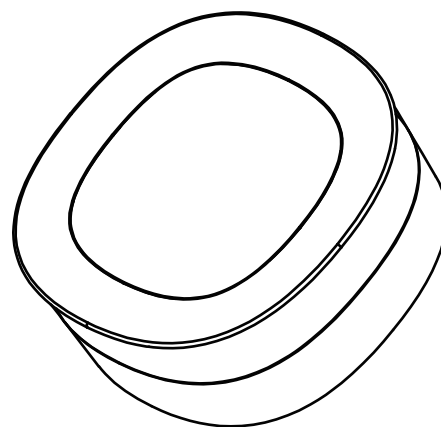
Gate Status	The reactions of the photocells when obstacles are detected
Closed	No effect
Opened	1. Stop till next command is given 2. Stop and reload the auto-closing time if the auto-closing feature is on
Stop during moving	1. Not allow to close till next command is given 2. Not allow to close and reload the auto-closing time if the auto-closing feature is on
Closing	Stop till next command is given
Opening	No effect

5.2 Installation of Photocells

The safety photocells are security devices to control automatic gates. It's consist of one transmitter and one receiver set in the waterproof covers. It will be triggered when the path of the beam is blocked.

SPECIFICATION:

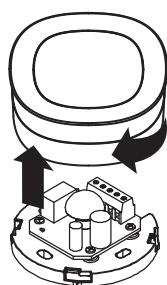
Detection Method	Through Beam
Sensing Range	MAX~15m
Input Voltage	AC/DC 12~24V
Contact Current	TX: 30mA Max , RX: 25 mA Max
Response Time	<100mS
Emitting Element	Infrared LED/ Wave Length : 940nm
Operation Indicator	RX : Red LED On (beam broken) / Off (beam aligned) TX : Red LED On
Dimensions	63*63*30 mm
Output Method	Relay Output
Current Consumption	Beam aligned : RX<25ma\TX<30ma Beam broken : RX <10ma\TX <30ma
Connection Method	Terminal Block
Housing Material	ABS / PC
Water Proof	IP54
Safety Standard	CE



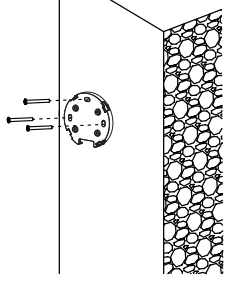
INSTALLATION:

1. Open the cover and connect the wires.
2. Mount the receiver and transmitter on the proper position.
3. Ensure there are no obstacles between receiver and transmitter.
For optimal efficiency, the receiver and transmitter should be properly aligned.
4. Power-up the photocells and make sure the LED light on receiver and transmitter are ON.

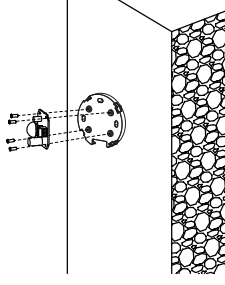
Step 1



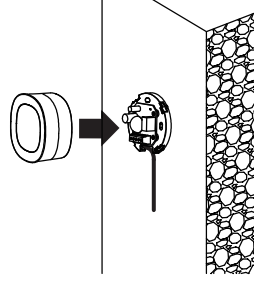
Step 2



Step 3

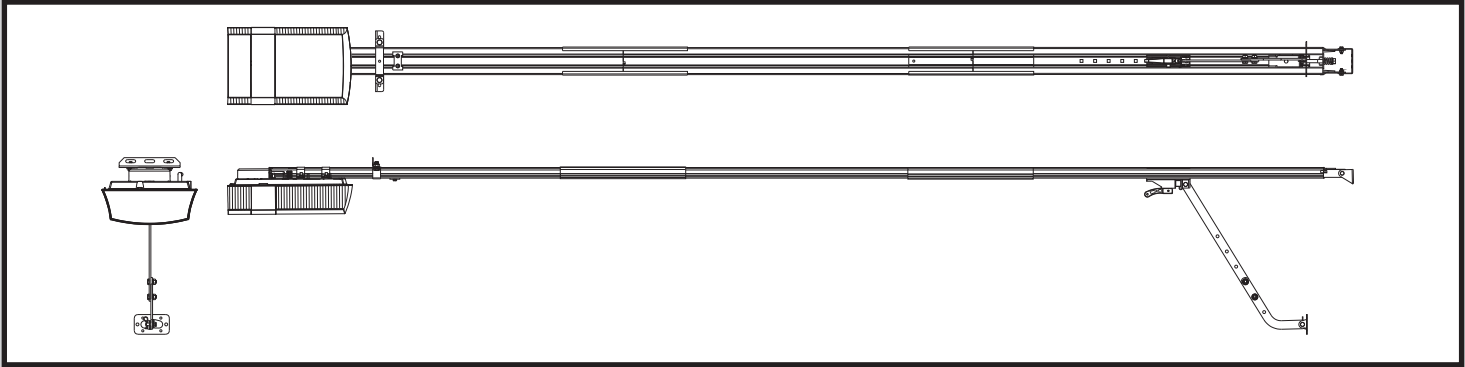


Step 4



6. Specification

Garage Door Opener	MARBLE60	MARBLE80	MARBLE100	MARBLE120
Volt	AC 220V / 110V ; 50Hz~60Hz	AC 220V / 110V ; 50Hz~60Hz	AC 220V / 110V ; 50Hz~60Hz	AC 220V / 110V ; 50Hz~60Hz
Motor volt	DC24V	DC24V	DC24V	DC24V
Power	72W	80W	100W	120W
Force	600N	800N	1000N	1200N
Remote frequency	433.92MHZ	433.92MHZ	433.92MHZ	433.92MHZ
Max door area	8-10m ²	10-12m ²	12-14m ²	14-16m ²
Temperature range	-20°C ~ +50°C	-20°C ~ +50°C	-20°C ~ +50°C	-20°C ~ +50°C
Rail length	3.0m/3.3m	3.0m/3.3m	3.0m/3.3m	3.0m/3.3m
Running speed	140mm/sec	140mm/sec	140mm/sec	140mm/sec



7.Marble Online User Manual

Marble
User Manual



www.tmt-automation.com/marble_manual_en

8. Accessories

TM3 Transmitter

Frequency	433.92Mhz
Coding	Rolling code
Buttons	4 buttons
Power Supply	3V with one CR2032 button type lithium battery
Operating Temperature	-20°C~+50°C
Dimension	37*67.5*12 (mm)

FL2 Flashing Light

Voltage	24V DC
Operating Temperature	-20°C~+50°C
Installation	Horizontally or vertically installed
Dimension	74*167*58.4 (mm)

H2 Photocells

Detection type	Through beam
Operating distance	MAX~15 meters
Response time	<100mS
Input voltage	AC/DC 12-24V
Operating Temperature	-20°C~+50°C
Protection level	IP54
Dimension	63*63*30 (mm)

K1 Key Selector

Operating Temperature	-20°C~+50°C
Dimension	73.2*73.2*42.3 (mm)

P1 Keypad

Frequency	433.92Mhz
Coding	Rolling code
Power Supply	12 ~ 24V DC/AC
Operating Temperature	-20°C~+50°C
Dimension	106*53*20 (mm)

RB1 Receiver Box

Frequency	433.92Mhz
Coding	Rolling code
Power Supply	12 ~ 24V DC/AC
Operating Temperature	-20°C~+50°C
Dimension	106*53*20 (mm)

