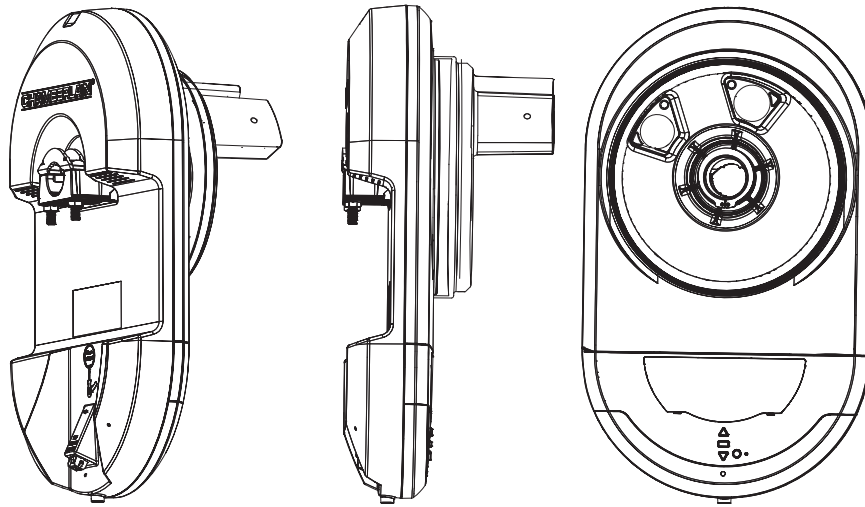


LiftMaster®



Installation and Operating Instructions

Rolling Garage Door Opener

LM650EVGB

LM650EVGBSA

LM850EVGBSA

LM950EVGBSA

Engineered and designed by The Chamberlain Group, Inc, USA

Chamberlain GmbH
Alfred-Nobel-Strasse 4
66793 Saarwellingen
Germany

www.liftmaster.eu



Keep these instructions
for future reference



IMPORTANT

Chain reduction assemblies that may interfere with the safe and proper operation of the LM950EV must be removed.

All Hand chains must be removed prior to fitting the LM950EV.

DO NOT use extension poles with the LM950EV.

The LM950EV can be used on windlocked doors based on the following conditions:

- door is professionally installed, correctly sprung and maintained to manufacturer's instruction**
- door size up to 18m²**
- product is only operated in normal conditions, not during adverse wind conditions**

Start by Reading These Important Safety Instructions

WARNING: Failure to comply with the following instructions may result in serious personal injury or property damage.



- Read these instructions carefully and follow ALL instructions carefully
- The garage door opener is designed and tested to offer reasonable safe service provided it is installed and operated in strict accordance with the instructions in this manual.

These safety alert symbols mean **WARNING** – a personal safety or property damage instruction. Read these instructions carefully.

Warning: If your garage has no service entrance door, a 1702EV outside quick release must be installed. This accessory allows manual operation of the garage door from outside in case of power failure.



Keep garage door balanced. Do not let the garage door opener compensate for a binding or sticking garage door. Sticking, binding or unbalanced doors must be repaired before installing this opener.



Do not wear rings, watches or loose clothing while installing or servicing a garage door opener. Wear gloves and suitable protective clothing where appropriate.



Frequently examine the door installation, in particular cable, springs and mountings for signs of wear, damage or imbalance. Do not use if repair or adjustment is needed since springs and hardware are under extreme tension and a fault can cause serious personal injury.



To avoid serious personal injury from entanglement, remove all ropes, chains and locks connected to the garage door before installing the door opener.



Installation and wiring must be in compliance with your local building and electrical codes.



The safety reverse system test is very important. Your garage door **MUST** reverse on contact with a 50 mm obstacle placed on the floor. Failure to properly adjust the opener may result in serious personal injury from a closing garage door.

The door should not go back, if it reaches the door position „Closed“. If it still reverses both limits must be reprogrammed.

OPENING TEST: Apply 20 kg to the middle of the door. The door should not open completely. Repeat the test once a month and make any necessary adjustments.



This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



Automatic Drive - Keep away from the area of the door as it may operate unexpectedly.



This opener should not be installed in a damp or wet space exposed to weather.



The opener must not be used on a wicket door (door within a door).



The Protector System™ must be used for all installations where the closing force as measured on the bottom of the door is over 400 N (40 kg). Excessive force will interfere with the proper operation of the safety reverse system or damage the garage door.



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



Install the wireless wall control (or any additional wall control) in a location where the garage door is visible away from moving parts, at a height of at least 1.5 m and out of the reach of children. Do not allow children to operate push button(s) or transmitter(s). Serious personal injury from a closing garage door may result from misuse of the opener.



Permanently fasten the Warning Labels in prominent places, adjacent to wall controls and manual release mechanisms as a reminder of safe operating procedures.



Activate opener only when the door is in full view, free of obstructions and the opener is properly adjusted. No one should enter or leave the garage while the door is in motion.



Do not allow children to play near the door, or with door controls.



If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid hazard.



Disconnect electric power and battery to the garage door opener before making repairs or removing covers.

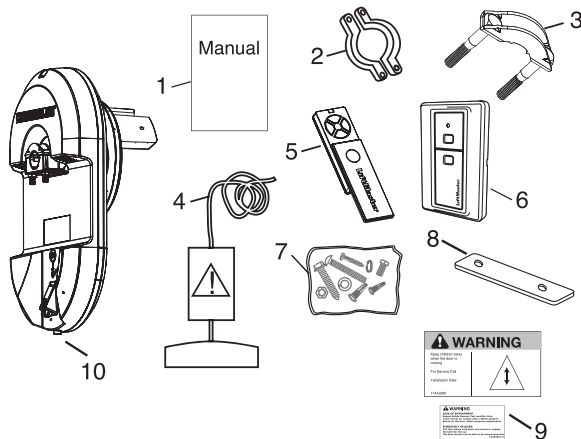
KEEP THESE INSTRUCTIONS

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CARTON INVENTORY	2
TOOLS REQUIRED	2
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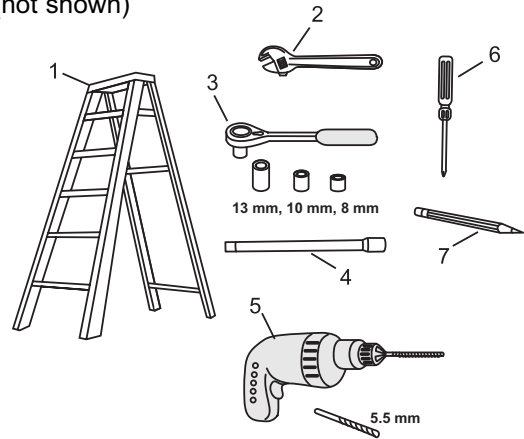
1 CARTON INVENTORY

1. Instruction manual (this document)
2. Stop collar
3. Clamp bracket
4. Release handle, cord and risk of entrapment card
5. Transmitters (2) (LM650EVGB only)
6. Wireless wall button (LM650EVGB only)
7. Hardware bag
8. Clamp plate
9. Warning label and risk of entrapment label
10. Opener



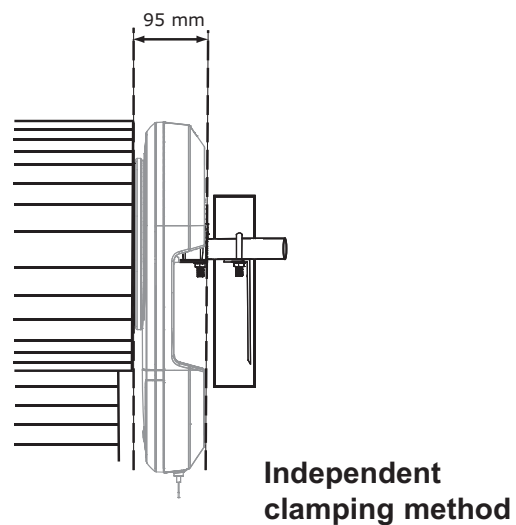
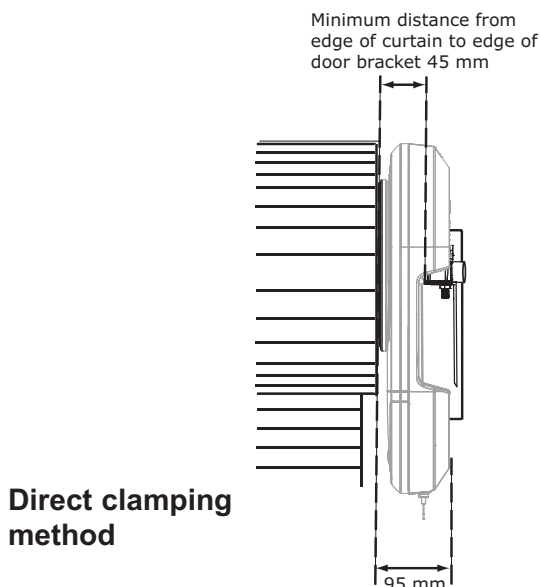
2 TOOLS REQUIRED

1. Ladder
2. Adjustable wrench for U-bolts already installed on the door
3. 8 mm socket, 10 mm socket and 13 mm extended socket and socket wrench
4. 300 mm socket extension (for minimum side-room installations)
5. Drill and 5.5 mm drill bit
6. Philips-head screwdriver
7. Marker pen
8. Door stand or similar device to safely support door (not shown)



3 DOOR REQUIREMENTS

The maximum allowable door height is 4.5 m with a maximum curtain area of 16.5 m²* (LM650EV) & 18 m²* (LM850EV) (door height in metres multiplied by the width in metres). The door must be spring balanced. *The Protector System™ (IR Beams) must be installed if the force at the edge of the closing door exceeds 400 N (40 kg). For LM950EV the maximum allowable door height is 5.5m (light commercial door) with a maximum curtain area of 25m² (door height in metres multiplied by the width in metres). The door must be of continuous corrugated sheet construction, spring balanced & of a mass not exceeding 250kg. Door axle diameter must not exceed 35mm.

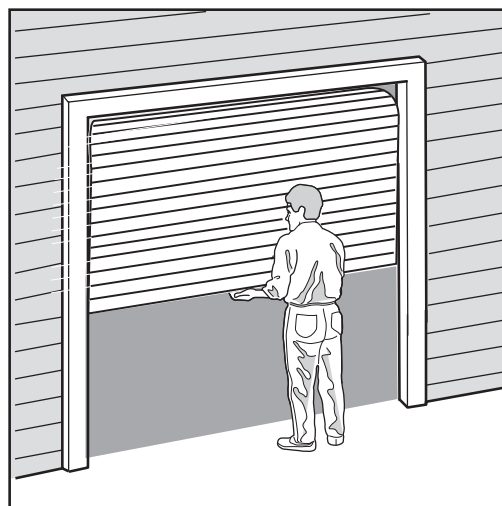


Ensure that there is at least 45 mm from the edge of the curtain to the edge of the bracket. If the roller door drum is on the edge of the curtain or is a smaller diameter, additional clearance may be required. If the drum is more than 60 mm from the curtain edge or of a smaller diameter, an extension pole kit may be required (section 10). Different drum and bracket types may result in the minimum side room clearance not being possible and extension poles being required. Ensure there is a power point near the opener.

4 TESTING THE DOOR

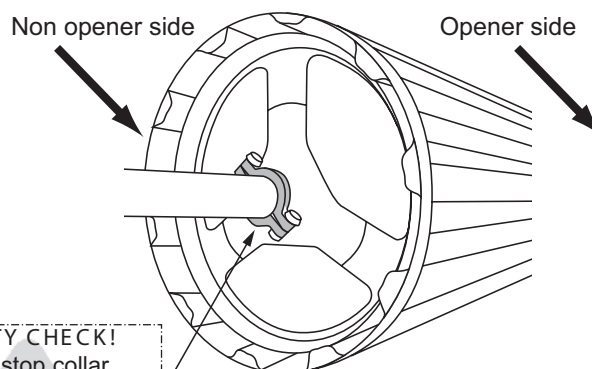
Complete the following test to ensure your door is well balanced, and not sticking or binding:

- Disable all locks and remove any ropes connected to the garage door.
- Lift the door to about halfway and then release it. The door should remain spring balanced.
- Raise and lower the door to determine if there are any sticking or binding points (20 kg is the absolute maximum allowable to raise or lower the door in any position).
- If your door does not hold in place or the door binds or sticks, call a qualified door technician before installing the opener.



5 INSTALLING THE STOP COLLAR

- Install the stop collar on the opposite end to where the opener is to be installed.
- Fit the stop collar hard against the boss of the door drum. Ensure the U-bolt holding the door shaft to the door bracket is tightly secured.

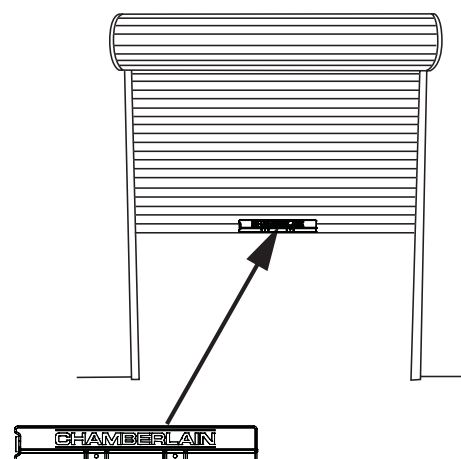


SAFETY CHECK!
Is the stop collar installed?
YES: proceed to the next step
NO: install the stop collar before proceeding

6 INSTALLING THE WEIGHT BAR (optional)

- Place the weight in the centre of the door (as shown).
- Use a pencil to mark the two hole positions.
- If the door curtain does not have a handle you will need to drill two 5.5 mm holes through the two marked positions, then place the weight bar on the inside of the door.
- Use the bolts, washers and nuts (provided) to fasten the weight bar in place.

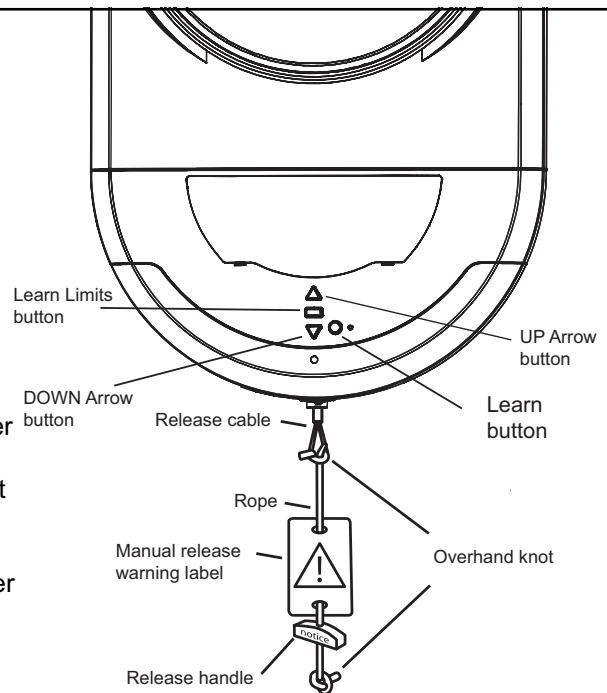
NOTE: If the door has a lifting handle, remove the handle, nuts & bolts. Place weight bar over the handle holes, insert extended bolts through the weight bar & fasten handle back in place.



7 THE RELEASE HANDLE & CORD

- Thread one end of the rope through the hole in the top of the red release handle so that "NOTICE" reads right side up as shown.
- Secure with an overhand knot at least 25 mm from the end of the rope to prevent slipping.
- Thread the other end of the rope through the loop of the manual release cable.
- Adjust rope length so the handle (when installed) will be no higher than 1.8 m above the floor. Secure with an overhand knot. If the door is greater than 2.5 m in height the release cord extension kit accessory is required.

NOTE: Final adjustment of handle height should be completed after the opener is installed. If it is necessary to cut the rope, heat seal the cut end to prevent unravelling (refer section 16).



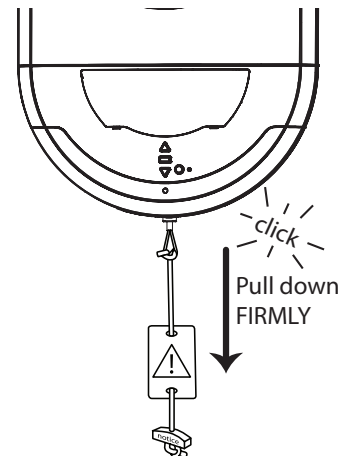
8 OPERATING THE MANUAL RELEASE

To disengage the opener

Pull the release cord down firmly, (opener will make a clicking noise).

To re-engage the opener

Pull the release cord down firmly, (opener will make a clicking noise).

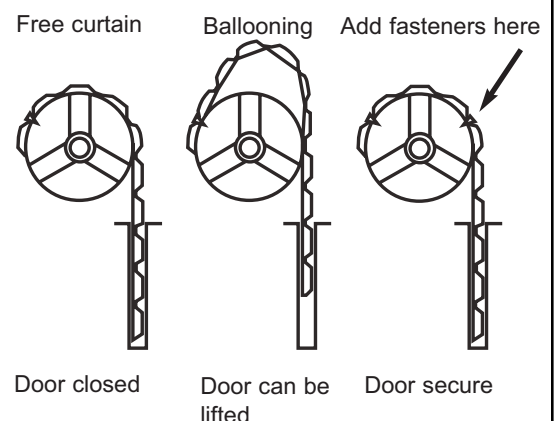


Disable all locks and remove any ropes connected to the garage door.
Take care when operating the manual release as an open door may fall rapidly due to weak or broken springs, or being out of balance.

9 PINNING THE DOOR

Note: A ballooning door may delay the safety reversal response and can compromise garage door security.

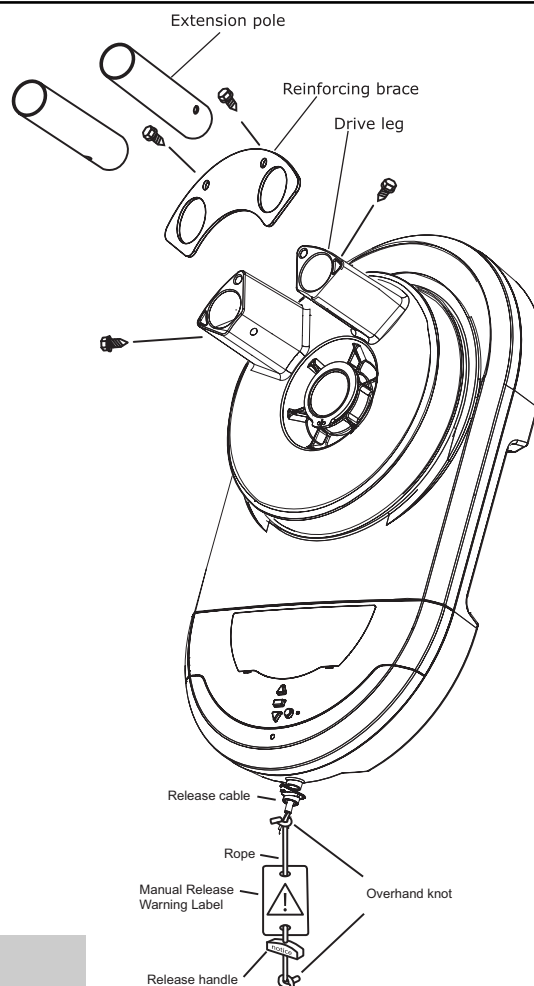
- To remedy any ballooning place self tapping metal screws or rivets where the curtain leaves the roll. Secure these through the curtain into the drum wheel at each end of the roll.
- After determining the correct fastener location as shown, lift the door approximately half a turn from the closed position to allow access for drilling.



10 ATTACHING EXTENSION POLES (IF REQUIRED) (LM650EV / LM850EV ONLY)

Optional accessory not provided

- Align the extension pole holes with the drive legs.
- Insert the extension poles into the drive leg and fix in place using screws provided.
- Slide the reinforcing brace over the poles and fix in place using the screws provided.



Reinforcing brace must be used.
Use extension pole kit part number 001B6449-1

11 LEFT / RIGHT HAND INSTALLATION

LEFT
(handing must be changed during limit setting, section 13)



RIGHT
(factory default setting)

Inside garage looking out

12 INSTALLATION PROCEDURE)



Do not allow people to walk under or around the door during the installation process as serious injury can occur.

NOTE: The opener can be installed on either side of the door. The following instructions are for **RIGHT HAND INSTALLATIONS** (as illustrated i.e. inside the garage looking out). For left hand installations, reverse the instruction terminology (eg LEFT for RIGHT etc).

Preparation:

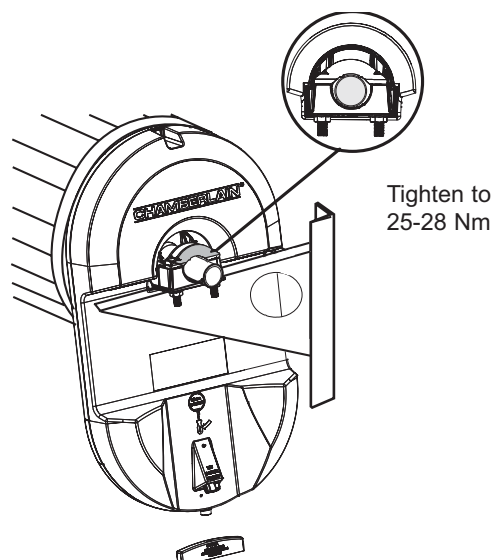
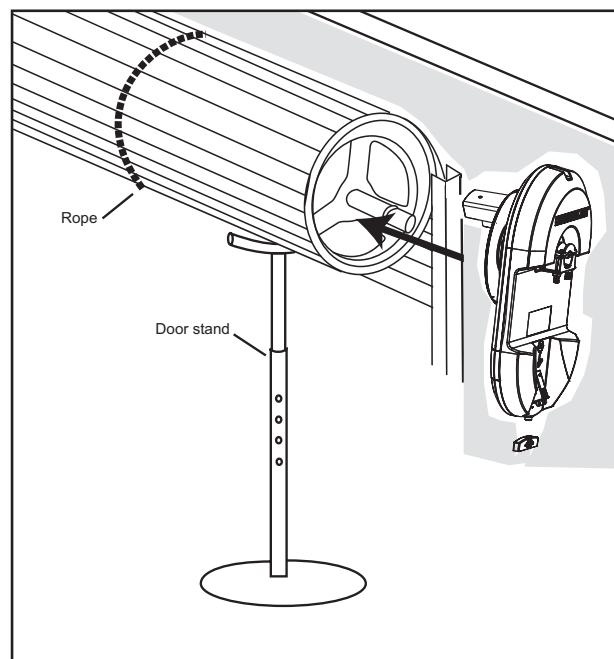
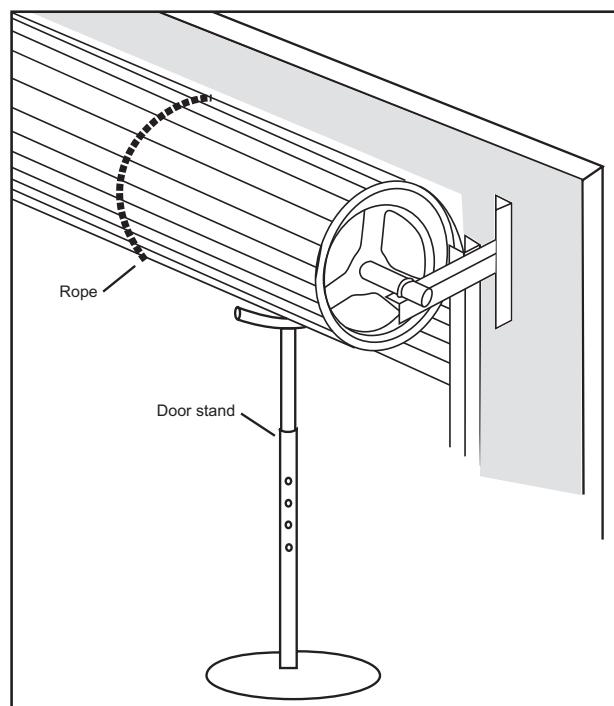
- Place the opener in manual release mode (refer section 8).
- Open the roller door fully. For safety, tie a rope around the door.
- Ensure the door axle U-BOLT and door mounting bracket on the left hand side (non opener side) are securely fastened.
- Support the door with a door stand or similar device to safely support the door.
- Mark the position of the door shaft on the right hand door bracket (for reassembly purposes).
- While the door is supported, remove the right hand axle U-Bolt and door mounting bracket from the wall.

Install the opener:

- Slide the opener over the door axle and engage the drive legs into the door drum wheel, either side of a spoke. Extensions may be necessary (refer section 10).
- Refit the door mounting bracket to the wall. If the door bracket needs to be relocated due to opener width, refer section 3.
- Clamp the opener on the door axle and door bracket in the marked position using the clamp assembly supplied (tighten to 25 – 28 Nm).
- If side room exceeds 95mm clamp independently to the door axle as illustrated in section 3.
- Remove all ropes and the support stand.
- Check the operation of the door in manual mode by raising and lowering by hand. It should operate smoothly without sticking or binding. The disengage handle should already be attached less than 1.8m above the floor (refer section 7).

Connect the power:

- Position the power cable away from the door curtain and any moving parts.
- Plug the opener into a nearby power point and turn ON.
- The opener courtesy LEDs should turn ON.
- The opener must now be programmed for:-
- DOOR TRAVEL LIMITS (Section 13)
- RIGHT OR LEFT HAND OPERATION (Section 13)
- FORCE SETTING (Section 14)



13 SETTING THE LIMITS FOR RIGHT OR LEFT HAND OPERATION AND FORCE

Travel limits set how far your door goes up and down. Your opener must be configured correctly for right or left hand installation to operate correctly, if not the door will rotate in the reverse direction.

NOTE: Opener is factory configured for right hand installation.



The opener will operate during this procedure. Make sure the door is clear of obstruction. Ensure your hands are away from any moving parts before activating the door.

Setting right or left hand operation:

- Ensure the door is positioned halfway and the opener is engaged.
- Turn the power ON. After 2 seconds the Courtesy LEDs will flash 5 times.
- Press and hold the black (Limit) button until the orange indicator LED starts flashing, and then release. Either right or left courtesy LEDs will light up.
- For right hand installations, the right side bank of LEDs must light up, and for left hand installations, the left hand bank must light up.
- If the incorrect bank of LEDs is illuminated, simply press the Yellow learn button until the opposite bank lights up.
- Press and release the Black limit set button to accept hand. UP button will flash.

Setting the open (UP) limit:

- Press and hold the "UP" button, until the door reaches the desired open position, and then release. You can adjust the door by using the DOWN button and UP button to adjust as necessary. Make sure there is enough room for your vehicle to pass under.
- Press and release the Black limit set button to acknowledge the Up position.
- Courtesy light flashes twice and DOWN button will flash.

Setting the bottom (DOWN) limit:

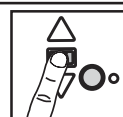
- Press and hold the "DOWN" button until the door reaches the desired closed position. If the door closes too hard against the floor, use the UP and DOWN button to adjust.
- Press and release the Black limit set button to acknowledge the down position.
- Courtesy light flashes twice and UP button will flash.

Setting the FORCE:

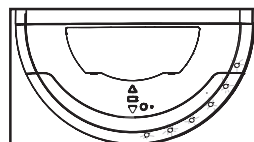
- Press and release the UP button. The door will travel to the UP limit and the DOWN button will flash.
- Press and release the DOWN button. The door will travel to the DOWN limit.
- The indicator LED will stop flashing indicating the force has been learned.

NOTE: The courtesy LEDs will go out after 2.5 min.

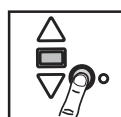
- The door must travel through a complete cycle, UP and DOWN, in order for the force to be set properly. If the opener cannot open and close your door fully, inspect your door to ensure that it is balanced properly and is not sticking or binding.



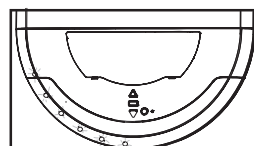
Press and hold until
**FLASHING
LED**



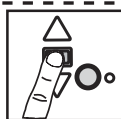
Right bank
will light up



(IF REQUIRED)
To change
press and hold
until correct
bank lights up



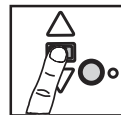
Left bank
will light up
for Left hand
installation



Press & release to accept
selected hand.



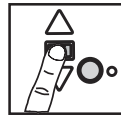
Press and hold to drive
door up to open
If required: Use DOWN button to adjust



Press & release to set the
UP limit



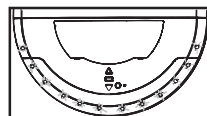
Press and hold to drive
door down to closed
If required: Use UP button to adjust



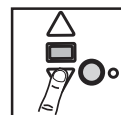
Press & release to set the
DOWN limit



Activate door to open



Orange
LED ON &
Courtesy LEDs
on Dim



Close the door to test limits



Motor will make a click &
FULL BRIGHT courtesy
LEDs will turn on

14 TESTING THE SAFETY REVERSE SYSTEM

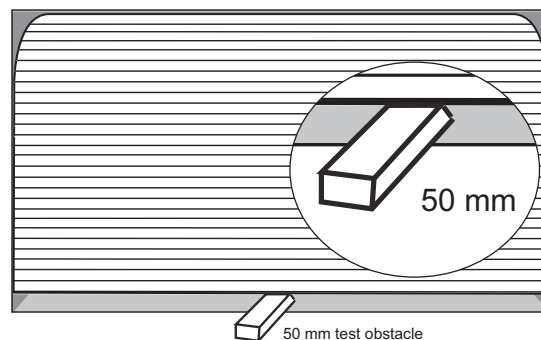


The safety reverse system test is important. The garage door must reverse on contact with a 50 mm obstacle laid flat on the floor.

Failure to properly adjust the opener may result in serious personal injury from a closing garage door.

Operate the door in the down direction. The door must reverse upon contact with the obstacle. If the door stops on the obstacle, remove obstacle and repeat limit and force setting (refer section 13).

Repeat test of the safety reverse system.



15 FIXING WARNING LABELS

Once you have completed your installation and successfully carried out the safety reverse system test (outlined above), install the warning labels provided with your opener as shown.

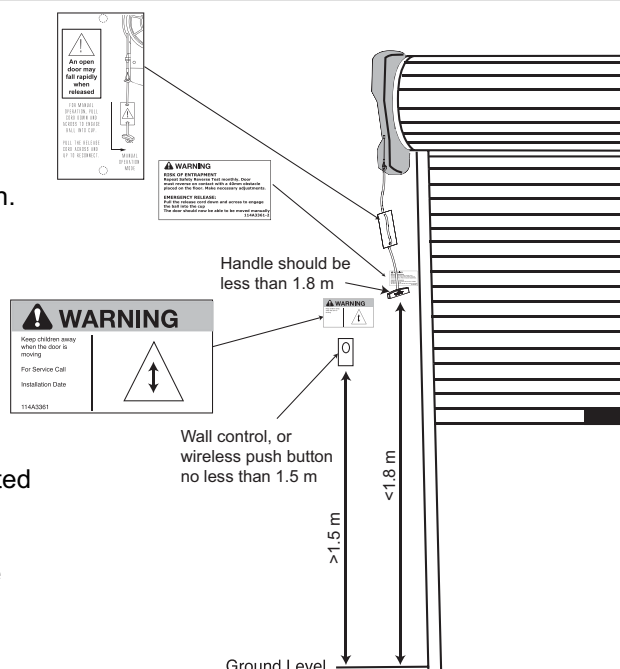
The risk of entrapment label must be installed adjacent to the release handle at a height of less than 1.8 m from the floor.

The WARNING label must be installed in a prominent place near any fixed control.

Any fixed wall control or wireless door control must be mounted at a height of no less than 1.5 m out of the reach of children.

Ensure the manual release instruction card is attached to the rope as detailed in section 7.

Read the safety instructions (page 1) for further details concerning safety.



STANDARD INSTALLATION COMPLETE

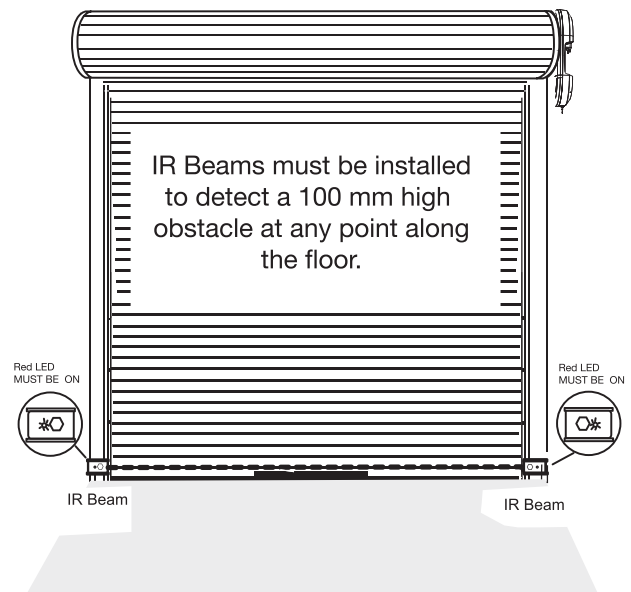
16 INSTALL THE PROTECTOR SYSTEM™ (IR BEAMS) OPTIONAL ACCESSORY

NOTE: This accessory must be used for all installations where the closing force as measured on the bottom of the door is over 400 N (40 kg).

After the opener has been installed and adjusted, the Protector System™ accessory can be installed. Instructions are included with this accessory.

The Protector System™ provides an additional measure of safety against a small child or animal being trapped under a garage door. It uses an infrared beam, which when broken by an obstruction, causes a closing door to open and prevents an open door from closing and is strongly recommended for homeowners with young children.

NOTE: The opener will automatically detect the Protector System™ when it is installed and operating for 5 minutes (during this time the beams must remain unobstructed). The opener will not close unless the beams are aligned.



SAFETY FIRST!



Whilst Chamberlain have engineered safety features into your garage door opener, we urge you to consider fitting IR Beams to your new garage door opener. In many countries these devices are compulsory to assist in preventing serious injury or property damage. For your own peace of mind and the safety of others please install this inexpensive safety device.

Timer to close feature (TTC)



Auto close is NOT recommended for households with young children.

The Timer-to-close feature allows the door to automatically close after a specified time period. Prior to the door closing, the garage door opener lights flash for 8 seconds before the door begins to close.

If the door encounters an obstruction while closing, the opener will make a second attempt to close the door.

If an obstruction occurs on the second attempt, the garage door opener will open, stop and WILL NOT close until the obstruction has been cleared and the opener has been operated again.

NOTE: The Protector System™ MUST be installed and operating for 5 minutes to enable this feature.

Installing and adjusting:

- Turn the opener off
- Install the Protector System™ using the brackets, wires and instructions provided with the product. Twist the two white (only) wires together and terminate them into the white (2) terminal. Twist the two white/black wires together and terminate them into the grey (3) terminal.
- Turn the opener on

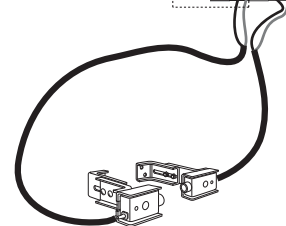
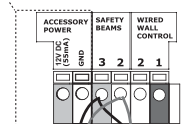
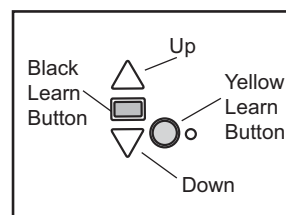
LM950EV/ LM850EV ONLY

With the door at the down limit, press and hold DOWN arrow until orange LED starts blinking.

Yellow LEARN button is used to cycle through the TTC settings:

- 1 x long blink = TTC OFF
- 1 x short blink = TTC 1 min
- 2 x short blink = TTC 5 min
- 3 x short blink = TTC 10 min

Press black rectangle button to set and exit.



Door may operate unexpectedly, therefore do not allow anything to stay in the path of the door.

17 INSTALLING YOUR WIRELESS WALL BUTTON



Disconnect power to the opener whilst installing this accessory to prevent accidental activation. Locate minimum 1.5 m above the floor.

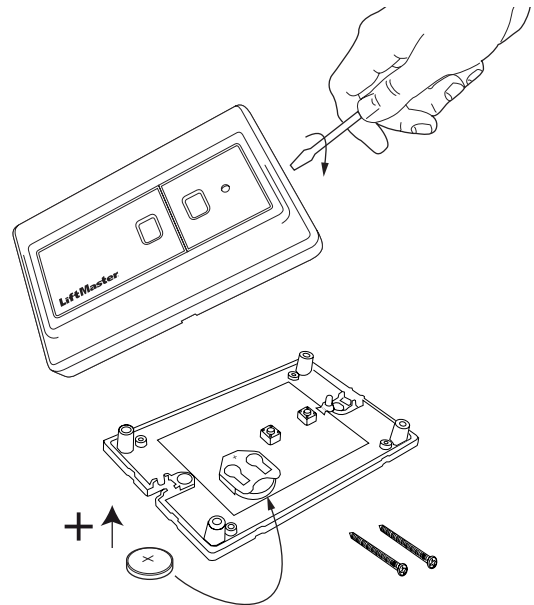
To install:

- Carefully pry open the device and locate the two screws for mounting.
- Attach to the wall using the two screws and wall anchors provided if mounting to a plaster wall. If using a recessed wall box do not use anchors.

NOTE: Do not overtighten screws.

NOTE: The wall control supplied with your opener should be pre-programmed by the factory.

If adding a new wall control, program into the opener before mounting the unit as detailed in section 18.



18 WIRELESS PROGRAMING (OPTIONAL ACCESSORIES)

NOTE: Transmitter(s) and wall button supplied with your opener are factory programmed.



Activate the opener only when the door is in full view, free of obstruction and properly adjusted. No one should enter or leave garage whilst the door is in motion. Do not allow children to operate push button(s) or transmitter(s). Do not allow children to play near the door.



Fix any wall control at a height of at least 1.5 m and within sight of the door but away from any moving parts.

NOTE: If adding an installed wall control you will need a second person to press and hold the desired button. If not installed, program the wall button into the opener before mounting.

ADDING transmitters using the LRN "LEARN" button

- Press and hold down the button you wish to program to the opener.
- The orange LED on the opener will flash to indicate it is receiving signal from the transmitter.
- Press and release the "LRN" button.
- The courtesy LEDs will flash once.
- Ensure the door is clear of obstruction, then test the transmitter.

Deleting ALL transmitter codes

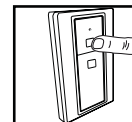
NOTE: This deletes all transmitters and codes

- Press and hold the LRN learn button until the orange indicator light goes out (approximately 9 sec).

TO ADD Transmitters / Wireless wall button



or



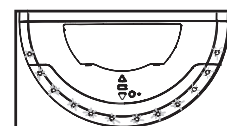
Press and hold down the desired Button.



LED will FLASH



Press LEARN



Release LRN button when Courtesy LEDs flashes once



TO DELETE ALL REMOTES



Press LEARN for 9 seconds



LED on WILL TURN ON

After 9 seconds all remotes are deleted and LED will go out.

19 KEYLESS DEVICE PROGRAMMING (OPTIONAL ACCESSORIES)



Activate the opener only when the door is in full view, free of obstruction and properly adjusted. No one should enter or leave garage whilst the door is in motion. Do not allow children to operate push button(s) or transmitter(s). Do not allow children to play near the door.



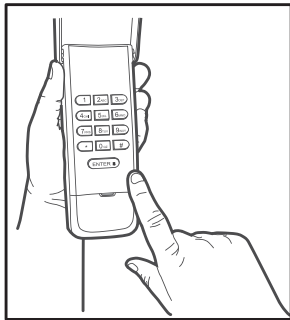


Wireless Keypad

To set the keyless entry PIN:

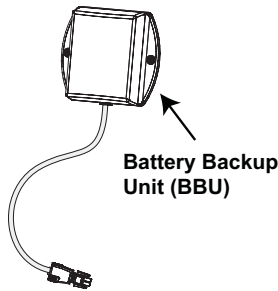
1. Locate the Yellow Learn button on the garage door opener.
2. Press and release the Yellow Learn button on the garage door opener. The LED will light.
3. Enter a 4-digit personal identification number (PIN) of your choice on the keypad.
4. Press and hold the ENTER button. Check to see if the opener light blinks. Release the ENTER button after the light bulb blinks.

To change an existing keyless entry PIN:

1. Enter the existing programmed PIN that you want to change.
2. Press and hold the # button until the light bulb blinks twice.
3. Enter the new 4-digit PIN of your choice, then press the ENTER button. The light bulb will blink once.
4. To test, enter the new PIN, then press the ENTER button. The garage door opener will activate.

- 1  Locate the yellow learn button
- 2  Press and release the yellow learn button
- 3  Enter a 4-digit PIN of your choice
? ? ? ?
- - - -
- 4  Press and hold the enter button
Opener light bulbs blink
-  After the lights blink release the ENTER button

20 BATTERY BACKUP UNIT (OPTIONAL ACCESSORY LM950EV/ LM850EV ONLY)



1. Installation instructions for mounting the BBU.

After the opener has been installed, position the BBU next to the opener on a structural support (joist) within BBUs cord length.

Attach the BBU to the support by using the wall or ceiling mount holes on either side of the BBU and the 1" (25mm) screws (provided).

2. Connect the BBU to the Opener.

Disconnect the opener from the electrical outlet.

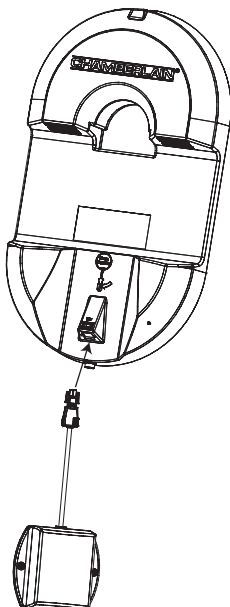
Connect the BBU cord into the connector on the bottom of the opener (see picture below). Connect the opener into the electrical outlet.

Turn the power ON. After 2 seconds the Courtesy LEDs will flash 5 times.

After 20 seconds, the green diagnostic LED (see picture next page) will begin to flash indicating the BBU is charging.

IMPORTANT NOTE: Installation of the BBU when permanent electrical power is not available (such as a new construction and the electricity is not installed) may damage the battery.

Unplug the BBU after testing to prevent damage.



To prevent possible **SERIOUS INJURY** or **DEATH** from electrocution, disconnect **ALL** electric and battery power **BEFORE** performing **ANY** service or maintenance.

OPERATING INSTRUCTIONS

1. Test the installed BBU with the opener.

To test the BBU, disconnect the opener power cord from the electrical power outlet.

A solid orange LED indicates the BBU is operating on battery power.

A flashing orange LED indicates the BBU is operating on battery power and that the battery charge is low.

To test the BBU is functioning properly, open and close the garage door.

Re-connect the opener power cord back into the electrical outlet.

Verify that the green LED is flashing on the opener (indicates that the BBU is now charging).

Test completed.

2. Charge the battery.

Allow the battery 24 to 48 hours to fully charge before using the BBU system.

A fully charged BBU supplies 12V DC to the opener for one to two days of normal operation during an electrical power outage. If the battery voltage drops too low, the battery will disconnect and the opener will no longer operate under battery power.

After the electrical power has been restored, the battery will recharge within 48 hours. Under normal usage the battery will last 3 to 5 years.

To obtain maximum battery life and prevent damage, disconnect the battery backup when the opener is not in use for an extended period of time.

NOTE: Door operation may be limited until the battery is fully charged.

21 BATTERY BACKUP UNIT (OPTIONAL ACCESSORY LM950EV/ LM850EV ONLY) CONTINUED

Battery Backup Unit (BBU) Diagnostics

GREEN LED:

All systems are normal.

- A solid LED light indicates the battery is fully charged.
- A solid LED light indicates the battery is fully charged.

NOTE: Battery does not have to be fully charged to operate the motor unit.

ORANGE LED:

The motor unit has lost power and is operating off the BBU.

- A solid LED indicates the opener is activating the door and is operating off the BBU.
- A flashing LED indicates the battery is low.
- Once the power is restored the BBU will recharge. is indicated by a flashing green LED.

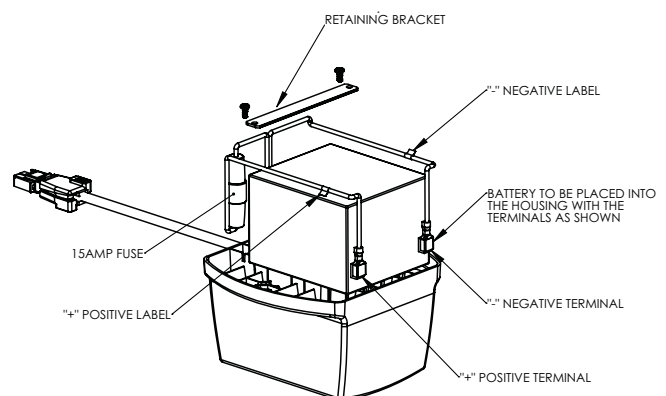
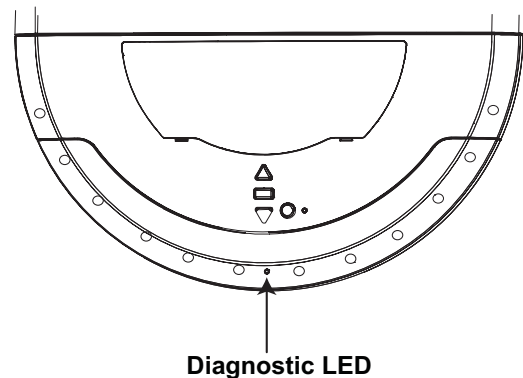
RED LED:

An error has been detected and the BBU will automatically shut off. The BBU will attempt to restart by reconnecting to the battery. If the error is still present it will shut itself off again. This process will repeat every 5 minutes or until the error has been resolved. This is used to prevent further draining of the battery.

- If a red LED remains on when the power is restored please call for service.

Replace Battery

- Unplug the BBU from the opener and remove the screws holding the BBU to the wall.
- Remove the battery retaining bracket.
- Withdraw the battery from the housing and disconnect the terminals.
- Reinstall the new battery in the reverse process, taking care to connect the positive and negative terminals correctly.
- Reconnect the BBU to the opener as in step 2 of the previous page.



OPERATION OF YOUR OPENER

Your opener can be activated by any of the following devices:

- The ACTIVATION button
Press the button until door starts to move.
- The Outside keyswitch or keyless entry system (if you have installed any of these accessories).
- The Transmitter or Wireless Wall Control
Hold the push button down until the door starts to move.

When the opener is activated by transmitter, ACTIVATION button or wall control:

- If open, the door will close. If closed, the door will open.
- If closing, the door will stop.
- If opening, the door will stop (allowing space for entry and exit of pets and for fresh air).
- If the door has been stopped in a partially open or closed position, it will reverse direction.

Obstruction behaviour:

- If an obstruction is encountered while closing, the door will reverse.
- If an obstruction is encountered while opening, the door will reverse and stop.
- The optional Protector System™ uses an invisible beam which, when broken by an obstruction, causes a closing door to open and prevents an open door from closing. It is **STRONGLY RECOMMENDED** for homeowners with young children.



Door should be fully closed if possible. Weak or broken springs could allow an open door to fall rapidly. Property damage or serious personal injury could result.

Opening the door manually:

The door can be opened manually by pulling the release cord down firmly.

To re-engage the door, pull the release cord down firmly.

The opener light will turn on:

- when opener is initially plugged in;
- when the power is briefly interrupted;
- when the opener is activated.
- when IR Beams are triggered with the door in the Open position. (the light turns off automatically after 2-1/2 minutes.)

MAINTENANCE OF YOUR OPENER

Once a Month:

- Repeat safety reverse test.
Make any necessary adjustments (section 13).
- Manually operate door. If it is unbalanced or binding, call for professional garage door service.
- Check to be sure door opens and closes fully.
Set limits and/or force if necessary.

CARE OF YOUR OPENER

When properly installed, your opener will operate with minimal maintenance. The opener does not require additional lubrication.

Limit and Force Settings: These settings must be checked and properly set when the opener is installed. Weather conditions may cause some minor changes in the door operation, requiring some re-adjustments, particularly during the first year of operation. Refer to limit and force setting in, section 13.

Follow the instructions carefully and repeat the safety reverse test after any adjustment.

Transmitter: Additional transmitters can be purchased at any time. Refer to Accessories. Any new transmitters must be programmed into the opener.

Transmitter battery: If transmission range decreases, replace the battery.

SPECIAL NOTE: Chamberlain strongly recommends that the Protector System™ be installed on all garage door openers.

SPECIFICATIONS LM650EVGB

Input Voltage:	230-240 VAC, 50 Hz, 100 W
Rated Load:	25 Nm
Max.Pull Force:	500 N @ \odot 300 mm
Standby Power:	<1 Watt
Drive:	DC gearmotor permanent lubrication
Max. Drum Rotations:	4 1/2
Memory Registers:	64
Operating Frequency:	433.30/433.92/434.54 MHz

SPECIFICATIONS LM850EVGBSA

Input Voltage:	220-240 VAC, 50/60 Hz, 170 W
Rated Load:	32 Nm
Max.Pull Force:	550 N @ \odot 300 mm
Standby Power:	<1 Watt
Drive:	DC gearmotor permanent lubrication
Max. Drum Rotations:	4 1/2
Memory Registers:	64
Operating Frequency:	433.30/433.92/434.54 MHz

SPECIFICATIONS LM650EVGBSA

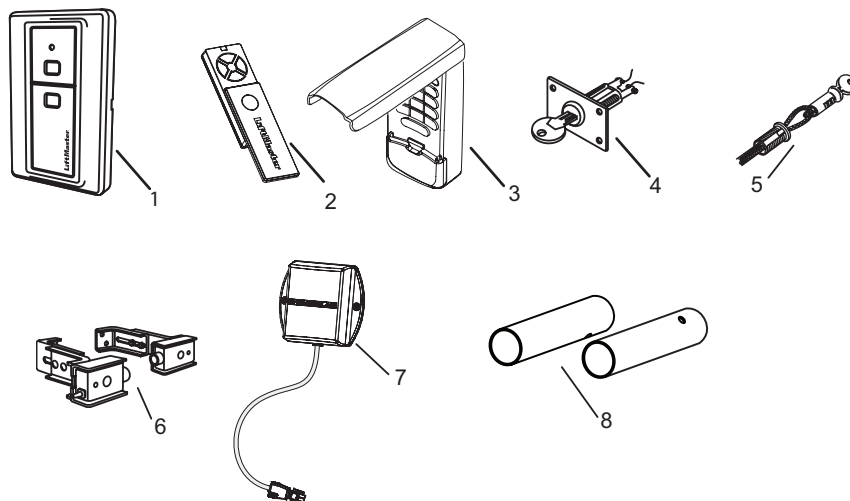
Input Voltage:	220-240 VAC, 50/60 Hz, 100 W
Rated Load:	25 Nm
Max.Pull Force:	500 N @ \odot 300 mm
Standby Power:	<1 Watt
Drive:	DC gearmotor permanent lubrication
Max. Drum Rotations:	4 1/2
Memory Registers:	64
Operating Frequency:	433.30/433.92/434.54 MHz

SPECIFICATIONS LM950EVGBSA

Input Voltage:	220-240 VAC, 50/60 Hz, 110 W
Rated Load:	40 Nm
Max.Pull Force:	1300 N @ \odot 300 mm
Standby Power:	<1 Watt
Drive:	DC gearmotor permanent lubrication
Max. Drum Rotations:	4 1/2
Memory Registers:	64
Operating Frequency:	433.30/433.92/434.54 MHz

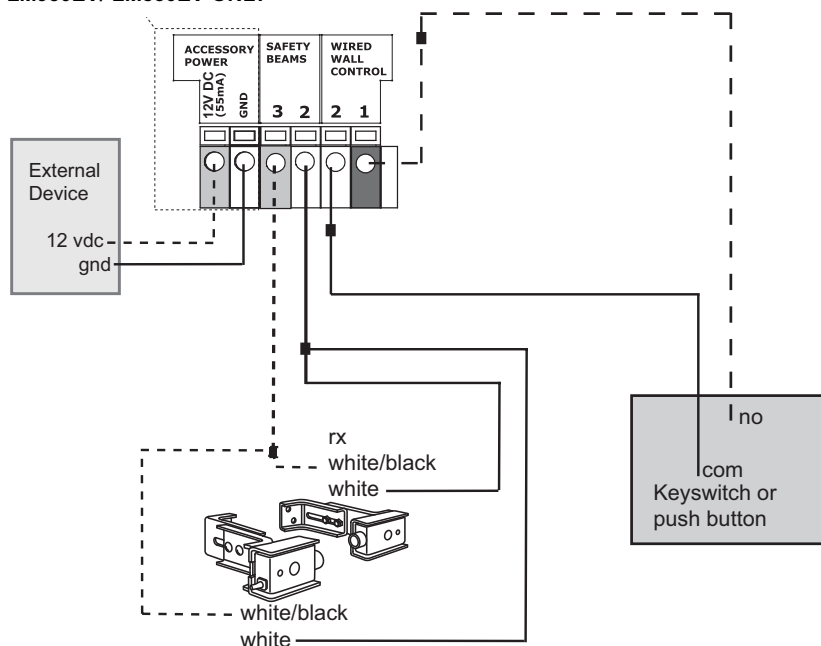
22 ACCESSORIES

1. Model 128EV 2 Channel wireless wall button (LM650EVGB ONLY)
2. Model TX4UNI 4 Channel mini transmitter (LM650EVGB ONLY)
3. Model 747EV Keyless entry system
4. Model 760EV Outside keyswitch
5. Model 1702EV Outside quick release
6. Model 770/771/772
The Protector System™ (IR Beams)
7. Model 475M-12 V (battery backup) - (LM850EV/ LM950EV only)
8. Extension poles (LM650EV/ LM850EV only)



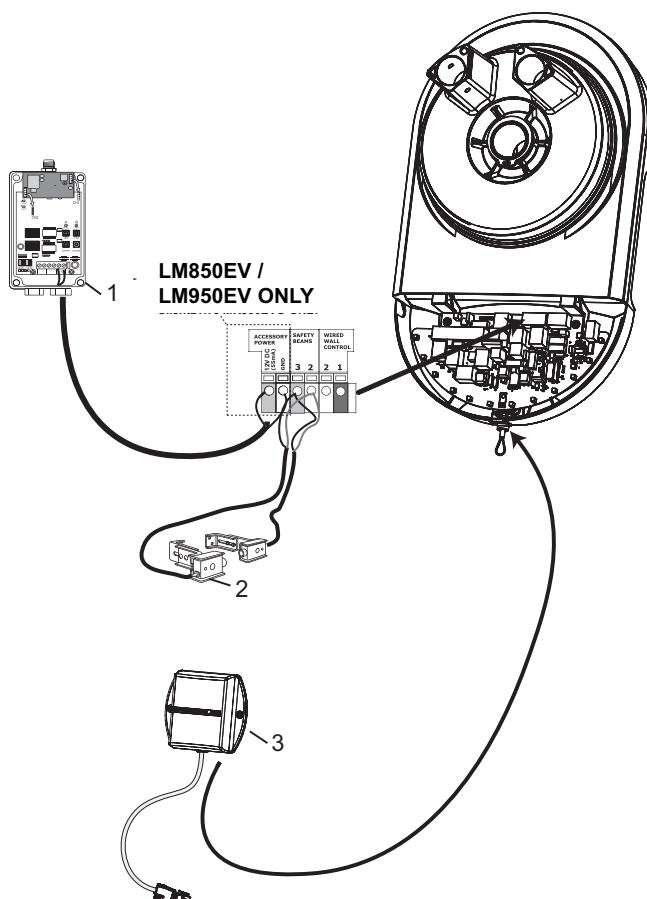
23 TYPICAL WIRING DIAGRAM LM950EV/ LM850EV/ LM650EV - Information for Service Personnel

LM950EV/ LM850EV ONLY



24 SPECIAL FEATURES - Information for Service Personnel (OPTIONAL ACCESSORIES)

1. 12 VDC power output for external devices - (LM950EV/ LM850EV only)
2. The Protector System™ IR Beams
3. Standby Power Unit (battery backup) - (LM950EV/ LM850EV only)



DIAGNOSTIC CHART

Your garage door opener is programmed for self-diagnostic capabilities. The UP and DOWN arrows on the garage door opener flash the diagnostic codes.

DIAGNOSTIC CODE	UP ARROW	DOWN ARROW	SYMPTOM	POSSIBLE CAUSE	POSSIBLE RESOLUTION
1-1	1 FLASH	1 FLASH	The garage door opener will not close and the lights will flash	The Protector System™ is not installed, connected, or wires may be cut	Check the Protector System™ is installed and aligned correctly, both LEDs are ON with no obstruction between the beams.
1-2	1 FLASH	2 FLASHES	The garage door opener will not close and the lights will flash	The Protector System™ wire shorted or reversed	Check the Protector System™ is installed and aligned correctly, both LEDs are ON with no obstruction between the beams.
1-3	1 FLASH	3 FLASHES	Wall mounted door control will not function	The wires for the door control are shorted or the door control is faulty	Check the door control wiring is correct
1-4	1 FLASH	4 FLASHES	The garage door opener will not close the door and the lights flash	Misaligned or obstructed Protector System™	Check the Protector System™ is installed and aligned correctly, both LEDs are ON with no obstruction between the beams.
1-5	1 FLASH	5 FLASHES	The garage door opener clicks but no movement The opener runs approximately 150-200 mm and stops and/or reverses	Internal fault Communication error to travel module	Contact service centre Contact service centre
2-1	2 FLASHES	1 FLASH	The garage door opener will not operate	PCB memory corrupt	Reset opener by turning the mains OFF for 20 seconds Retest Opener
2-2	2 FLASHES	2 FLASHES	The garage door opener will not operate	PCB Voltage test failure	Reset opener by turning the mains OFF for 20 seconds Retest Opener
2-3	2 FLASHES	3 FLASHES	The garage door opener will not operate in battery mode	Battery failure - if fitted	Recharge battery Reset opener by turning the mains OFF for 20 seconds Contact customer service

DIAGNOSTIC CODE	UP ARROW	DOWN ARROW	SYMPTOM	POSSIBLE CAUSE	POSSIBLE RESOLUTION
2-4	2 FLASHES	4 FLASHES	The garage door opener will not operate by remote controls	PCB radio receiver failure	Reset opener by turning mains OFF for 20 seconds, re-code transmitters
2-5	2 FLASHES	5 FLASHES	The garage door opener will not operate	PCB possible internal failure	Reset opener by turning mains OFF for 20 seconds, retest opener.
3-3	3 FLASHES	3 FLASHES	The garage door opener fails to operate and the battery LED is constantly flashing green	Battery LED flashing green, charging circuit stops and starts to drain causing battery charging status	Recharge Battery, contact service centre.
4-1	4 FLASHES	1 FLASH	Door is closing, stops and reverses	Obstruction, binding or sticking door	Remove obstruction, service door.
4-2	4 FLASHES	2 FLASHES	The door stops while opening for no apparent reason	Obstruction, binding or sticking door	Remove obstruction, service door.
4-3	4 FLASHES	3 FLASHES	The door reverses for no apparent reason or after touching the floor	Obstruction, binding or sticking door	Reset limits & force, service door.
4-4	4 FLASHES	4 FLASHES	The door reverses for no apparent reason or after touching the floor	Obstruction, binding or sticking door	Reset limits & force, service door.
4-5	4 FLASHES	5 FLASHES	The opener runs approximately 150-200 mm and stops and/or reverses	Communication error to travel module	Reset limits & force contact service centre
4-6	4 FLASHES	6 FLASHES	The door reverses for no apparent reason while travelling down	Safety sensors were temporarily obstructed or misaligned	Remove obstruction, or realign sensors

These are additional troubleshooting issues that will not show up in the diagnostic codes:

My remote control will not activate the door:

- * Reprogram the remote control.
- * If the remote control will still not activate the door check the diagnostic codes to ensure the garage door opener is working properly.
- * Ensure the antenna wire is hanging down from the garage door opener.

My garage door opener light(s) will not turn off when the door is open:

The garage door opener is equipped with a feature that turns the light on when the safety reversing sensors have been obstructed. If staying on continually - Contact Customer Service Centre.

My neighbour's remote control opens my garage door:

Erase the memory from your garage door opener and reprogram the remote control(s).

TROUBLESHOOTING

1. The opener will not operate from either the ACTIVATION button or the transmitters :

- Does the opener have electric power? Plug a lamp into the outlet. If it does not work, check the fuse box.
- Have you disabled all door locks? Review installation instruction warnings on page 1.
- Is there a build-up of ice or snow under the door? The door may be frozen to the ground. Remove any restriction.
- The garage door spring may be broken. Have it replaced.

2. Opener operates from the transmitter, but not from the wired wall control terminals:

- Are the wiring connections correct?

3. The door operates from the ACTIVATION button but not from the wireless wall control or transmitter:

- Program the opener to match the transmitter code. (Refer to section 18). Repeat with all transmitters.

4. The transmitter has short range:

- Change the location of the transmitter in your car.
- Check to be sure the antenna on the bottom of the opener extends fully downward.
- Some installations may have shorter range due to a metal door, foil backed insulation, or metal garage siding.

5. The garage door opens and closes by itself:

- Be sure that all transmitter push buttons are off.
- If the wired wall control terminals are installed, remove the bell wire from the wired wall control terminals and operate from the ACTIVATION button or transmitter . If this solves the problem, the wired wall control is faulty (replace), or there is an intermittent short on the wire between the wired wall control and the opener.
- Clear memory and re-program all wireless wall controls and transmitters.

6. The door reverses and stops before opening completely:

- Is something obstructing the door? Is it out of balance, or are the springs broken? Remove the obstruction or repair the door.

7. The door reverses for no apparent reason and opener lights blink 10 times after reversing:

- Check the Protector System™ (IR Beams), if installed. Correct alignment if the red light on the beam is solid.

8. The door opens but will not close or reverses while closing:

- Is something obstructing the door? Pull the manual release handle. Operate the door manually. If it is unbalanced or binding, call a trained door systems technician.
- Clear any ice or snow from the garage floor area where the door closes.
- Repeat the limit and force setting in section 13. Repeat safety reverse test after adjustments.

9. The opener strains to operate door:

- The door may be out of balance or the springs may be broken. Close the door and use the manual release to disconnect the door. Open and close the door manually. A properly balanced door will stay in any point of travel while being supported entirely by its springs. If it does not, disconnect the opener and call a trained door systems technician.

10. The opener motor hums briefly, then will not work:

- Check that the door is not in manual release mode (refer section 8).
- The garage door springs may be broken. See above.
- If the problem occurs on the first operation of the opener, door may be locked. Disable any door locks.

11. The opener will not operate due to power failure:

- Use the manual release handle to disconnect the door. The door can be opened and closed manually. When power is restored, re-engage the opener (refer section 8).
- If a Battery Back up Unit is connected, the opener should be able to operate up to 20 times without power.