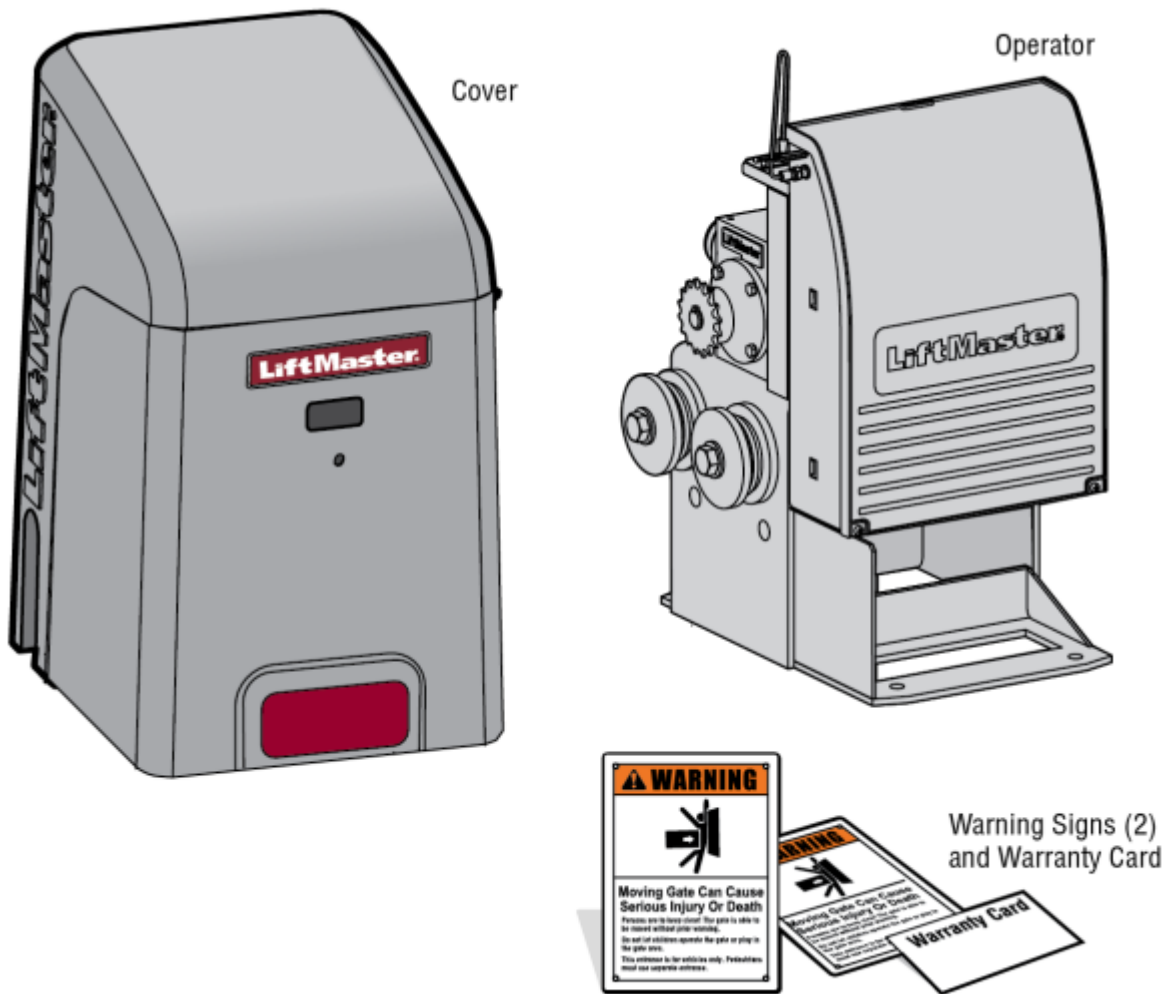
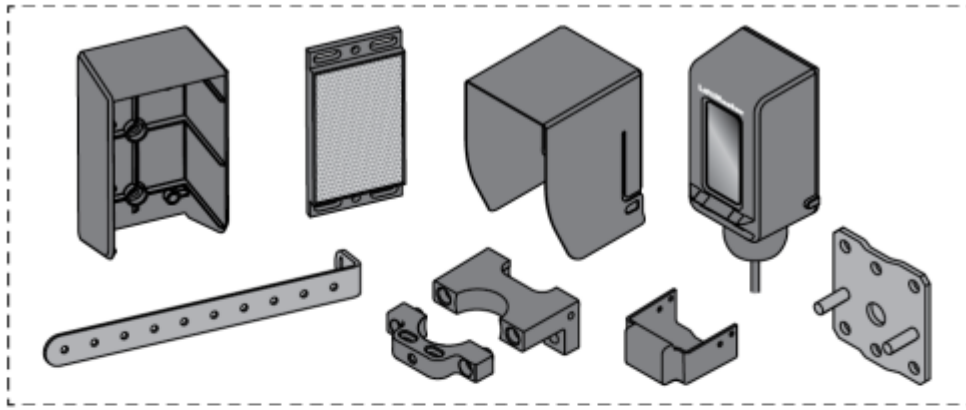


INTRODUCTION

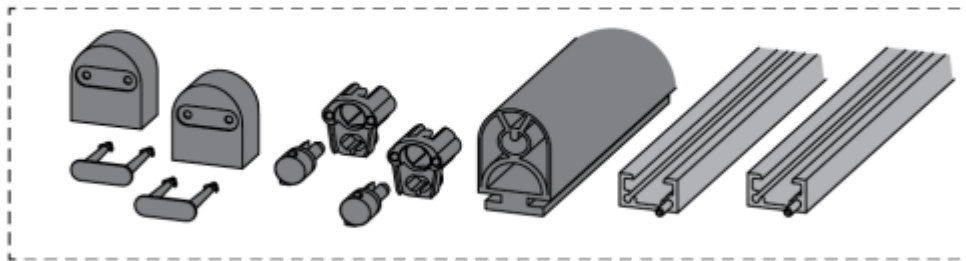
Carton Inventory

NOT SHOWN: Documentation Packet, Chain #41 - 30 feet, Eye Bolt Kit



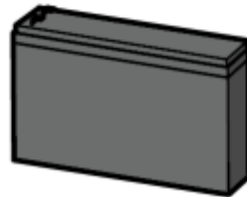


LiftMaster Monitored Retro-Reflective Photoelectric Sensor Model LMRRUL



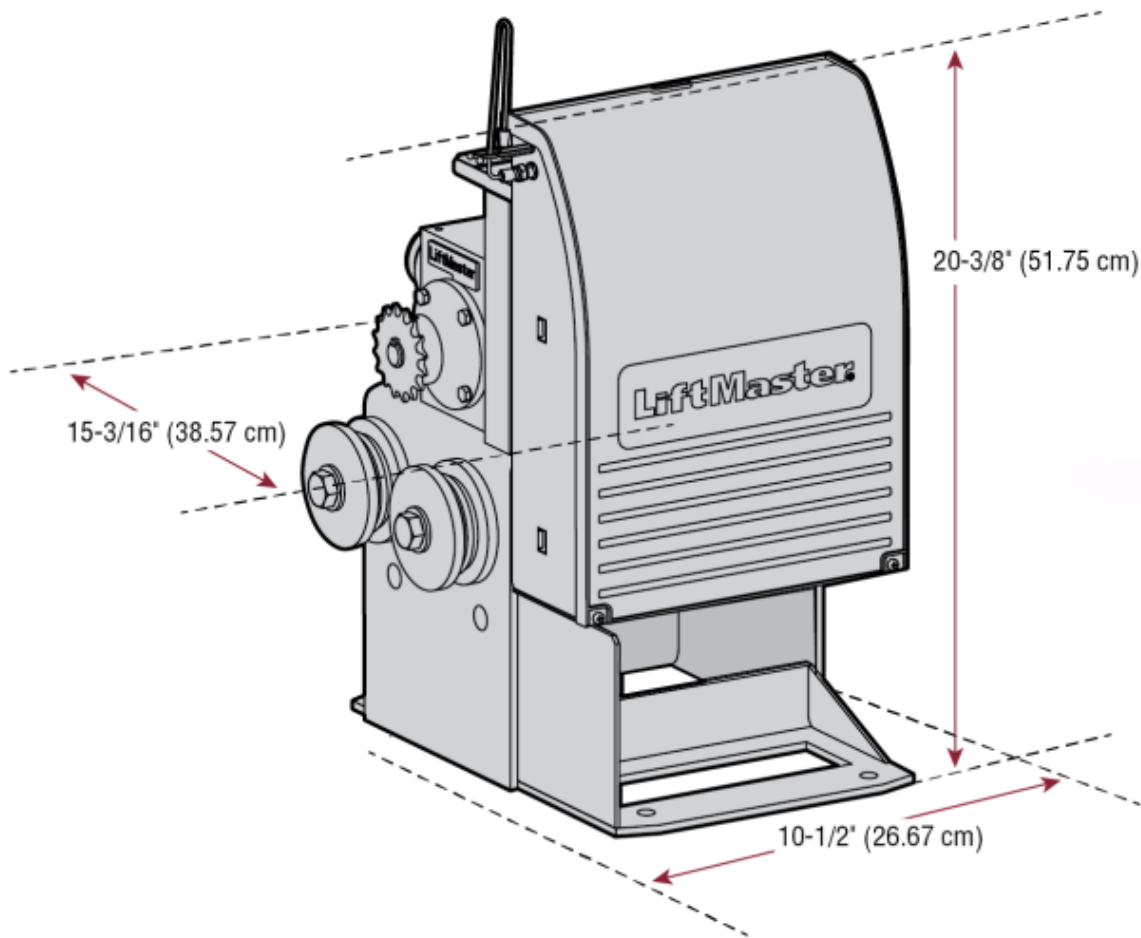
5 ft. Edge sensor kit

Battery 12 Vdc 7AH

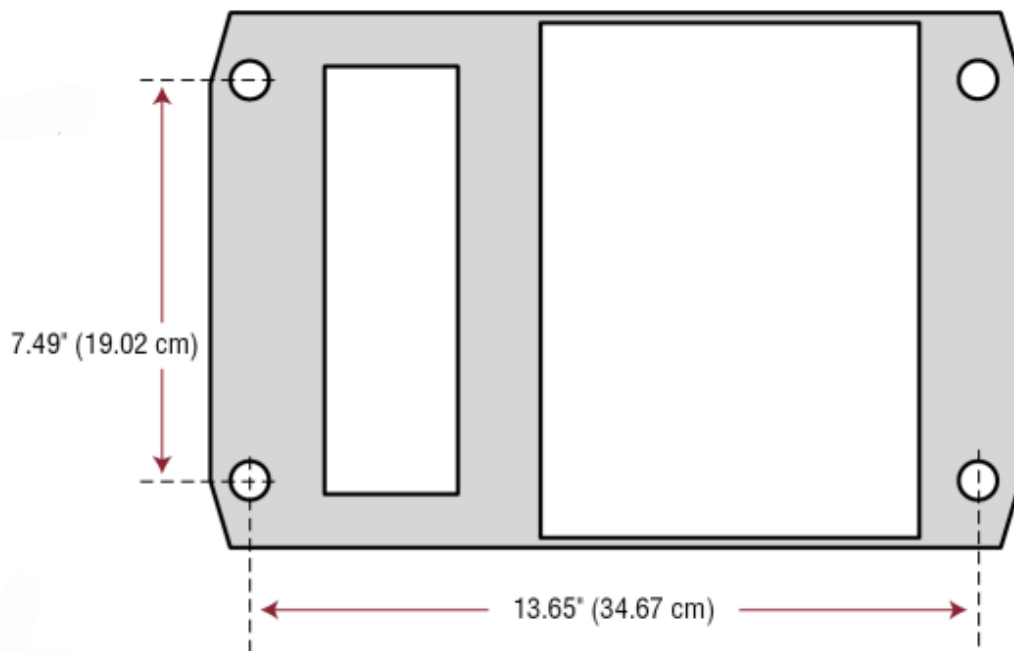


Operator Specifications

Usage Classification	Class I & II
Main AC Supply	120 Vac, .5 Amps (6.5 Amps including Accessory Outlets)
System Operating Voltage	12 Vdc Battery Run / Battery Backup
Accessory Power	12 Vdc, 500mA max. for ON + SW (switched)
Solar Power Max	12 Vdc at 30 watts max.
Maximum Gate Weight	800 lbs (363.6 kg)
Minimum Gate Travel Distance	25 feet (7.62 m)
Maximum Gate Travel Distance	50 feet (15.24 m)
Maximum Gate Travel Speed	12 inches/second
Maximum Daily Cycle Rate	120 cycles/day
Maximum Duty Cycle	Continuous
Operating Temperature	Without Heater: -20°C to 60°C (-4°F to 140°F) With Optional Heater: -40°C to 60°C (-40°F to 140°F)
Expansion Board	Optional
External Entrapment Protection Device Inputs (non-contact and/or contact)	Main board - up to 2 close entrapment protection devices and 1 open entrapment protection device. Expansion board - up to 3 entrapment protection devices configurable to either close or open and up to 4 edge sensors using wireless edge sensor kit model LMWEKITU .



MOUNTING FOOTPRINT



Site Preparation

Check the national and local building codes BEFORE installation.

Conduit and Concrete Pad

Trench and install conduit. Before trenching, contact underground utility locating companies.

Conduit must be UL approved for low and high voltage. Consider the operator placement BEFORE installing the pad or post



Safety

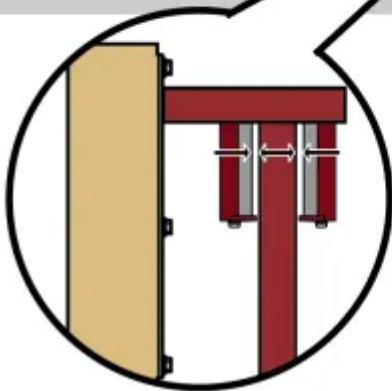
Entrapment protection devices are required to protect against any entrapment or safety conditions encountered in your gate application. Install a warning sign (two provided) on the inside and outside of the property, where easily visible.



Gate

Gate must be constructed and installed according to ASTM F2200 standards (refer to page 4).

Gate must fit specifications of operator (refer to specifications)



SAFETY CATCH ROLLERS
Install catch rollers with safety covers on the side of a post or wall with a minimal distance of half an inch between the rollers and gate

DO NOT use a gate catch post. Because the coasting distance may vary due to changes in temperature, it is **NOT** recommended to install a catch post in front of the gate's path. To do so will cause the gate to hit the post in certain instances.

Additional Accessories

The vehicle loops allow the gate to stay open when vehicles are obstructing the gate path. Suggested for vehicles 14 feet (4.27 m) or longer. Vehicle loops are not required but are recommended. Before installing your Access Control Device(s) be sure to complete a site survey and determine the best device for your site needs.

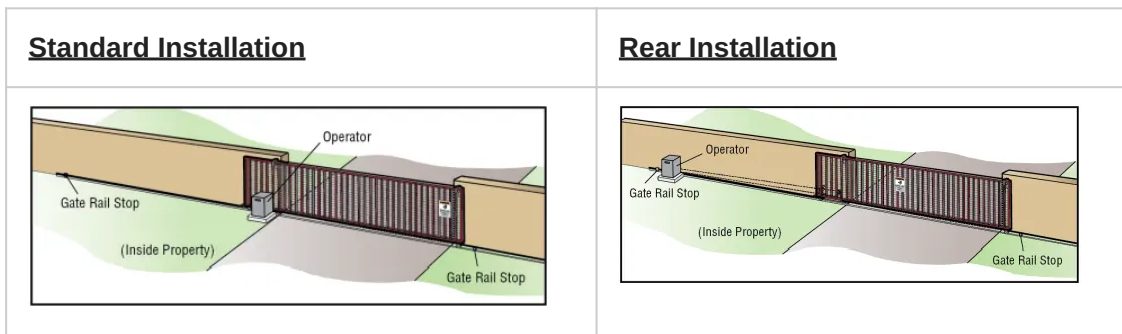


CAUTION

- To AVOID damaging gas, power or other underground utility lines, contact underground utility locating companies BEFORE digging more than 18 inches (46 cm) deep.
- ALWAYS wear protective gloves and eye protection when changing the battery or working around the battery compartment.

INSTALLATION

Types of Installations



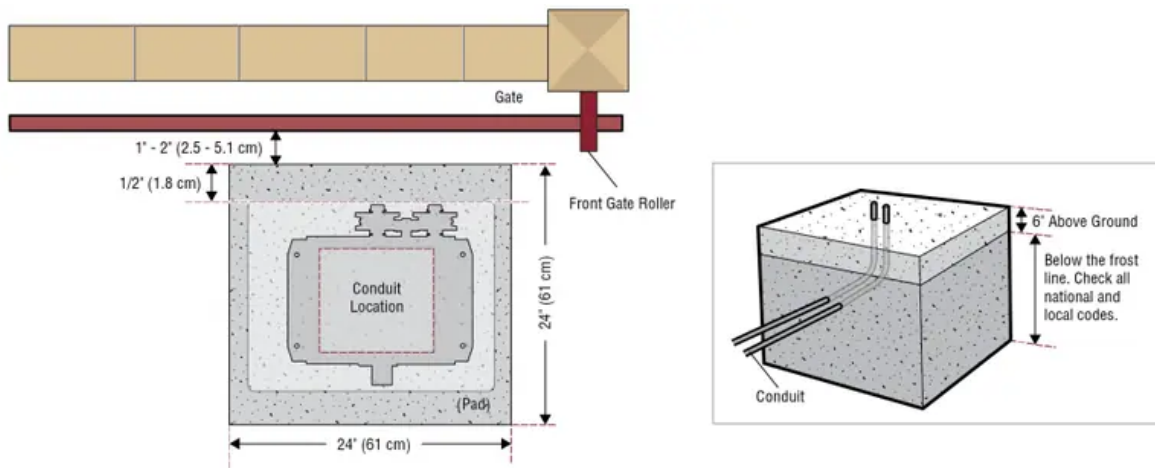
Step 1 Determine Location for Operator

Check the national and local building codes before installation.

Standard Installation

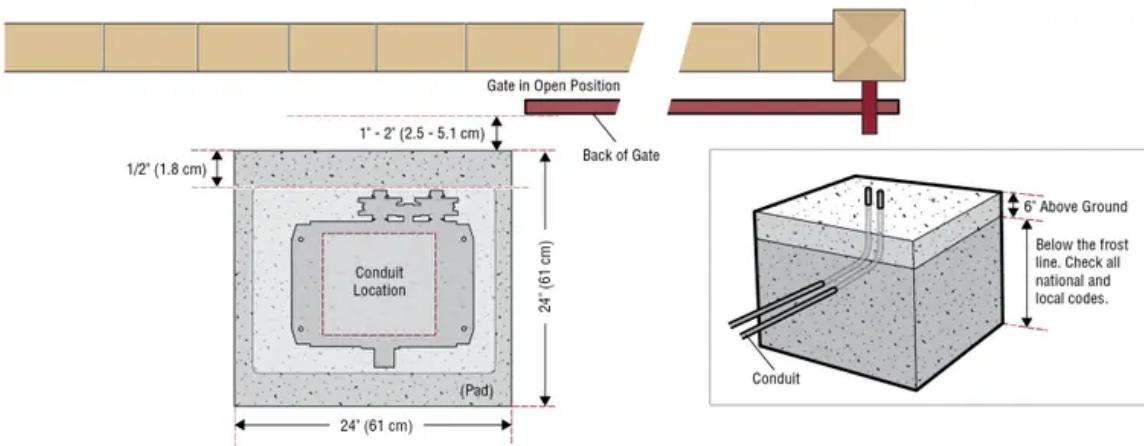
1. The gate operator should be installed near the front roller of the gate. Lay out the concrete pad.
2. Install the electrical conduit.
3. Pour a concrete pad (reinforced concrete is recommended).





Rear Installation

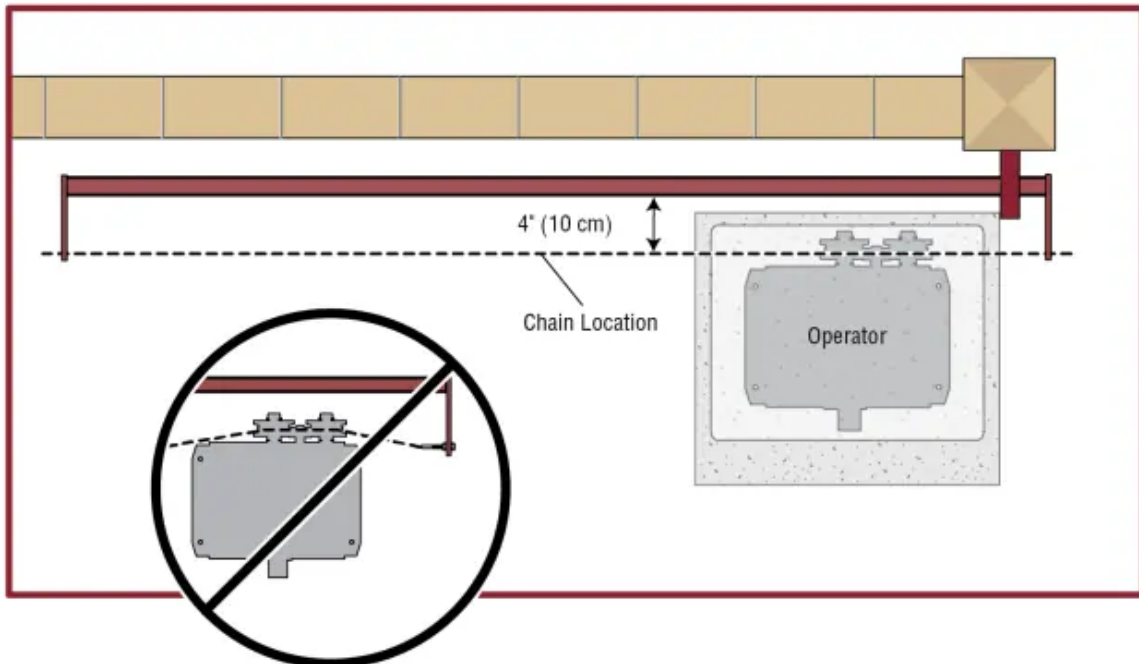
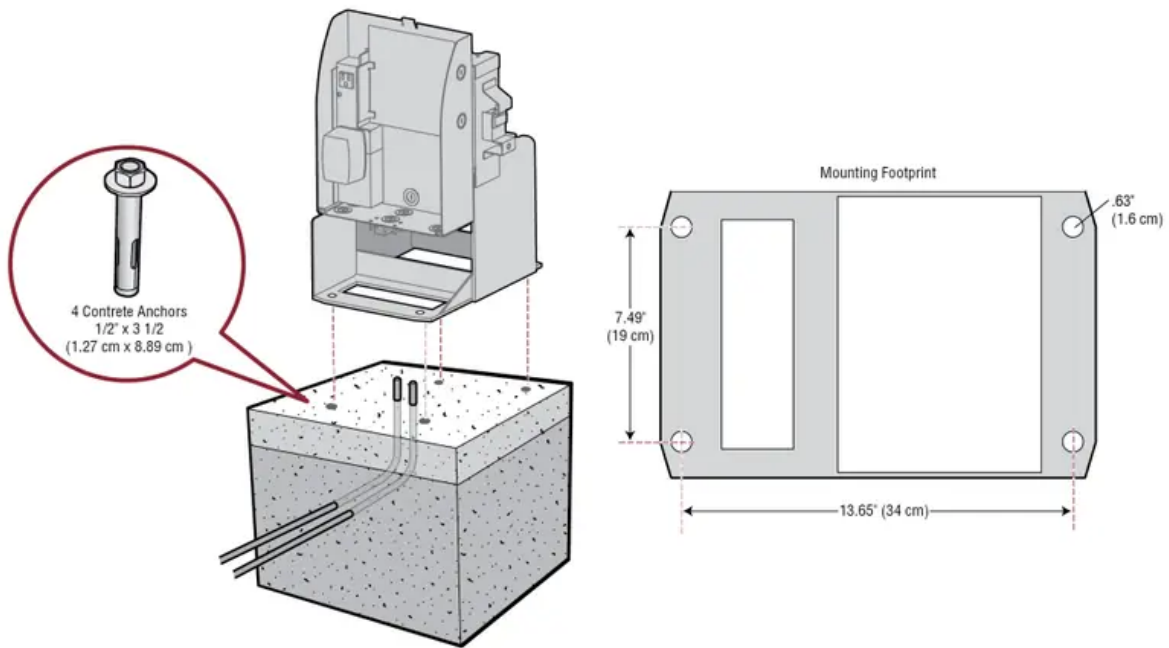
1. The gate operator should be installed near the back of the gate in the OPEN position.
Lay out the concrete pad.
2. Install the electrical conduit.
3. Pour a concrete pad (reinforced concrete is recommended).



Step 2 Install the Operator

Attach the operator to the concrete pad with appropriate fasteners. The gate operator should be installed near the front roller of the gate or near the back of the gate (in the OPEN position). The space between the gate and the output sprocket must be a minimum of 4 inches (10.2 cm).





Step 3 Attach the Chain

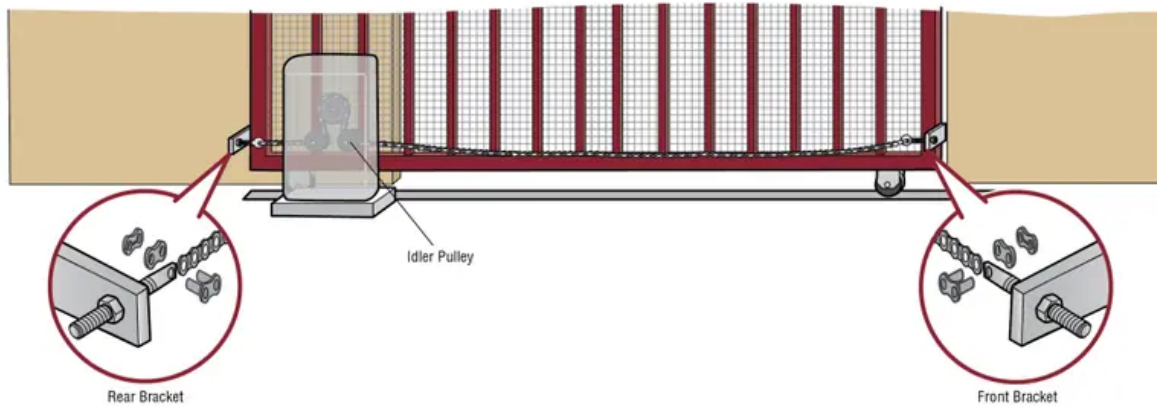
Standard Installation

DO NOT run the operator until instructed.

1. Manually open the gate and line up the front bracket so the chain will be level with the idler pulley and parallel to the ground. Weld the front bracket in this position.
2. Manually close the gate and line up the rear bracket so the chain will be level with the idler pulley and parallel to the ground. Weld the rear bracket in this position.

3. Route the chain through the operator.
4. Connect the chain to the brackets using the eye bolt hardware. Chain should not be too tight or have excessive slack.

NOTE: The chain should have no more than 1 inch (2.5 cm) of sag for every 10 feet (3 m) of chain length.



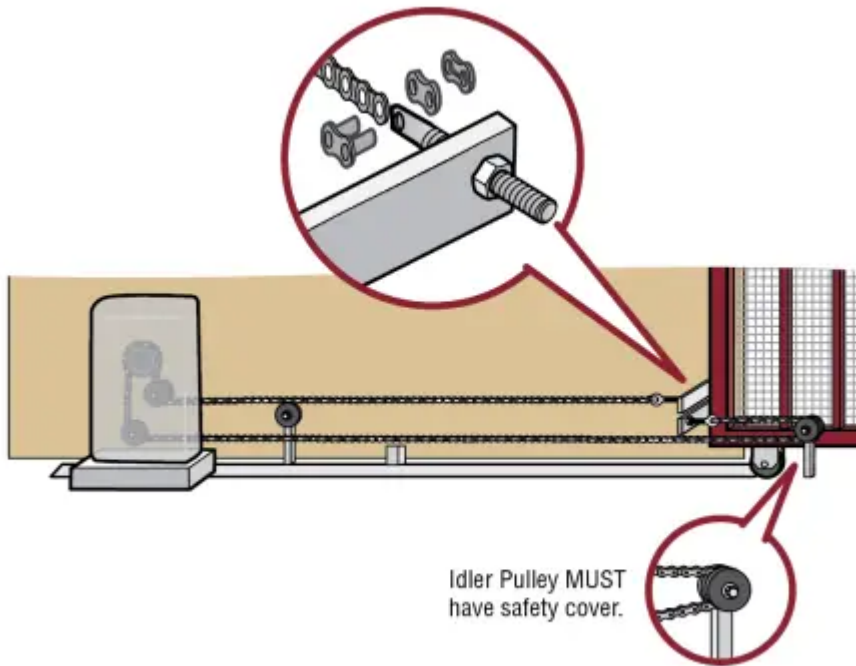
Rear Installation

DO NOT run the operator until instructed.

NOTE: This installation will require two extra idler pulleys. Make sure all exposed pinch points are guarded. Refer to Gate Construction Information on page 4.

1. Move the back pulley to the bottom hole in the operator.
2. Manually close the gate and align the bottom bracket so the chain will be level with the bottom idler pulley and parallel to the ground. Weld the bottom bracket in this position.
3. Align the top bracket so the chain will be level with the top idler pulley and parallel to the ground. Weld the upper bracket in this position.
4. Route the chain through the operator.
5. Connect the chain to the brackets using the eye bolt hardware. Chain should not be too tight or have excessive slack.

NOTE: The chain should have no more than 1 inch (2.5 cm) of sag for every 10 feet (3 m) of chain length.



WARNING

To prevent SERIOUS INJURY or DEATH from a moving gate:

- ALL gate operator systems REQUIRE two independent entrapment protection systems for each entrapment zone.
- Entrapment protection devices MUST be installed to protect anyone who may come near a moving gate.
- Locate entrapment protection devices to protect in BOTH the open and close gate cycles.
- Locate entrapment protection devices to protect between moving gate and RIGID objects, such as posts, walls, pillars, columns, or operator itself.

Step 4 Install Entrapment Protection

Entrapment protection MUST be installed according to the following UL 325 requirements:

- Slide gate operators require a minimum of two external monitored entrapment protection devices to function; one in the open direction and one in the close direction.
- Every installation is unique. It is the responsibility of the installer to ensure that ALL entrapment zones are protected with an external monitored entrapment protection device, protecting both the open and close gate cycles.
- LiftMaster monitored external entrapment protection devices MUST be used with LiftMaster operators to meet UL325 requirements, see Accessories.

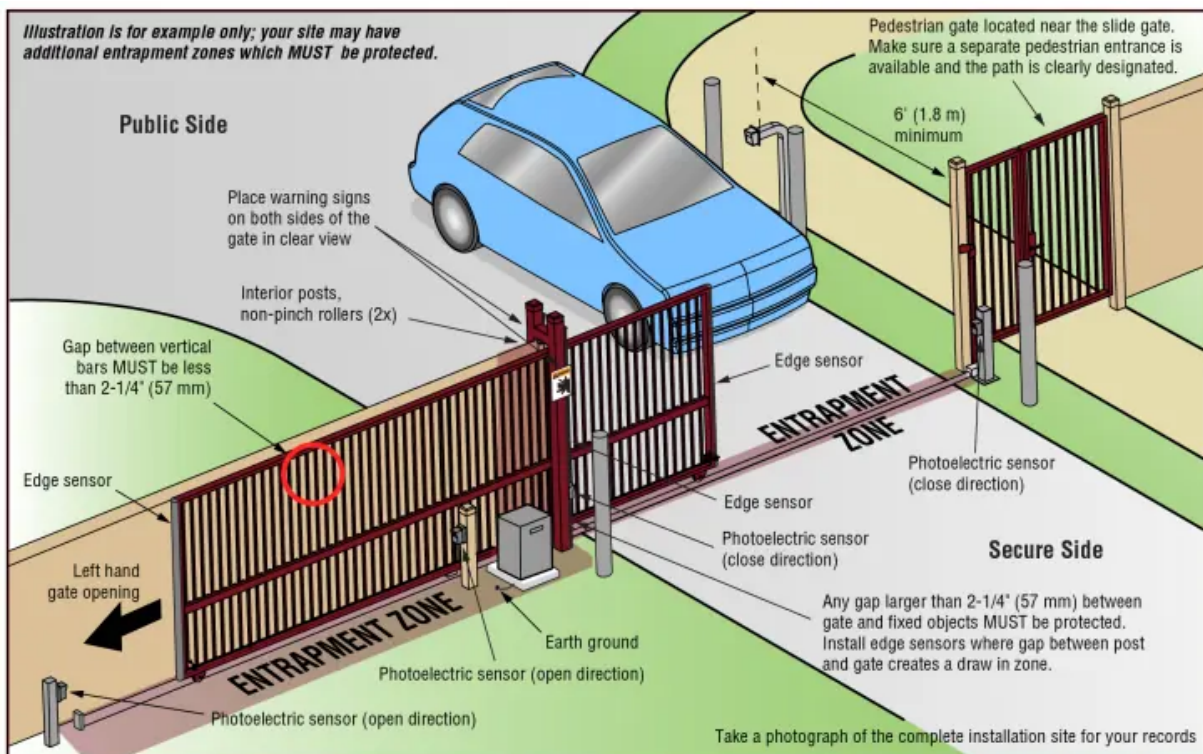
- Test ALL entrapment protection devices after completing installation of the operator. For testing instructions, refer to the manual provided with your entrapment protection device.

Definitions

ENTRAPMENT: The condition when a person is caught or held in a position that increases the risk of injury.

SLIDE GATE ENTRAPMENT ZONE: An entrapment zone exists if at any point during travel, the gap between the gate and any opposing fixed edge or surface such as posts, walls, pillars, columns or operator itself, is less than 16" (406 mm) in a location up to 6 ft. (1.8 m) above grade.

Illustrations provided by DASMA Gate Systems Safety Guide



Wire Entrapment Protection Devices

There are three options for wiring the entrapment protection devices depending on the specific device and how the device will function. Refer to the specific entrapment protection device manual for more information. These entrapment protection device inputs are for monitored devices, which include pulsed photoelectric sensors, resistive edge sensors, and pulsed edge sensors. Only one monitored entrapment protection device may be wired to each input. Additional entrapment protection devices may be wired to the expansion board.

Control Board

CLOSES EYES/INTERRUPT

(2 Terminals) The CLOSE EYES/INTERRUPT input is for photoelectric sensor entrapment protection for the close direction. When an obstruction is sensed during gate closing the gate will

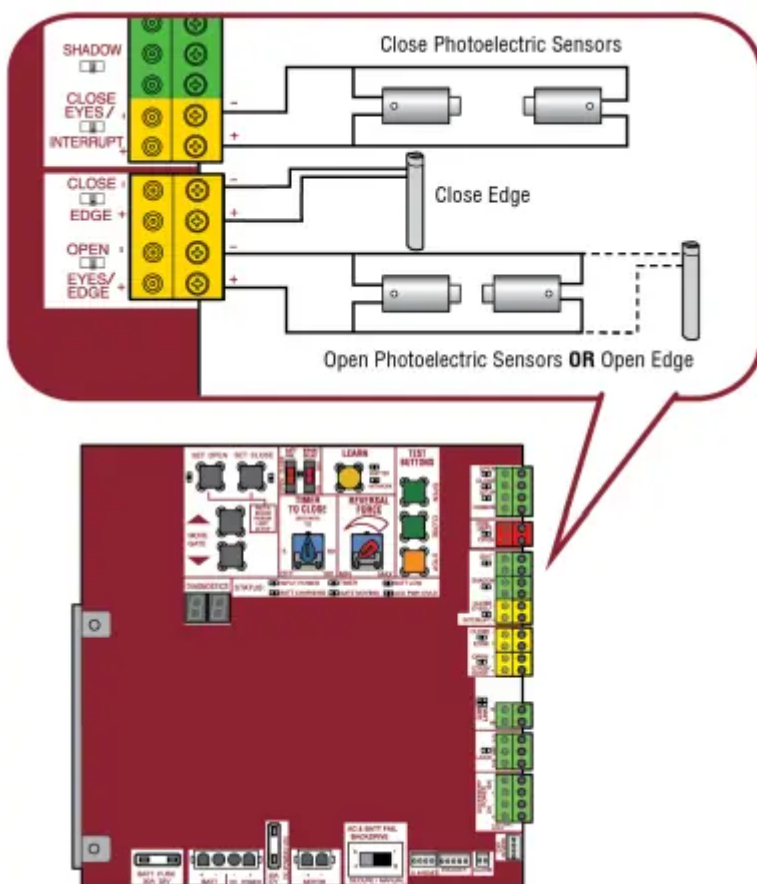
open to the full open position and resets the Timer-to-Close. This input will be disregarded during gate opening.

CLOSE EDGE

(2 Terminals) The CLOSE EDGE input is for edge sensor entrapment protection for the close direction. When an obstruction is sensed during gate closing the gate will reverse to the full open position, disengaging the Timer-to-Close. This input will be disregarded during gate opening.

OPEN EYES/EDGE

(2 Terminals) The OPEN EYES/EDGE input is for photoelectric sensor or edge sensor entrapment protection for the open direction. When an obstruction is sensed during gate opening the gate will reverse for 4 seconds then stop. This input will be disregarded during gate closing.



Expansion Board (not provided)

EYE ONLY and COM

Open or Close Direction Photoelectric Sensors, the functionality is based on the switch settings (located next to the terminals)

Switch set to CLOSE: gate reverses fully when an obstruction is sensed

Switch set to OPEN: gate reverses 4 seconds when an obstruction is sensed

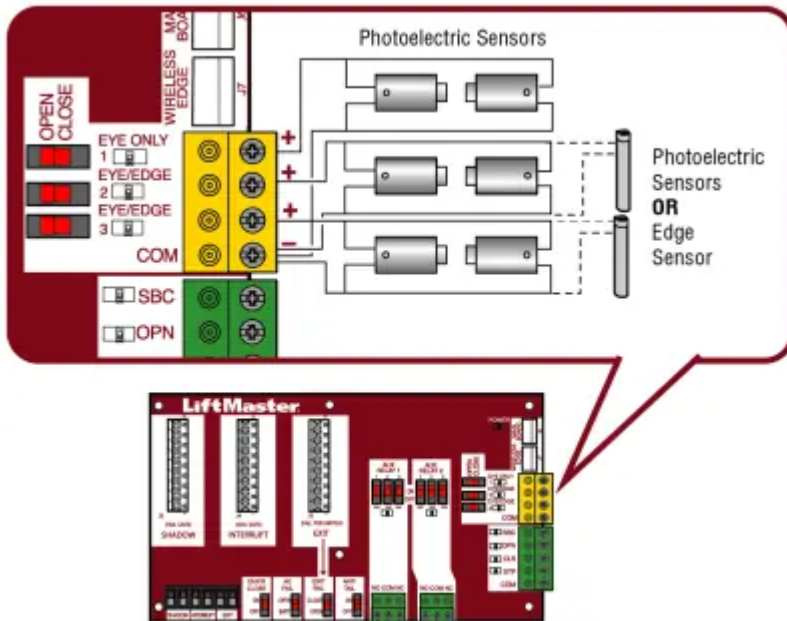
EYE/EDGE and COM



Open or Close Direction Photoelectric Sensors or Edge Sensor, the functionality is based on the switch settings (located next to the terminals)

Switch set to CLOSE: gate reverses fully when an obstruction is sensed

Switch set to OPEN: gate reverses 4 seconds when an obstruction is sensed

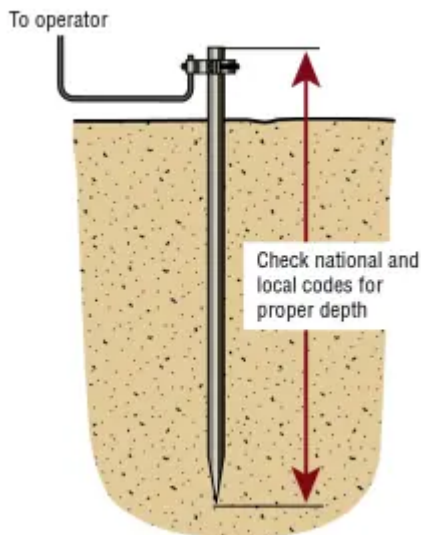


Step 5 Earth Ground Rod

Use the proper earth ground rod for your local area. The ground wire must be a single, whole piece of wire. Never splice two wires for the ground wire. If you should cut the ground wire too short, break it, or destroy its integrity, replace it with a single wire length.

1. Install the earth ground rod within 3 feet (.9 m) of the operator.
2. Run wire from the earth ground rod to the operator.

NOTE: If the operator is not grounded properly the range of the remote controls will be reduced and the operator will be more susceptible to lightning and surge damage



Step 6 Power Wiring

The operator can be wired for either 120 Vac or a solar panel (not provided). Follow the directions according to your application. The battery is charged in the circuit by the integrated transformer. The operator requires one 7AH battery (provided) or one 33AH battery. The 33AH application requires the 33AH wire harness (Model K94-37236).

For dual gate applications, power will have to be connected to each operator. Main power supply and control wiring **MUST** be run in separate conduits.

All control wiring used to connect external devices to Class 2 circuits of the operator must be (QPTZ) Power-Limited Circuit Cables, Type CL2, CL2P, CL2R, or CL2X or other cable with equivalent or better electrical, mechanical, and flammability ratings.

SOLAR APPLICATIONS: For solar applications refer to Solar Panels section in the Appendix. Follow the directions according to your application.

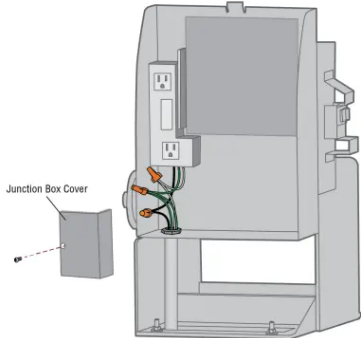
Power wiring

1. Turn off the AC power from the main power source circuit breaker.
2. Run the AC power wires to the operator.
3. Unplug the transformer.
4. Remove the junction box cover.
5. Run the AC power wires through the knockout in the bottom of the electrical box.
6. Connect the green wire to the earth ground rod and AC ground using a wire nut. NOTE: The earth ground rod can be grounded to the chassis.
7. Connect the white wire to NEUTRAL using a wire nut.
8. Connect the black wire to HOT using a wire nut.
9. Replace the junction box cover. Ensure the wires are not pinched.

10. Plug in the transformer.
11. Turn ON AC power to the operator.

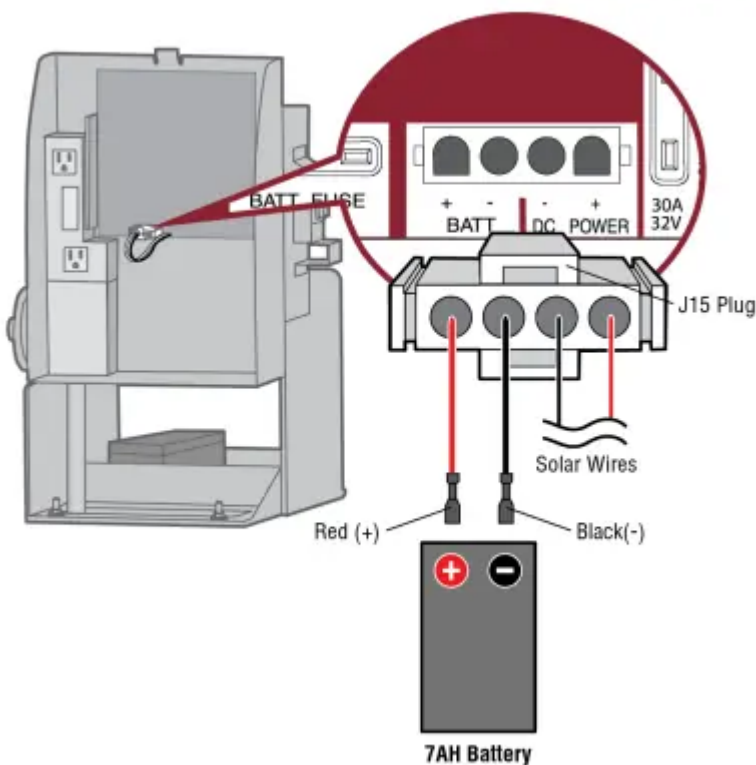
MAXIMUM WIRE LENGTH		
AMERICAN WIRE GAUGE (AWG)	DIRECT PLUG-IN TRANSFORMER (120 VAC)	EXTERNAL PLUG-IN TRANSFORMER (24 VAC)
18		150 feet (46 m)
16		250 feet (76 m)
14	1150 feet (351 m)	400 feet (122 m)
12	1850 feet (564 m)	600 feet (183 m)
10	2950 feet (899 m)	1,000 feet (305 m)

NOTE: Use copper conductors ONLY.



7AH battery

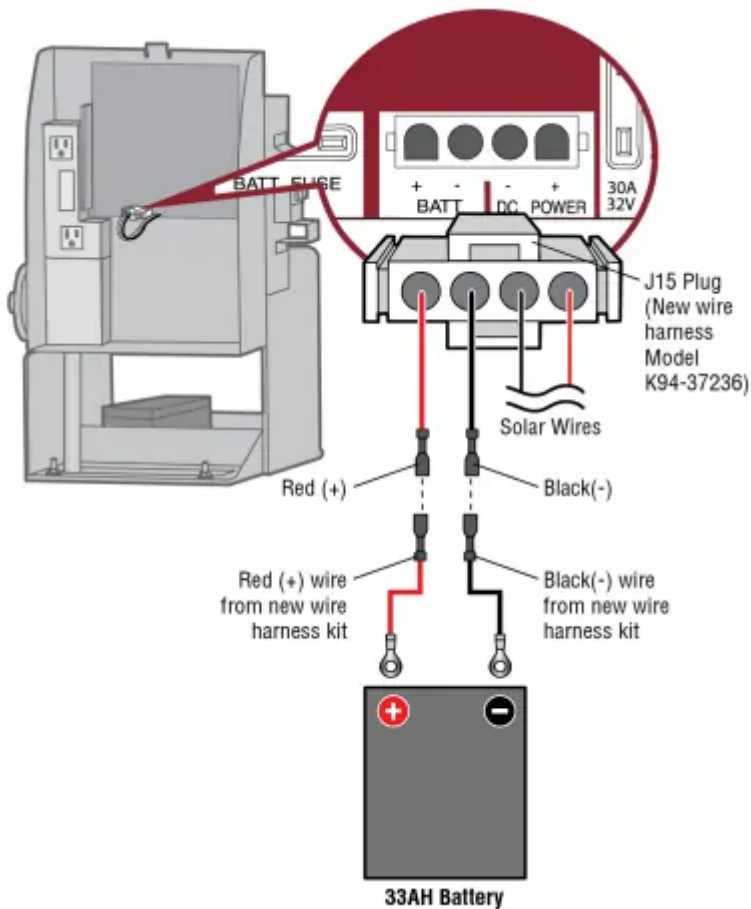
1. Unplug the transformer.
2. Unplug the J15 plug labeled BATT on the control board by squeezing the plug and pulling it from the control board. This disconnects the ac/dc power to the control board.
3. Connect the red wire from the J15 plug to the positive (+) terminal of the battery.
4. Connect the black wire from the J15 plug to the negative (-) terminal of the battery.
5. Plug the J15 plug back into the control board. This will power up the control board.
NOTE: You may see a small spark when plugging the J15 plug into the board.
6. Plug in the transformer.



33AH battery

To use a 33AH battery in place of the 7AH battery, follow the instructions below. The 33AH application requires the 33AH wire harness (Model K94-37236).

1. Unplug the transformer.
2. Unplug the J15 plug labeled BATT on the control board by squeezing the plug and pulling it from the control board. This disconnects the ac/dc power to the control board. Discard this J15 plug and harness.
3. Connect one end of the red (+) wire from the new 33AH wire harness kit to the red wire from the new J15 plug as shown. Connect the other end of the red (+) wire to the positive (+) terminal on the battery as shown.
4. Connect one end of the black (-) wire from the new 33AH wire harness kit to the black wire from the new J15 plug as shown. Connect the other end of the black (-) wire to the negative (-) terminal on the battery as shown.
5. Reconnect the new J15 plug to the control board. NOTE: You may see a small spark when plugging the J15 plug into the board.
6. Plug in the transformer.



Step 7 Dual Gate Setup

There are two options for dual gate communication: wired or wireless. Follow the directions according to your application. Do not use wired and wireless communication simultaneously. Wired dual gate applications will have a longer battery standby time than wireless applications.

Wireless setup

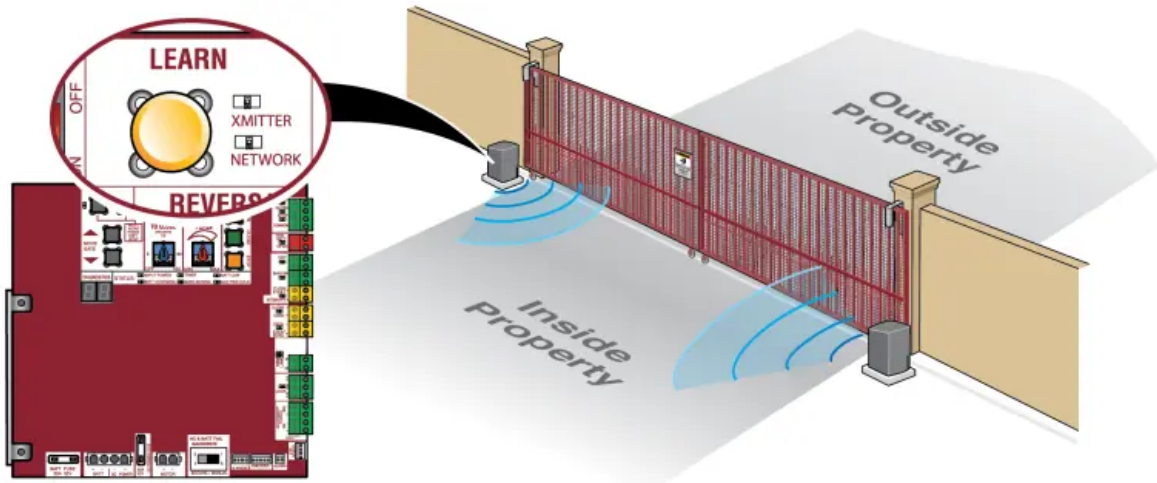
To activate the wireless feature:

1. Choose an operator to be the network primary operator. All wireless accessories will need to be programmed to the primary operator. NOTE: We recommend that all accessories and board configurations are set on the primary operator.
2. Press and release the LEARN button on the primary operator. The green XMITTER LED will light. NOTE: The operator will time out of programming mode after 180 seconds.
3. Press and release the LEARN button again on the primary operator. The yellow NETWORK LED will light.
4. Press and release the OPEN test button to assign this operator as network primary.
5. Press and release the LEARN button on the second operator. The green XMITTER LED will light.
6. Press and release the LEARN button again on the second operator. The yellow NETWORK LED will light.
7. Press and release the CLOSE test button to assign this operator as network second.

Both operators will beep and the yellow NETWORK LEDs will turn off indicating programming is successful.

To deactivate the wireless feature:

1. Press and release the LEARN button on either operator. The green XMITTER LED will light.
2. Press and release the LEARN button again on the same operator. The yellow NETWORK LED will light.
3. Press and hold the LEARN button for 5 seconds. The yellow NETWORK LED will blink (operator will beep) then turn off indicating successful deactivation.
4. Repeat the steps for the other operator.

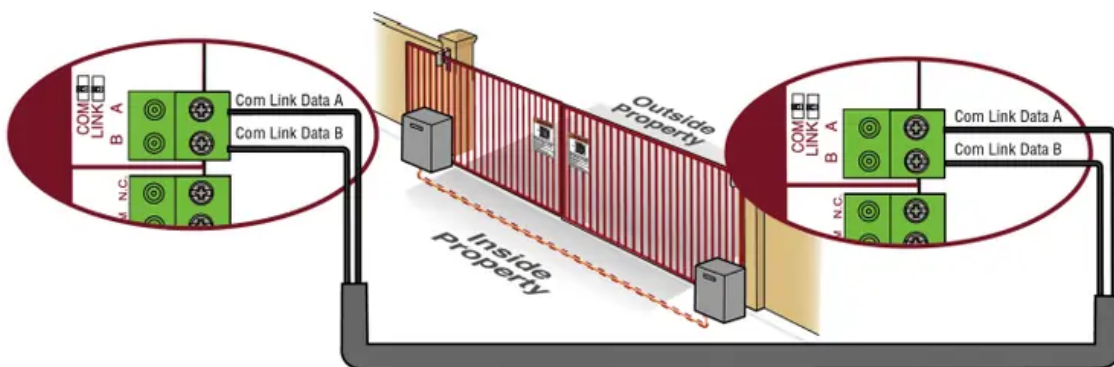


Wired setup

Before digging, contact local underground utility locating companies. Use PVC conduit to prevent damage to cables.

1. Disconnect ALL power to the operator and unplug the J15 plug from the control board.
2. Trench across driveway to bury the shielded twisted pair cable.
3. Connect the wires from the shielded twisted pair cable to the Com Link terminals on the primary gate operator control board. NOTE: We recommend that all accessories and board configurations are set on the primary operator.
4. Route the shielded twisted pair cable to the secondary gate operator's control board.
5. Connect the wires from the shielded twisted pair cable to the Com Link terminals on the secondary control board (Com Link A to Com Link A and Com Link B to Com Link B). Ground the shield of the cable to the chassis ground of one operator.
6. Connect ALL power to the operator and plug the J15 plug into the control board.

DUAL GATE WIRE TYPE (SHIELDED TWISTED PAIR CABLE)	
22AWG up to 200 feet (61 m)	18AWG - 200-1000 feet (61-305 m)
Wire must be rated at 30 Volt minimum	



Bipart delay/synchronized close

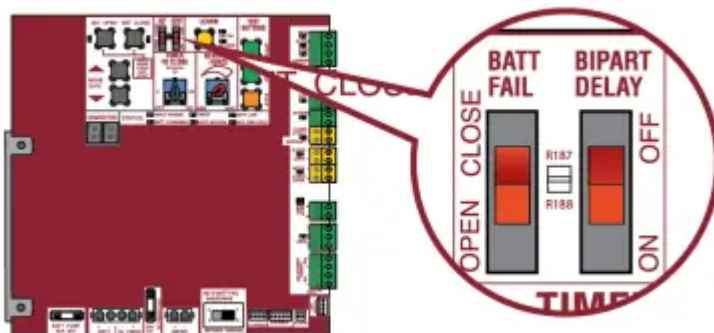
The LOCK/BIPART DELAY switch is used only with dual gate applications and serves two functions:

BIPART DELAY

- **SWING GATE APPLICATIONS:** The BIPART DELAY is used in applications where a mag-lock, solenoid lock, or decorative overlay would require one gate to close before the other. The operator with the LOCK/BIPART DELAY switch ON will delay from the close limit when opening and be the first to close from the open limit. **SLIDE GATE APPLICATIONS:** Not applicable, set to OFF.

SYNCHRONIZED CLOSE

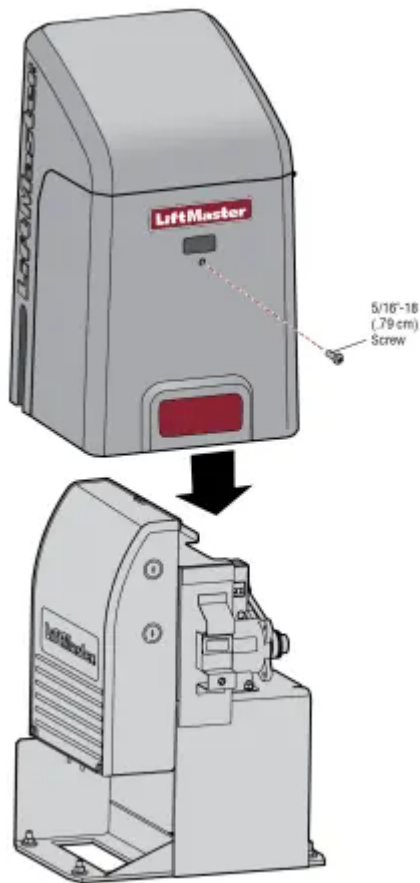
- The BIPART DELAY is also used in applications where one gate travels a longer distance than the other. To synchronize the closing of the gates, set the LOCK/BIPART DELAY switch to ON for both operators.



Step 8 Install the Cover

1. Slide the cover over the operator.
2. Align the hole in the cover with the threaded hole in the operator's chassis and secure the cover with the provided 5/16-18 screw.

The basic installation is complete.

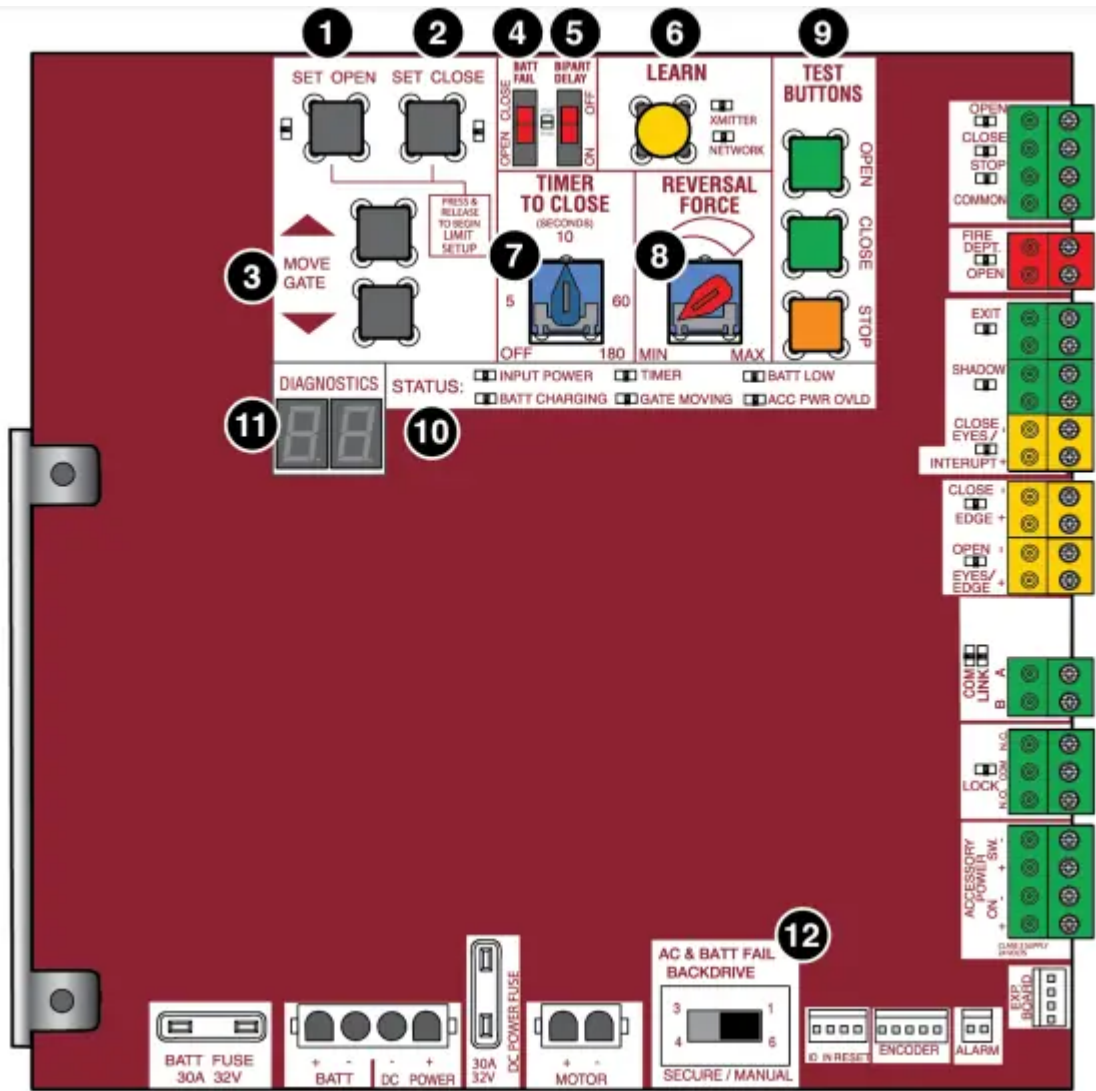


OPERATION

Control Board Overview

1. **SET OPEN Button:** The SET OPEN button sets the OPEN limit. See Adjust Limits section.
2. **SET CLOSE Button:** The SET CLOSE button sets the CLOSE limit. See Adjust Limits section.
3. **MOVE GATE Buttons:** The MOVE GATE buttons will either open or close the gate when the operator is in Limit setting mode. See Adjust Limits section.
4. **BATT FAIL:**
 - When AC power is OFF and battery voltage is critically low the gate will latch at a limit until AC power is restored or batteries voltage increases.
 - Option select switch set to OPEN forces gate to automatically open and then latch at the OPEN limit until AC power is restored or battery voltage increases.
 - Option select switch set to CLOSE forces gate to latch at CLOSE limit if at CLOSE limit or on next CLOSE command until AC power restored or battery voltage increases.

- Constant pressure on a hard command input overrides to open or close the gate.
 - Critically low battery is less than 11.5 V
5. **BIPART DELAY Switch:** The LOCK/BIPART DELAY switch is used only for dual gates. See Bipart Delay section.
 6. **LEARN Button:** The LEARN button is for programming remote controls and the network.
 7. **TIMER-TO-CLOSE dial:** The TIMER-TO-CLOSE (TTC) dial can be set to automatically close the gate after a specified time period. The TTC is factory set to OFF. If the TTC is set to the OFF position, then the gate will remain open until the operator receives another command from a control. Rotate the TIMER-TO-CLOSE dial to the desired setting. The range is 0 to 180 seconds, 0 seconds is OFF. NOTE: Any radio command, single button control, or CLOSE command on the control board prior to the TTC expiring will close the gate. The TTC is reset by any signals from the open controls, loops, close edges, and close photoelectric sensors (IR's).
 8. **REVERSAL FORCE dial:** The REVERSAL FORCE dial fine tunes the force. See Force Adjustment section.
 9. **TEST BUTTONS:** The TEST BUTTONS will operate the gate (OPEN, STOP and CLOSE).
 10. **STATUS LEDs:** The STATUS LEDs indicate the status of the operator. See Status LED Chart in the Troubleshooting section.
 11. **DIAGNOSTICS Display:** The diagnostics display will show the operator type, firmware version, and codes. The operator type will display as "SL" followed by a "12" which indicates the operator type as RSL12UL. The firmware version will show after the operator type, example "1.2".
 12. **BACKDRIVE Switch:** Set to MANUAL will allow the gate to be manually pushed open or closed if there is a loss of AC and battery power. Set to SECURE makes the gate difficult to push open or closed if there is a loss of AC and battery power.

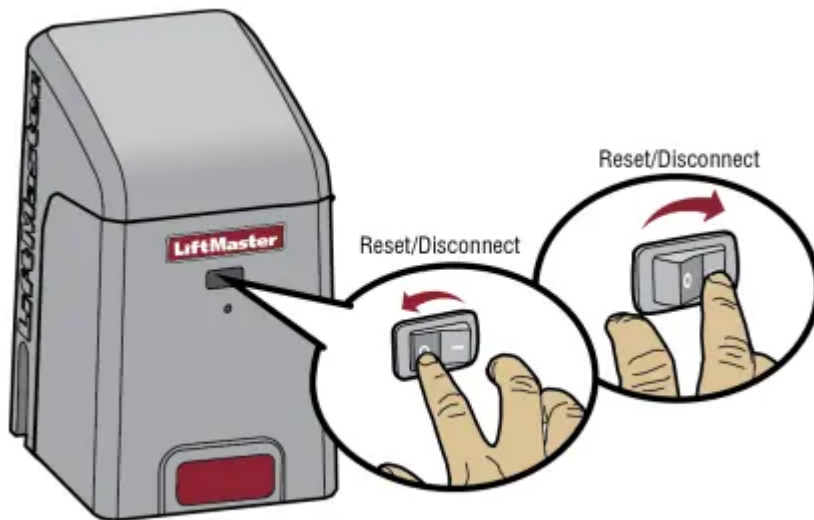


Reset Switch

The reset switch is located on the front of the operator and serves several functions.

Toggling the reset switch will stop a moving gate during a normal open/ close cycle, like a stop button. The operator does not need to be reset after doing this. The reset switch will disable the gate in the present position and will energize the solenoid lock for two minutes and disable the maglock for two minutes.





Manual Disconnect

Press the reset switch to RESET/DISCONNECT. Release the handle on the operator arm to allow the gate to be opened and closed manually. On a dual gate application the handle must be released on both operators. To resume normal function tighten the handle by pushing it down.

Operator Alarm

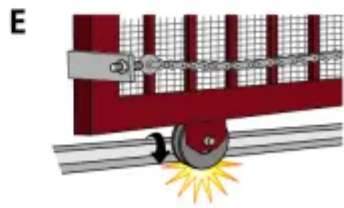
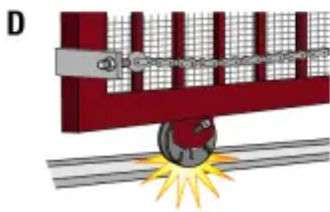
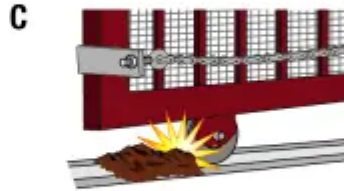
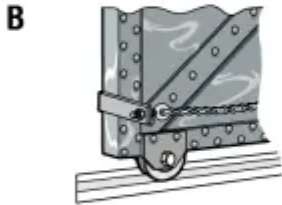
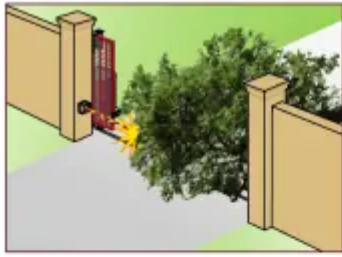
If a contact sensor detects an obstruction twice consecutively the alarm will sound (up to 5 minutes) and the operator will need to be reset.

When the inherent force of the operator (RPM/current sensor) detects the following (twice consecutively) the alarm will sound (up to 5 minutes) and the operator will need to be reset.

- A. The gate is hitting a wall or vehicle.
- B. The gate does not meet specifications.
- C. Debris is on the gate's track such as mud, rocks, dirt, etc.
- D. The gate has one or more broken axles or wheels.
- E. The gate wheel is off the gate rail.

Remove any obstructions. Press the reset button to shut off the alarm and reset the operator. After the operator is reset, normal functions will resume.

The operator alarm will beep 3 times with a command if the battery is low.



Remote control

Single Button Control (SBC) Functionality

Once the remote control has been programmed the operator will operate as follows: When gate is in the closed position, activation of the remote control button will open the gate. During the open cycle another activation of the remote control will stop the gate and the next activation of the remote control will close the gate. When the gate is in the open position, activation of the remote control button will close the gate. If the remote control is activated while the gate is closing, the gate will stop and the next activation will open the gate.

MAINTENANCE

Maintenance Chart

Disconnect all power (AC, solar, battery) to the operator before servicing. The operator's AC Power switch ONLY turns off AC power to the control board and DOES NOT turn off battery power. ALWAYS disconnect the batteries to service the operator.

DESCRIPTION	TASK	CHECK AT LEAST ONCE EVERY		
		MONTH	6 MONTHS	3 YEARS
Entrapment Protection Devices	Check and test inherent (built into the operator) and external devices for proper operation	X		
Warning Signs	Make sure they are present and replace if worn or broken, see <i>Accessories</i>	X		
Manual Disconnect	Check and test for proper operation		X	
Drive Chain and Sprockets	Check for excessive slack and lubricate	X		
Belt and Pulley	Check for excessive slack, wear or damage		X	
Gate	Inspect for wear or damage; ensure it still complies with ASTM F2200, see page 5	X		
Accessories	Check all for proper operation		X	
Electrical	Inspect all wire connections		X	
Chassis Mounting Bolts	Check for tightness		X	
Operator	Inspect for wear or damage		X	
Batteries	Replace			X

NOTES:

- Severe or high cycle usage will require more frequent maintenance checks.
- Limits may have to be reset after any major drive chain adjustments.
- If lubricating chain, use only lithium spray. Never use grease or silicone spray.
- It is suggested that while at the site voltage readings be taken at the operator. Using a digital voltmeter, verify that the incoming voltage to the operator is within ten percent of the operator’s rating.

Batteries

Batteries will degrade over time depending on temperature and usage. The operator alarm will beep 3 times with a command if the battery is low. Batteries do not perform well in extremely cold temperatures. For best performance, the batteries should be replaced every 3 years. Use only LiftMaster part 29-NP712 for replacement batteries. The batteries contain lead and need to be disposed of properly. The operator comes with one 7AH battery. One 33AH Battery (A12330SGLPK), with 33AH Battery Harness (K94-37236) may be used in place of the 7AH battery.

Drive Train

Over time, the drive chain on the operator will stretch and need to be tightened. To tighten the drive chain adjust either of the two chain eye bolts. NOTE: The chain should have no more than 1 inch of sag for every 10 feet of chain length.

TROUBLESHOOTING

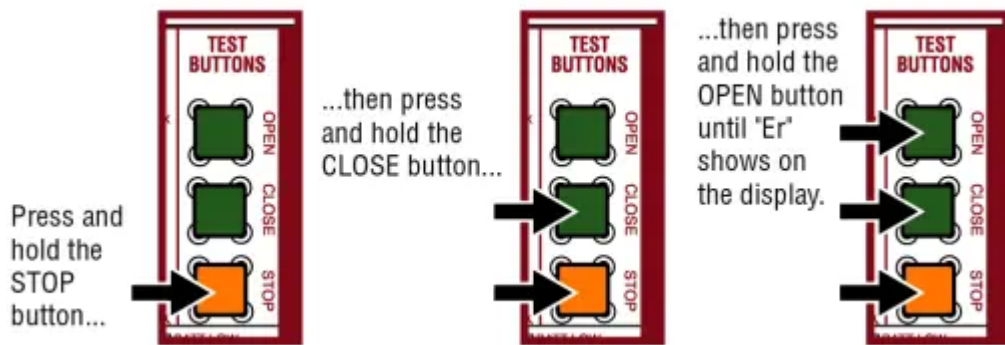
Diagnostic Codes

NOTE: When cycling or disconnecting power (ac/dc) to the control board, it is recommended that you unplug the J15 plug.



To View the Codes

The codes will show on the diagnostic display



The operator will show the code sequence number followed by the code number:

CODE SEQUENCE NUMBER

The first number shown is the most recent code (example: "01"). The display will show the sequence of codes that occurred starting with "01" and going up to code "20".

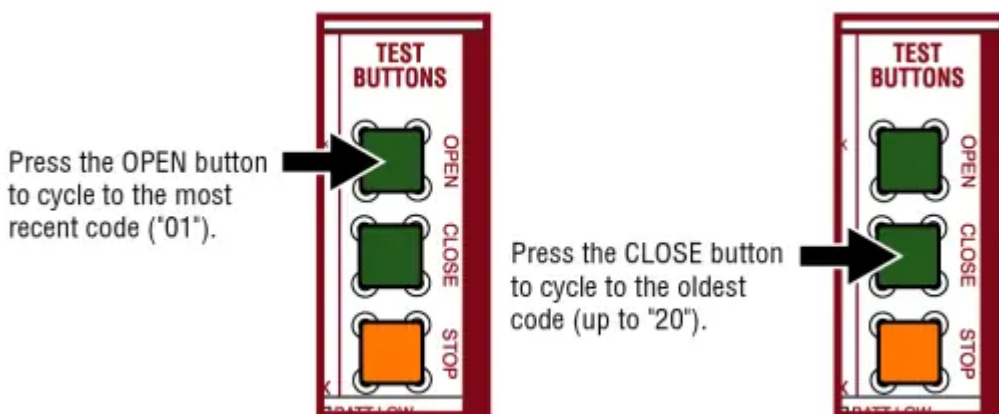
A SECOND LATER....

CODE NUMBER

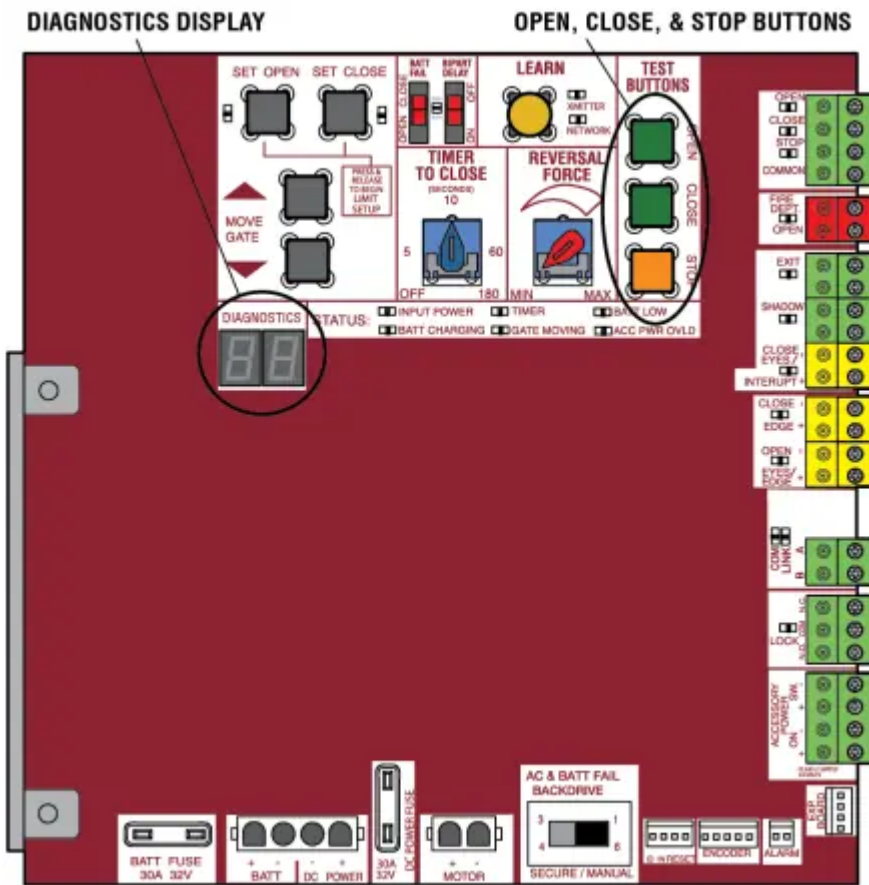
The second number shown after the code sequence number is the code itself (31-99, example "31"). Refer to the chart on the following page for an explanation of each code.



To Scroll Through the Saved Codes



The operator will only keep track of up to 20 codes, then will start saving over the oldest codes as new codes occur.



To Exit

Press and release the STOP button to exit. The display will also time out after two minutes of inactivity.

To Reset the Code History

1. Press and hold the STOP button for six seconds. The display will show "Er" then "CL" alternately for six seconds.
2. Release the STOP button. The code history has now been reset and the display will show "- -" until a new code occurs.
3. Press and release the STOP button to exit.

Diagnostic Codes Table

Some codes are saved in the code history and some are not. If a code is not saved it will briefly appear on the display as it occurs, then disappear.

Meaning	Solution	Saved
Main control board has experienced an internal failure.	Disconnect all power, wait 15 seconds, then reconnect power (reboot). If issue continues, replace main control board.	NO
Absolute Position Encoder Error, not getting position information from encoder	Check APE assembly and wiring connections. Replace the APE assembly if necessary.	YES
Max-Run-Time Exceeded Error	Check for an obstruction, then reprogram the limits.	YES
Product ID Error	Was the control board just replace? If so, erase limits, enter limit setup mode and set limits, If not, disconnect all power, wait 15 second, then reconnect power before changing product ID harness.	YES
Product ID Failure	Unplug product ID harness then plug back in. Disconnect all power, wait 15 seconds, then reconnect power before replacing product ID harness.	YES
Hard Stop Limit (Arm 1)	Limit may be set too tightly against a non-resilient hard stop (re-adjust limit). Operator may be at end of travel (re-adjust mounting).	NO
Battery overvoltage	Too much voltage on the battery. Check harness. Make sure there is NOT a 24V battery on a 12V system.	YES
Battery overcurrent	Possible short of the battery charge harness. Check harness. Make sure you do NOT have a 12V battery on a 24V system.	YES
No battery at boot up	Check battery connections and installation. Replace batteries if depleted to less than 20V on a 24V system or less than 10V on a 12V system. Make sure there is NOT a single 12V battery on a 24V system.	YES
Exit Loop Error	Failure or missing loop (SHORT or OPEN - LiftMaster Plug-in Loop Detector only) Check loop wiring throughout connection. May be a short in the loop, or an open connection in the loop.	YES
Shadow Loop Error		
Interrupt Loop Error		

Wireless edge battery low	Replace batteries in wireless edge.	YES
Run-Distance Error	The limits are less than the minimum requirement or longer than what was learned. Check limit positions and proper switch function. Rundistance can be re-learned by setting the handing again.	YES
Brownout occurred	AC/DC board supply dipped below allowable level. Review power supply and wiring. If rebooting, ensure enough time for discharge of power to force a fresh boot.	YES
Wireless Second Operator Communication Error	Check the second operator for power. If OFF, restore power and try to run the system. If powered, deactivate the wireless feature and then re-learn the second operator.	YES
Minimum number of monitored entrapment protection devices not installed.	Review monitored entrapment protection device connections. Slide gate operators require a minimum of two external safety devices; one in the close and one in the open direction.	NO
CLOSE EYE/ INTERRUPT held more than 3 minutes	Check wired input on main control board; check for alignment or obstruction.	YES
CLOSE EDGE held more than 3 minutes		
OPEN EYE/EDGE held more than 3 minutes		
CLOSE EYE/EDGE held more than 3 minutes	Check wired input on expansion board; check for alignment or obstruction.	YES
CLOSE EYE/ INTERRUPT held more than 3 minute		
OPEN EYE/EDGE held more than 3 minutes		
Wireless edge triggered more than 3 minutes	Check wired input for wiring issue or obstruction.	YES

Wireless edge loss of monitoring	Check wireless edge inputs	YES
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Meaning	Solution	Saved
Wireless edge triggered	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check inputs and wiring.	NO
CLOSE EYE/INTERRUPT triggered, causing reversal, preventing close, or resetting TTC	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check alignment, inputs, and wiring on main control board	NO
CLOSE EDGE triggered, causing reversal, NO preventing close, or canceling TTC		
OPEN EYE/EDGE triggered, causing reversal or preventing opening		
CLOSE EYE/INTERRUPT triggered, causing reversal, preventing close, or resetting TTC	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check alignment, inputs, and wiring on expansion board.	NO
CLOSE EYE/EDGE triggered, causing reversal and preventing close or canceling TTC		
OPEN EYE/EDGE triggered, causing reversal or preventing opening		
Close input (EYE/EDGE) communication fault from other operator	Check inputs and communication method between operators, either wired bus or radio. Ensure operator is powered. May have to erase the wireless communication and reprogram the two operators.	YES
Open input (EYE/EDGE) communication fault from other operator		
	Check the connections between the main board and the expansion board.	YES

Close input (EYE/EDGE) communication fault (expansion board)		
Open input (EYE/EDGE) communication fault (expansion board)		
Non-monitored device detected on the wireless safety system	Non-monitored contact closure devices are not supported. Make sure connected devices are monitored. Check edges for proper orientation and resistive end cap connection.	YES
Force Reversal (Operator 1)	Check for obstruction. If no obstruction, check that the mechanical assembly is engaged and free to move. See section on Limit and Force Adjustment, and Obstruction Test.	YES
RPM / STALL Reversal (Operator 1)	Check for obstruction. If no obstruction, check the operator wiring and that the mechanical assembly is engaged and free to move. Replace APE assembly	YES
Normal Operation	No action required	YES



Control Board LEDs

STATUS LEDS		
INPUT POWER	OFF	OFF state
	ON	AC charger or Solar power available
BATT CHARGING	OFF	Not charging
	ON	Three stage battery charging
TIMER	OFF	The timer is disabled
	ON	The timer is enabled
	MEDIUM BLINK (1 blink per second)	The timer is running
	FAST BLINK (2 blinks per second)	The timer is paused
	FASTEST BLINK (8 blinks per second)	The timer is canceled

INPUT LEDS		
OPEN, CLOSE, STOP INPUT	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
FIRE DEPT INPUT	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
EXIT	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
SHADOW	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
CLOSE EYES/ INTERRUPT	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
CLOSE EDGE	OFF	Input inactive

	ON	Input active
	BLINK	Input active on other operator
OPEN EYES/ EDGE	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
LOCK	OFF	Maglock relay inactive
	ON	Maglock relay active

Troubleshooting Chart



SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
<p>Operator does not run and diagnostic display not on.</p>	<p>a.No power to control board b.Open fuse c.If on battery power only, low or dead batteries d.Defective control board</p>	<p>a.Check AC and battery power b.Check fuses c.Charge batteries by AC or solar power d.Replace defective control board</p>
<p>Control board powers up, but motor does not run.</p>	<p>a.Reset switch is stuck b.Stop button active or jumper not in place for stop circuit c.If on battery power only, low or dead batteries d.Open or Close input active e.Entrapment Protection Device active f.Vehicle loop detector or probe active g.Defective control board</p>	<p>a.Check reset switch b.Check Stop button is not “stuck on” the stop button is a normally closed jumper on the stop circuit. c.Charge batteries by AC or solar power replace batteries d.Check all Open and Close inputs input e.Check all Entrapment Protection Device for a “stuck on” sensor f.Check all vehicle detector inputs for detector g.Replace defective control board</p>
<p>Gate moves, but cannot set correct limits.</p>	<p>a.Gate does not move to a limit position b.Gate is too difficult to move c.Limits are set too close (slide gate applications only)</p>	<p>a.Use manual disconnect, manually move gate and ensure gate moves easily limit to limit gate as needed. b.Gate must move easily and freely through entire range, limit to limit. Repair gate c.Ensure the gate moves at least 1/2 inch the OPEN limit and the CLOSE limit</p>
<p>Gate does not fully open or fully close when setting limits.</p>	<p>a.Gate does not move to a limit position b.Gate is too difficult to move</p>	<p>a.Use manual disconnect, manually move gate and ensure gate moves easily limit to limit gate as needed. b.Gate must move easily and freely through entire range, limit to limit. Repair gate</p>



<p>Operator does not respond to a wired control/ command (example: Open, Close, SBC, etc.)</p>	<p>a. Check Open and Close command input LEDs</p> <p>b. Stop button is active</p> <p>c. Reset button is stuck</p> <p>d. If on battery power only, low or dead batteries</p> <p>e. Entrapment Protection Device active</p> <p>f. Vehicle loop detector or vehicle probe active</p>	<p>a. Check all Open and Close inputs input</p> <p>b. Check Stop button is not “stuck on”</p> <p>c. Check Reset button</p> <p>d. Charge batteries by AC or solar power or replace batteries</p> <p>e. Check all Entrapment Protection Device inputs for a “stuck on” sensor</p> <p>f. Check all vehicle detector inputs for a stuck detector</p>
<p>Operator does not respond to a wireless control or transmitter</p>	<p>a. Check XMITTER LED when wireless control is active</p> <p>b. Stop button is active</p> <p>c. Reset button is stuck</p> <p>d. Poor radio reception</p>	<p>a. Activate wireless control and check XMITTER LED is on. Re-learn wireless control to control board. Replace wireless control board if necessary.</p> <p>b. Check Stop button is not “stuck on”</p> <p>c. Check Reset button</p> <p>d. Check if similar wired control operates. Check if wireless controls works properly within a few feet of operator. Check antenna and antenna wire. Check other controls or devices.</p>
<p>Gate stops during travel and reverses immediately.</p>	<p>a. Control (Open, Close) becoming active</p> <p>b. Vehicle loop detector active</p> <p>c. Low battery voltage</p>	<p>a. Check all Open and Close inputs input</p> <p>b. Check all vehicle detector inputs for a stuck detector</p> <p>c. Battery voltage must be 11.5 Vdc or higher. Charge batteries by AC or solar power or replace batteries</p>
<p>Gate opens, but will not close with transmitter or Timer-to-Close.</p>	<p>a. Open control active</p> <p>b. Vehicle loop detector active</p> <p>c. Loss of AC power with AC FAIL set to OPEN</p> <p>d. Low battery with LOW BATT set to OPEN</p>	<p>a. Check all Open inputs for an active input</p> <p>b. Check all vehicle detector inputs for a stuck detector</p> <p>c. Check AC power and AC Fail option</p> <p>d. Check if AC power is available. If not, then running on batteries and battery voltage is low</p>



	<p>e.Fire Dept input active</p> <p>f.Timer-to-Close not set</p> <p>g.Close Entrapment Protection Device active</p>	<p>be 11.5 Vdc or higher. Charge batteries with solar power or replace batteries.</p> <p>e.Check Fire Dept input</p> <p>f.Check Timer-to-Close (TTC) settings</p> <p>g.Check all Entrapment Protection Devices for an active sensor</p>
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<p>Gate closes, but will not open.</p>	<p>a. Vehicle loop detector active b. Low battery with LOW BATT option set to CLOSE</p>	<p>a. Check all vehicle detector inputs for correct wiring to the detector b. Check if AC power is available. If not, then running on batteries and batteries must be 11.5 Vdc or higher. Charge batteries with solar power or replace batteries.</p>
<p>Obstruction in gate's path does not cause gate to stop and reverse.</p>	<p>a. Force adjustment needed</p>	<p>a. Refer to the Adjustment section to perform the obstruction test and perform the proper force adjustment that is needed.</p>
<p>Photoelectric sensor does not stop or reverse gate.</p>	<p>a. Incorrect photoelectric sensor wiring b. Defective photoelectric sensor</p>	<p>a. Check photoelectric sensor wiring for correct wiring. Obstructing photoelectric sensor causes moving gate to stop, and may reverse direction. b. Replace defective photoelectric sensor. Obstructing photoelectric sensor causes moving gate to stop, and may reverse direction.</p>
<p>Edge Sensor does not stop or reverse gate.</p>	<p>a. Incorrect edge sensor wiring b. Defective edge sensor</p>	<p>a. Check edge sensor wiring. Retesting edge sensor causes moving gate to stop and reverse direction. b. Replace defective edge sensor. Retesting activating edge sensor causes moving gate to stop and reverse direction.</p>
<p>Alarm sounds for 5 minutes or alarm sounds with a command.</p>	<p>a. Double entrapment occurred (two obstructions within a single activation)</p>	<p>a. Check for cause of entrapment (obstruction) and correct. Press the reset button to shut off alarm and reset the operator.</p>
<p>Alarm beeps three times with a command.</p>	<p>a. Low battery</p>	<p>a. Check if AC power is available. If not, then running on batteries and batteries must be 11.5 Vdc or higher. Charge batteries with solar power or replace batteries.</p>



<p>On dual-gate system, incorrect gate opens first or closes first.</p>	<p>a. Incorrect Bipart switch setting</p>	<p>a. Change setting of both operator's settings. One operator should have ON (operator that opens second) and the other operator should have Bipart switch setting (operator that opens first).</p>
<p>Alarm beeps when running.</p>	<p>a.Expansion board setting b.Constant pressure to open or close is given</p>	<p>a.Pre-warning is set to "ON" b.Constant pressure to open or close is given</p>
<p>Maglock not working correctly.</p>	<p>a. Maglock wired incorrectly</p>	<p>a. Check that Maglock is wired to correct terminals. Check that Maglock has power from control board (check power terminals). If shorting lock's terminals does not activate Maglock, the Maglock or Maglock wiring (refer to Wiring Diagrams).</p>
<p>Solenoid lock not working correctly.</p>	<p>a. Solenoid wired incorrectly</p>	<p>a. Check that Solenoid is wired to correct terminals. Check that Solenoid has power from control board (check power terminals). If shorting lock's terminals does not activate Solenoid, the Solenoid lock or Solenoid wiring (refer to Wiring Diagrams).</p>
<p>Switched (SW) Accessory power remaining on.</p>	<p>a. In limit setup mode</p>	<p>a. Learn the limits</p>
<p>Accessories connected to Switch (SW) Accessory power not working correctly,</p>	<p>a. Normal behavior</p>	<p>a. Move accessory to accessory power</p>



turning off, or
resetting.

Dual Gate Settings

NOTE: We recommend that all accessories and board configurations are set on the primary operator.

Main control board

Timer-to Close

- Set the TTC dial to desired setting
- OFF

Bi-Part Delay Switch

- Bi-Part Delay: ON (will open last and close first)
- Tandem Mode: OFF
- Synchronized Close: ON
- Bi-Part Delay: OFF (will open first and close last)
- Tandem Mode: OFF
- Synchronized Close: ON

Accessories

Remote Controls

- Program remote controls 1 to 50 to the primary operator.
- Program remote controls 51 to 100 to the secondary operator

LiftMaster Internet Gateway

- Program to primary operator.

Garage and Gat Monitor

- Program to primary operator.

Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.

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