USER DRIVEN MANUAL*

Any feedback, changes, or advice we are glad to hear it. Please contact us at support@estateswing.com

—WARNING—

Read all instructions before beginning installation or use of this gate opener. This operator exerts a high level of force. Exercise caution at all times and stay clear of the system during operation.

Estate SLIDE

E-SL 450BD Series

INSTRUCTION MANUAL

Estate Swing's unique user driven manuals are constantly updated by installers and homeowners like yourself. We improve by hearing and applying your feedback.

Estate Swing Summary of Functions

Estate Slide Summary of Functions

The Estate Slide is only to be used for vehicular Slide gates in a Class I setting.

Class I: A vehicular gate opener (or system) intended for use in a home of one-to-four single family dwelling, or a garage or parking area associated therewith.

The Estate Slide automated system was designed and built for controlling vehicle access. Do not use for any other purpose.

The Estate Slide automated system automates residential Slide-leaf gates with leaves of up to 18' in length.

It consists of a locking electro-mechanical linear operator, powered by a 24V AC transformer, coupled with control board that switches the voltage to DC to power the motor. The MASTER card can be programmed and is used to set the following: function logics, work times (by self-learning) and pause times, leaf speed, and the sensitivity of the anti-crushing device.

The locking system will automatically lock when the motor is not operating. A release system enables the gate to be moved by hand in case of a system failure.

For Your Assistance

Keep this manual safely stored after installation

Serial Number _____

Date of Purchase _____

Place of Purchase _____

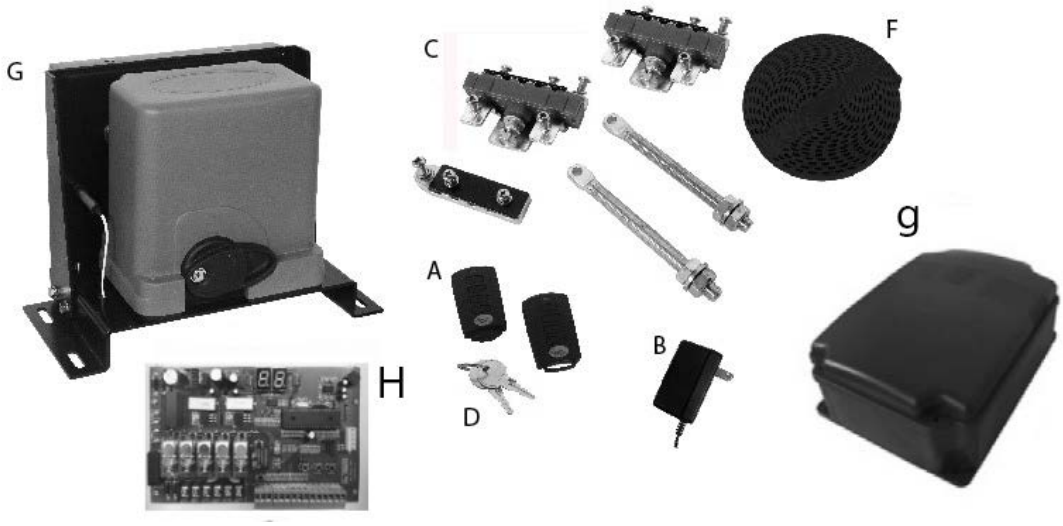
Have this information on hand while handling all service and warranty issues.

Specifications & Part List

Model	Estate Slide 450BD
Power Supply	24 V AC / 24V DC
Absorbed Power (W)	50
Absorbed Current (Amps)	10
Max Run Time	5.6 Minutes
Operating Ambient Temperature	-4 °F to +124 °F
Motor Rotational Speed	2000r / min
Gate Leaf Max Length (ft.)	Up to 14
Gate Leaf Max Weight (lbs.)	Up to 450
Type of Limit Switch	Magnetic

Estate Swing Parts Included:

A) Two Remotes
B) Transformer
C) two Limit Magnet
D) Release Keys
E) Belt
F) Motor
G) Control box
H) control board

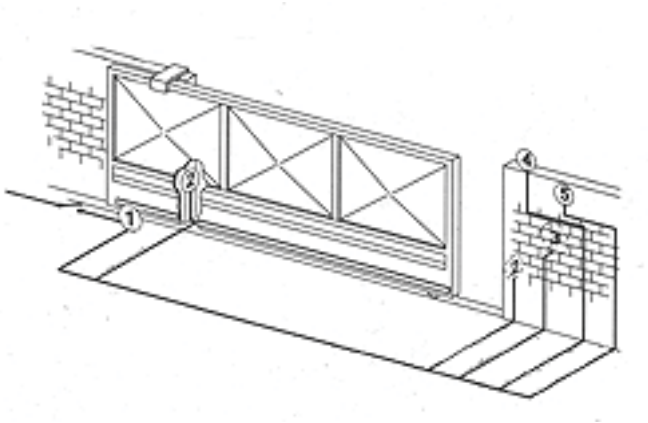


Standard System Overview and Safety Zones

The system display below is a recommended standard system. Other approved accessories can be installed.

Photo sensors and a flashing light indicating gate movement is recommended for safety purposes.

1) Estate Slide Operator **2)** Photocells (not included) **3)** Key operated pushbutton (not included) **4)** Flashing lamp (not included) **5)** Radio receiver (optional)



NOTES:

1) Do not extend operator connection cables

2) When laying electrical cables, use appropriate rigid and/or flexible tube

3) Do not run any wires in the same conduit as 110 AC power that may be in the area. This will cause unwanted interference

Important Preliminary Checks:

To ensure safety and an efficiently operating automated system, make sure the following conditions are observed.

• The gate and post must be suitable for being automated. Check that the structure is sufficiently strong and rigid, and its dimensions and weights conform to those indicated in section 1. In particular, wheel diameter must be in relation to the weight of the gate to be automated. Dimensions and weight must match those indicated in the technical specifications.

• Make sure the leaves move smoothly without any irregular friction during entire travel.

• The soil must permit sufficient stability for the expansion plugs securing the foundation plate.

• Check if the upper guide and travel limit mechanical stops are installed.

We advise you to have any metalwork carried out before the automated system is installed.

Tools Needed For Installation

- Power Drill
- Crescent Wrench
- Metal Drill Bits
- Hacksaw
- Flat Head Screwdriver
- Phillips Head Screwdriver
- Tape Measure
- Level
- Wire Strippers
- C-clamps

Other items that may be needed prior to commencing installation:

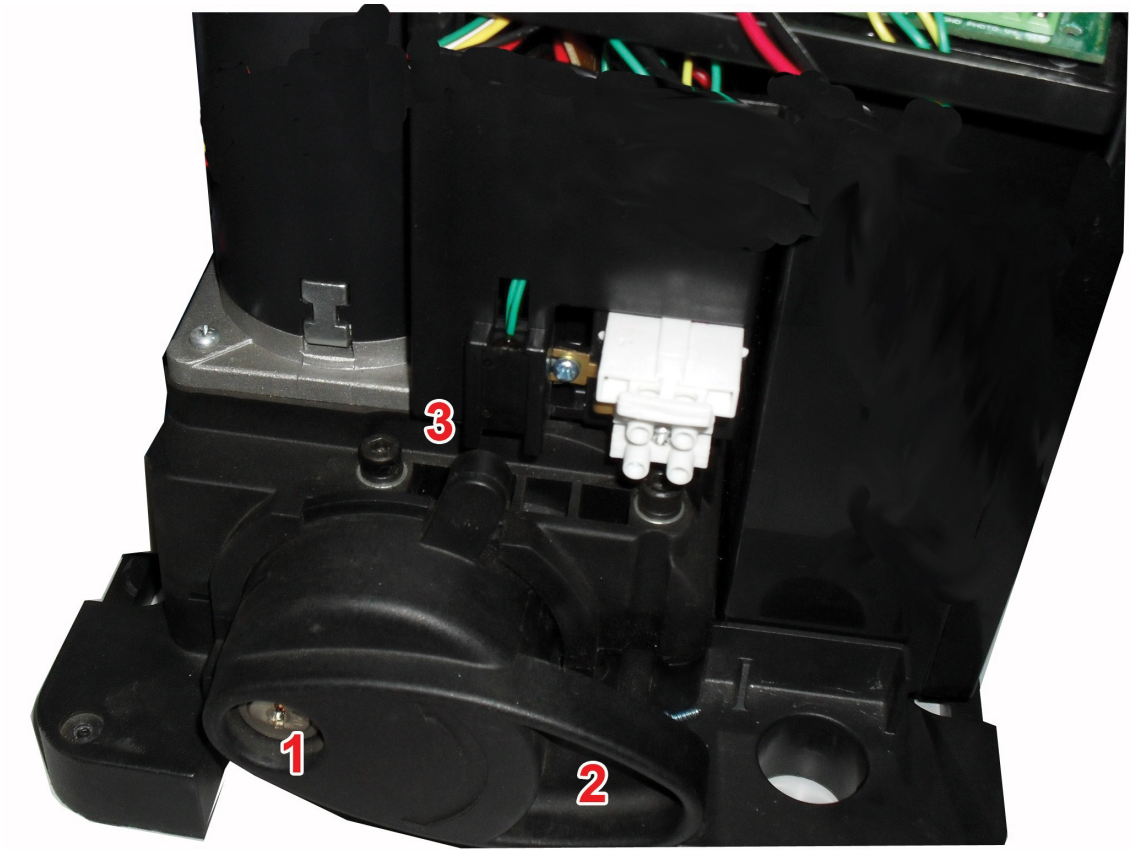
- Cement, boards for a slab frame, and a trowel.
- Low voltage wire will be required to run power to your operator. See the power page for specifications.
- If the gate is more than 144’ from an a/c power supply then an electrician will be required to move a supply closer.
- Depending on the current base, you may need cement to form a level mounting pad.
- A voltage meter may be necessary to run diagnostic checks.
- A digital camera will come in handy with technicians if any support is needed.

Manual Operation

1. Key release the lever.

2. Lift the lever to disengage the gears.

3. The motor will not run again until the motor is relocked. There is a magnetic sensor that allows the motor to operate, be sure the magnet is lined up with the sensor.



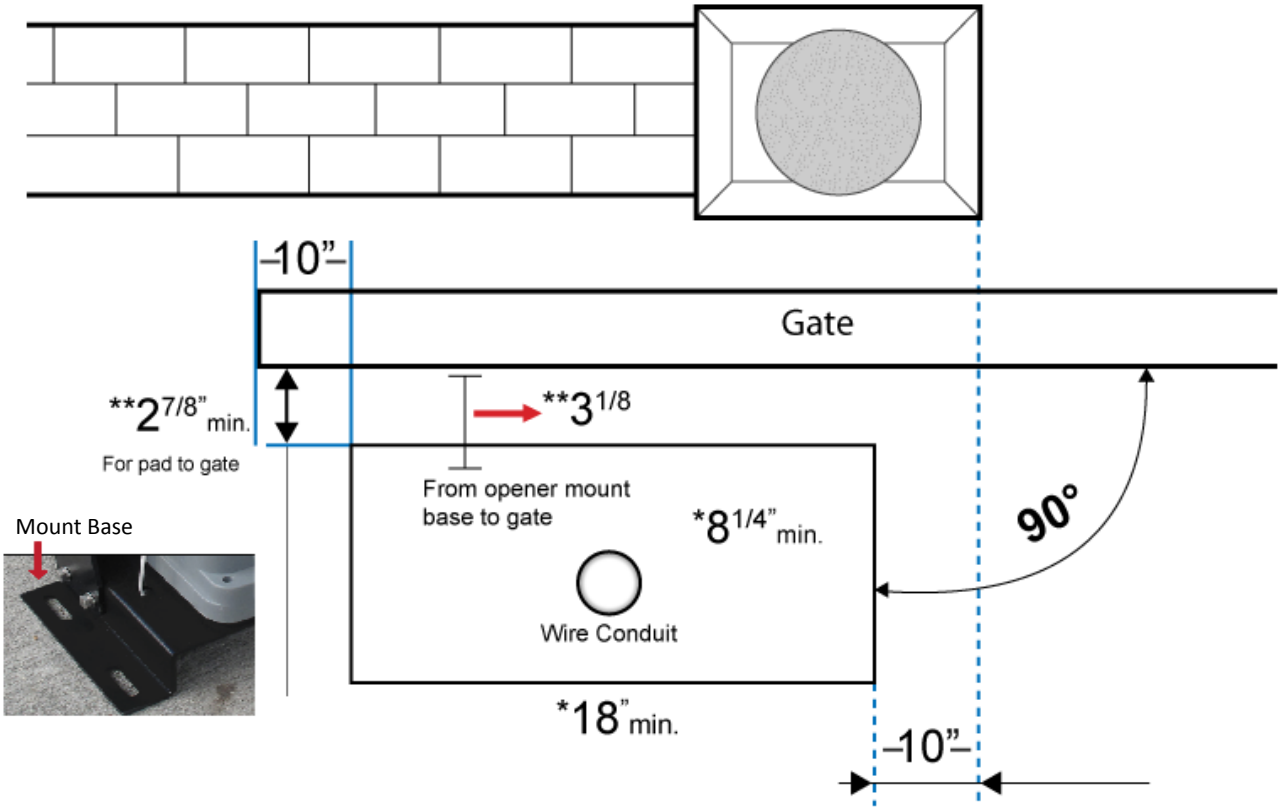
Creating Mounting Slab

1. Determine the height of your concrete pad based upon how high the gate is from the ground and where the belt can be mounted to the gate. The minimum height from the top of the slab to the belt is 10”.

2. Pour a concrete pad for your opener to bolt to. Levelness of the pad is important. For convenience place a piece of conduit that runs up the center of the pad and the other end is easily accessible.

3. After the foundation has dried, use 7/16 concrete anchors attach the opener to the base.

NOTE: The gate opener can be placed on the left or right of the driveway. The diagram below is for being placed on the left side of the driveway (if you are standing on the inside of the property looking out)



* Pad can be larger/closer to gate as long as opener is mounted at correct distance from the gate.

** Dimension can be greater if spacers are used to offset gate brackets from rear face of gate. Spacers will need to be (Base distance from gate) - 31/8 = Spacer Width.

Concrete Slab Tips: Creating a wood rectangle with no top is a good way to form a slab. After the cement dries the wood can be knocked away. The slab must be secured to the ground below. Having rebar pass into the slab works well.

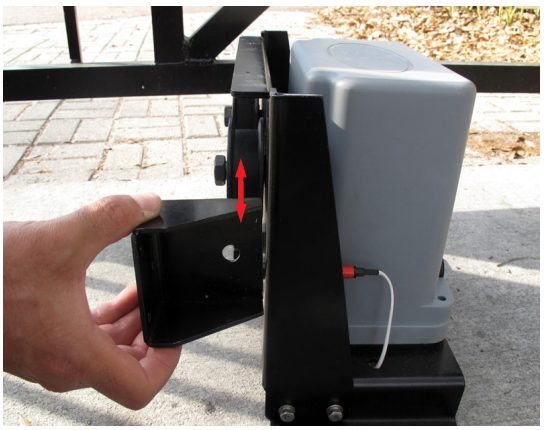
Securing the Operator

If the height of the operator from the slab ever has to be adjusted, nuts can be inserted just on the threads between the anchor and the bottom of the opener—the opener can be moved up the threading and the operator can rest on the nuts.

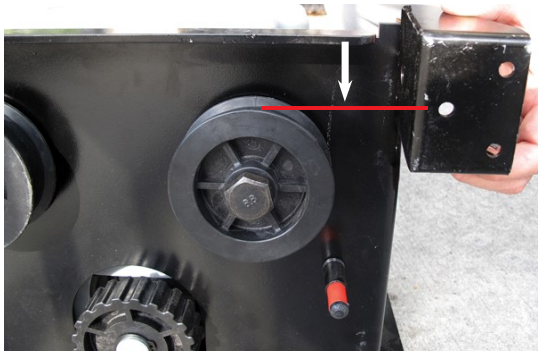
Feed any wires up through the opener while installing the opener to the base.

Installation of Motor

Horizontal position of gate bracket: The hole in the gate bracket should be mounted on the gate so it is centered with the idler gears horizontally. Depending on how close you mounted the gate opener from the rear face of the gate you may need to shim your bracket to make it protrude off the back of the gate more to achieve this.



Vertical position of gate bracket: The hole in the gate bracket should be level with the top of the idler gears when mounted on the gate.



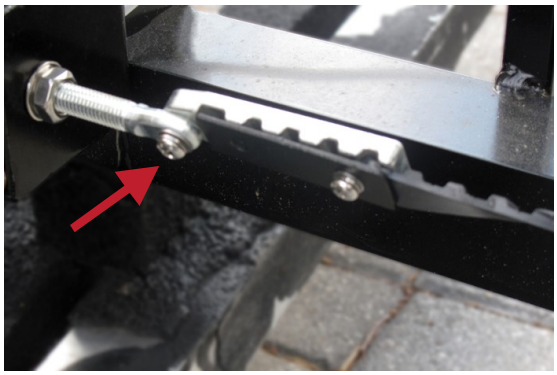
After identifying the correct height for the gate bracket, bolt the bracket to your gate frame using the three mounting holes. The flat side with a single hole should be facing in toward the center of the gate.

On one side of the gate lay the belt into the belt attachment bracket so the teeth of the belt mesh the teeth of the bracket.

Installation of Motor

Lay the top of the belt bracket on the belt. It has two holes in it. Mark and drill two holes in the belt . Then put the bolts through the bolt bracket assembly to hold the bracket to the belt.

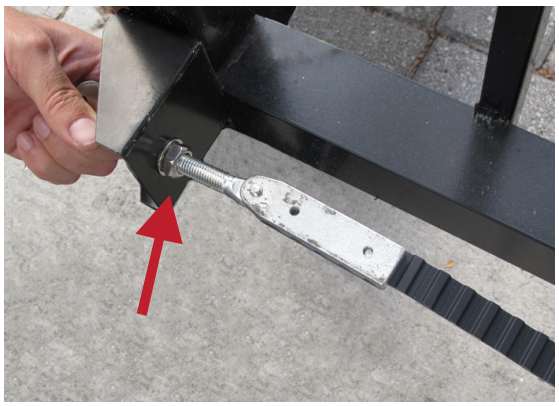
Attach the assembled belt bracket to the belt attachment bolt.



Run the belt over the idlers and under the mechanized gear with the belt teeth facing up.

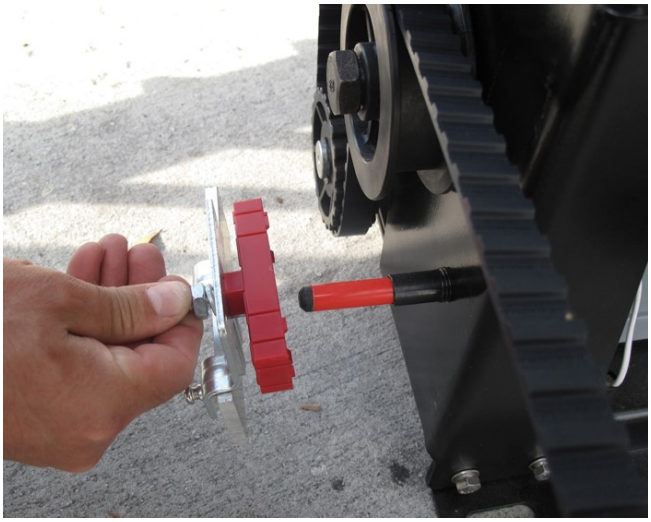
Repeat gate bracket and belt bracket steps on the other side of the gate to attach the other end of the belt to the gate. The belt may need to be cut down to be tight if you gate is not 15 feet long including tail. Do not cut the belt until you have run the belt through the gears to account for the length needed for this.

Make your final tightening adjustments on the belt. The belt should not have excessive sag in it (no more than 2 inch variance from furthest bracket to opener). To tighten the belt after mounting, move the nuts on the belt attachment bolt.

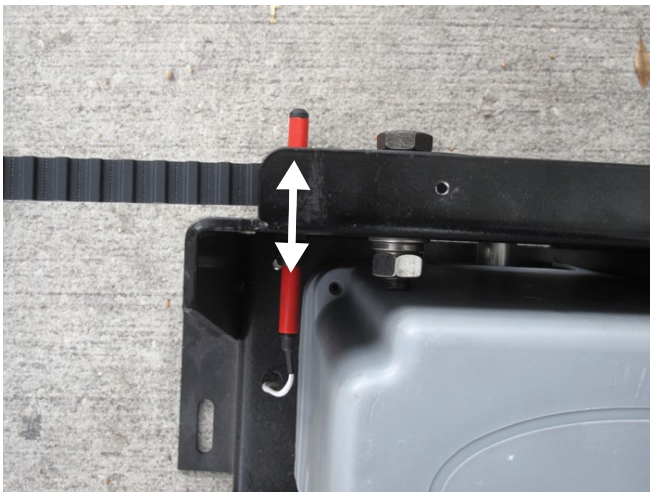


Installation of Motor

Find the correct height for the limit magnet to find the mounting spot from the gate. This should be done in conjunction with the next step of adjusting the horizontal distance the limit switch protrudes from the side of the unit. The distance from the limit magnet to the limit switch should be under 1 inch.

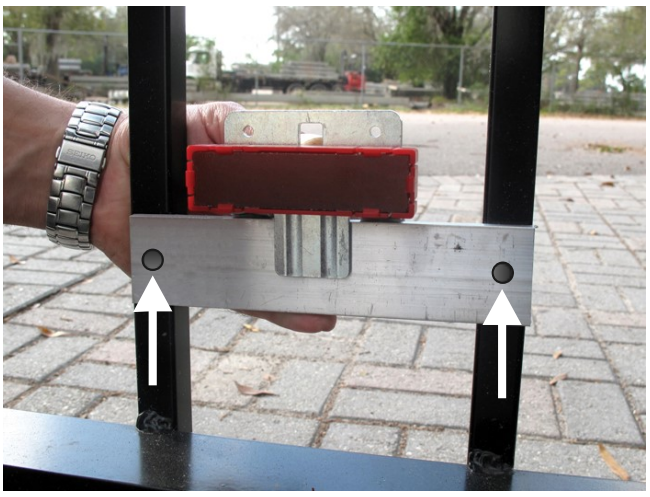


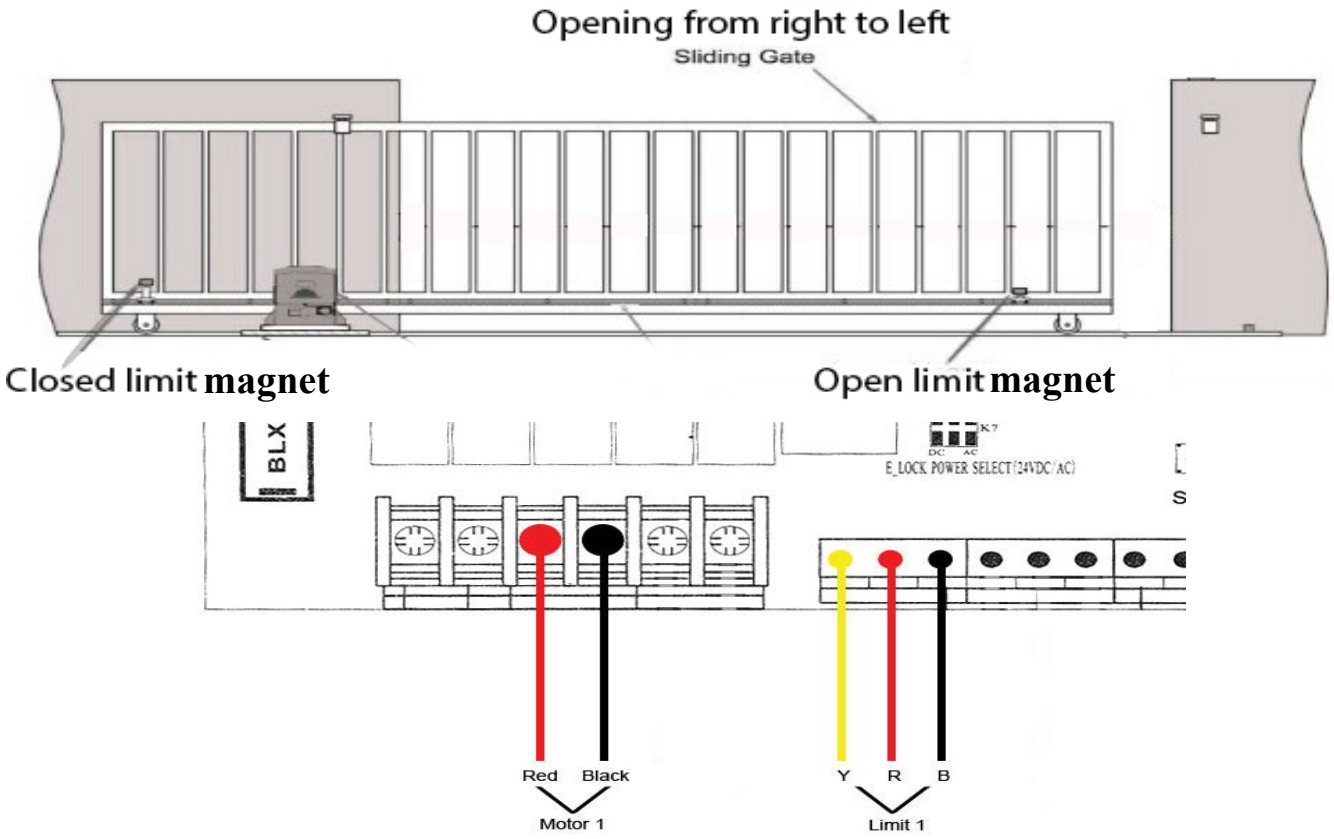
Adjust the limit switch horizontally to match up with the limit magnet. The distance between the two should not exceed 1 inch.

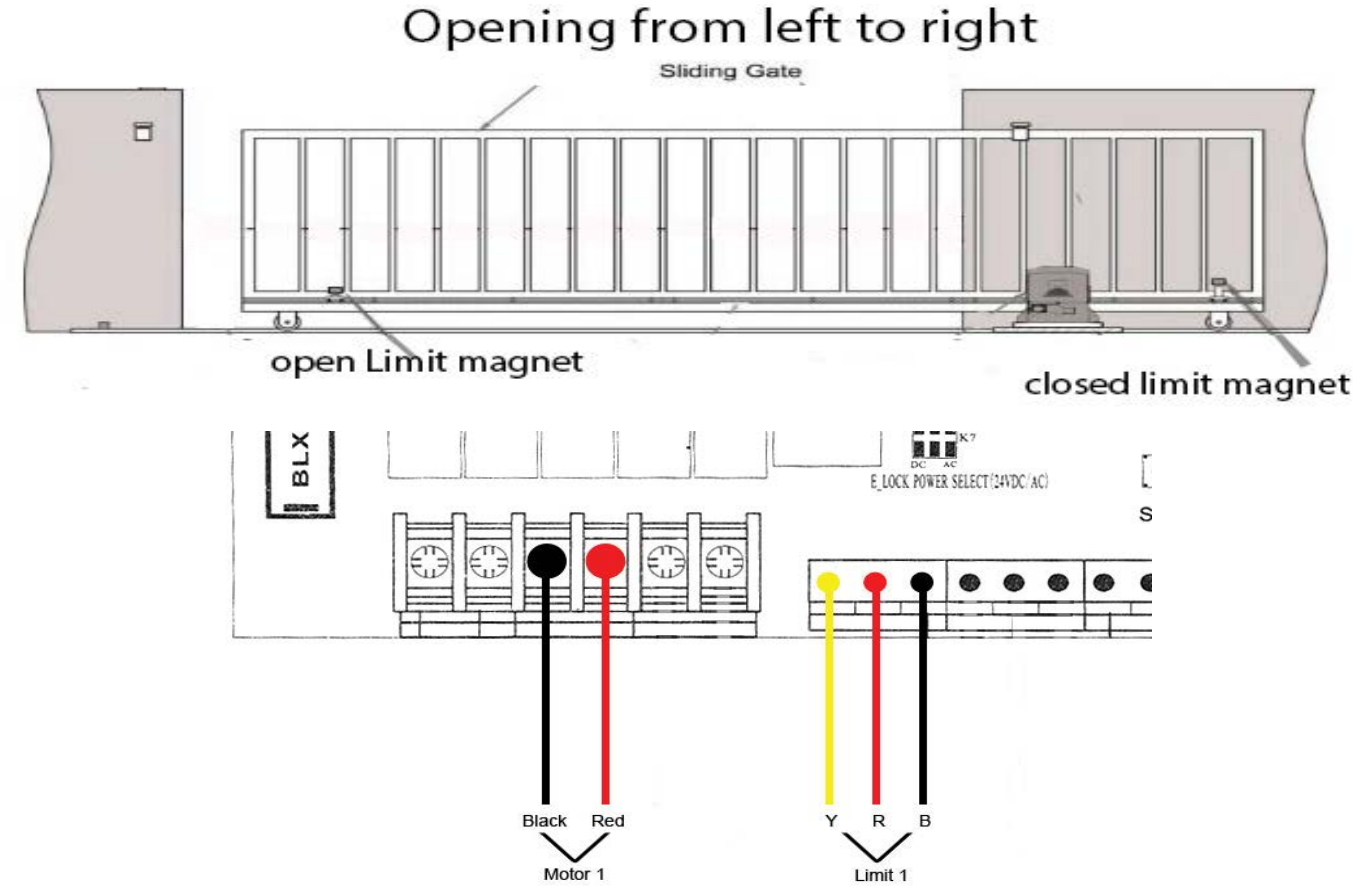


Mount your limit magnet on the provided piece of flat bar. The flat bar is intended to be attached to your gate at the correct height to trigger your limit switch in the gate's **OPEN** position. There are many ways to attach the flat bar to your gate so the bar is left undrilled and unpainted for best suiting it to your style gate.

Example: In the photo the gate is picket style, in this case we would use self tapping metal screws to attach the bar to the pickets. Then we would paint the flat bar black.




Opening from right to left
Sliding Gate
Closed limit magnet
Open limit magnet
BLX
E_LOCK POWER SELECT(24VDC/AC)
Red
Black
Motor 1
Y
R
B
Limit 1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Black
Red
Motor 1
Y
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Limit 1

DIY Power Connection

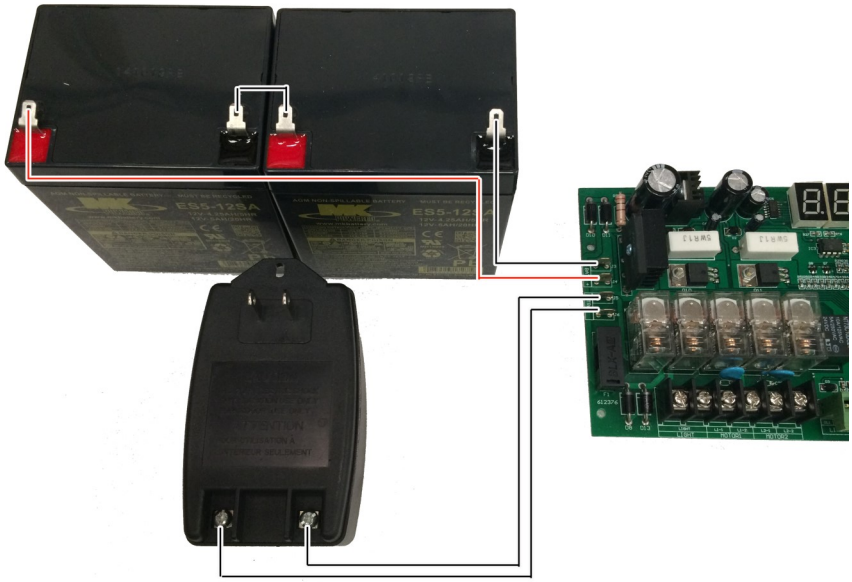
Power

The Estate Swing E-S 500 comes with 1) 24V transformer. The transformer supplied has 2 screw terminals to connect to. You may locate the transformer up to 200’ away from the control board using 16 gauge, 2 conductor stranded direct burial low voltage wire. Do not use solid core wire.

Allow a minimum of 4’ of wire between the transformer and the control board.

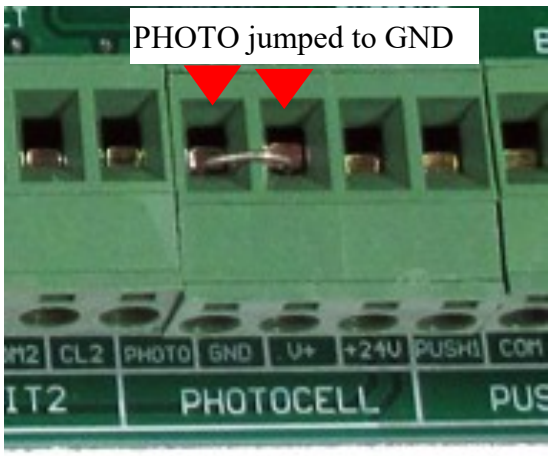
Never run 110VAC power directly to the Estate Swing. This will destroy the Estate Swing control board. Never plug in the transformer when the wires are not connected to the board. Contact between the two lead wires will destroy the transformer.

Connect the wire (not provided) from the transformer to the provided crimp on spade connectors and connect to the control board marked TRAN. There is no polarity.

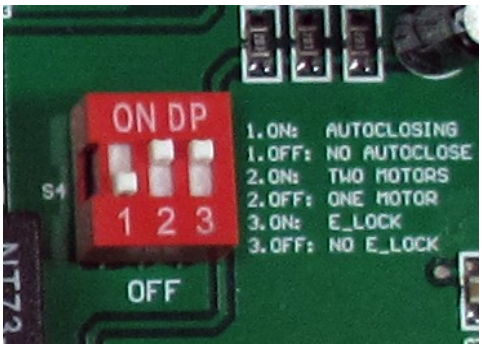


Plug the transformer into a 110 V AC outlet.
The transformer is not weather proof and must be kept in a covered area. Plug covers are available from home stores.
Two 12V DC batteries (min 5 a/h per battery) may be run in series as backup to the 24V transformer power.
When you install new batteries - manually open the gate and allow the batteries to charge for 24 hours through the system before using the gate opener.

If you are not using a safety device like a photo eye or safety loop the Photocell terminal must re-main jumped to the GND terminal.



Dip Switches—To change any dip switches, you must turn the power off before changing the setting.



1. **ON:** Auto-close on (the gate will re-close from the open position after a time set in the programming sec-tion)
   OFF: Auto-Close off

2. **ON:** Dual gate opener (2 motors)
   OFF: Single gate opener (1 motor)

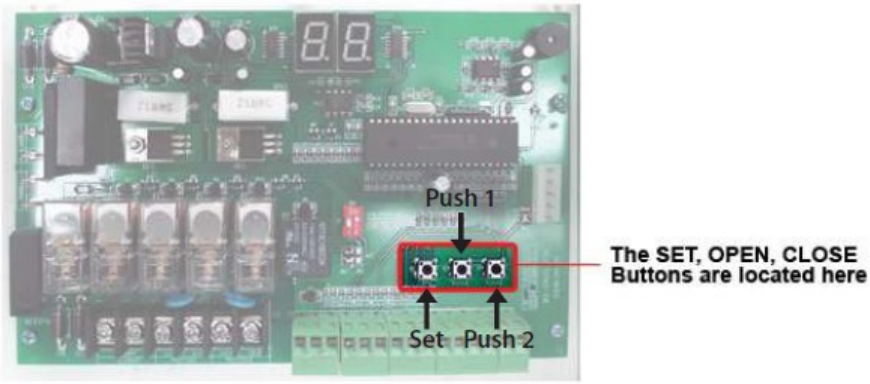
3. **ON:** Electric Lock being used
   OFF: Electric Lock not used

IMPORTANT: We recommend before turning the gate opener on for the first time to have dip switch 1 OFF. If the dip switch is set to on, the gate will auto-reclose after turning it on without any intentional activation on your part.

Need more help?
Scan this code with your smartphone to view a supplementary video. Or go to: http://youtu.be/ql3plsw6DxM

First Run

This is our recommended procedure to run the gate for the first time.



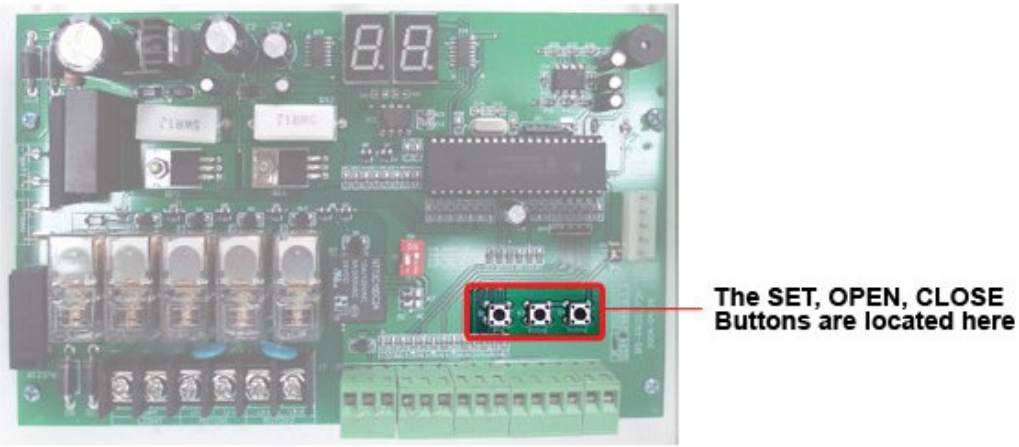
PUSH 1 or PUSH 2 to increase or decrease the parameter. Then press SET button to move to the next parameter.

1. **Press SET button to begin.**
2. **LED shows P1: Press Push 1 to get P1 setting to 30.**
3. **Press SET button.**
4. **LED shows P2: Press Push 1 to get P2 setting to 10.**
5. **Press SET button.**
6. **LED shows P3: Press Push 1 to get P3 setting to 30.**
7. **Press SET button.**
8. **LED shows P4: Press Push 1 to get P4 setting to 3.**
9. **Press SET button.**
10. **LED shows P5: Press Push 1 to get P5 setting to 2.**
11. **Press SET button.**
12. **LED shows P6: Press Push 1 to get P6 setting to 10.**
13. **Press SET to finish. You should hear 3 beeps; this indicates parameter programming is finished.**

Manually unlock the gate, then move it half-way and re-engage. Activate using Push 1 button (as shown above) The gate should run open. Press Push 1 again and it should run closed. The gate is now set up for regular usage.

Need more help?
Scan this code with your smartphone to view a supplementary video. Or go to:
http://youtu.be/ttgmyqDEixE

Parameters



1. LED shows P1: P1 is for setting your run time. The run time exists to allow to have the P2 slow down setting. This should always be set at least 5 seconds longer than it takes to open and close. This will allow the gate to go the full motion when moving slower on cold or windy days. If the number of P1 is reached on the counter during a cycle prior to reaching the limit switch the gate will stop on the number. The options are 0-99 sec-onds.

2. LED shows P2: P2 is for setting your slow down time. The gate opener will slow down to partial speed after the counter has reached the setting of P2. If you wish to have the gate open and close faster make the slow down start time a higher number. If you want to put less stress on the gears and gate set the slow time lower number. The options will adjust to match the previously set run time.

3. LED shows P3: P3 is the force setting. the lower the number the easier the gate will reverse directions when it meets resistance. This number may have to be changed to a higher setting if your gate is obstructing unexpectedly. The number should be set to the highest number during initial setup and reduced to the point of reliable operation that takes into account change in gate resistance through out the year. The options are 0-32.

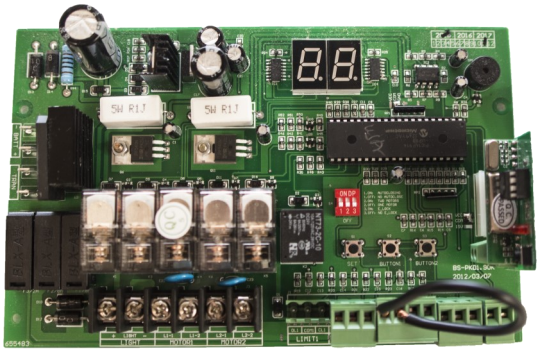
4. LED shows P4: P4 is for setting a delay between leafs. if you have overlapping gates or a gate lock. The motor wired into the primary terminals (1) opens first if there is a delay and closes second. It is recommended to have a delay of 3 seconds to avoid any jam-ming issues between leafs.

5. LED shows P5: P5 is the release for the gate lock – this option determines the length of time 24VDC will be sent out of terminals E_LOCK. The options are 1-4 seconds.

6. LED shows P6: P6 is the delay for automatic re-close from the open position – this op-tion needs to be turned on using the dip switch on the board. The options are 0-99 sec-onds.

Setting Transmitters

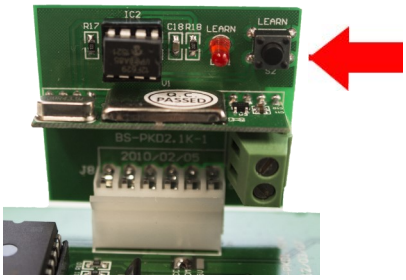
What you will need:



Estate Swing 1600/L and 1602/L Control Board

Estate Swing Remote

1. Press the Learn Button on the receiver. The first press of the learn button will turn the light on. The second press will cause the light to blink.



2. Press and hold one of the four buttons on the remote until the light on the receiver will turn off.

3. Once the light turns off the remote and receiver are now synced.

Control Board Overview

CAUTION! Do not run 110V AC power direct to the board. This will cause permanent damage to both boards and void your warranty. Caution!

Gate Opener reactions to signals:
PUSH1 and Receiver (PUSH 1 terminal, PUSH 1 button, 6 Prong Receiver):

Details:

- Will activate gate with momentary contact (momentary contact between PUSH1 and V+) or if you momentarily press the PUSH1 button.
- Controls both leaves in 2 leaf mode (Dip switch 2 in the ON position).
- Acts as party mode control to suspend auto-reclose by activating while counting down auto-reclose in the open position.

Operational Sequence for terminal with auto-close ON (Dip switch 1 in on position):

1. In closed position - momentary contact will open gates.
2. When opening - momentary contact will stop gates and then it will auto reclose.
3. When stopped mid cycle waiting auto reclose - momentary contact will move the gate in the direc-tion opposite what it was moving before stopped.
4. When open and counting auto-reclose pause time - momentary contact will stop pause time.
5. Stopped in open position from override of auto-reclose from PUSH1 or Receiver - momentary contact will reactivate pause time and close gate.
6. When closing - momentary contact will stop the gate and then it will auto reclose.

Operational Sequence for terminal with auto-close OFF (Dip switch 1 in off position):

1. In closed position - momentary contact will open gates.
2. When opening - momentary contact will stop gates.
3. When stopped mid cycle - momentary contact will move the gate in the direction opposite what it was moving before stopped.
4. When open - momentary contact will close gates.
5. When closing - momentary contact will stop the gate.
6. When stopped mid cycle - momentary contact will open the gate.
7. When open with auto-reclose off - momentary contact will have no effect.
8. When closing - momentary contact will re-open the gate.

Control Board Overview

CAUTION! Do not run 110V AC power direct to the board. This will cause permanent damage to both boards and void your warranty. Caution!

Gate Opener reactions to signals:
PUSH2 (PUSH 2 terminal and PUSH 2 button):

Details:

- Will activate gate with momentary contact (momentary contact between PUSH2and V+).
- Controls both leaves in 2 leaf mode (Dip switch 2 in the ON position)
- Only opens the gate, never closes it.
- Pause time is able to be re-set if this terminal is closed through a momentary contact. Then the time will be reset, count down the pause time, and re-close.
- Ideal for exit wand or exit loop.

Operational Sequence for terminal with auto-close ON (Dip switch 1 in on position):

1. In closed position - momentary contact will open gates.
2. When opening - momentary contact will have no effect.
3. When stopped mid cycle from PUSH 1 or the Receiver - momentary contact will open the gate.
4. When open with auto-reclose on - momentary contact will re-set pause time and will start counting again after release of momentary contact.
5. When pause time countdown is stopped in open from a momentary contact of PUSH 1 or the Receiv-er - momentary contact will have no effect.
6. When closing - momentary contact will re-open the gate.

Operational Sequence for terminal with auto-close OFF (Dip switch 1 in off position):

1. In closed position - momentary contact will open gates.
2. When opening - momentary contact will have no effect.
3. When stopped mid cycle - momentary contact will open the gate.
4. When open with auto-reclose off - momentary contact will have no effect.
5. When closing - momentary contact will re-open the gate.

PUSH 1 and PUSH 2 – *these terminals can hold as many normally open connections as needed, they will be wired in parallel. They are used for keypads, push buttons, universal receivers, etc.*

Control Board Overview

Light: Sends pulses of 24VDC only while gate is running, and whether it is open or closed.

Motor 1: L1-1, L1-2 = 24VDC power to single motor or primary motor

Motor 2: L2-1, L2-2 = 24VDC power to secondary motor

Limit 1: OL1 = Open limit for single motor or primary (normally closed) V+ = Common for limits,

+12VDC
CL1 = Closed limit for single motor (normally closed)

Limit 2: OL2 = Open limit for secondary motor (normally closed) V+ = Common for limits,

+12VDC
CL2 = Closed limit for secondary motor (normally closed)

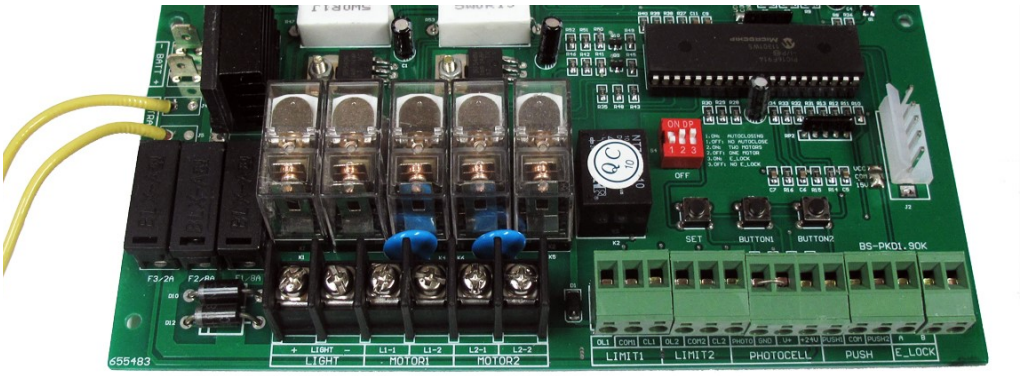
Photocell: Photo = Input for safety eye photo beam connection (normally closed)
GND = Ground for photocell power/ground for photo connection V+ = +12VDC, Max 100 milliamps for photocell power
+24V = +24VDC, Max 200 milliamps for accessory power

Button: PUSH 1 = Ground for Push 1 Accessory
*PUSH 1 / V+ is for push buttons, keypads, receivers, or any other dry and momentary contact.
COM = Positive voltage +12VDC for Push 1 or Push 2 accessory (relay only, not main power)
PUSH 2 = Ground for Push 2 accessory
*PUSH 2 / V+ is for exit wand, exit loops or other open only dry contact and momentary contact

E_Lock: Solenoid lock output - 12VDC (4 Amp max)
A = Positive B = Negative

Fuses: F1 = 8A 250V, protects motor 1
F2 = 8A 250V, protects motor 2
F3 = 2A 250V, protects accessory output +24V

Control Board Overview



CAUTION! Do not run 110V AC power direct to the board. This will cause permanent damage to both boards and void your warranty. Caution!

Display Indicators:

Lights off on board & stand by / normal operation

Lower right hand "dots" flashing normal pace:
Active / Awaiting command
EL: Sending voltage to EL terminals (electric lock)
OP: Opening cycle
AU: Auto-reclose countdown
CL: Closing cycle
PH: Photo cell disruption

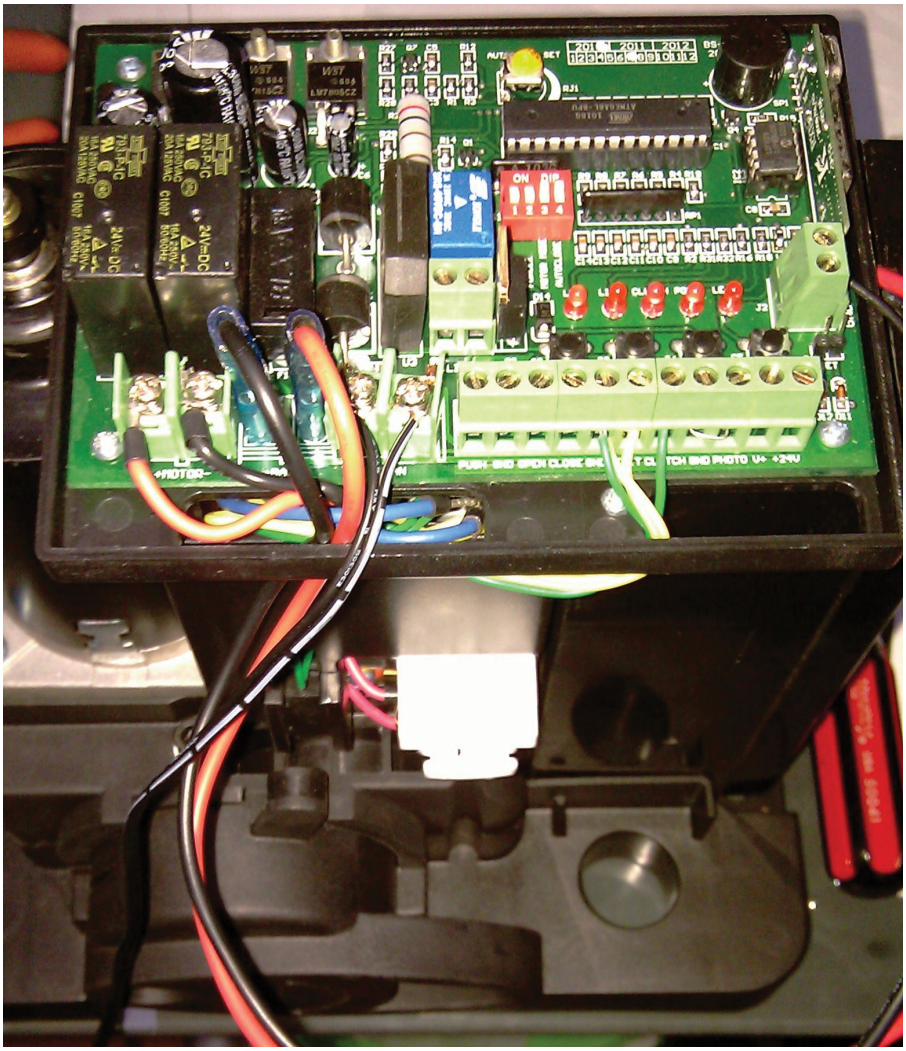
Buzzer / Obstructions:

If the gate(s) come in contact with an obstruction the gate(s) will reverse direction for 2 seconds and stop to allow the obstacle to be cleared from the gate path.
If the gate(s) obstructs 3 times in a row the gate(s) will go into a hard shutdown mode and a buzzer alarm will sound. At this point no accessories or remotes will be able to activate the gate opener until the gate opener is reset by disconnecting primary power bat-tery.

If you call in for technical support or warranty support: before any control board or motor will be permitted to be sent in for testing or warranty you will be required to e-mail digital photos to the technician.

This is done in your best interest to save unnecessary shipping expenses and time lost. Many times we can come up with solutions to issues by seeing pictures that relay information that is impossible to relay through a phone conversation.

Below is an example of a control board picture that we will be looking for:



Accessories Wiring

The manufacturer instructions that come with your accessory should have markings for wires or terminals to connect to the gate opener. Please look for terminals named below in the instructions for the accessory.

Keypads, Receivers:

N**ormally Open (NO) or Input (INP) or Relay of entry device** = COM terminal (to right of PUSH1) of PUSH block on gate opener control board.

C**ommon (COM) or Ground (GND) or Relay of entry device** = PUSH1 terminal of PUSH block on gate opener control board.

NOTE: If the power for the accessory shares a Ground wire/terminal with the relay – Do Not power that ac-cessory off this control board (example: WKP-P keypad). Instead power that device with batteries.

24V Power positive (+) or (24V) or (PWR) of entry device = +24V terminal of PHOTO block on gate opener control board.

24V Power Negative (-) or (GND) or (PWR) of entry device = GND terminal of PHOTO block on gate open-er control board.

Push Button, Intercoms:
Normally Open (NO) or Input (INP) or Relay of entry device = COM terminal (to right of PUSH1) of PUSH block on gate opener control board.

Common (COM) or Ground (GND) or Relay of entry device = PUSH1 terminal of PUSH block on gate opener control board.
Push buttons do not require power and Intercoms draw too much power to power from the gate opener.

Exit Wand/Sensor, Exit Loop Detector, Exit Device:

Normally Open (NO) or Input (INP) or Relay of exit device = COM terminal (to right of PUSH2) of PUSH block on gate opener control board.

Common (COM) or Ground (GND) or Relay of exit device = PUSH2 terminal of PUSH block on gate opener control board.

24V Power positive (+) or (24V) or (PWR) of exit device = +24V terminal of PHOTO block on gate opener control board.

24V Power Negative (-) or (GND) or (PWR) or Shield wire of exit device = GND terminal of PHOTO block on gate opener control board.

Accessories Wiring

Photo Eye, Safety Edge, Safety Loop:

Normally Closed (NC) of safety device = Photo terminal of PHOTO block on gate opener control board. **Common (COM) or Ground (GND) of safety device =** GND terminal of PHOTO block on gate opener con-trol board.

12V Power positive (+) or (12V) or (PWR) of safety device = V+ terminal of PHOTO block on gate opener control board.

12V Power Negative (-) or (GND) or (PWR) of safety device = GND terminal of PHOTO block on gate open-er control board.

***Remove safety jumper from PHOTO terminal if using a safety device.**

***12V is not a misprint, the V+ terminal has a 12V output. Solenoid Gate Lock:**

Positive Lead of lock = A terminal of E_LOCK block on gate opener control board.

Negative Lead of lock = B terminal of E_LOCK block on gate opener control board.

Magnetic Gate Lock: Magnetic gate locks must have their own power supply and their own relay.

Coil of relay for magnetic lock = A terminal of E_LOCK block on gate opener control board.
Coil of relay for magnetic lock = B terminal of E_LOCK block on gate opener control board. Connect positive lead of the power supply directly to the positive lead of the mag lock.
Connect negative lead of the power supply to the N/C terminal of the relay.
Connect the COM terminal of the relay to the negative lead of the mag lock.