

ALEKO[®]

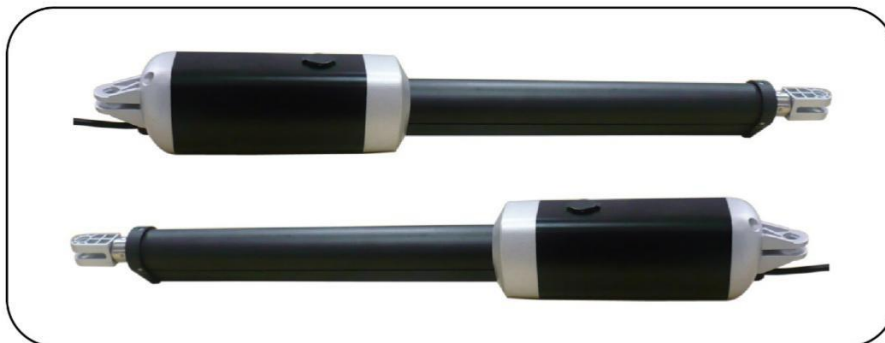
Installation Manual for the Swing Gate Opener

**GG1300U
GG900U**

Dual Actuator

**GG650U
GG450U**

Single Actuator



Intertek
*GG series swing gate opener
Meets all UL325 requirements.*

- Please read this manual and the enclosed safety materials carefully before install and use.
- Periodic checks of the opener are required to ensure safe operation.

REV GG-ETL13A

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Pre-Installation Notes

Thank you for purchasing ALEKO GG series swing gate opener. The swing gate opener will provide convenience and assurance to the ultimate users for many years. It is ruggedly built of the finest materials and has been thoroughly inspected and tested at the factory. It has many features that will aid in the installation and testing of the complete gate system. The MK series swing gate opener has been designed and built to comply with the UL325 Standard For Safety, Seventh Edition, Revised May 19, 2017 as established by Underwriters Laboratory Inc..

The MK series swing gate opener is intended for use with vehicular swing gates. The gate opener can be used in Class I, Class II, Class III, and Class IV applications.

Vehicular Gate Opener Class Categories

Residential Vehicular Gate Opener – 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.

Commercial/General Access Vehicular Gate Opener – Class IV – A vehicular gate opener (or system) intended for use in a commercial location or building such as a multifamily housing unit (five or more single family units), hotel, garages, retail store, or other building servicing the general public.

Industrial/Limited Access Vehicular Gate Opener – Class III – A vehicular gate opener (or system) intended for use in an industrial location or building such as a factory or loading dock area or other locations not intended to service the general public.

Restricted Access Vehicular Gate Opener – Class IV – A vehicular gate opener (or system) intended for use in a guarded industrial location or building such as an airport security area or other restricted access locations not servicing the general public, in which unauthorized access is prevented via supervision by security personnel.

The MK series swing gate opener is designed for installation on a dual/single leaf gate. The gate must not exceed 12 feet in length and weight more than 650 pounds per leaf when you use the MK1302 or MK1301 swing gate opener. Once you choose MK1102 or MK 1101 swing gate opener, the gate must not exceed 12 feet in length and weight more than 450 pounds per leaf.

The **MK series swing gate opener** can be used on WOOD, CHAIN LINK, TUBULAR METAL, VINYL, ALUMINUM and FARM TUBE gates.

The MK series swing gate opener provides several features that can help reduce the hazards of your gate system.

Connections for Multiple External Entrapment Protection Sensors, such as photoelectric sensors and edge sensors.

Soft Start and Soft Stop, which can prevent the gate from crashing while opening and closing. The other features would be introduced in the following instructions.

Important Safety Instructions



WARNING – To reduce the risk of injury or death:

- 1) READ AND FOLLOW ALL INSTRUCTIONS.
- 2) Never let children operate or play with gate controls. Keep the remote control away from children.
- 3) Always keep people and objects away from the gate. **NO PERSON SHOULD CROSS THE PATH OF THE MOVING GATE.**
- 4) Test the gate opener monthly. The gate **MUST** reverse on contact with a rigid object or stop when an object activates the non-contact sensors. After adjusting the force or the limit of travel, retest the gate opener. Failure to adjust and retest the gate opener properly can increase the risk of injury or death.
- 5) Use the emergency release only when the gate is not moving.
- 6) **KEEP GATES PROPERLY MAINTAINED.** Read the owner's manual. Have a qualified service person make repairs to gate hardware.
- 7) The entrance is for vehicles only. Pedestrians must use separate entrance.
- 8) To **AVOID** damaging gas, power, or other underground utility lines, contact underground utility locating companies **BEFORE** digging.

 WARNING
To prevent SERIOUS INJURY or DEATH from a moving gate: <ul style="list-style-type: none">• Install warning signs on the front and back of the gate in PLAIN VIEW.• Permanently secure each warning sign in a suitable manner using fastening holes.

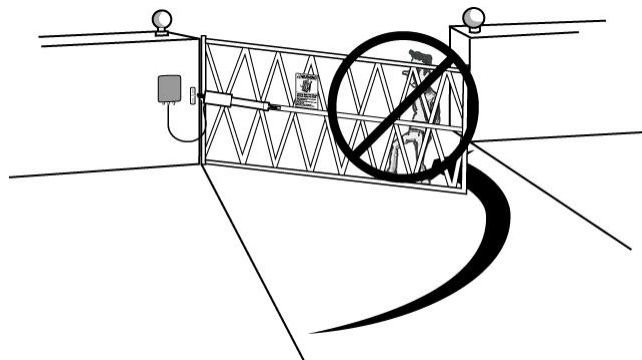
- 9) **SAVE THESE INSTRUCTIONS.**

Important Installation Instructions

A. Install the gate opener only when:

- 1) The opener is appropriate for the construction of the gate and the usage Class of the gate,
- 2) All exposed pinch points are eliminated or guarded.

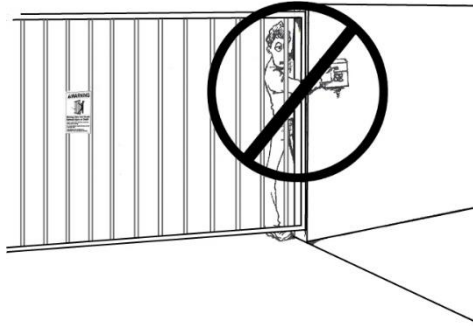
B. The opener is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening. The pedestrian access opening shall be designed to promote pedestrian usage. Locate the gate such that persons will not come in contact with the vehicular gate during the entire path of travel of the vehicular gate.



C. The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment.

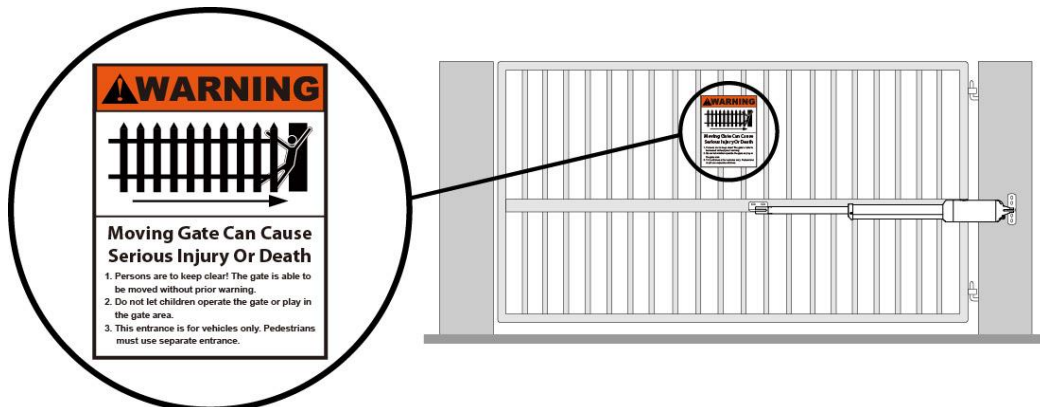
D. The gate must be properly installed and work freely in both directions prior to the installation of the gate opener. Do not over-tighten the opener clutch or pressure relief valve to compensate for a damaged gate.

E. Controls intended for user activation must be located at least ten feet (10') away from any moving part of the gate and where the user is prevented from reaching over, under, around or through the gate to operate the controls. Outdoor or easily accessible controls shall have a security feature to prevent unauthorized use.



F. The Stop and/or Reset button must be located in the line-of-sight of the gate. Activation of the reset control shall not cause the opener to start.

G. A minimum of two (2) WARNING SIGNS shall be installed, one on each side of the gate where easily visible.



H. For an installation utilizing a non-contact sensor:

- 1) See instructions on the placement of non-contact sensors for each Type of application,
- 2) Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the sensor while the gate is still moving in the opening direction.
- 3) One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.





















I. For an installation utilizing a contact sensor:

- 1) One or more contact sensors shall be located at the pinch point of the gate.
- 2) A hardwired contact sensor shall be located and its wiring arranged so that the communication between the sensor and the gate opener is not subjected to mechanical damage.
- 3) A wireless contact sensor such as one that transmits radio frequency (RF) signals to the gate opener for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction. A wireless contact sensor shall function under the intended end-use conditions.

4) One or more contact sensors shall be located at the bottom edge of a vertical barrier (arm).





















Dual Gate Opener Parts List

Opener and Mounting Hardware

 <p>Gate Opener (2 pcs) with 1.5m Power Cable</p>		 <p>Warning Signs (4 pcs)</p>
 <p>Control Box (1 pc)</p>	 <p>Remote Control (2 pcs)</p>	
		 <p>Release Key (2 pcs)</p>
 <p>Post Bracket (4 pcs)</p>	 <p>Post Pivot Bracket (2 pcs)</p>	 <p>Gate Bracket (2 pcs)</p>
Hardware		
 <p>Φ10 Washer (14 pcs)</p>	 <p>M10×200 Bolt (8 pcs)</p>	
 <p>Φ10 Lock Washer (14 pcs)</p>	 <p>M10×75 Bolt (4 pcs)</p>	
 <p>Φ8 Washer (2 pcs)</p>	 <p>M10×30 Bolt (2 pcs)</p>	
 <p>M10 Nut (14 pcs)</p>	 <p>M8×30 Bolt (2 pcs)</p>	
 <p>M8 Nut (2 pcs)</p>	 <p>12×40 Clevis Pin (2 pcs)</p>	
 <p>Hairpin Clip (4 pcs)</p>	 <p>12×30 Clevis Pin (2 pcs)</p>	

Single Gate Opener Parts List

Opener and Mounting Hardware

 Gate Opener (1 pc) with 1.5m Power Cable		 WARNING Moving Gate Can Cause Serious Injury Or Death 1. Persons are to keep clear! The gate is able to be moved without prior warning. 2. Do not let children operate the gate or play in the gate area. 3. This entrance is for vehicles only. Pedestrians must use separate entrance.
 Control Box (1 pc)	 Remote Control (2 pcs)	
		 Release Key (1 pc)
 Post Bracket (2 pcs)	 Post Pivot Bracket (1 pc)	 Gate Bracket (1 pc)
Hardware		
 Φ10 Washer (7 pcs)	 M10×200 Bolt (4 pcs)	
 Φ10 Lock Washer (7 pcs)	 M10×75 Bolt (2 pcs)	
 Φ8 Washer (1 pc)	 M10×30 Bolt (1 pc)	
 M10 Nut (7 pcs)	 M8×30 Bolt (1 pc)	
 M8 Nut (1 pc)	 12×40 Clevis Pin (1 pc)	
 Hairpin Clip (2 pcs)	 12×30 Clevis Pin (1 pc)	

Optional Accessories Parts List

 <p>Back-up Battery</p>	 <p>Electric Lock</p>	 <p>Wired Push Button</p>	 <p>Wireless Push Button</p>
 <p>Back-up Battery Box</p>	 <p>Alarm Lamp</p>	 <p>Exit Wand</p>	 <p>Photocell Beam System</p>
 <p>Solar Controller</p>	 <p>Solar Panel</p>	 <p>Supporting Frame for Solar Panel</p>	 <p>Bracket for Solar Panel</p>
 <p>Wireless Keypad</p>	 <p>Mounting Post for Keypad</p>	 <p>Wired Keypad</p>	 <p>Wired Keypad</p>
 <p>Retro-reflective Photocell</p>	 <p>PSO Part</p>	 <p>External Receiver</p>	

Tools Needed

- Power Drill
- Tape Measure
- Open End Wrenches — 14# & 17# or Adjustable Wrenches
- Wire Strippers
- C-Clamps — small, medium, and large
- Level

- Hacksaw or Heavy Duty Bolt Cutters
- Phillips Screwdriver
- An extra person will be helpful

Technical Specifications & Features

Specifications				
Model:	GG1300U	GG650U	GG900U	GG450U
Input:	120V~ 60Hz			
Power:	130W	80W	100W	60W
Fuse:	10A, 250VAC, Φ 5*20mm			
Motor voltage:	24VDC			
Actuator speed:	20mm/s (0.8 in/s)			
Max. actuator travel:	385mm (15.2 in)			
Humidity:	\leq 90%RH			
Ambient Temperature:	-20°C ~ +50°C (-4°F to 122°F)			

Gate Capacity of GG900UNOR

Gate Weight per Leaf	660lbs	√	NR	NR	NR	NR	NR
	550lbs	√	√	NR	NR	NR	NR
	450lbs	√	√	√	NR	NR	NR
	330lbs	√	√	√	NR	NR	NR
	220lbs	√	√	√	√	NR	NR
	150lbs	√	√	√	√	√	NR
	110lbs	√	√	√	√	√	√
		7'	8'	12'	13'	16'	18'

Gate Length

Gate Capacity of GG1300UNOR

Gate Weight per Leaf	880lbs	√	NR	NR	NR	NR	NR
	770lbs	√	√	NR	NR	NR	NR
	650lbs	√	√	√	NR	NR	NR
	550lbs	√	√	√	NR	NR	NR
	440lbs	√	√	√	√	NR	NR
	330lbs	√	√	√	√	√	NR
	220lbs	√	√	√	√	√	√
		7'	8'	12'	13'	16'	18'

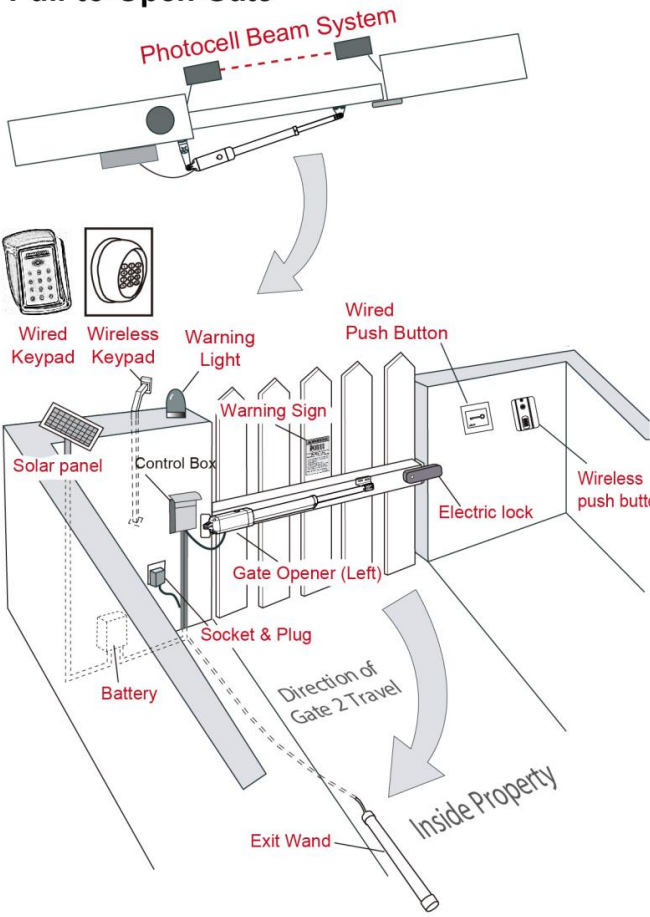
Gate Length

Features:

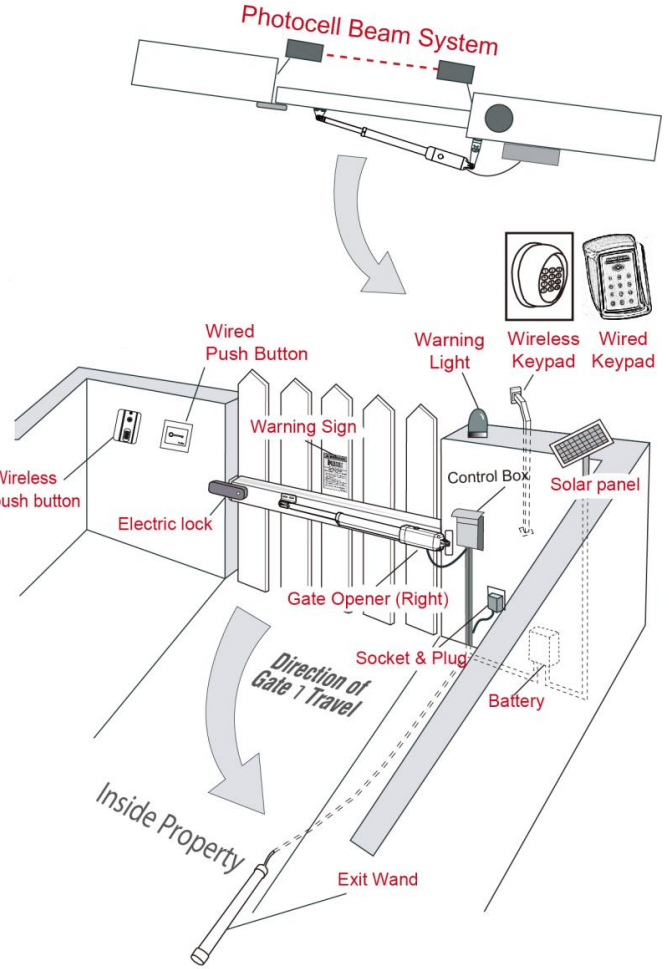
- Soft start and soft stop
- Emergency release key in case of power failure
- Dual/Single gate running mode
- Adjustable opening/closing interval between master and slave gate
- Stop/Reverse in case of obstruction during gate opening/closing.
- Built in adjustable auto-close (0-99 seconds)
- Built in max. Motor running time (MRT) adjustable for multiple safety protection (1-50 seconds)
- Digital display indicates the running situation and setting menu
- Reliable electromagnetism limit for easy adjustment
- Can be equipped with a wide range of accessories

Single Gate Overview

Pull-to-Open Gate



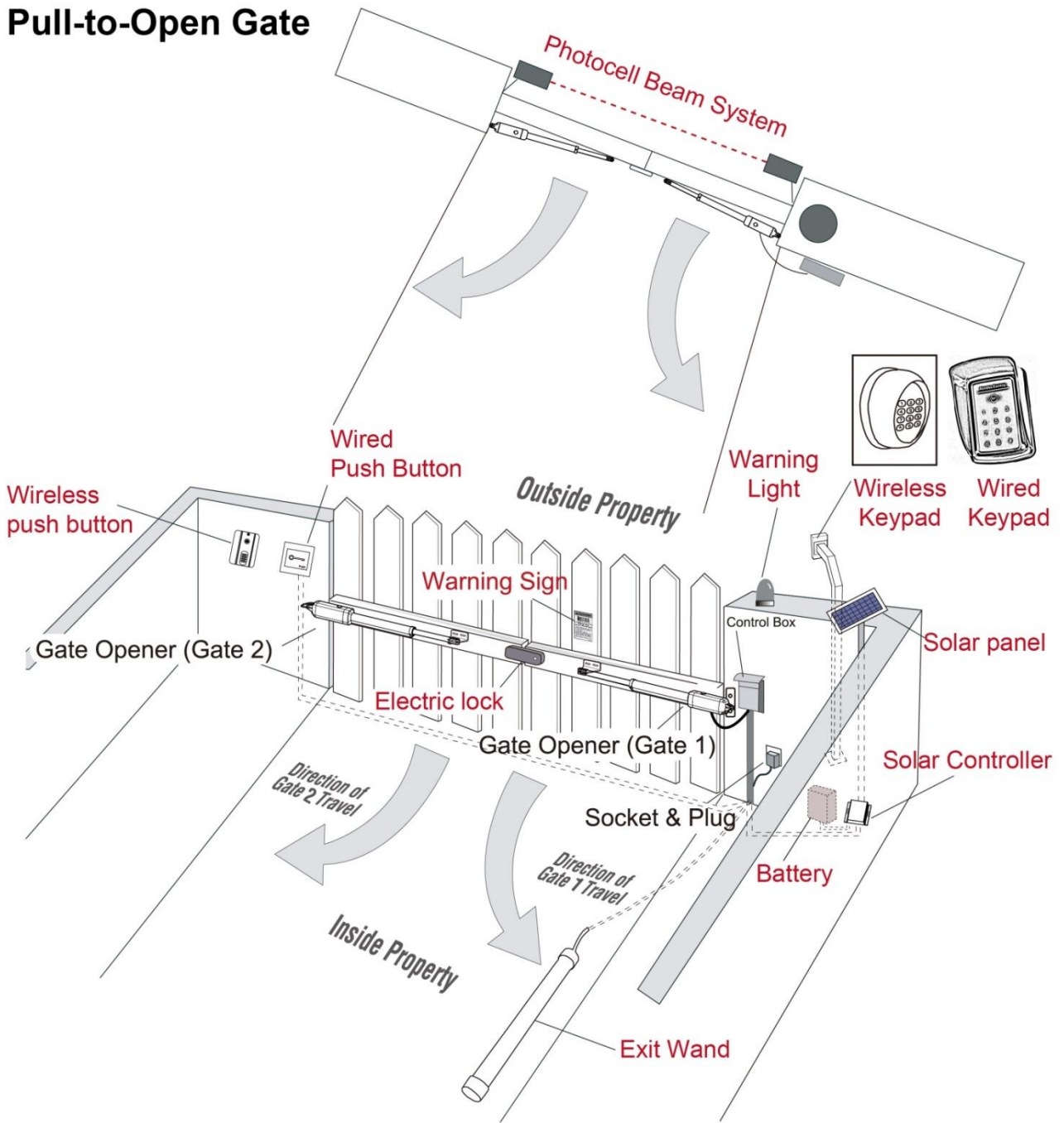
Left-Hand Gate



Right-Hand Gate

Dual Gate Overview

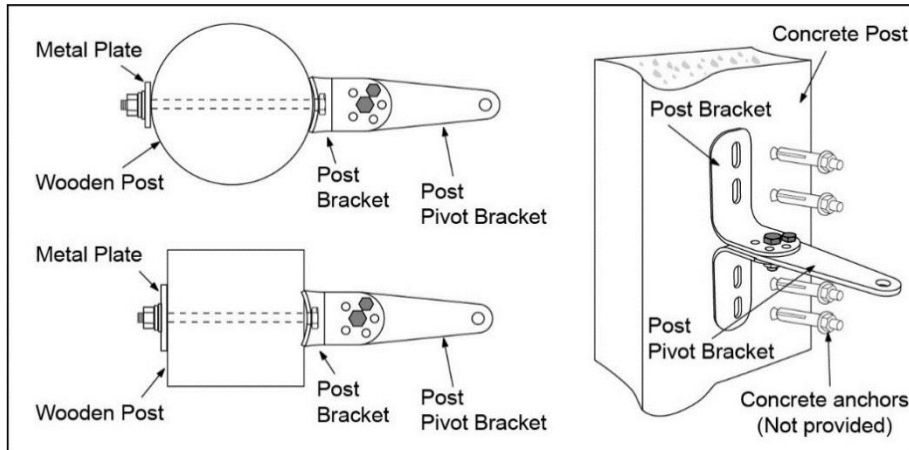
Pull-to-Open Gate



Preparation for Installation

The proper position of the post brackets is a decisive factor to the efficiency and leverage of the gate opener.

The distance (usually it is 2.5cm /1 inch or more) between the gate opener and the gate is also determined by the proper position of the post brackets.



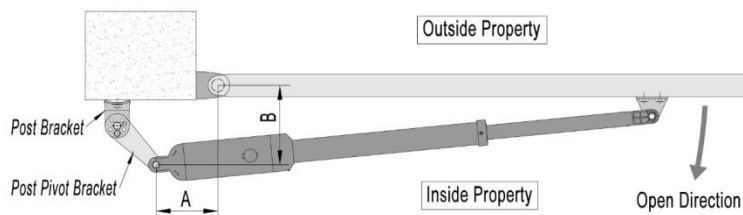
Both round and square post can be used because of the curved design of the post brackets. When mounting the post brackets, use bolts long enough to pass through the entire post. When mounting the post brackets to wooden posts, a larger-size washer or metal plate should be used between the bolts and the wooden post to ensure the stability of the fastening hardware when thrust is used.

If the gate post is smaller than 15 cm (6") diameter or square, it should be made of metal and set in cement to ensure the stability of the post.

Determining the Position of Mounting Hardware

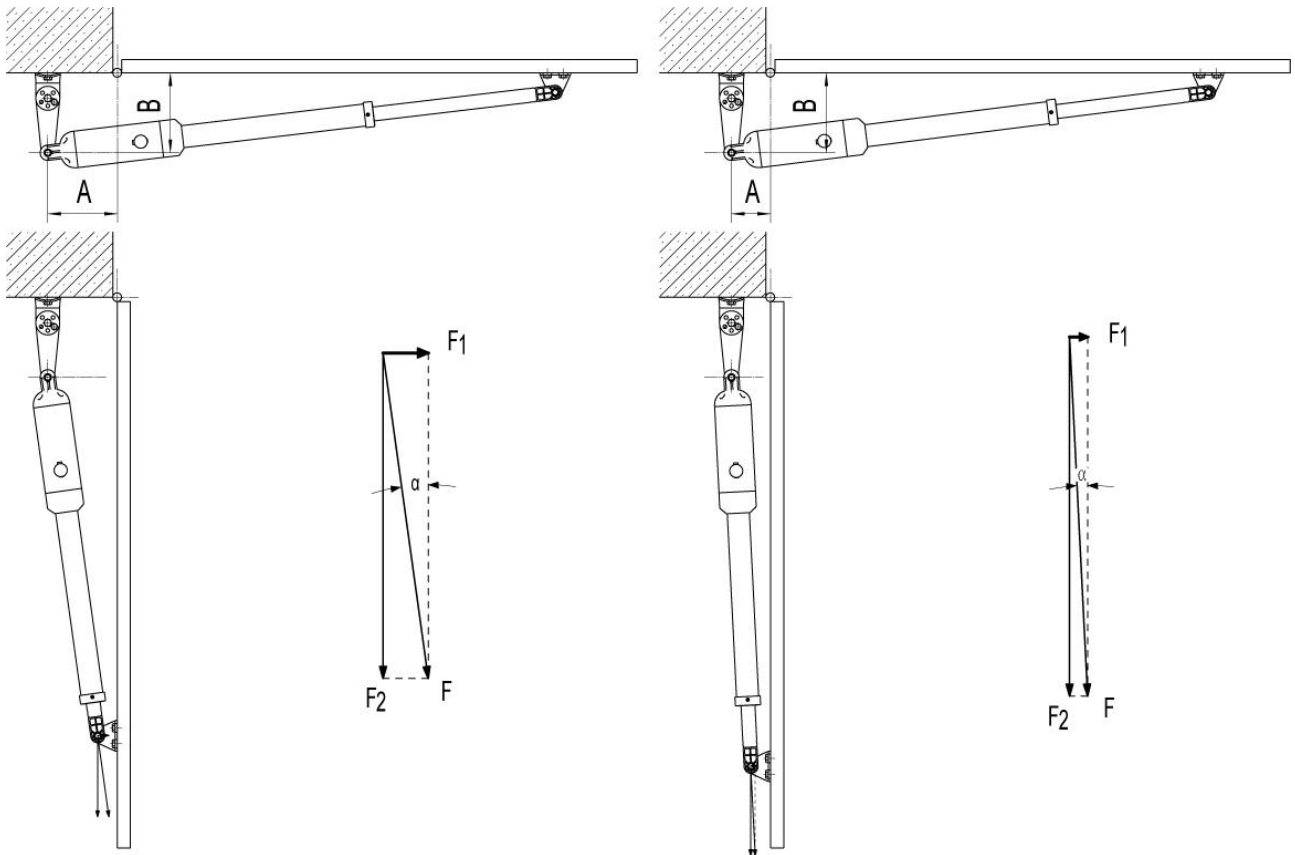
NOTE: The following steps are intended for **Pull-to-Open** gate installation only.

You will find a series of sizes from following chart to determine the proper mounting position



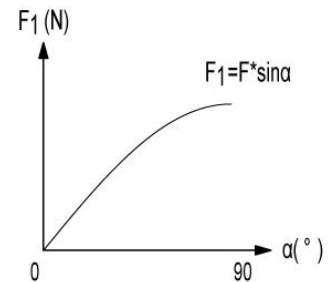
	A=10cm	A=12cm	A=14cm	A=16cm	A=18cm	A=20cm	A=22cm	A=24cm	A=26cm
B=10cm	90°	99°	106°	116°	118°	120°	111°	104°	100°
B=12cm	90°	98°	105°	113°	116°	112°	105°	99°	95°
B=14cm	90°	97°	104°	110°	111°	105°	99°	94°	91°
B=16cm	90°	96°	103°	109°	103°	99°	94°	90°	87°
B=18cm	90°	95°	101°	103°	96°	93°	89°	86°	83°
B=20cm	90°	95°	99°	95°	90°	87°	84°	81°	79°
B=22cm	90°	94°	95°	88°	84°	82°	80°	78°	76°
B=24cm	90°	93°	87°	82°	79°	78°	76°	74°	73°
B=26cm	90°	87°	81°	77°	75°	73°	72°	71°	70°
B=28cm	84°	79°	75°	73°	71°	69°	69°	68°	68°

NOTE: Pay attention to the distance A when installing the opener. It **MUST** be longer than or at least equal to 8cm (3-1/4"). Otherwise, the opener force cannot be effective complete. The opener force is not notably related with the power of the opener.



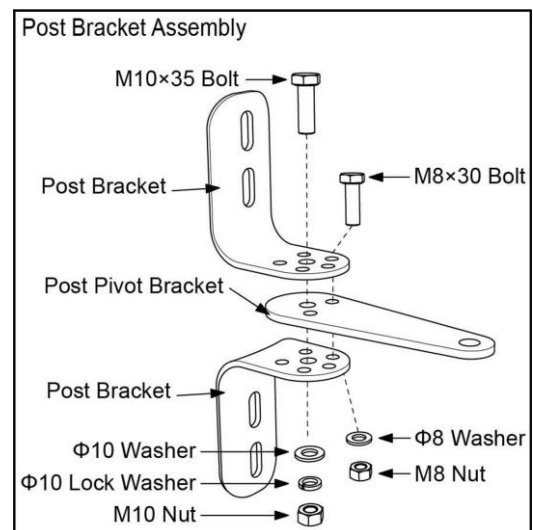
TIPS

- The opener force is composed of effective force F_1 and idle force F_2 . The values of force F_1 and F_2 vary with α - the angle between the gate and axle of opener actuator.
- By the diagram in the right of the force F_1 and α , if the distance A is too short which leads to smaller α , the F_1 will not be big enough to overcome the stall force setting to push or pull the gate ideally.



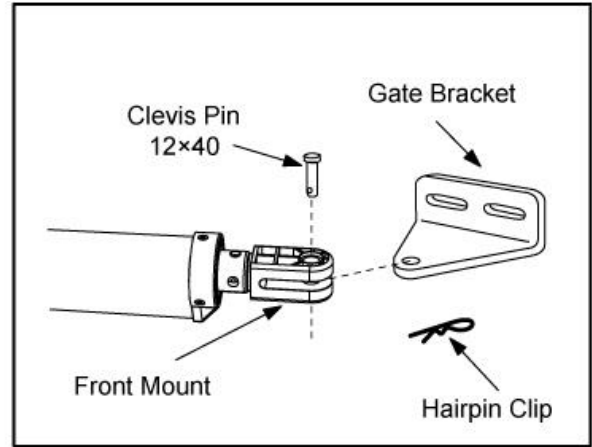
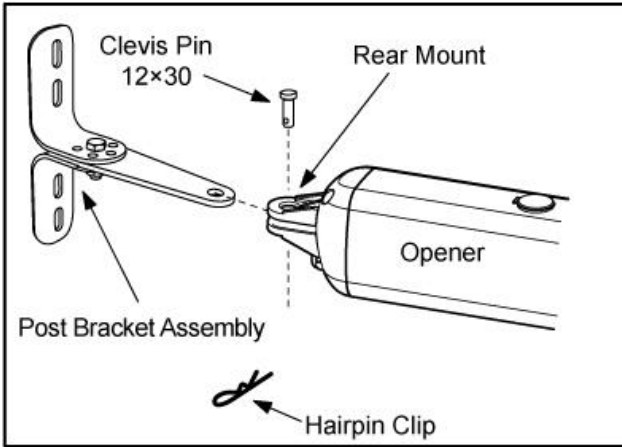
Step 1

Place the post pivot bracket between the two post brackets. Insert the M10 x 35 bolt through the center hole of the post bracket and post pivot bracket as shown. Place a $\phi 10$ washer, $\phi 10$ lock washer and M10 nut on the bottom of the bolt and hand tighten.



Step 2

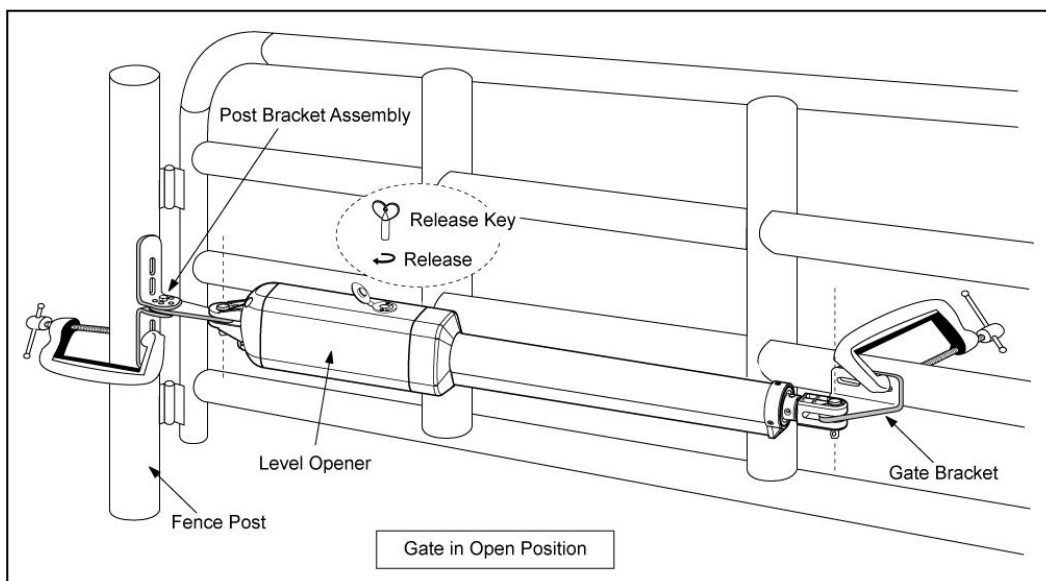
Attach the gate bracket and post bracket assembly to the opener by inserting a clevis pin. Secure the clevis pins using the hairpin clips.



Step 3

With the gate in its desired open position (from 0° to 100° from the gate closed position) and with the opener in its retracted position, place the opener with the gate bracket and post bracket assembly on the gate post and the gate. Position the gate bracket and the post bracket assembly so that the gate opener is level with the horizontal cross member of the gate. While holding the opener in the desired level position, temporarily secure it with two C-clamps.

NOTE: There is an emergency release design. Use the release key to release the opener, you can stretch the moving rod or retract it by hand to pull or push the front mount assembly. **Be sure that the openers are both locked before you prepare to activate your openers.** Other information please refer to content in page 26.



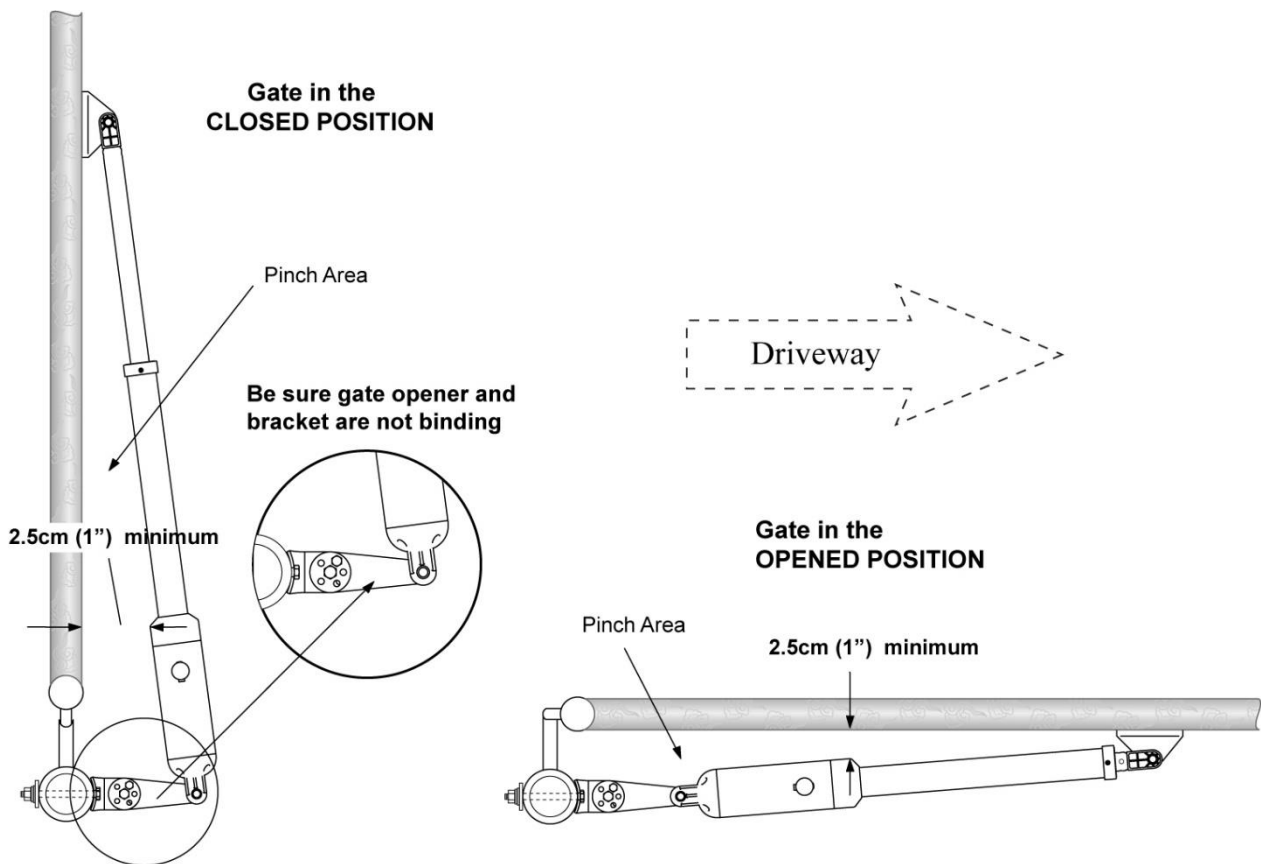
Step 4

Determine the optimum position of the pivot bracket on the post bracket assembly by ensuring a minimum 2.5cm (1 inch) distance exists between the gate and the gate opener in both the gate-open and gate-closed positions. To ensure the minimum 2.5cm (1 inch) distance maintained in the gate-closed position, remove the clevis pin from the gate bracket while holding the gate opener, and then close the gate. Move the gate opener so as the gate bracket and the opener are aligned.

NOTE: Ensure the gate opener and the pivot brackets do not bind in the gate –open and gate –closed positions.

If you don't have enough distance, or the gate opener is binding on the post pivot bracket, you may move the post pivot bracket assembly slightly to the right or left to obtain the proper distance.

After you've identified the desired position of the pivot bracket, place the M8 x 30 bolt into the desired pivot on the post bracket.



Installing the Mounting Hardware

Step 5

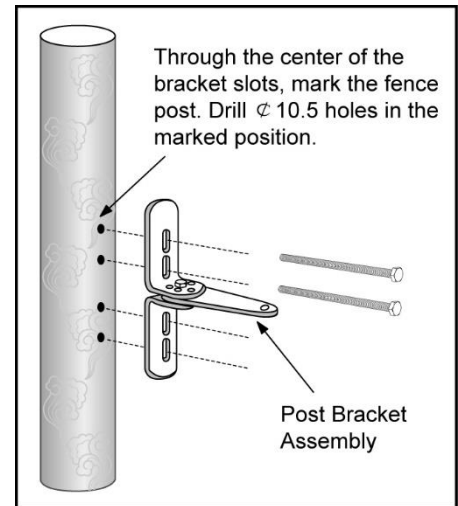
Sign the bolt-hole point on the gate bracket and gate. Do this by placing a punch or a sign in the middle of each bolt slot on the post bracket assemblies and the gate bracket. It allows slight adjustments to the post bracket. Then remove the post bracket and gate bracket by taking off the C-clamps.

Step 6

Using a drill and a bit of $\varnothing 10.5$, drill holes through the post and the gate at the sign bolt hole point.

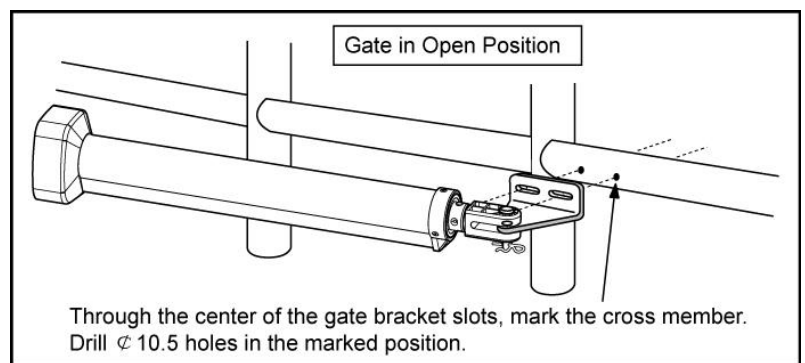
Step 7

Attach the post bracket assemblies to the gate posts by inserting four M10 x 200 bolts through each post bracket assembly and the drilled holes in the gate post. Fasten each bolt with one $\varnothing 10$ washer, one $\varnothing 10$ lock washer, and one $\varnothing 10$ nut.



Step 8

Attach the gate brackets to each gate by inserting two M10 x 75 bolts through the gate brackets and the drilled holes in the gates. Fasten each bolt with one $\varnothing 10$ lock washer, and one $\varnothing 10$ nut.



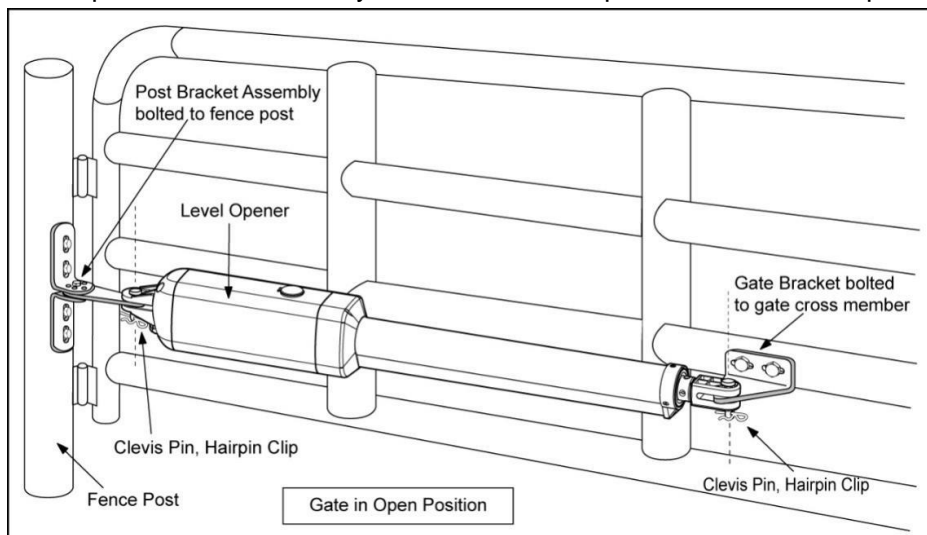
Step 9

Cut all parts of bolt which are extending beyond the tightened nuts by saw.

Installing of the Opener

Step 10

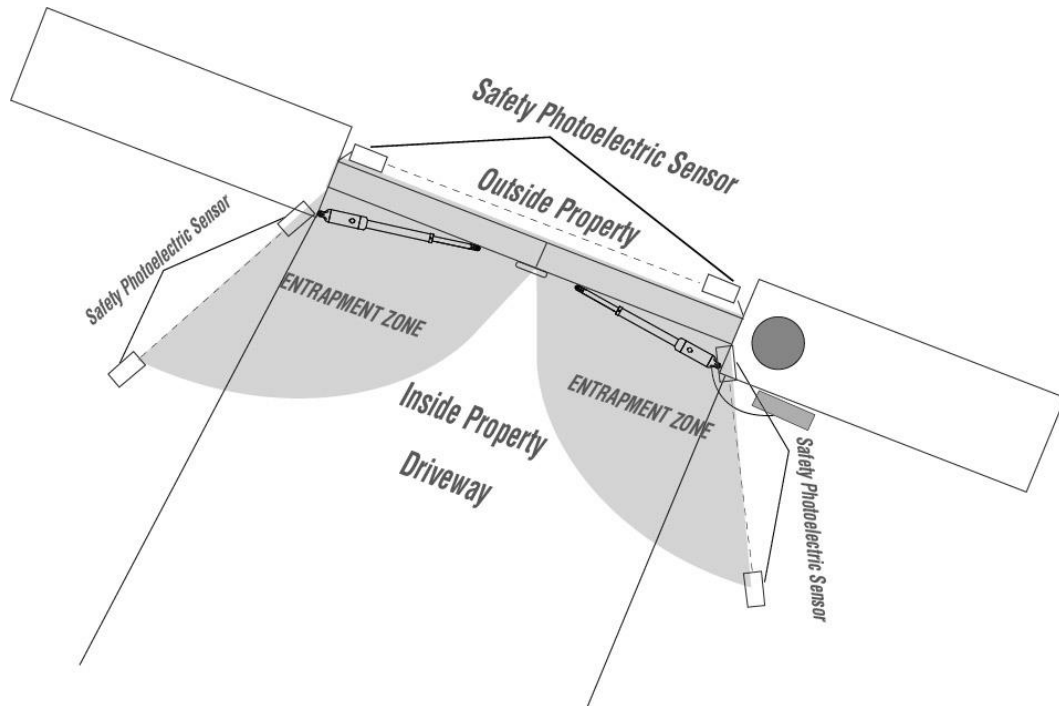
Fasten the opener to the previously bolted post bracket assembly with the four clevis pins provided. Insert one clevis pin through the gate opener and the gate bracket. Insert the other clevis pin through the gate opener and the post bracket assembly. Secure the clevis pins with the two hairpin clips.



Installation of the Safety Photoelectric Sensor

NOTE: Non-contact sensors are not included with the gate opener, but we strongly recommend you use a non-contact sensor (photo beam) in the gate system. The photoelectric sensors which intend to be used in the system must be complied with UL325 standard.

The safety photoelectric sensors should be placed in the entrapment zone which refers to the following figure.

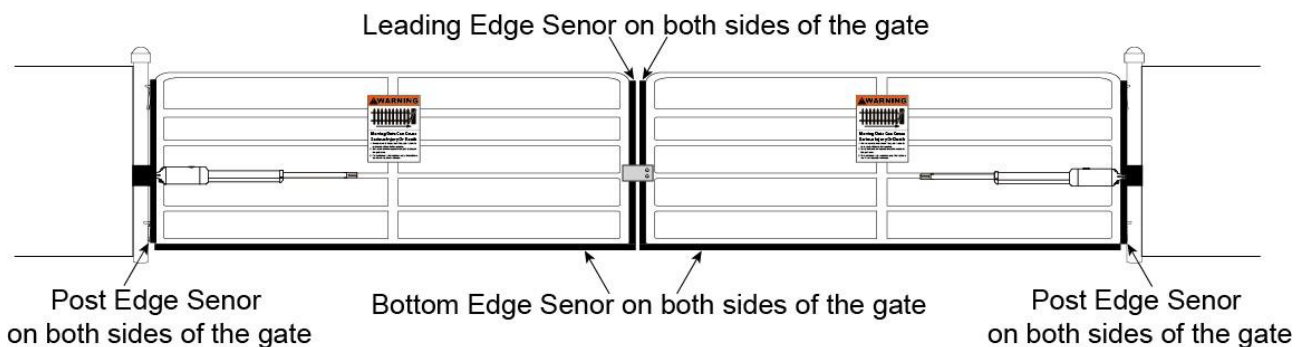


NOTE: Wiring of the photoelectric sensor please refer to the chapter “Connection of the Control Board”.

Installation of the Safety Edge Sensor

NOTE: Contact sensors are not included with the gate opener, but we strongly recommend you use a contact sensor (edge sensor) in the gate system. The edge sensors which intend to be used in the system must be complied with UL325 standard.

Install the edge sensors to the positions which refer to the following figure.



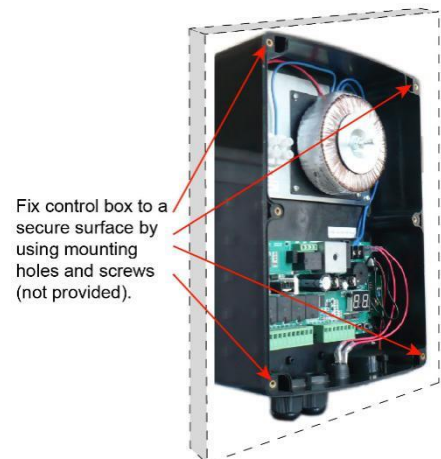
NOTE: Wiring of the edge sensor please refer to the chapter “Connection of the Control Board”.

Mounting the Control Box

Step 1

To install the control box use the deck screws (not provided). Even though the control box is waterproof designed, for safety reason and a longer service life, it is recommended to install the control box inside a secure surface and at least 100 cm (40 inches) above the ground to avoid being flooded or buried under snow.

Warning: Before connecting the AC power cable to the control box, check the plug of power cable is disconnected from AC power socket.

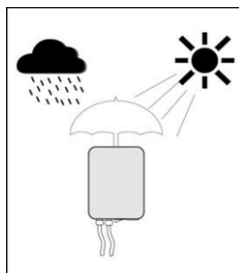


Step 2

Insert the power cable and cable of the first gate opener through the front strain relief and into the control box by loosening the strain relief screw located in the leftmost of outside bottom of the control box and feeding the cables into the control box. Check the length of cables is long enough to their respective terminal block in control box.

Retighten the sealing nut so that cables are well locked.

Strain Relief	
	Lock Nut
	Hub
	Sealing Nut



CAUTION: Install the Control Box in a well ventilated place protected against rain and sunlight.

CAUTION: Make sure the cable outlet hole in the Control Box is always down during installation so as to drain off the water.

NOTE: It is strongly recommended that the control box should be mounted in the side of Master Gate (Gate 1), so that the electric lock can be installed correctly and work properly (See Page 9).

Step 3

Insert the cable of the second gate opener and alarm lamp cables into the control box through middle strain relief. Then repeat step 2.

Insert other cables into the control box through rightmost strain relief. Then repeat step 2.

NOTE: Only motor cables (1.5m length) are provided. Other cables are subject to site installation requirement and not provided.

CAUTION: Make sure the cable outlet hole in the Control Box is always down during installation so as to drain off the water.

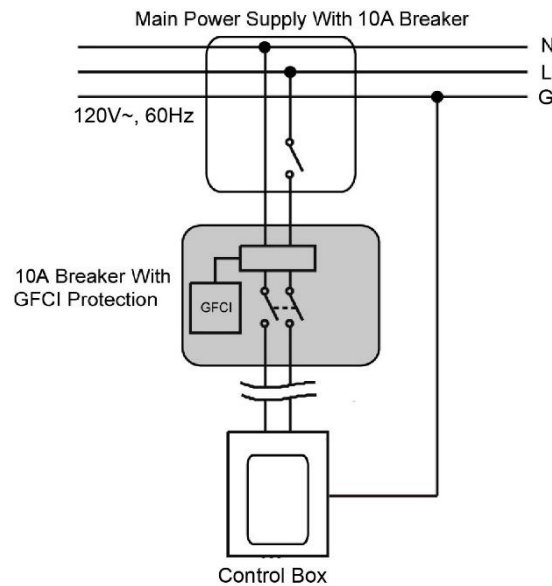
Connection of Power Supply



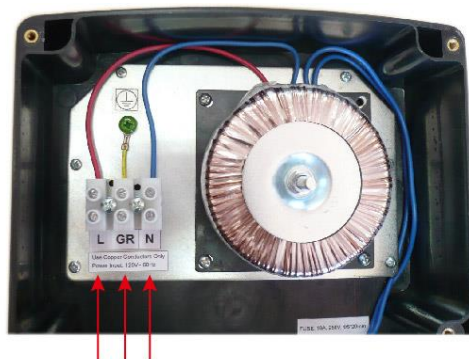
WARNING: NEVER connect the gate opener to the power supply before all the installations have been done.



CAUTION: The gate opener is classified to permanent connected appliances, **CONNECTED** the power supply to the **ELECTRIC GRID** directly. A 10A breaker with GFCI protection must be added in wire connection to the gate opener.



Connect the power supply to the Control Box refers to the following illustration.



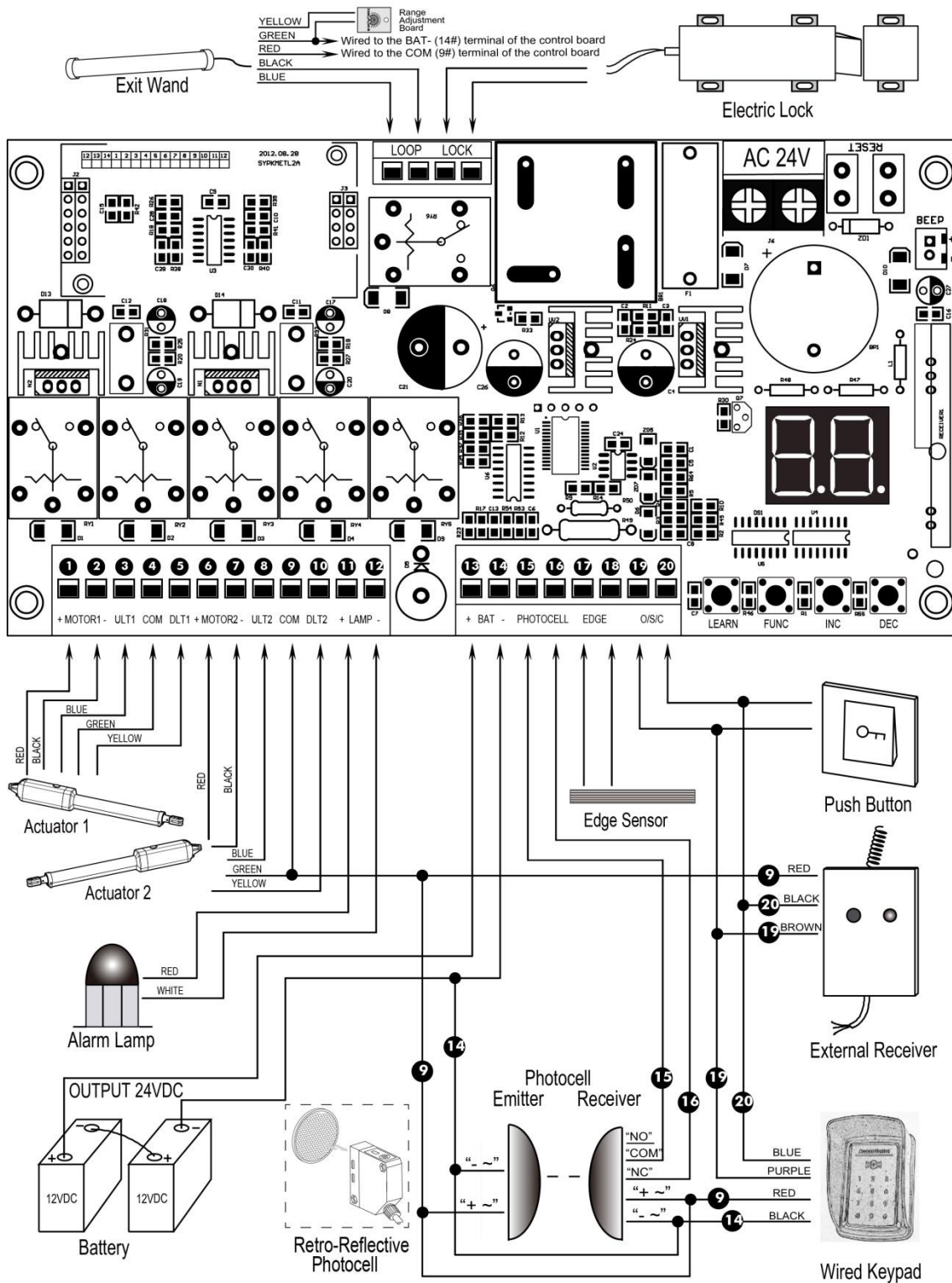
Terminals for the power supply.
Connect the Live Line and Null Line to the “L” and “N” terminals respectively. Connect the GROUD wire to the “GR” terminal.

NOTE:

1. Use copper conductors to connect to the power supply terminals.
2. The wire size should be at least 14AWG which is intended to connect the power supply.
3. Run the wires in conduit to the control box to prevent damage to the wires from lawn mowers, weed eaters and grazing animals.

4. The fuse in the control board is interchangeable. A 10a, 250vac, $\Phi 5 \times 20$ mm fuse is suitable to the control board.

Connection of the Control Board



⚠ WARNING – To protect against fire and electric shock: MAKE SURE the power is turned off BEFORE wiring or servicing the opener.

Actuator 1

Insert the stripped cable wires into the appropriate terminals on the opener terminals block. The **red** wire should be inserted into the “**MOTOR1+**” terminal, the **black** wire into “**MOTOR1-**”, the **blue** wire into **ULT1**, the **green** wire into **COM**, and the **yellow** wire into **DLT1** terminal.

Actuator 2

Similar as the connection of **Actuator 1**, insert the stripped cable wires into the appropriate terminals on the opener terminals block. The **red** wire should be inserted into the **MOTOR2+** terminal, the **black** wire into **MOTOR2-**, the **blue** wire into **ULT2**, the **green** wire into **COM**, and the **yellow** wire into **DLT2** terminal.

NOTE: It is recommended that Gate Opener 1 is installed in the Master Gate, and Gate Opener 2 is installed in the Slave Gate.

Alarm Lamp (optional)

The red wire of the alarm lamp should be inserted into either **LAMP (#11)** terminal, the white wire into the other one (**#12**).

Back-up Battery (optional)

The “24V+” of the battery should be wired to the **BAT+ (#13)** terminal, “24V-” should be wired to “**BAT-**” (**#14**) terminal.

Recommend strongly to use the controller LM118B to connect Battery with battery’s Terminal of control board if the battery is used as the primary power supply in system (such as SOL PLUS KIT). Please refer to the user manual of control LM118B separated.

Photocell Beam System (PBS) (optional)

The GG series gate opener can accept input from normal closed output safety beam. A 2-wired photo beam with normal closed dry-contact output can be directly connected to the terminals 15 and 16, no matter the polarity.

Also a 4-wired photo beam can be used with the gate opener. Terminals 9 and 14 are used to provide the power (24VDC) to the photo beam, terminal 9 is positive and terminal 14 is negative.

Terminals 15 and 16 are used to accept the input signal from photo beam.

Edge Sensor (optional)

The GG series gate opener can accept input from normal closed output edge sensor. A 2-wired edge sensor with normal closed dry-contact output can be directly connected to the terminals 17 and 18, no matter the polarity. Multiple sensors can be connected to the terminals in series.

Push Button (optional)

The push button should be wired to the “19” and “20” terminals. The gate operator works alternately by pushing the button (open-stop-close-stop-open).

Exit Wand (optional)

Please note that the adapter board of the exit wand should be inserted into the main control board of the gate opener before using.

The **BLACK** and the **BLUE** wire of the exit wand should be connected into the “LOOP” terminal, no

matter the polarity.

The **RED** wire of the exit wand should be connected into the COM (9#) terminal.

The **GREEN** wire of the exit wand should be connected into the BAT- (14#) terminal.

The sensitivity adjustment board should be wired to the **GREEN** wire and the **YELLOW** wire of the wand.

No matter the polarity.

Electric Lock (optional)

The electric lock should be wired to the “**LOCK**” terminal.

External Receiver (optional)

The **BROWN** wire of the external receiver should be connected into the “19” terminal.

The **BLACK** wire of the external receiver should be connected into the “20” terminal.

The **RED** wire of the external receiver should be connected into the “9” terminal.

Wired Keypad (24VDC) (optional)

The **RED** wire of the wired keypad should be connected into the “9” terminal.

The **BLACK** wire of the wired keypad should be connected into the “14” terminal.

The **PURPLE** wire of the wired keypad should be connected into the “19” terminal.

The **BLUE** wire of the wired keypad should be connected into the “20” terminal.

Solar Panel (optional)

Please refer to the manual instruction of solar panel and controller (LM118B) separated.

How to learn or erase the remote

Learn the remote

Press and release the learn button, the **LED** will display “**Ln**”, then press the key in the remote twice in 2 seconds, the **LED** will flash “**Ln**” for 4 seconds then back to “- -”. Now the remote has been learnt successfully.

Please be noted that the gate opener can learn up to six remotes, if you want to learn more, we recommend that you buy the external receiver LM138 which allow you to program up to 250 additional remote controls.



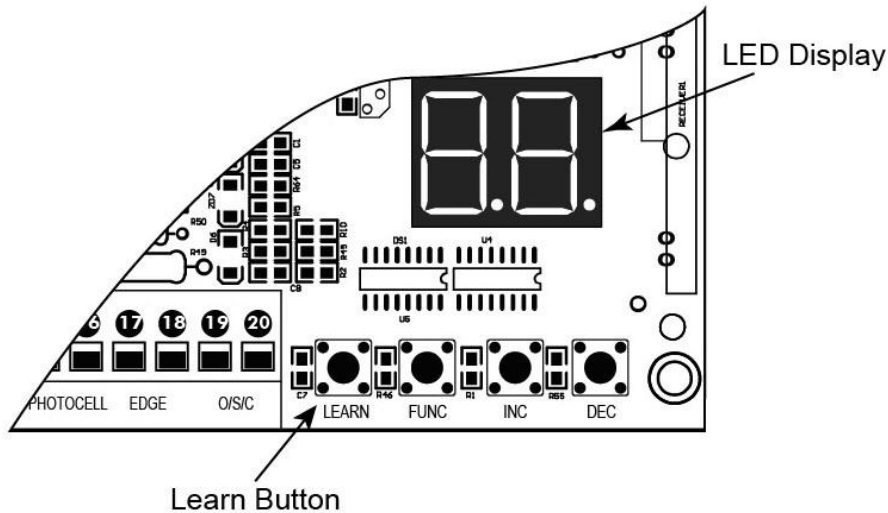
WARNING: Activate the opener only when gate is in full view, free of obstruction and properly adjusted. No one should enter or leave gate area while gate is in motion. Do not allow children to operate push button or remote. Do not allow children to play near the door.

Your swing gate opener receiver and remote control transmitter are set to a matching code. If you purchase additional remote controls, the gate opener must be programmed to accept the new remote code.

Erase all the remote codes

Press and hold the learn button until the **LED** display to “**dL**”. Release the button and the LED will

display"--" .Now all remote codes have been erased.



NOTE:

The gate opener could learn up to maximum six remotes. If you lose one of any remote control, please learn all other remote controls to have a new code for safety.
Maximum distance which the remote control can operate the opener is 60 ft. (18 m).
The control box must be located in proper position with regard to maintaining communication link between device and operator.
The control box must be located in proper position where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction.

Setting of the Control Board

1. Check again for completed and correct assembly of your swing gate opener and gate. Plug the Power Grounded Cord into the nearest AC outlet. The Digital Display on the Control Board will flash with "--". The unit is in standby.

2. Single/Dual Gate Set

Press and hold the "FUNC" button for more than 4 seconds. The Digital Display will indicate "P1". Gate opener is on the SINGLE/DUAL Gate setting. Press the "INC" and "DEC" buttons respectively to following modes:

"01" shown in Digital Display, it is Single Actuator 1 (Gate 1) mode. "10" shown in Digital Display, it is Single Actuator 2 (Gate 2) mode. "11" shown in Digital Display, it is Dual actuator mode.

Press the "FUNC" button to store the data when the single or dual gate is chosen. The Digital Display will indicate "P2". Now single/dual gate set is finished.

(Factory set is "11")

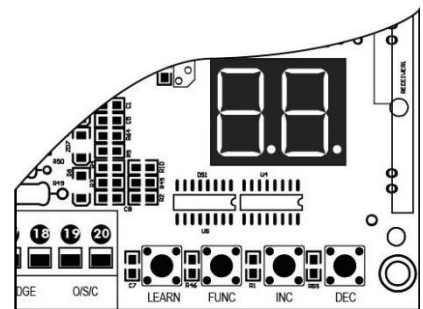
3. Master/Slave Gate Set

When Digital Display indicates "P2", the gate opener is on the Master/Slave Gate Setting. Press the "INC" and "DEC" Buttons respectively to follow modes:

"01" shown in Digital Display, which means Gate Opener 1 (right-hand side) as Master one

"10" shown in Digital Display, which means Gate Opener 2 (left-hand side) as Master one

Press the "FUNC" button to store the data when the master/slave gate is chosen. The Digital Display will



indicate "P3". Now Master/Slave Gate Set is finished.

(Factory set is "01")

4. Set the Open Interval between Master and Slave Gate

When the Digital Display indicates "P3", the gate opener is on the Open Interval between Master/Slave Gate Setting.

The open interval can be adjusted by pressing the "INC" and "DEC" Buttons respectively. The Digital Display will show "0"- "9", which indicates the interval time "0" means the Master and Slave gates open simultaneously. "1" means the Master Gate starts to open 1 second before Slave gate starts to open. Max. open interval is 9 seconds. Each time you press and release the "INC" button, the figure increases by 1, and the Master gate starts to open 1 more second earlier. Each time you press and release the "DEC" button, the figure decreases by 1, and the interval decreases by 1 second.

(Factory set is 3 seconds)

Press the "FUNC" button to store the data when the open interval is set. The Digital Display will indicate "P4". Now Open Interval Set is finished.

5. Set the Close Interval between Master and Slave Gate

When the Digital Display indicates "P4", the gate opener is on the Close Interval between Master/Slave Gate Setting.

The close interval can be adjusted by pressing the "INC" and "DEC" buttons respectively. The Digital Display will show "0"- "9", which indicates the interval time "0" means the Master and Slave gates open simultaneously. "1" means the Slave Gate starts to close 1 second before Master gate starts to close. Maximum close interval is 9 seconds. Each time you press and release the "INC" button, the figure increases by 1, and the Slave gate starts to close 1 more second earlier. Each time you press and release the "DEC" button, the figure decreases by 1, and the interval decreases by 1 second.

(Factory set is 3 seconds)

Press the "FUNC" button to store the data when the close interval is set. The Digital Display will indicate "P5". Now Close Interval Set is finished.

6. Adjust the Obstruction Sensitivity/Stall Force

When the Digital Display indicates "P5", the gate opener is on the Stall Force Adjustment.

Periodic check the stall force, speed and the sensitivity of the gate opener by a professional technician are required to ensure the safety of the system.

Without a properly installed safety reversal system, person (particularly small children) could be SERIOUSLY INJURED or KILLED by a closing gate.

*Too much force on gate will interfere with proper operation of safety reversal system.

*NEVER increase force beyond minimum amount required to close gate.

*NEVER use force adjustments to compensate for a binding or sticking gate.

* If one control (force or travel limits) is adjusted, the other control may also need adjustment.

* After ANY adjustments are made, the safety reversal system MUST be tested. Gate MUST BE TESTED. Gate MUST reverse on contact with a rigid object.

The opener is equipped with an obstruction sensing feature. If the gate encounters an obstruction the opener will automatically reverse direction and stop. Based on the length and weight of the gate it may be necessary to make force adjustments. The force adjustment should be high enough that small objects such as branches or wind will not cause nuisance interruptions but low enough to prevent serious injury to a person or a vehicle.

6-a Adjust Stall Force of Gate Opener 1

Now we adjust the stall force of gate 1

The stall force of gate opener1 is adjusted by pressing "INC" and "DEC" buttons respectively. The Digital

Display will show “1”-“9” which indicates the stall force levels. “1” means the minimum force, and “9” is the maximum force. Each time you press and release the “INC” button, the figure increase by 1, and the force increases to a higher level. Each time you press and release the “DEC” button, the figure decreases by 1, and the force decreases to a lower level. Press “FUNC” to store the data. The Digital Display will indicate “P6”. Now stall force of gate opener 1 is finished.

(Factory set is Level 3)

6-b Adjust Stall Force of Gate Opener 2

When the Digital Display indicates “P6”.you can adjust force of gate opener 2.

Please perform the same procedure as gate opener 1 (6-a).

Press the “FUNC” button to store the data when stall force of gate opener 2 is set. Then “P7” will be shown on the Digital Display.

NOTE:

You may need to increase the stall force in cold weather due to increased resistance from gate hinges. The gate opener’s opening/closing force is adjusted automatically according to stall force adjustment.

An audio alarm is supplied with the gate opener which will be activated when it senses two sequential activations of an entrapment protection device. This alarm will sound all the time until the opener receives an intended signal from a hard wired control (e.g. push button or wired keypad). Turing the

7. Adjust the Max Motor Running Time (MRT) of the MOTOR for gate opener

The maximum running time of the MOTOR can be set to make the motor stop running after a specified period even if the limit switch is invalid or the clutch is detached.

7-a. Adjust the MRT of MOTOR1

When the Digital Display indicates “P7”, you can adjust the **MRT** of MOTOR1.

The **MRT** of MOTOR1 is adjusted by pressing “INC” and “DEC” buttons respectively. The Digital Display will show “01”-“50” which indicates the **MRT** of MOTOR1 from 1 to 50 seconds.

You can hold pressing the “INC” or “DEC” button for more than 1 second to speed up the setting. Press the “FUNC” button to store the data when you finish setting. The Digital Display will indicate “P8”.

(Factory default setting is “40” seconds)

7-b. Adjust the MRT of MOTOR2

When the Digital Display indicates “P8”, you can adjust the **MRT** of MOTOR2.

Please perform the same procedure as adjusting MOTOR1 (7-a).

Press the “FUNC” button to store the data when you finish setting. The Digital Display will indicate “P9”. Now MOTOR2 adjustment is finished.

8. Set the Safety Photocell Beam System (PBS) (Optional)

When the Digital Display indicates “P9”, the gate opener enters PBS set mode.

You can press and release the “INC” or “DEC” button to set or shut off the PBS function. The Digital Display indicates “11”, the PBS is available. The Digital Display indicates “00”, the PBS is null.

Note: If the “11” has been set, the gate opener won’t work until the PBS system is equipped. The gate opener will stop and initiate the reversal of the gate when the obstruction blocks the beam from photo eye.

Press the “FUNC” button to store the data when the PBS is set. The Digital Display will indicate “PA”.

(Factory set is “00”)

9. Set the Automatic Closing Time

When the Digital Display indicates “PA”, the gate opener enters into the setting of automatic closing time

mode. Press and release the “INC” or “DEC” button, the Digital Display will show a “01”-“99” which indicates the current automatic closing time. The minimum time is 1 second, 99 seconds maximum. Each time you press and release the “INC” button, the figure increases by 1, and the timing increases by 1 second. Each time you press and release the “DEC” button, the figure decreases by 1, and the timing decreases by 1 second. When the timing is “00”, the automatic closing function is shut off and the gate will stay open.

(Factory set is 60 seconds)

Press the “FUNC” button to store the data when the desired automatic closing time is set. The Digital Display will indicate “Pb”.

10. Set the Period of Soft Start

When the Digital Display indicates “Pb”, the gate opener is ready for setting period of soft start.

You can press the “INC” or “DEC” button to set the period of soft start. There is 1-9 seconds available in setting. Press the “FUNC” button to store the data when the period is set. The Digital Display will indicate “PC”.

(Factory set is 3 seconds)

11. Set the Fast Running Period (FRP) to Achieve Soft Stop Function (SPP)

When the Digital Display indicates “PC”, the Fast Running Period for opening or closing gate is adjustable by pressing “INC” and “DEC” buttons respectively, and the Soft Stop Function is achieved simultaneously.

The Soft Stop means the gate opener runs at slow speed during the last period before the gate completely closes. The Soft Stop Period is unavailable by direct adjust but available through adjusting the Fast Running Period.

There are two running speeds designed in program, i.e. Fast Running Speed and Soft Running Speed. The Fast Running Period is adjustable from 1 to 28 sec. Factory default setting is 15 sec.

Since the GATE OPENING OR CLOSING RUNNING PERIOD (GRP) = SOFT START PERIOD (STP) + FAST RUNNING PERIOD (FRP) + SOFT STOP PERIOD (SPP), the SPP could be extended by shortening the FRP when the GRP and STP are fixed. In other words, $SPP = GRP - STP - FRP$.

Similarly, the Soft Stop Period (SPP) can be shortened through extending the Fast Running Period (FRP).

E.g. When the Soft Start Period (STP) is set at 3 sec, and the GRP is 23 sec, how can we get 4 sec of Soft Stop Period (SPP) to meet the requirement? The answer is clear, i.e. we may set the Fast Running Period (FRP) at 16 sec ($23 - 3 - 4 = 16$ sec).

12. Return to Factory Set

When the Digital Display indicates “Pd”, press and release the “INC” or “DEC” button. All data will return to factory set, the Digital Display indicates “dF”.

13. If all of data is set and no other change needed, press “FUNC” Button. “- -” appears on the Digital Display, and the opener enters standby mode.

Indicate Illustration on the Digital Display When Gate Opener is Running

The left image on Digital Display symbolizes motor of gate opener 1 when the gate opener is running. The right image on Digital Display symbolizes motor of gate opener 2.

When the motor is run to gate -open direction or gate -close direction, the image on Digital Display

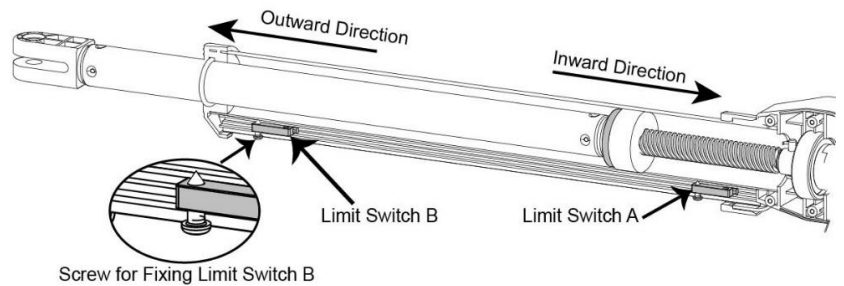
indicates “n” or “u” respectively.

When the motor is not running, the Digital Display indicates “- -”.

When Gate Opener 2 is set as Master gate (i.e. when “10” indicated at P2 set mode in the Control Board), the Digital Display flashes “-n” before the gate completely opens and closes.

Adjusting the Limit Switch

Note: Before adjusting the limit switch, refer to the chapter of “Install the Opener on the Gate”, and make sure that the rod is fully retracted when the gate is in the fully open position (for Pull-to-Open installation), or in the fully closed position (for Push-to-Open installation). Make sure that currently the rod is fully retracted.



Note: The position of Limit Switch A was fixed in factory, do not adjust it again.

1 For Pull-to-Open Installation, adjust the limit switch B to determine the closed position:

Turn on power to operate the gate opener, then the arm extends to close the gate.

If the arm closes over the desired closed position, press the remote control to stop the opener. Use a screwdriver to loosen the screw of the limit B, slightly slide the limit switch B **inwards**.

If the arm closes halfway and fails to get to the desired closed position, slightly slide the limit switch B **outwards**.

Please **repeat** the above steps, until the arm could arrive and automatically stop at the desired close position. Then tighten the screw firmly.

Limit setting for master gate is finished now. The slave gate is totally the same.

2 For Push-to-Open Installation, adjust the limit switch B to determine the open position:

Turn on power to operate the gate opener, then the arm extends to open the gate.

If the arm opens over the desired open position, press the remote control to stop the opener. Use a screwdriver to loosen the screw of the limit B, slightly slide the limit switch B **inwards**.

If the arm opens halfway and fails to get to the desired open position, slightly slide the limit switch B **outwards**.

Please **repeat** the above steps, until the arm could arrive and automatically stop at the desired open position. Then tighten the screw firmly.

Limit setting for master gate is finished now. The slave gate is totally the same.

How to Operate

The user may operate the opener once all adjustment setting is finished.

With the gate in its closed position, press and release the remote control, the gate will move to the programmed opening position and stop.

With the gate in its opened position, press and release the remote control, the gate will move to the programmed closing position and stop.

While the gate is moving, press and release the remote control, the gate will stop moving immediately.

The next command from the remote will reverse the gate direction and the gate will stop at its programmed opening/closing position.

The gate will reverse in case of obstruction or stall force during opening or closing.

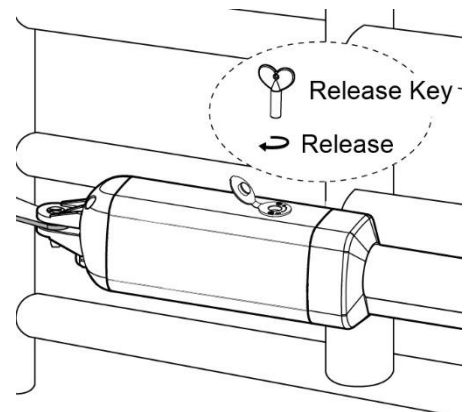
NOTE: The Obstruction Sensitivity /Stall Force is adjustable in 9 levels.

Emergency Release

NOTE: Disconnect the gate opener from power supply BEFORE release the gate opener.

In case of the system failure or power cut-off, the gate can be manually opened.

Open the plug of the release hole, Insert the release key inside the hole located on the top of actuator body, and then turn clockwise 90°, Motors shall be released. The inverse operation restores the gate automation.



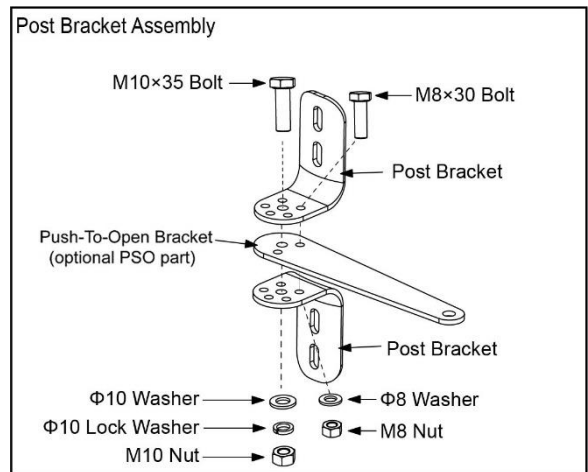
Installation for Push-to-Open Gates

⚠ Ensure the gate does not open into public areas.

In a Push-to-Open installation, gate opens out from the property. A Push-To-Open Bracket (PSO part) is required to be used for each gate. The gate is in the closed position during the opener is installed.

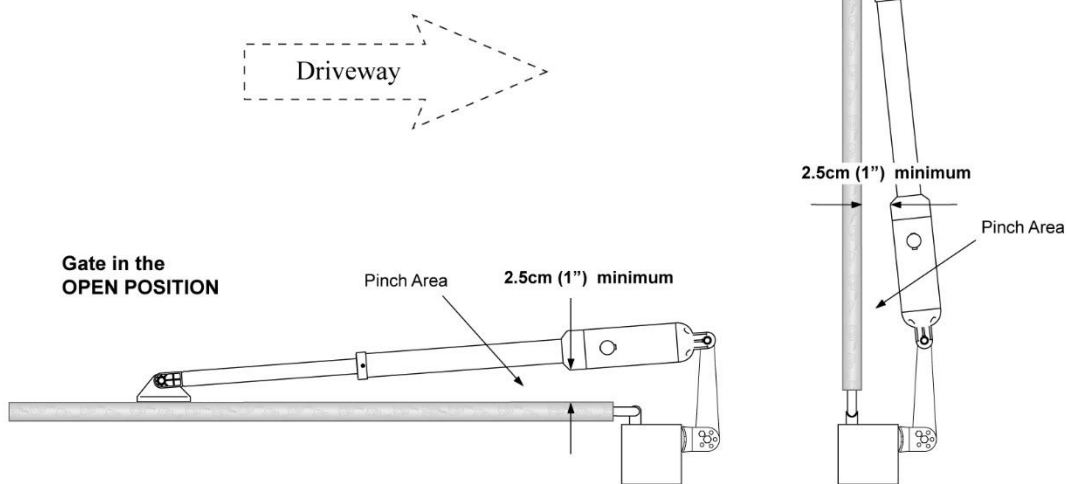
Step 1

Place the PSO bracket between the two post brackets. Insert the M10x35 bolt through the center hole of the post bracket and PSO bracket as shown. Place a ϕ 10 washer, ϕ 10 lock washer and M10 nut on the bottom of



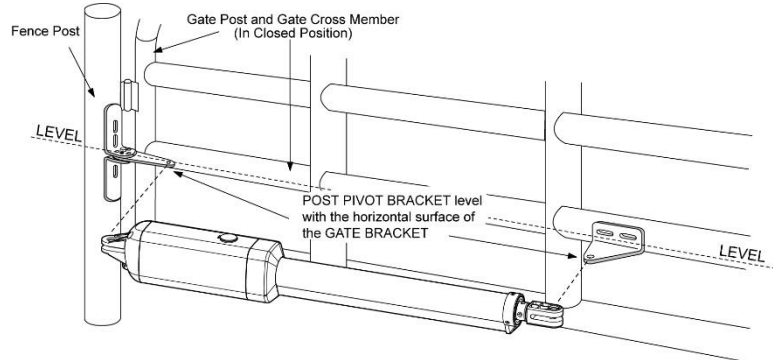
Step 2

Attach the gate bracket and post bracket assembly to the opener by inserting a clevis pin. Secure the clevis pins using the hairpin clips.



Step 3

With the gate in closed position and with the opener in their retracted position, place the opener with the gate bracket and post bracket assembly on to the gate post and the gate. Position the gate bracket and the post bracket assembly so that the gate opener is level with the horizontal cross member of the gate. While holding the opener in the desired level position, temporarily secure with two C-clamps.



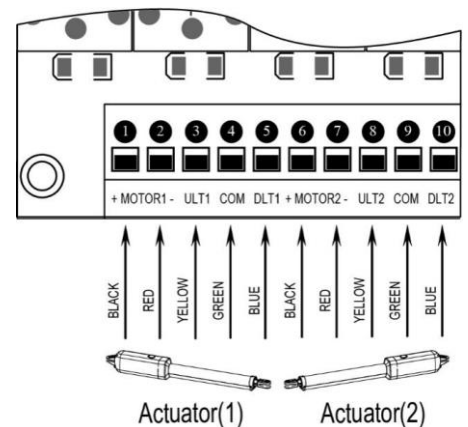
Step 4 to Step 9

Repeat the Step 4-9 in P 13-14.

Step 10

The motors' power wires and limit wires connection by "Push to Open" is different from the connection by "Pull to Open". So motor 1 and motor 2 wires should be connected to the control box as the instruction in the right, not according to the instructions in Page 17.

The **black** wire should be inserted into the Motor+ terminal, the **red** wire should be inserted into the Motor- terminal, the **yellow** wire into ULT1 terminal, the **blue** wire into DLT1 terminal and the **green** wire is still into COM terminal.



Maintenance

Warning: Disconnect power before servicing.

1. Using a clean, dry cloth, wipe the gate opener shaft, and then apply a silicone spray to reduce its friction. In cold climates where temperatures reach 1°C (30°F) or less, spray silicone on the actuator every 4~6 weeks to prevent freeze up.
2. Regularly check gate hinges to make sure gate is swinging smoothly and freely. Grease hinges if needed.
3. Check your installation periodically, as hardware and posts will shift. Brackets may need to be adjusted or hardware may need to be tightened.
4. Maintain the area around your gate. Keep the areas free of objects that can prevent the gate swinging freely.

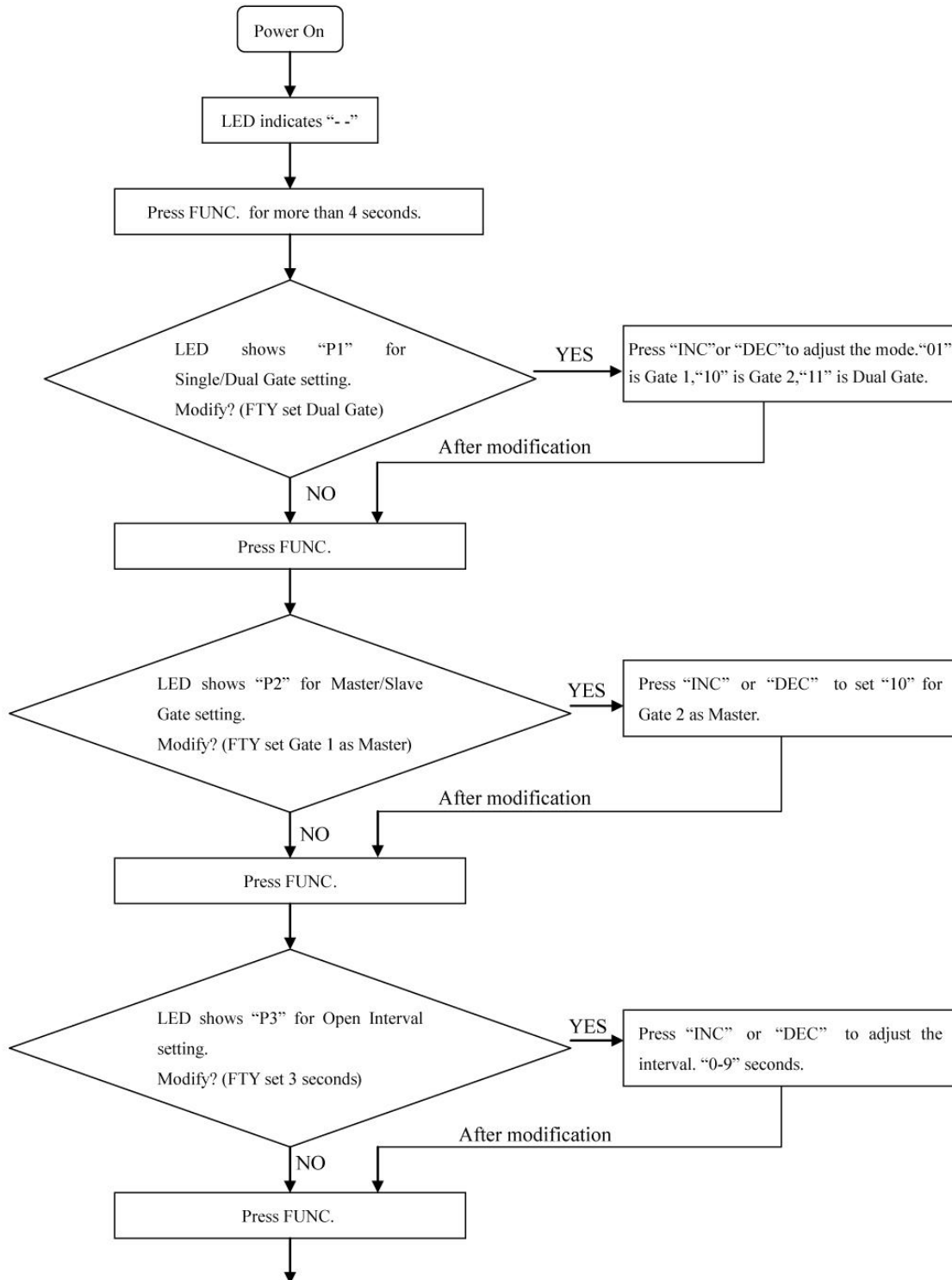
NOTES:

1. Inspection and service should always be performed anytime a malfunction is observed or suspected.
2. It is suggested that while at the site voltage readings be taken at the opener. Using a Digital Voltmeter, verify that the incoming voltage to the opener it is within ten percent of the opener's rating.
3. Refer to Page 21 for instructions on how to check gate force and sensitivity adjustments.

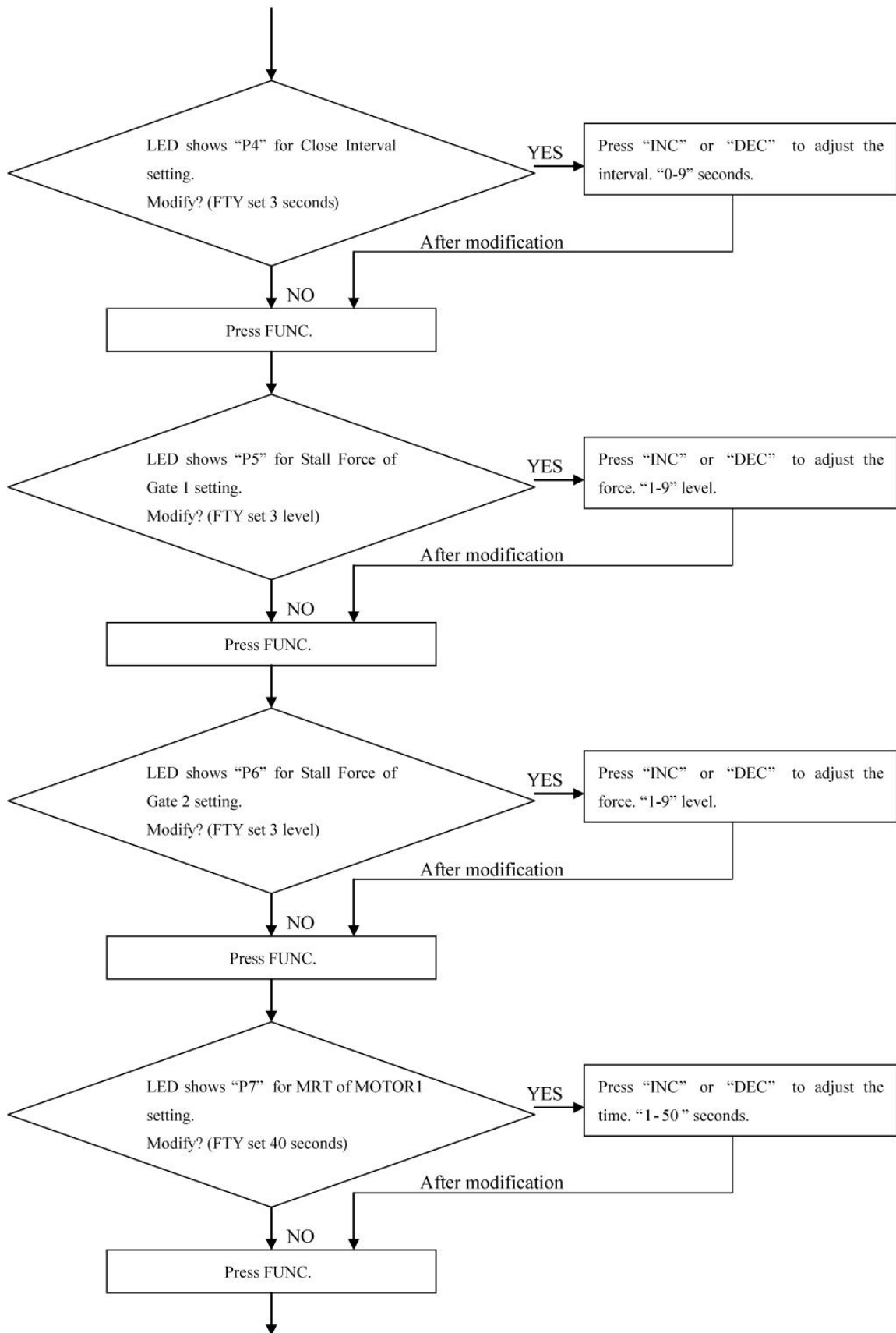
Trouble Shooting

1. Opener does not run. Digital Display indicator is not on.
 - Check if all motor are properly connected and color coded. Make sure the AC input is connected.
 - Check if the fuse in control board is bad.
2. Opener powers up but does not run.
 - Arm cable loose or disconnected. Verify that all of the wires going to the arm are secure and that the connector is properly mated to the header.
 - Arm is incorrectly installed. Disconnect the motor housing from the arm and verify that the arm moves freely.
 - Gate is excessively heavy or hinges are bad. Verify that the gate is within the ratings for this product. Disconnect the arms and verify that both gates swing easily. Lubricate or replace hinges as necessary.
 - Bad control board. Call technical support for help with replacement parts.
3. Gate stops immediately after it starts moving.
 - Obstruction sensed. Check safety devices and gate for obstructions.
 - Force set too low. Adjust FORCE setting until gate completes a full open/close cycle without stop. The force setting may need to be adjusted in cold weather, as the gate will not move freely.
 - Check if the MRT period is too short. Refer to page 21.
 - Incorrect power.
4. Gate opens but does not close.
 - Photocell (PBS) is set in Control Board but is not equipped (optional). Please cancel the PBS set. Refer to page 22.
 - Obstruction blocking close photo eyes, Check eyes for alignment and verify all connections and operation for safety devices.
5. Gate ignores the limit switches
 - Check that the limit switch is not faulty
 - Check that wires to the limit switch are not shorted.
 - Ensure that the motor cable is away from sources of electrical interference, such as electric fences, power lines etc.
6. Gate opens, closes or stops on its own
 - Ensure that the key for manual release is in the lock position. Please refer to the section "Emergency Release ".

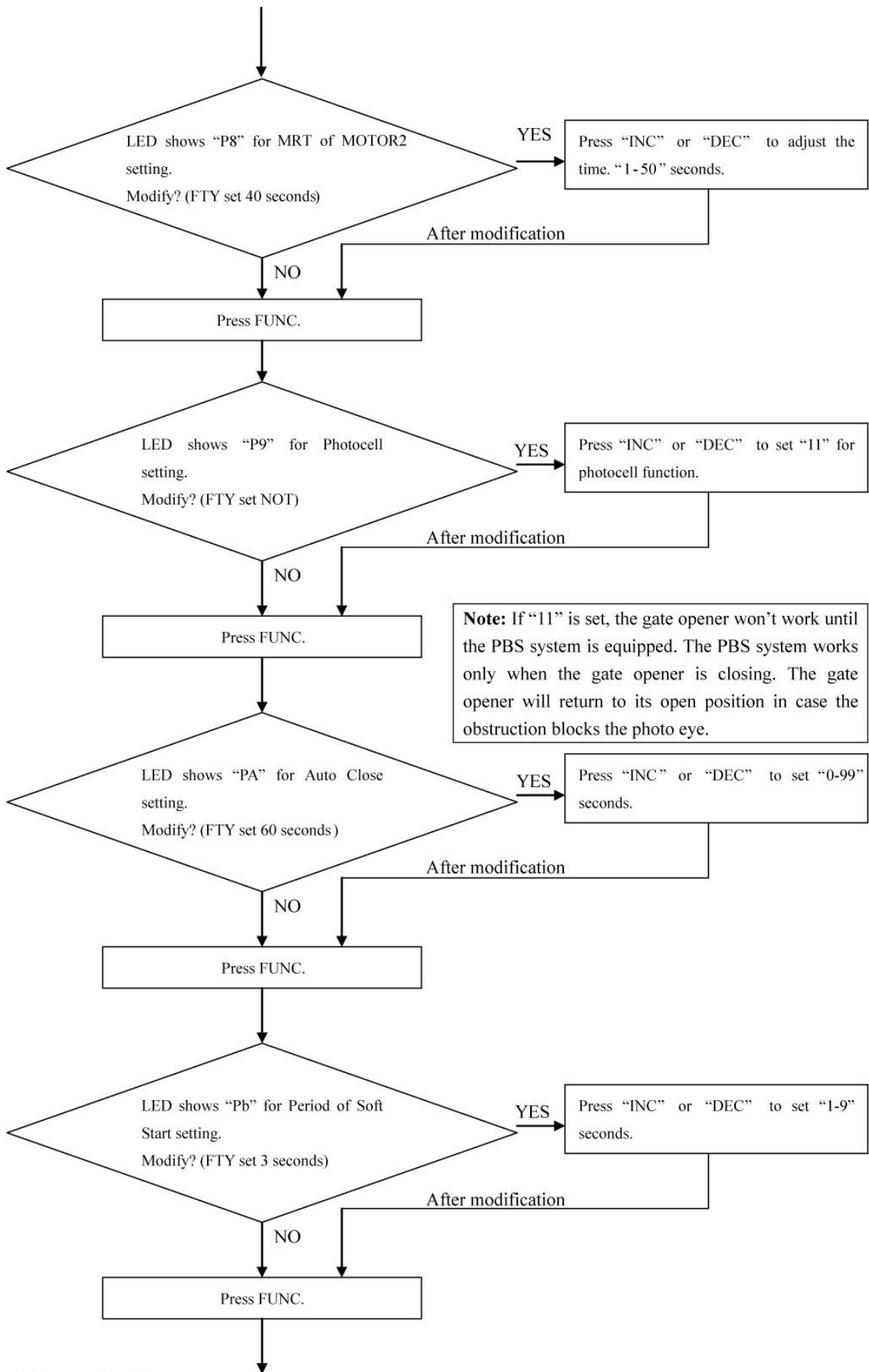
Quick-Setting Guide

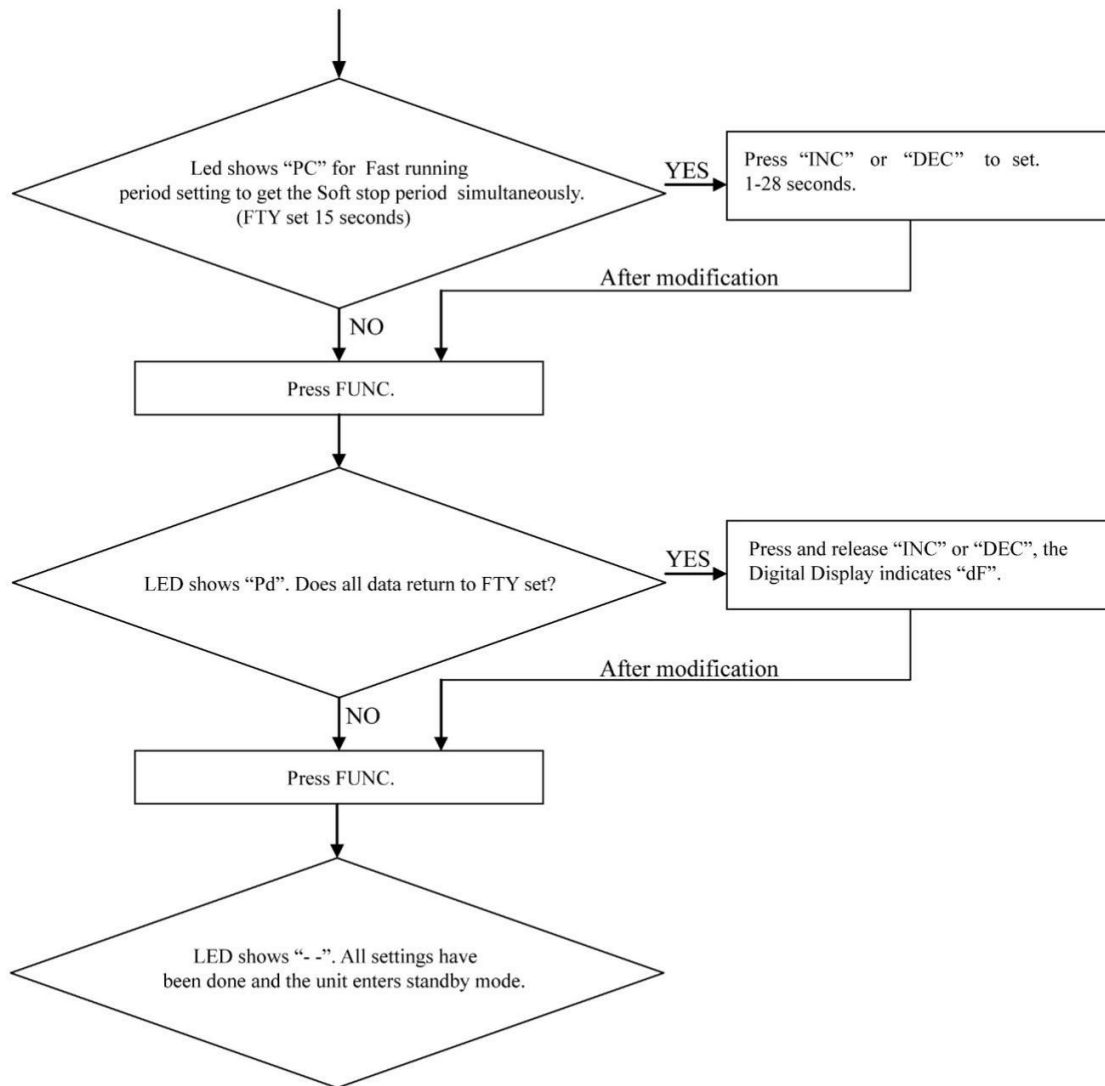


To be continued ...



To be continued ...





IMPORTANT NOTICE TO USERS:

To maintain the proper working condition of your new automatic gate opener, we recommend that you spray the actuator shaft every 4-6 weeks with silicone. This will keep the actuator working freely and prevent problems.



According to Waste of Electrical and Electronic Equipment (WEEE) directive, WEEE should be separately collected and treated. If at any time in future you need to dispose of this product please do NOT dispose of this product with household waste. Please send this product to WEEE collecting points where available.

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