



# **Installation Manual**

**E8 - 400**

**E8 - 500**

**E8 - 600**

**Solar or Electric Systems**

# WARNING

## **Important Safety Information**

Gate equipment has hazards associated with its use and therefore by installing this product the installer and user accept full responsibility for following and noting the installation and safety instructions. Failure to follow installation and safety instructions can result in hazards developing due to improper assembly.

READ ALL INSTRUCTIONS CAREFULLY AND COMPLETELY before attempting to install and use this automatic gate operator. This gate operator produces a high level of force. Stay clear of the unit while it is operating and exercise caution at all times.

All safety instructions should be read and completely understood by installer and the owner prior to the installation of the E8 auto gate system. This product is designed and manufactured for the use indicated in the manual.

Remember that all automatic gates are intended for vehicular gates only. A separate gate or entrance must be installed for pedestrian use. Any other use, not expressly indicated may damage the product or be a source of danger.

## **Swing Gate Motor - Model E8**

E8 swing gate motor is suitable for light - medium weight gates. Do not use it on large sized gates which exceed the maximum recommended gate weight and length. Wrong selection of motor will result in an unreliable operation.

# Please Read This First!

Thank you for purchasing the E8 "do-it-yourself" automatic gate opener! When correctly installed and properly used, your E8 Gate Opener will give you many years of reliable service.

The E8 Opener is designed for installation on a pull-to-open or push-to-open gate. The E8 Gate Opener can be used on aluminum, chain link, farm tube, and wrought iron gates.

Use on solid surface gates is NOT recommended. Solid surface gates have a high resistance to the wind. If the wind is strong enough, the operator will obstruct and stop.

The E8 Gate Opener accommodates extra transmitters, digital keypads, solar panels, push buttons, automatic gate locks, and other access control products.

The E8 Gate Opener features an obstruction sensor. This feature makes the gate stop and reverse open when it comes in contact with an obstruction. This sensitivity is pre set on the main control board and cannot be adjusted.

The E8 Gate Opener has an adjustable auto-close feature. After the gate reaches the fully open position, it can be set to remain open up to 120 seconds before automatically closing. Pressing the transmitter button at any time after the gate opens fully will cause it to close immediately. OFF is the factory setting; meaning the gate will stay open until you press the transmitter (or keypad, etc.) again.

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# Important Safety Information

Because automatic gate operators produce high levels of force, consumers need to know the potential hazards associated with improperly designed, installed, and maintained automated gate opener systems. Keep in mind that the gate opener is just one component of the total gate operating system. Each component must work in unison to provide the end user with convenience, security, and safety.

This manual contains various safety precautions and warnings for the installer end user. Because there are many possible applications of the gate operator, the safety precautions and warnings contained in this manual cannot be completely exhaustive in nature. It does, however, provide an overview of the safe design, installation, and use of this product.

**CAREFULLY READ AND FOLLOW ALL SAFETY PRECAUTIONS, WARNINGS AND INSTALLATION INSTRUCTIONS TO ENSURE THE SAFE SYSTEM DESIGN, INSTALLATION AND USE OF THIS PRODUCT.**

Because the E8 automatic gate opener is only part of the total gate operating system, it is the responsibility of the installer and end user to ensure that the total system is safe for its intended use.

## Manually Opening and Closing Gate

### CAUTION

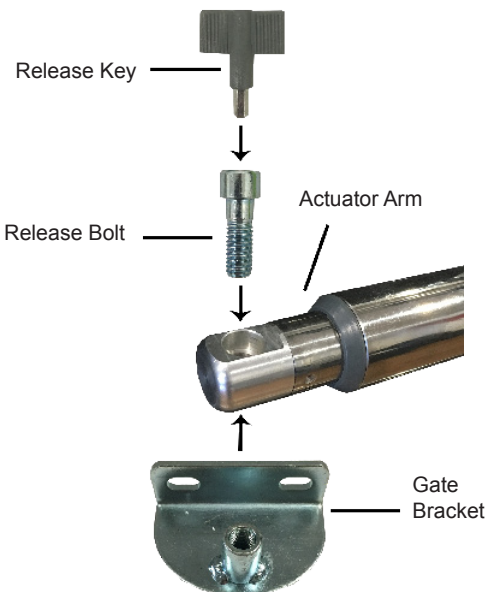
The gate will move freely and uncontrolled when the gate operator is removed from the gate. ONLY disconnect the operator when the power source has been disabled (ie. battery or transformer) is off and the gate is NOT moving.

### Disconnecting the Opener

1. Place release key into the release bolt and unscrew fully
2. Pull actuator arm off gate bracket
3. Now the gate will swing freely

The gate can be opened and closed manually when the actuator is disconnected. If leaving the actuator arm off the gate please disconnect power to avoid damaging the motor or cable.

DO NOT have the release bolt done up tight as this will make for a difficult release of the actuator arm. May also cause jamming and or binding.



# Important Safety Information

## For the Installer and End User

### 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 ONE SHOULD CROSS THE PATH OF THE MOVING GATE.
4. Test the gate operator monthly.
5. Use the manual/emergency release only when the gate is not moving.
6. KEEP GATES PROPERLY MAINTAINED.
7. The entrance is for vehicles only. Pedestrians must use separate entrance.
8. The gate must be installed in a location that provides adequate clearance between it and adjacent structures when opening and closing to reduce the risk of entrapment. Swinging gates must not open into public access areas.

#### Owner should observe the following:

1. Do not cross the gate while it is operating.
2. Keep children away from the gate and the remote controls.
3. Test the system frequently and monitor the high and low speed of the system.
4. Practice the use of the emergency release key. This is crucial in the event that the system does not work.
5. Place the WARNING signs prominently on the gate to warn pedestrian of the automatic gate operation on your premises. It is your responsibility to post the warning signs on both sides of the gate.

#### Installer should observe the following:

1. Make sure the gate weight and length does not exceed the maximum specifications.
2. The gate design must be suitable for the installation of the auto gate system.
3. Ensure that the gate is installed on flat, level ground and can move freely in both directions along the entire swing of the gate. A properly balanced swinging type gate should NOT swing open or swing close when no pushing or pulling force is exerted onto it.
4. Control panel box must be installed in the area where it is not easily damaged.
5. Do not change with parts or components not supplied by manufacturer.
6. Make sure all wiring is correct and in accordance with electrical bylaws and in good condition before supplying the mains power to the control panel.
7. Remove all power when doing any maintenance including solar.
8. Ensure the control panel box is free from water leakage and insects to avoid short circuiting of the control panel. Silicon off any holes.
9. Never supply mains power directly to the DC motor
10. Transformer MUST be connected to mains power via RCD (residual current device).
11. Do not install the operating system if in doubt.

# Important Safety Information

## For the Installer and End User

### After Installation

1. Attach the warning sign (included) to the gate to alert the public of automatic gate operation.
2. The gate is automatic and could move at any time, posing serious risk of entrapment. No one should be in contact with the gate when it is moving or stationary.
3. Do not attempt to drive into the gate area while the gate is moving; wait until the gate comes to a complete stop.
4. Do not attempt to “race the gate” while the gate is closing. This is extremely dangerous.
5. Do not allow children or pets near your gate. Never let children operate or play with gate controls. Keep the remote control away from children and unauthorized users; store controls where children and unauthorized users do not have access to them.
6. **KEEP GATE SYSTEMS MAINTAINED.** Always disconnect any power source from the operator before performing any maintenance.
7. To operate this equipment safely, YOU must know how to disconnect the operator for manual gate operation.
8. Disconnect the operator **ONLY** when all power sources are **DISCONNECTED** and the gate is **NOT** moving.
9. Make arrangements with local fire and law enforcement for emergency access.
10. Distribute and discuss copies of the **IMPORTANT SAFETY INFORMATION** section of this manual with all persons authorized to use your gate.
11. **IMPORTANT:** Save these safety instructions. Make sure everyone who is using or will be around the gate and gate operator are aware of the dangers associated with automated gate systems. In the event you sell the property with the gate operator or sell the gate operator, provide a copy of these safety instructions to the new owner.

# Technical Specifications

Supply voltage:	16vac Transformer or Solar
Backup Battery:	12Vdc Lead acid maintenance free
Operating Voltage:	DC 16-18V for normal speed DC 6-10V for cushioning speed
Driving Method:	Screw driven type
Max. Output Power:	80W per driver
Gear Box:	Three-stage spur gear reducer
Operating Cycle:	13-19 seconds Per 90° (on AC power only)
Max. Piston Stroke:	400mm/500mm
Max Piston Speed:	3cm/sec
Max. Weight of Gate:	250kgs dependant on gate length
Max. Length of Gate:	2.5m per leaf (400mm) 4.0m per leaf (500mm)
Safety Clutch:	Electronic current sensing, high amp cutoff
Electronic Controller:	Micro-processor based
Remote Controller:	2 channel 330MHz

## Kit Includes

Standard Packaging of the swing gate opener kit includes: Single = 1 leaf Double = 2 leaf

Actuator Arm:	1 x for single or 2 x for double
Cardboard Template:	1 only
Primary Post Bracket:	1 x for single or 2 x for double
Secondary Post Bracket:	1 x for single or 2 x for double
Gate Bracket:	1 x for single or 2 x for double
Rubber Gate Stop:	1 only
Release Keys:	2 only
Primary Bracket Bolts:	Not supplied (Single x 4 or Double x 8)
Secondary Bracket Bolts:	2 x for single or 4 x for double
Gate Bracket Bolts:	2 x for single or 4 x for double
Rear Mounting Bolts:	1 x for single or 2 x for double
Release Bolts:	1 x for single or 2 x for double
Small Bracket set (3):	1 only
Control Box:	1 only
Main Control Board (Model D1):	1 only
Receiver:	1 only
Remotes/fobs:	3 only
Entry/Exit Button:	1 only
12v Battery:	1 only
Regulator:	1 only (if Solar)
45Watt Solar Panel:	1 only (if Solar) with 10mtrs cable + mounting bracket
Transformer 16VAC:	1 only (if Electric)
Conduit:	1 small piece only
Cable:	6m for double (across driveway for second actuator)
Junction box:	1 for double kit only

**PLEASE NOTE:** POST BRACKET BOLTS AND CONTROL BOX MOUNTING BOLTS ARE NOT SUPPLIED

# STANDARD KIT INCLUSIONS



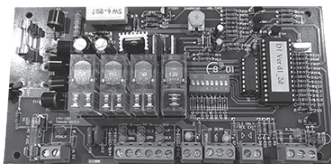
Control Box



Actuator Arm with **cardboard template**



Caution Sign



Main Control board



Receiver



Remotes



Push Button



Rubber Stop



12v Battery



Regulator  
(if Solar)



45watt Solar Panel  
(if Solar)



Transformer  
(if Electric)



Bracket Set  
(3)



Release Key



Gate Bracket



Primary  
Bracket



Secondary  
Bracket



Gate Bracket  
Bolts



Release Bolt



Mounting Bolt



P & S Bracket  
Bolts



# OPTIONAL EXTRAS



Round Gate Bracket



Round Post Brackets



Extra Secondary Bracket



Long Range Upgrade



Adjustable Hinge



Extra LR Remote



Wireless Keypad



Wired Keypad



Warning Light



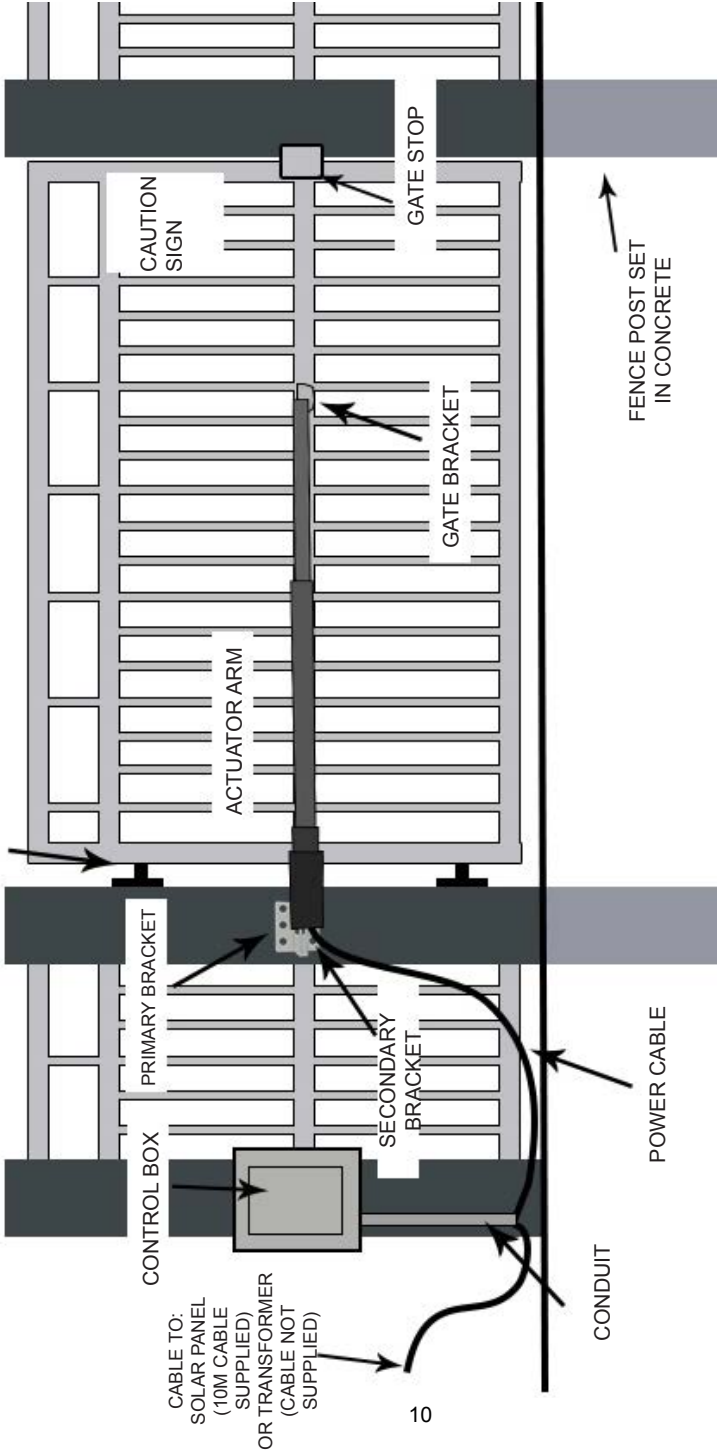
Wireless Eyebeams



Wired Eyebeams

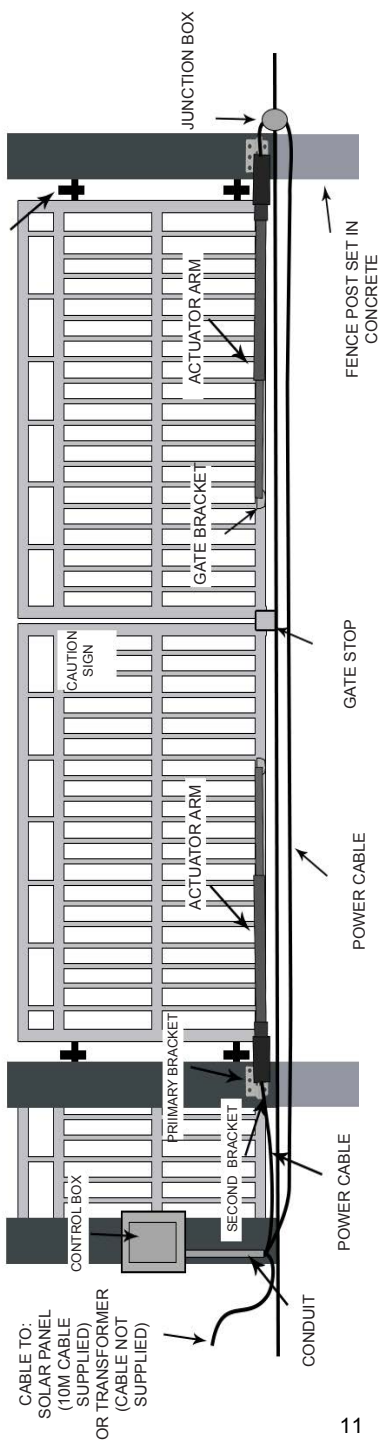


Keyed Push Button  
(wireless or wired available)



## Single Swing Setup Example

Installations vary slightly on different types of gates



## Double Swing Setup Example

### Installations vary slightly on different types of gates

# Before You Begin

## POWER OPTIONS

### 1. Determine Charging Option for Battery: Transformer OR Solar

NEVER USE TRANSFORMER AND SOLAR PANEL(S) AT THE SAME TIME.  
It will damage the control board.

#### IMPORTANT

- Transformer is suitable for outdoor use. Use 2.5m x 2 core cable
- The gate opener is designed and intended for use with a 12 Volt automotive or marine type battery.

## SOLAR PANEL

The solar panel should face full NORTH with a minimum of 6 hours of DIRECT sun exposure to be effective (filtered sunlight not acceptable). The solar regulator supplied is not weatherproof and must be located in the main control box to protect it.

The performance of your gate opener is dependent on your geographical location, weather conditions and seasonal lighting availability. On cloudy days and during winter, your solar panel will not receive as much direct sunlight, resulting in reduced output and may reduce operating time.

Accessories connected to your system will draw additional power from the battery.

For maximum charge see below for your area and recommended tilt:

**Brisbane 38°**

**Sydney 45°**

**Melbourne 50°**

**Tasmania 56°**

**Adelaide 48°**

**Darwin 14°**

**Perth 43°**

**0° being flat and 90° vertical**



**Important:** just one hand print of shade on your solar panel can reduce your solar panels output by up to 80%.

#### INCORRECT



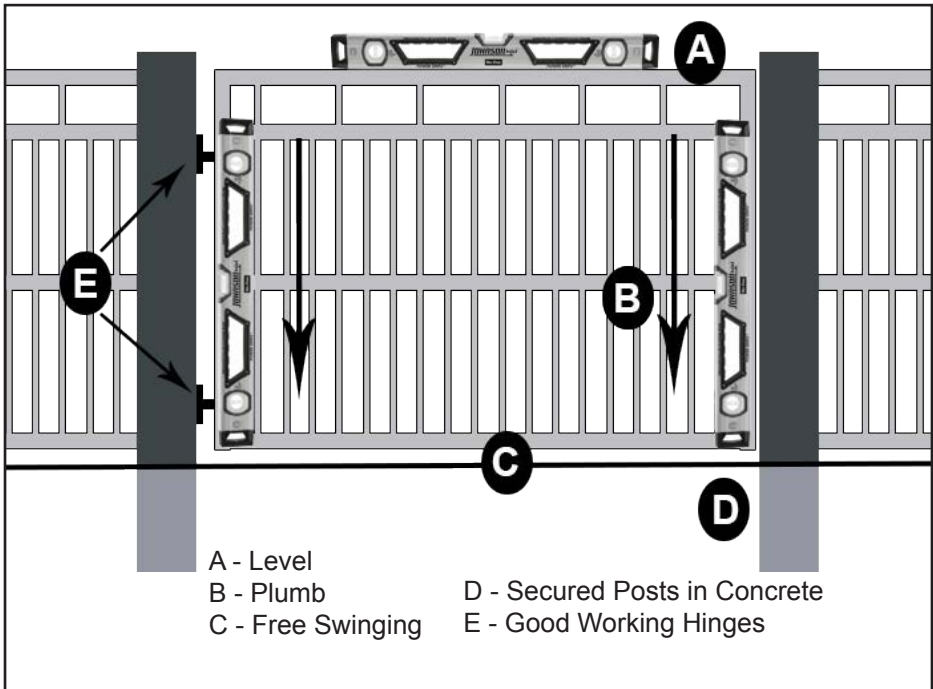
Solar panel should be installed with junction box at the top

#### CORRECT



# IMPORTANT: Check For Proper Gate Installation

- The gate must be plumb, level, and swing freely on its hinges.
- The gate must move throughout its arc without binding or dragging on the ground.
- A properly leveled gate will not have the tendency to self-open or self-close and remain stationary. A self-opening or closing gate suggests that the gate is not leveled. This will cause accelerated wear to your automatic gate system.
- Wheels must NOT be attached to the gate.
- Post must be secured in the ground with concrete (minimizes twist/flex when the operator is activated).
- Make sure there is a stable area for mounting the gate bracket.
- We recommend you position the operator near the center-line of the gate to keep the gate from twisting and flexing, and to avoid back-splash from rain.
- Double gates - rubber gate stop supplied will need to be bolted down to the middle of the driveway for the gates to close up onto
- Single gate - gate will either close up onto the opposite post or you can install the rubber gate stop on the post for the gate to strike
- You can install another gate stopper at the full open position or you may choose to let the gate swing till it is stopped by the internal built in stop mechanism when the arm is fully retracted (pull to open position) or fully extended (push to open position).
- Installing a gate stop at the full open position will allow for a firm/solid push and prevent the gate from swaying or moving in moderately windy conditions.



# Installation Pointers

The proper position of the Primary and Secondary Brackets (post bracket) and gate bracket is crucial to the efficiency and leverage of the gate opener. Attention needs to be paid to both its correct height and its position on the post in respect to the relationship between your gate hinge pivot point and the motor pivot point on the bracket. Once you have determined the general desired height of the actuator arm, position the bracket and take note of the dimensions.

Its best to locate the gate opener arms in approximately the middle between the top and bottom of the gate. This will prevent the gate from twisting or flexing and provide a more even pull and push over the entire gate.

## Pull-to-Open and Push-to-Open (Terminology)

- For pull-to-open gate - Arm is fully retracted when the gate is fully opened (gate pulls into the property)
- For push-to-open gate - Arm is fully extended when the gate is fully opened (gate pushes out towards the road)

## Mounting of the Control Box

Select a flat and sturdy surface for the mounting of the control box.

Care must be taken to ensure that the mounting screws and holes on the control panel are properly sealed to prevent water seepage and insects into the control box (silicon around screws). Water damage or insect damage to the control board will void your warranty.

The mounting point guides located in your control box serves only as reference and a guide for your installation. We recommend that the mounting points be lower then the D1 control board, so that in the unlikely event that water seeps in, it will not flow onto the control board.

# Cardboard Actuator Template

The cardboard template is a guide for the actuator arm in Full-Open and Full-Close positions. The template is simply 2 x card board strips with a screw joining the 2 together. The screw is acting as your pivot point where the actuator arm will attach to the secondary bracket.

This is an easy way to determine the best position to drill your bracket mounting points for your post and gate brackets and take the guess work out of installation.

Clamping your brackets first is always recommended.

You may need to change the bracket or design a new one that best suits your application.

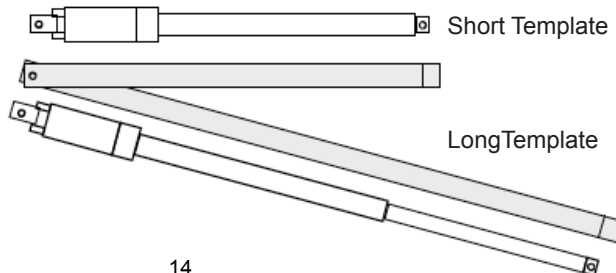
Each arm guide has a mark measured from the screw.

The screw represents the position of the secondary post bracket pivot.

The outer line marked on the guide represents the position of the gate bracket pivot.

Short template – Arm fully retracted

Long template – Arm fully extended



# Installation of Gate Opener

## Primary and Secondary Post Brackets

The position of the Primary and Secondary post brackets are crucial to the success of your installation and attention needs to be paid to both correct height and position on the post in respect to the relationship between your hinge pivot point and the motor pivot point on the bracket. Once you have determined the general desired height of the actuator arm, position the bracket and take note of the dimensions.

In a standard installation the basic aim is to get the “J” and “K” dimensions to be as close as possible to equal, but “J” can be greater allowing for a more positive push of the gate against gate stop.

Hint: The dimension of BOTH J and K for a standard installation is approximately

### For 300mm Arm

J ~ 150 mm - 170mm

K ~ 150 mm - 170mm

### For 400mm Arm

J ~ 200 mm

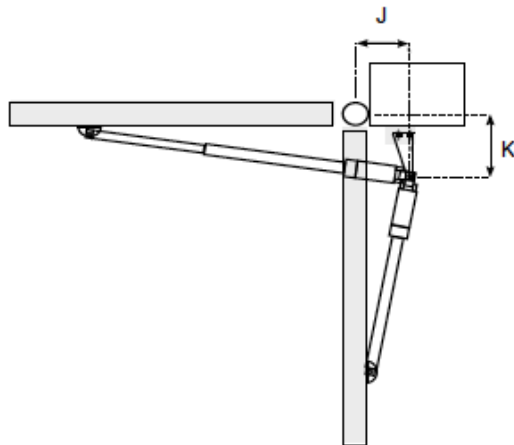
K ~ 200 mm

### For 500mm Arm

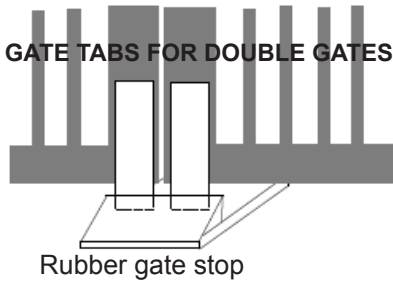
J ~ 250 mm

K ~ 250 mm

This dimension is a good initial position to place the cardboard template. Please note the above measurements are for a guide only.



# Installing the Gate Stop



## Double Gates

Installing the rubber gate stop is required to ensure proper alignment of the two gates and for them to have a solid push onto the stopper in the full-closed position.

## Single Gates

The gate should either stop onto a post in the closed position, or you can use the rubber gate stop and place it onto the post allowing the gate to have a solid push in the closed position. If using the rubber stop, make sure you place it on the same level as the actuator arm to avoid bending and twisting of the gate.



Rubber gate Stop on post

Actuator arm on same level

## Full-Close Position

Each gate must stop on a firm and well secured Gate Stop in the closed position. Failure to do so may result in misalignment and accelerated wear to the system and the gate hinges.

## Full-Open Position

In the full-open position, the gates can either be hard stopped by a peg / stopper, or be stopped by the internal built-in mechanism at the end of the retracted arm (Pull-to-Open gate) or fully extended arm (Push-to-Open gate).



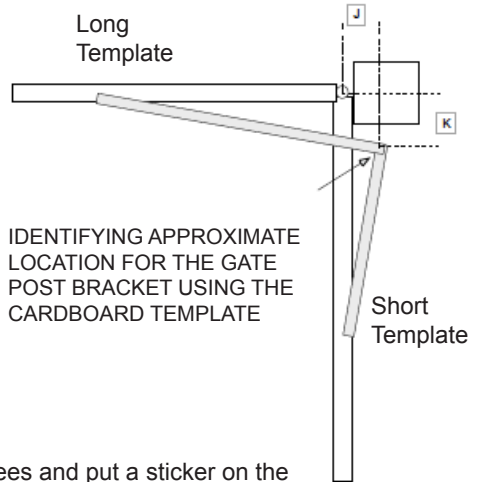
# Pull-to-Open Setup

Actuator on the inside of the property with the gate pulling in to open

## Step 1.

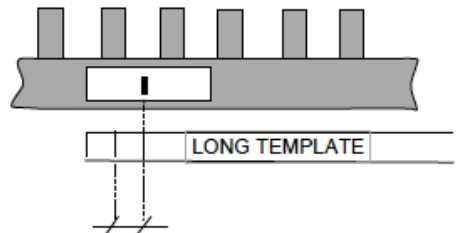
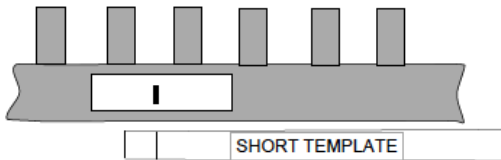
Position the template on the ground approximately where the arm is to be installed with the short length in the fully open position and the long length at the fully closed position.

Hint: The pivot point of template for a standard gate should be approximately (200mm x 200mm for 400mm arm) and (250mm x 250mm for 500mm arm) from the gate hinge in both the J and K direction. Please note the above measurements are for a guide only.



## Step 2.

**Short Template.** OPEN gate fully to 90 degrees and put a sticker on the gate to mark the approximate location to mount the Gate Bracket.



## Step 3.

CLOSE the gate to the gate stop.

- Compare the long template mark with the mark on the gate that was done on Step #2.
- Check that the gate mark is at least 10mm LESS than the mark on the template. This is to ensure that the gate will have a solid push onto the gate stopper in the closed position.

**LONG Template.** Gate fully CLOSED Ensure that the mark on the gate is less than the mark on the long template



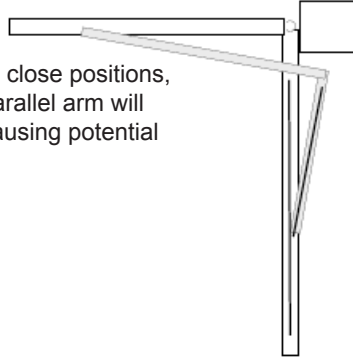
# Pull-to-Open Setup

Actuator on the inside of the property with the gate pulling in to open

## Step 4.

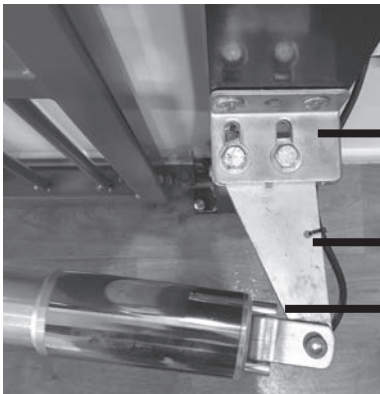
Ensure that there is sufficient angle (more than 5 degrees) non parallel between the template and the gate.

It is important that in both the full open and full close positions, the arms must not be parallel to the gate. A parallel arm will not result in a turning movement to the gate causing potential damage to both gate and actuator arm.



## Installing Primary and Secondary post brackets

Assemble the primary and secondary brackets by placing the secondary wall bracket between the middle gap of the primary wall bracket. Do not tighten the nylon nut yet.



Primary Wall Bracket

Secondary Wall Bracket (straight section facing away from the gate)

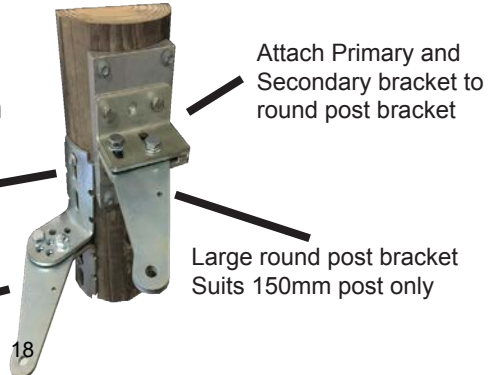
Rear actuator pins should NEVER bind onto the secondary bracket

## Round Post Bracket Installation

*Optional extra if ordered with the kit*

Standard round post brackets  
Suits all post sizes (bracket pair)

Place Secondary bracket between  
the 2 round post brackets



Attach Primary and  
Secondary bracket to  
round post bracket

Large round post bracket  
Suits 150mm post only

# Pull-to-Open Setup

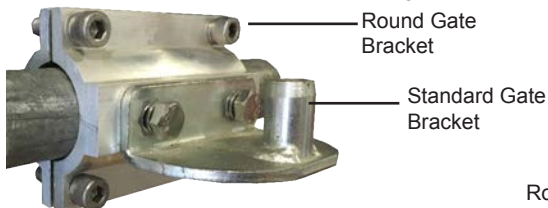
Actuator on the inside of the property with the gate pulling in to open

- Check your J & K measurements.
- Pivot point should be worked out from template now
- Open the gate to 90 degrees
- Attach the retracted arm on the secondary bracket.
- Swing the arm on the secondary bracket towards the gate.
- At the position in which the arm contacts the gate, this marks the position of the gate bracket. Temporarily hold the gate bracket with a clamp.
- Attach the arm to the gate bracket.
- Now extend the arm to close the gate and hit the stop. Do this by taking red and blue cable from the actuator arm and placing them onto the battery terminals red to positive blue to negative to extend arm.
- The arm should be at least 10mm from full extension when the gate completely closes against the stop. This is to ensure that when in operation, the arm will give a solid push to the gate onto the stop.
- If the gate does not fully close, even when the arm is fully extended, re-adjust the Primary and or Secondary brackets.
- A smaller [K] is necessary if gate does not fully close
- A bigger [J] will allow for a more positive push of the gate towards the gate stop
- Once the final position of the Primary and Secondary brackets have been determined, secure the brackets to the post.
- If double gates, repeat the same procedure for the second gate.

**NOTE: Actuator Arm MUST be level with the gate**

## Round Gate Bracket Installation

*Optional extra if ordered with the kit to suit farm gates*



Round gate bracket setup examples



# Push-to-Open Setup

Actuator on the inside of the property with the gate pushing outwards

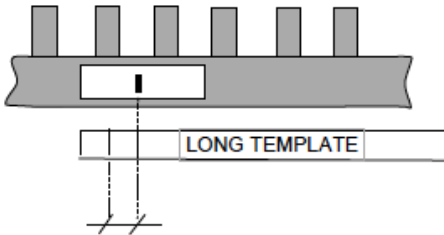
You may require the longer secondary bracket for this setup (see optional extras page 9)

## Step 1.

Position the template on the ground approximately where the pivot point of the arm is to be installed with the long length in the fully open position and the short length at the fully closed position.

## Step 2.

OPEN the gate to 90 degrees and place a length of white tape to the gate roughly where the gate bracket maybe positioned. Close the gate to the gate stop and compare the short template mark against the mark on the white tape of the gate that was done in the open position. Check that the gate mark is about 10mm LESS than the mark on the cardboard template. This is to ensure the gate will have a solid push onto the gate stopper in the closed position.



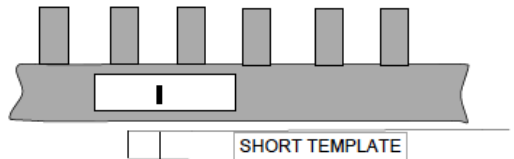
**LONG Template.** Gate Fully OPENED to 90 degrees

Put a sticker to mark the approximate location to mount the Gate Bracket.

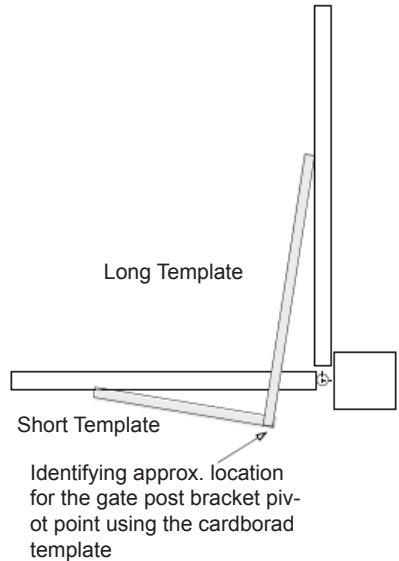
## Step 3.

CLOSE the gate to the gate stop.

- Compare the short template mark with the mark on the gate that was done on Step #2.
- Check that the gate mark is at least 10mm LESS than the mark on the template. This is to ensure that the gate will have a solid push onto the gate stopper in the closed position.



**Short Template.** Gate in Fully CLOSED Position. Ensure that the Mark on the Gate is Less than the mark on the short template.



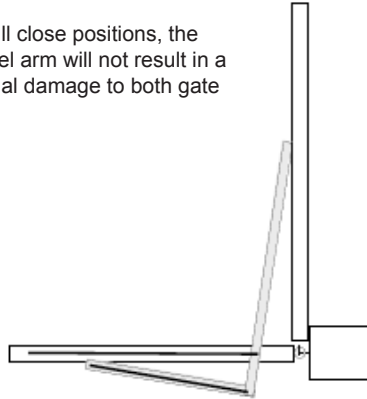
# Push-to-Open Setup

Actuator on the inside of the property with the gate pushing outwards

Step 4.

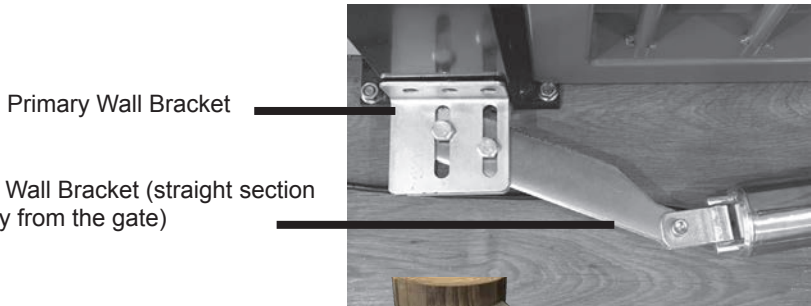
Ensure that there is sufficient angle (more than 5 degrees) non parallel between the template and the gate.

It is important that in both the full open and full close positions, the arm must not be parallel to the gate. A parallel arm will not result in a turning movement to the gate causing potential damage to both gate and actuator arm.



## Installing Primary and Secondary post brackets

Assemble the primary and extra long secondary brackets by placing the secondary wall bracket between the middle gap of the primary wall bracket. Do not tighten the nylon nut yet.



Primary Wall Bracket

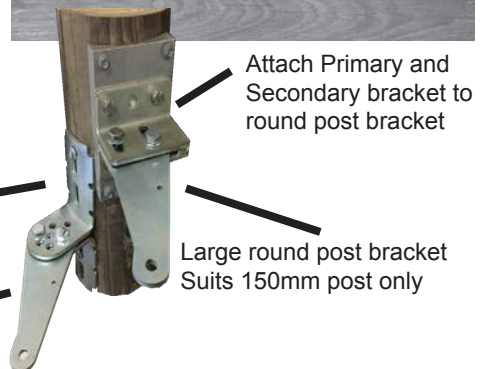
Secondary Wall Bracket (straight section facing away from the gate)

### Round Post Bracket Installation

*Optional extra if ordered with the kit*

Standard round post brackets  
Suits all post sizes (bracket pair)

Place Secondary bracket between the 2 round post brackets



Attach Primary and Secondary bracket to round post bracket

Large round post bracket  
Suits 150mm post only

# Push-to-Open Setup

Actuator on the inside of the property with the gate pushing outwards

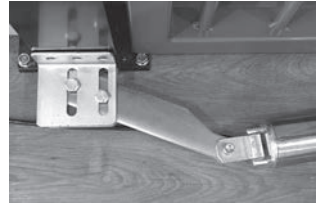


2 possible mounting positions for the post bracket for push to open gates

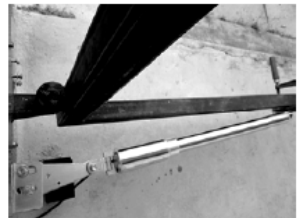
- Back of post
- Same face as gate hinge
- Pivot point should be worked out from template at this stage.
- Open the gate to 90 degrees.
- Fully extend the arm, then do half a turn back and attach the arm to the secondary bracket.
- Swing the arm on the secondary bracket towards the gate.
- At the position in which the arm contacts the gate, this marks the position of the gate bracket. Temporarily hold the gate bracket with a clamp.
- Attach the arm to the gate bracket.
- Now retract the arm to close the gate and hit the stop. Do this by taking red and blue cable from the actuator arm and placing them onto the battery terminals blue to positive red to negative to retract arm.
- If the gate does not fully close, even when the arm is fully retracted re-adjust the Primary and or Secondary brackets.
- Once the final position of the Primary and Secondary brackets have been determined, secure the brackets to the post.
- If double gates, repeat the same procedure for the second gate.

**NOTE: Actuator Arm MUST be level with the gate**

**DO NOT** have the release bolt done up tight as this will make for a difficult release of the actuator arm and may cause jamming or binding



Setup shown with Post Brackets on the back of the gate post



Push-to-Open Gate (Fully closed)



Push-to-Open Gate (Fully Opened) Post bracket mounted on same face as gate hinges

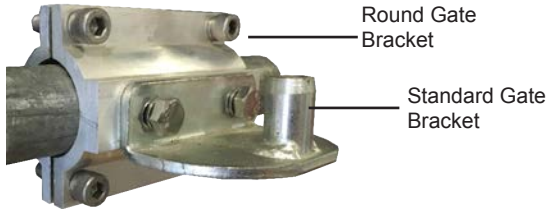


# Push-to-Open Setup

Actuator on the inside of the property with the gate pushing outwards

## Round Gate Bracket Installation

Optional extra if ordered with the kit to suit farm gates



Photos above for illustration purposes only - round gate bracket examples

BELOW ARE EXAMPLES OF AN **INCORRECT** SETUP WITH ARMS RUNNING PARALLEL



# Transformer Wiring Installation

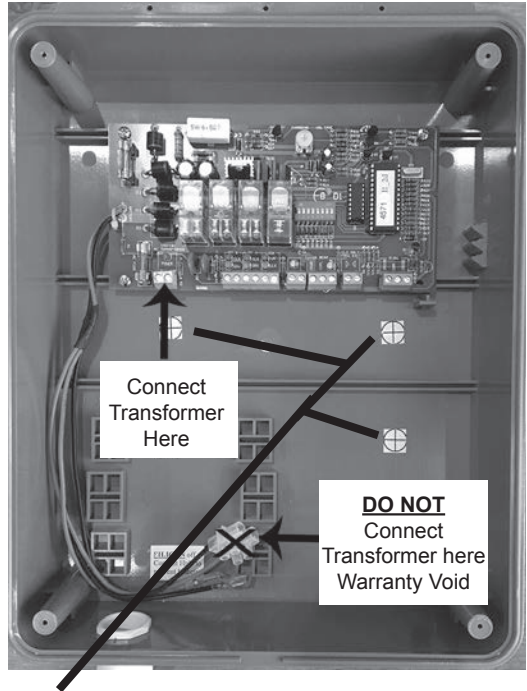
The Transformer can be relocated up to 50mtrs from the control box. You MUST install the transformer via a RCD to avoid injury from shock as per local government electrical requirements. Always switch off mains power when any work is being carried out on or around the gate installation. Always ensure that the transformer is properly protected from water and dampness. We recommend a minimum 2.5mm x 2 core cable. Connect the mail plug of the transformer into the 240Vac power socket and connect the output cable (16Vac) into the D1 control board.

Transformer



**TRANSFORMER MUST PLUG INTO A  
240VAC POWERPOINT  
DO NOT HARDWIRE  
OR THIS WILL VOID WARRANTY**

Refer to the separate coloured **“Wiring Guide”** for a step-by-step way to install the control box

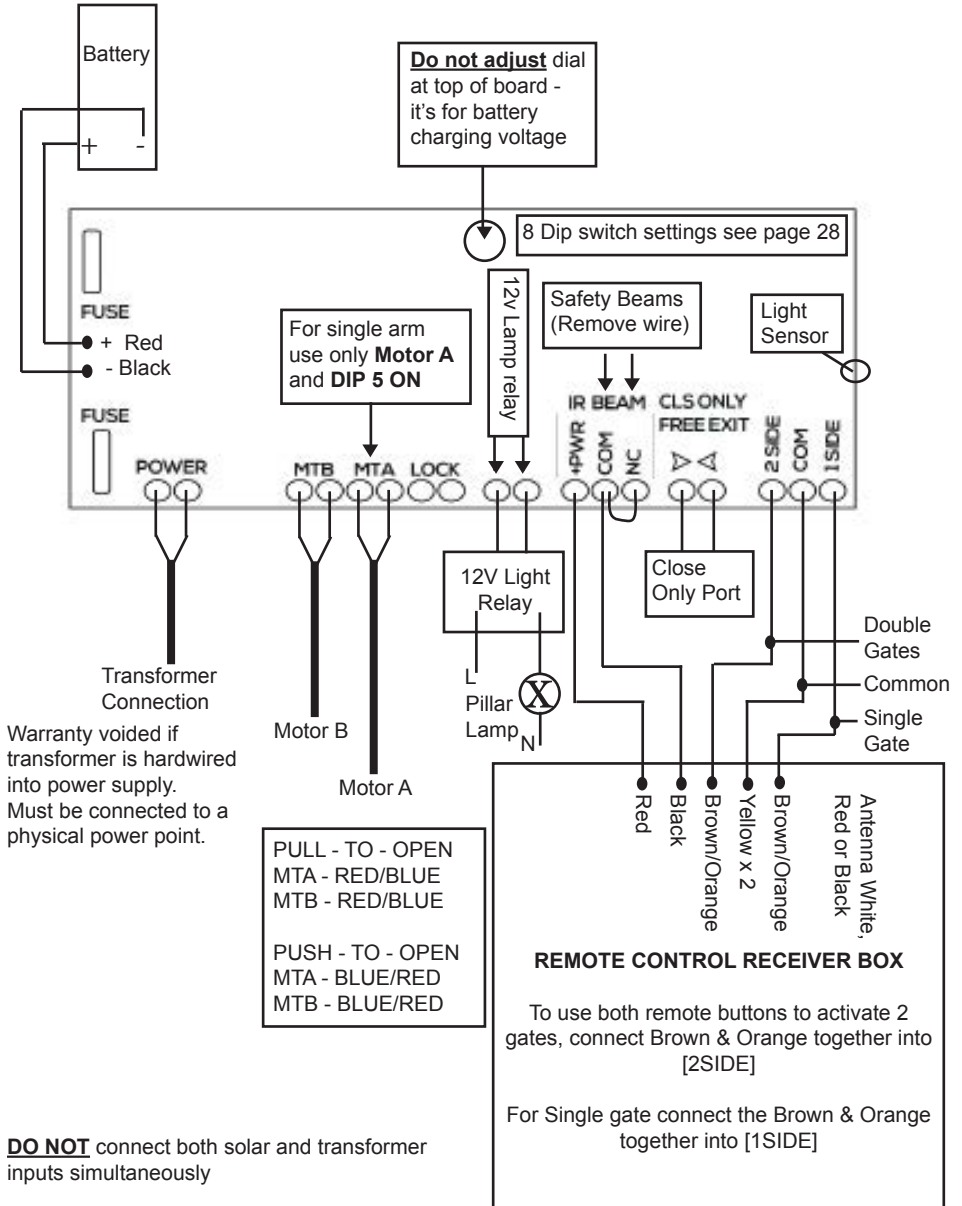


**Use these mounting points to  
secure box to post - do not mount  
or screw above the main control  
board**



# Transformer Wiring Installation

## SINGLE AND DOUBLE WIRING SETUP



**DO NOT** connect both solar and transformer inputs simultaneously

**IMPORTANT:** Receiver and Battery **MUST** be kept inside the control box out of the weather

# Solar Wiring Installation

## Connection of Power Source (Solar)

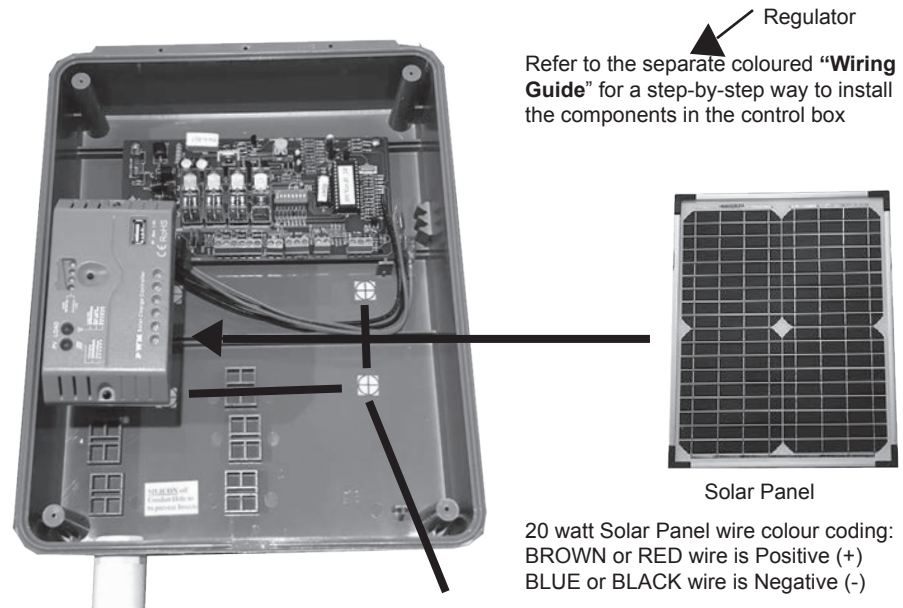
The system can be solar powered via an optional solar system with 12V voltage regulator connected directly to the battery.

Do NOT use both solar and mains power at the same time.

The Solar panel must face FULL NORTH with the recommended tilt from your wiring diagram booklet and within 10m of the battery. The panel requires a minimum of 6 hours of direct sun light to be effective (hand print size shading will reduce output by up to 80%).

The Regulator is not weatherproof and must be located in the control box to protect it.

Additional accessories connected may reduce the batteries performance e.g battery life and/or battery standby capacity during unfavourable conditions.



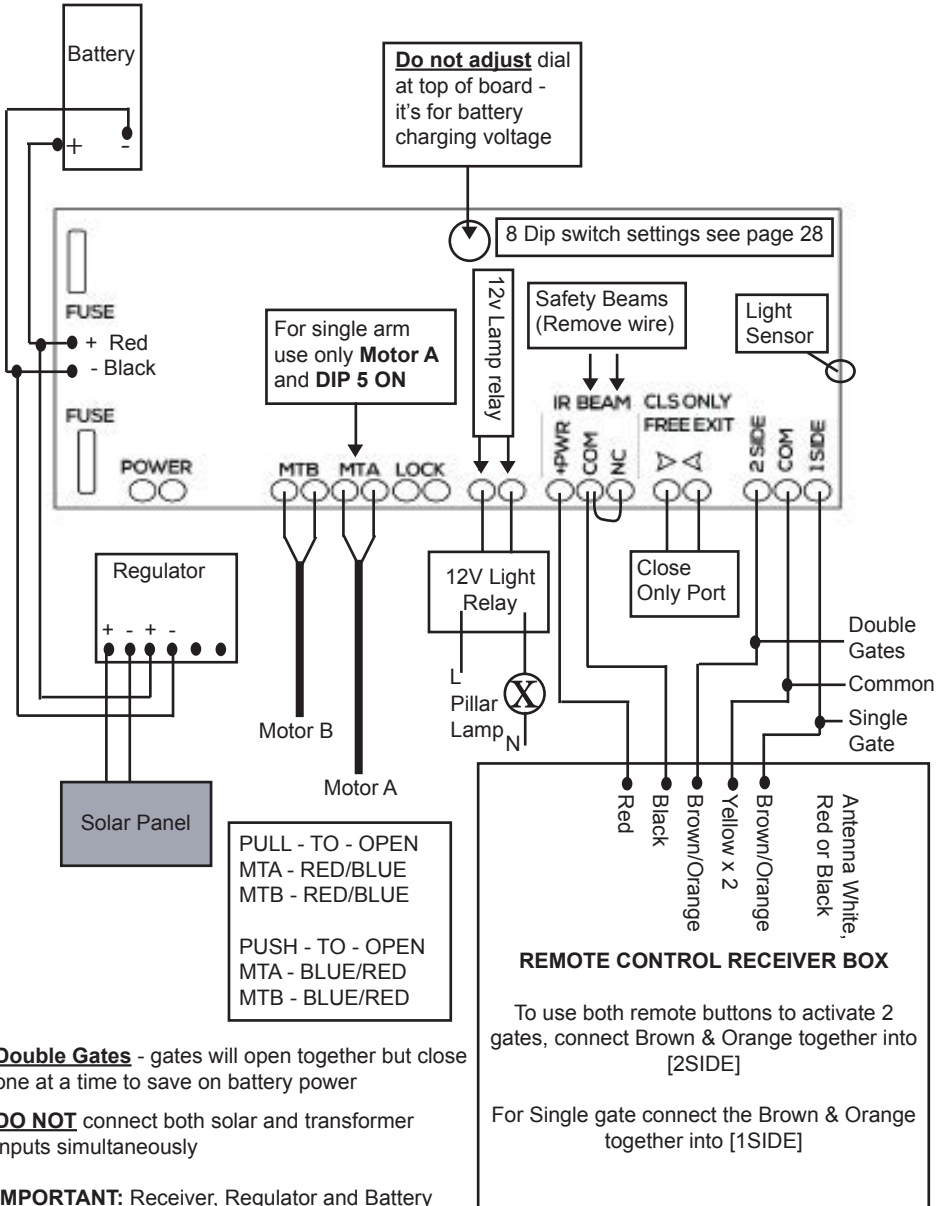
Best solar panel angles below for all year round - panel must face FULL NORTH

- Brisbane 38°
- Sydney 45°
- Melbourne 50°
- Tasmania 56°
- Adelaide 48°
- Darwin 14°
- Perth 43°

0° being flat and 90° vertical

# Solar Wiring Installation

## SINGLE AND DOUBLE WIRING SETUP



**Double Gates** - gates will open together but close one at a time to save on battery power

**DO NOT** connect both solar and transformer inputs simultaneously

**IMPORTANT:** Receiver, Regulator and Battery MUST be kept inside the control box out of the weather

# Control Board - D1

The E8 D1 control board is specially designed to match 12Vdc arm gate motors. The electronic panel requires no maintenance as long as the gate operates in proper order and is kept dry and insect free. Mount the control box as close to the actuator arm (maximum 10m cable) as possible connected with minimum .66mm 2 core electrical cable to reduce any voltage drop which will affect the performance of the system.

## Setting the Dip Switches on the control board:

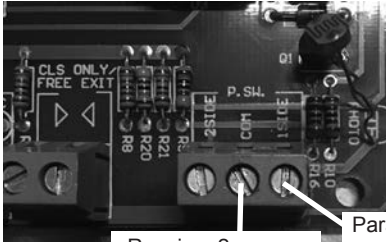
- [1] ON = Delay sequence for Double-Leaf gate with solenoid lock
- [1] OFF = Gates open/close at the same time (DC ONLY)
- [2] ON = Small reverse before opening - (for solenoid lock use)
- [2] OFF = Gate open immediately without small reverse movement
  
- [3] OFF [4] OFF = Light ON (gate opens) & Light OFF 1 min. after gate closes
- [3] ON [4] OFF = Light ON when light sensor/photocell detects dark ambient  
Light OFF 1min after photocell detects light  
DO NOT USE on a solar powered system
- [3] ON [4] ON = Light ON when gate is moving
  
- [5] ON = Single Gate Operation only (MT A)
- [5] OFF = Double Gate Operation (MT A & MT B)
- [6] OFF = Not in use
  
- [7] OFF [8] OFF = Disable Auto Close
- [7] OFF [8] ON = 30 sec. Auto Close
- [7] ON [8] OFF = 60 sec. Auto Close
- [7] ON [8] ON = 120 sec. Auto Close

**SOLAR or BATTERY power only used:** When the system is running on Solar or Backup Battery only, the arms will open together but close one at a time.

# Setting up the System

## Single Gate Setup

1. Set DIP switch 5 to the ON position and connect the arm motor wires to MT A terminals  
DO NOT connect the arm motor wires to MT B.
2. Receiver - Connect both receiver wires together (orange & brown) and place into the far right terminal [1SIDE].
3. Place receiver common wires (2 x yellow) into the [COM] terminal.  
**NOTE:** Do Not have any connections going into 2SIDE terminal as this will confuse the board and Motor B will no cut off.



**NO**  
Connection to [2SIDE]  
terminal for single arm

4. Set the gate in the open position and then power up the D1 board. (Solar = connect battery up or Electric = turn transformer on at power point)
5. Press the remote once (the arm will counter out if required) then press the remote a second time and observe the RED LED light at [MT A] indicating the close cycle on the D1 board. Gate will run on slow speed while closing.
6. If the physical gate is closing but the [MT A] GREEN LED light is showing (indicating an opening sequence), disconnect power then reverse the arm wire and start setup again.
7. As the gate closes up onto the stop, the board will auto cut off when high amps are detected and the RED LED light will go out.
8. Press the remote again and the gate will open, observe the GREEN LED light indicating the opening cycle.
9. If on the first closing cycle (at high speed) the gate reopens, this is ok.
10. Press the remote again and observe the RED LED light indicating the close cycle.
11. When the gate is stopped in the closed position, the RED LED light will go off.

The system has now stored the range between opening and closing time. The microprocessor will automatically adjust the low speed and high speed opening/closing of the system. Setup is now complete.

Test each cycle a few times to make sure the microprocessor has stored the correct range.

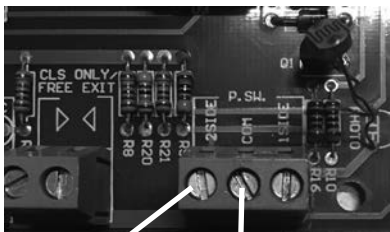
- The gate will auto reverse when the system detects obstruction (high amps) during high speed closing operation only.
- The gate will stop when the system detects an obstruction during opening operation.
- **RESET:** reset the memory by removing all power sources (mains, battery an solar panel). Wait for 30 seconds and repeat steps 1 - 4. The system will reset the open/close calibration.

Your single gate kit is now installed, silicon off conduit hole and secure control box lid.

# Setting up the System

## Double Gates Setup

1. Make sure DIP switches are all set to the OFF position and connect the arm motor wires to MT A and MT B terminals.
2. Receiver - Connect both receiver wires together (orange & brown) and place into terminal [2SIDE].
3. Place receiver common wires (2 x yellow) into the [COM] terminal.



Parallel Orange and  
Brown wire of  
Receiver to [2SIDE]

Receiver 2 x  
Yellow wires  
[COM]

4. Set the gates in the open position and then power up the D1 board. (Solar = connect battery up or Electric = turn transformer on at power point)
5. Press the remote once (the arms will counter out if required) then press the remote a second time and observe the RED LED light at both [MT A] & [MT B] indicating the close cycle on the D1 board. Gates will run on slow speed while closing.
6. If the physical gates are closing but the [MT A] & [MT B] GREEN LED light is showing (indicating an opening sequence), disconnect power then reverse the arm wires and start setup again.
7. As the gates close up onto the stop, the board will auto cut off when high amps are detected and the RED LED light will go out.
8. Press the remote again and the gates will open, observe the GREEN LED light indicating the opening cycle.
9. If on the first closing cycle (at high speed) the gates reopen, this is ok.
10. Press the remote again and observe the RED LED light indicating the close cycle.
11. When the gates stop in the closed position, the RED LED light will go off.

The system has now stored the range between opening and closing time. The microprocessor will automatically adjust the low speed and high speed opening/closing of the system. Setup is now complete.

Test each cycle a few times to make sure the microprocessor has stored the correct range.

- The gates will auto reverse when the system detects obstruction (high amps) during high speed closing operation only.
- The gate will stop when the system detects an obstruction during opening operation.
- **RESET:** reset the memory by removing all power sources (mains, battery and solar panel). Wait for 30 seconds and repeat steps 1 - 4. The system will reset the open/close calibration

Your double gate kit is now installed, silicon off conduit hole and secure control box lid.

# Remote Controls and Receiver

## Remote Controls:

The 12Vdc remote transmitter contains 2 signals represented by button 1 and button 2 on your remotes. Confirm with the owner which function they want for each of the buttons.

Double gate setup button #1 can be set as a single gate operation while button #2 is set as double gate operation.

You can change this so that either button will activate BOTH gates by joining the Orange and the Brown wire at [2SIDE] terminal.

If you have 2 separate gates on your property you can have your remote operate both gates using the separate buttons on your remote. When wiring in your receiver using the Brown and Orange cable, instead of wiring them in together (either 1SIDE or 2SIDE depending single or double gate) only wire in 1 of the coloured cables and leave the other one free. Then do the opposite on the other gate.

Red button = Orange Receiver cable

Green button = Brown Receiver cable

## Antenna:

Green / Blue / White / Red

The antenna wire is a tuned length, DO NOT CUT.

## Adding New Remotes:

Remove the back panel of the remote (tiny phillips screw) that is already working to activate your gate/s. Match the new remote receiver 8 DIP settings to the current remote 8 DIP switch settings. Each DIP switch has 3 positions (top, middle and bottom) so care must be taken when setting each DIP switch. Check the signal transmission by pressing your new remote.

## Changing Receiver Code:

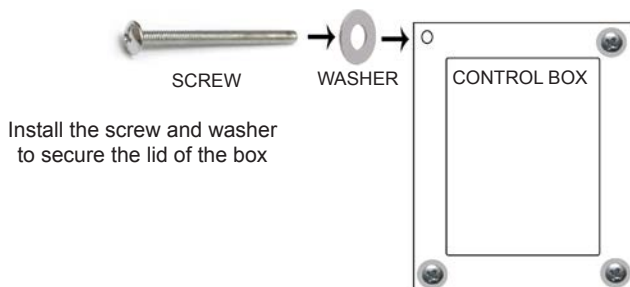
The black remote receiver box has 6 coloured wires connecting to your main control board.

Remove the back cover to view the 8 code DIP switches.

If you change these you must also change all your remote DIP switches by removing the back panel of each remote and match to the receiver DIP settings. Each switch has 3 positions (top, middle and bottom) so care must be taken when setting each DIP switch. After the receiver is connected to the main control board, check signal transmission.

Test each of the remotes individually.

# Attaching Control Box Lid



# Other Considerations

**Gate Stop** must be installed in the centre of the driveway for double gates to close up onto and apply solid pressure.

**Arm Condensation Drain Hole:** Always mount arms with condensation drain holes facing down or water will enter the motor and damage the electrics voiding the warranty. This is indicated on your arm with the “**THIS SIDE DOWN**” marking.

**Actuator Arms** must not be parallel with the gate but must be level with the gate.

**Wiring Double Gates:** Connect your arms to [MT A] and [MT B]. We recommend using .66mm wire or greater. Lighter cable will restrict the performance of the system. Use a suitabel electrical junction box to protect cable joints from moisture damage.

**Check Motor Rotation Direction:** After power supply has been connected to the control panel, make sure the gate swings in the correct direction. The system will initiate an OPEN signal (GREEN LED light on the board) the first time the remote is pressed. The second time the remote is pressed the system initiates a CLOSE function (RED LED light on the board). This is important as the wrong direction will cause the system to work in the reverse manner.

**Hint:** *Check the LED lights above [MT A] and [MT B]. Green indicates an OPEN cycle and RED a CLOSE cycle.*

*If the gate is physically closing when the motor LED shows OPEN (GREEN), then the polarity of the motor wire is reversed.*

*To rectify, reverse the actuator wire (red and blue cable) polarity at the control board.*

**Safety Infrared Beams (WIRED):** See Diagram Page 36

Observe the [IR BEAM terminal] on the D1 board

Connect the + of Photobeams to [+PWR] and COM of Photobeam to [COM]

Connect the - of Photobeams to [COM] and OUT of Photobeam to [NC]

When installing the photobeams you will need to remove the small loop wire that is pre positioned on your D1 board at [COM] and [NC].

Replace the jumper wire when beams are not in use.

**Electric Gate Lock:** See Diagram Page 39 & 40

Used when a 12Vdc lock is installed to keep gates from being forced open when fully closed.

**Single gate opener:**

Connect the 2 cables direct from the gate lock to the D1 control board [LOCK]

**Double gate opener:**

Connect the 2 cables direct from the gate lock to the small PCB board supplied 3 and 4.

Connect power to the small PCB board 2 (-) and 5(+).

Connect the relay to the small PCB board White cable to 1 and blue cable to 5.

Connect the relay to the D1 control board, White to [LOCK] left side and blue to [LOCK] right side.

Set DIP switch [1] & [2] to ON position. This allows for the gate/s to have a slight reverse movement just prior to the disengaging of the solenoid lock.



# External Light Connection

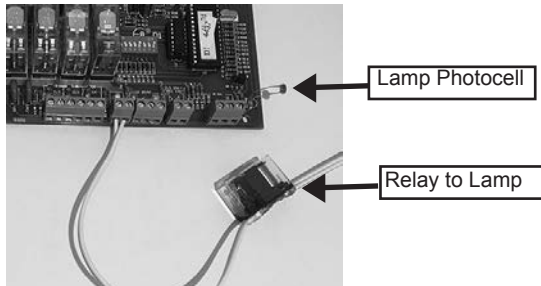
## NOT for Solar Power Setup

The D1 control board has a 12Vdc output on the Lamp Relay Terminal. Left terminal is negative and right is positive. This output is to energise an EXTERNAL 12Vdc relay which in turn can be used to turn on/off a higher rating electrical item such as a Pillar Light.

**Warning:** All 240v wiring MUST be done by a qualified electrical person.

You can power directly from the board, if the light draws no more than 200mA

1. Set DIP Switch on the D1 Board [3] and [4] to OFF position
2. In this setup, the LAMP output will be ON when the gate is open, and will turn OFF 1 minute after the gate is closed
3. Connect a 12Vdc relay as shown below:



**Note:** The D1 board is designed with a Lamp Photocell (bottom right side of the D1 board) so that Lamp Relay will NOT be activated in Bright Ambient.

When connected to Pillar Lights, this design prevents the Pillar Light from turning ON during the Day.

Please note however, that due to the different lighting intensity, direction of lights, reflection etc. in the Control Box, it is possible that the Lamp Relay is activated even if the external ambient is significantly brighter.

If you wish that the Pillar Lights to be turned on, irrespective of the ambient lighting, use dark tape to cover the Lamp Photocell or turn the Photocell inwards when mounted in the control box. Point the Lamp photocell to the side gills of the supplied control box for ambient light detection.

# Trouble Shooting

**Problem:** The gate does not travel smoothly when opening or closing.

**Solution:**

- Ensure there is no obstruction to the movement of the gate such as hitting the ground. This can be verified by releasing the gate to emergency release mode. Manually swing the gate open/close to detect any tight spots.
- Ensure that the gate is properly leveled and that the dimension guide for the installation of the automatic gate is followed.
- Actuator arms **must not be** parallel to the gate when fully open or fully closed.

**Problem:** The system does not respond when the remote is pressed.

**Solution:**

- Make sure the remote is in good condition. Ensure that the battery is functioning and the LED on the remote lights up when the button is pressed. Replace the battery if the remote only works at very close range to the receiver.
- Check the receiver by removing the control box cover and view the inside of the black receiver box for insects.
- Check the wiring of the receiver panel and make sure the power is connected with the correct polarity. Check the power from control board to ensure there is 12Vdc to the receiver.
- Try other optional activation devices such as the exit button or keypad. If hardwired devices activate the gate but all transmitters do not, recheck the black receiver box.
- Check the arms are working using the power directly from the battery.
- Check wires are connected properly to the control board.
- If the system is Solar Powered, charge the battery on a car battery charger for 2 hours (even if charger indicates the battery is charged, still charge for 2 hours).

**Problem:** The gate does not fully open and close, or stops half way.

**Solution:**

- Ensure there is no obstruction to the movement of the gate. This could also be high resistance such as poor gate installation or high winds activating the anti obstruction sensing. This can be verified by releasing the gate to the emergency release mode (remove the arms from the gate). Manually push the gate open and close to detect any obstruction.
- Ensure that on the first setup, the gate is fully closed or opened before the board is initialised. Short distance detection will result in error of count for the total time of the gate swing.
- Ensure that when the arm actuators are removed from the gate, the gate does not have a tendency to swing open or close but stays stationary. Self opening or closing gates will cause an uneven force for opening and closing.
- If the system is Solar Powered, charge the battery on a car battery charger for 2 hours (even if charger indicates the battery is charged) still charge for 2 hours.

**Problem:** The gate will open but not close.

**Solution:**

- Check the wire loop is still in place on [IR BEAM] block between terminal [NC] and [COM]
- If photobeams are fitted, check beam wiring, setup and obstructions.

**Problem:** On double gate setup, one gate closes fully before the 2nd gate starts to close.

**Solution:**

- This is standard for your solar system setup
- If the system is electric then its running on battery only and the transformer AC is not connected or working. Check power with voltmeters

# OTHER ACCESSORIES

## Long Range Receiver

### TO PROGRAM REMOTES TO THE RECEIVER

Step 1: press and hold remote button that is to trigger the opener. It is important that this button is continuously held from step 1 through to step 3.

Step 2: place the jumper over the two LEARN pins on the PC Board for 2 seconds.

Step 3: remove the jumper from the two pins.

Step 4: release the button on the remote.

That particular button on the remote is now programmed to the receiver.

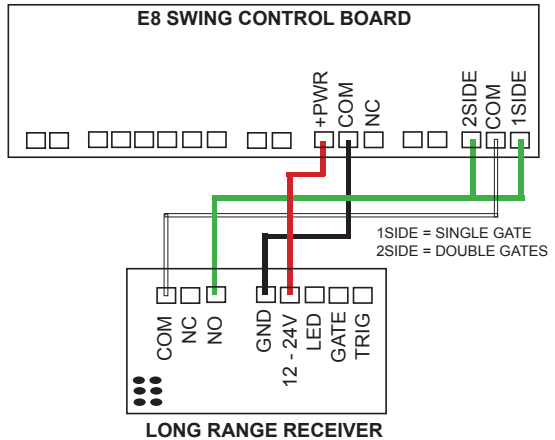
### TO ERASE ALL REMOTES

Step1: Place the jumper across the two ERASE pins

Step2: The LED will flash 4 times to warn you that the remotes will be erased after which the LED will stay solid red

Step 3: When the LED remains on solid, all the remotes have been erased

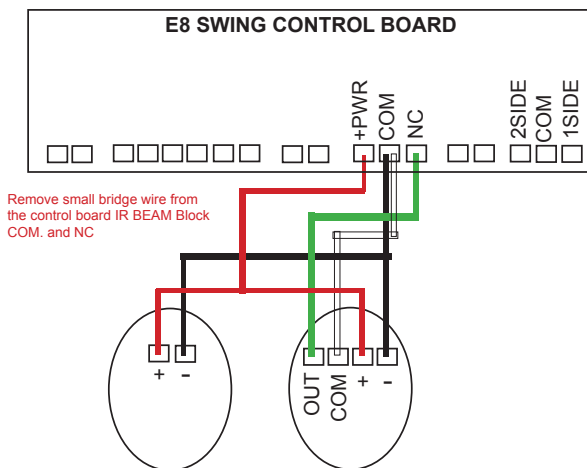
Remove the jumper



### MANUFACTURERS RECOMMENDATIONS AND COMMENTS

1. For optimum range it is advisable to place the receiver a minimum of 2 metres vertically away from the gate motor e.g. top of gate posts.
  2. When placing the receiver out of the control box it is important to ensure that the cable entry point faces down. This is to ensure that water does not enter the receiver. The receiver housing is "SPLASH" proof, allowing it to be positioned externally. It is, however, not protected against a direct spray of water e.g. hose pipe or, as indicated above, not protected against rain should the cable entry point be facing upright. We recommend to silicon the hole where the cable comes out to prevent insect infestation.
  3. Make sure there are no exposed wires outside the receiver.
  4. Placing the receiver inside the motor housing will reduce the range of the receiver when the motor is in operation.
  5. Range may be affected by signals transmitted from another source.
  6. When coding remotes for use in a complex it is recommended that all remotes be physically numbered and a record be kept.
- \*\* All dependent on line of sight to the gate and interference which may reduce expected range.

# Photocells/Eyebeams - Wired



## **INSTALLATION**

1. The best installation height should be more than 20cm
2. Installation distance should be not less than 1m
3. The infrared protection device should be vertically placed and in the same horizontal line
4. Install the receiver and then the transmitter (when they are in a straight line, the OFF light of the receiver goes out)

AVOID DIRECT SUNLIGHT

# Keypad - Wired

After wiring your keypad, check that it's operational by entering the 4 digit factory code 2580. If you have double gates you will need to follow the setup noted below **Double gate setup**. Once gate/s are working with the factory code you can then move onto entering a new pin code/s. You can enter over 100 pin codes

We recommend to silicon the hole where the cable comes out to prevent insect infestation.

## **Explaining the 3 digit user code and 4 digit pin code**

When entering a new pin code you will be asked to enter in a 3 digit user code along with your 4 digit pin code. If having more than 1 pin code, the 3 digit user code must be different for each 4 digit pin code entered. The 3 digit user code is important to take note of as this is what you will need to remember if and when you need to remove your 4 digit pin code assigned to it. (eg. user code 147 & pin code 3698)

## **Enter a new pin code**

Press # (until the red light comes on)  
Press 1 2 3 4  
Press 7  
Enter 3 digit user code  
Enter 4 digit pin code  
Press and hold #  
Now test your pin code

## **Double gate setup**

Press # (until the red light comes on)  
Press 1234 6 000 1

## **Remove a pin code**

Press # (until the red light comes on)  
Press 1 2 3 4  
Press 8  
Enter 3 digit user code  
Press 1 2 3 4  
Press #

## **Back Light - (when pressing #, wait till red**

LED light comes on)  
Off Press - # 1234 6 2800  
On Press - #1234 6 2801  
On when pincode pressed only -  
press #1234 6 2802

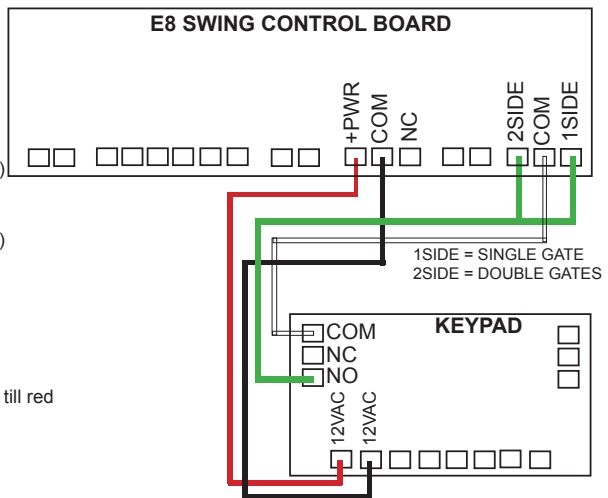
## **Activating swipe card or key tag**

Press # (until the red light comes on)  
Press 1 2 3 4  
Press 7  
enter 3 digit user code  
swipe proximity card or key tag (you will hear a beep)  
Press and hold #  
(repeat for the next card/tag making sure you use a different 3digit user code for each one)

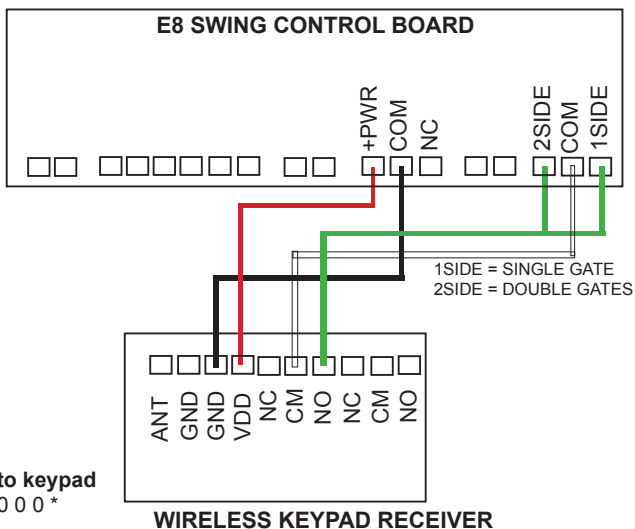
## **Factory resetting your keypad – 2580**

Press # (until the red light comes on)  
Press 1 2 3 4  
Press 0 (both red lights flash)  
Press 1 2 3 4

This function comes in handy when you don't know the 3 digit user code to "remove a pin code", however using the factory reset will wipe all user codes and pin codes from the keypad and sets it back to 2580. When you enter your new pin code it will wipe the factory setting 2580



# Keypad - Wireless



## Enter a pin code (4 digits) into keypad

1. Enter program mode = 0 0 0 0 \*
2. Enter channel = 0 1 #
3. Enter your pin code = ? ? ? ? # (pin code now entered)

## Pairing receiver to keypad

1. Press **P1** on the receiver board (red LED will go solid)
2. Enter your pin code = ? ? ? ? # (red LED will flash to say keypad and receiver are paired)

## Delete pin codes from keypad

1. Enter program mode = 0 0 0 0 \*
2. Press 0 0 # (all pin codes now deleted)

## Turn off/on keypad backlight

1. Enter program mode = 0 0 0 0 \*
2. Press 3 9 #

## Battery test

1. Enter program mode = 0 0 0 0 \*
2. Press 8 9 # (battery is OK with a long beep or if battery is low there will be a short beep and the red LED indicator will show)

## Unpair receiver to keypad

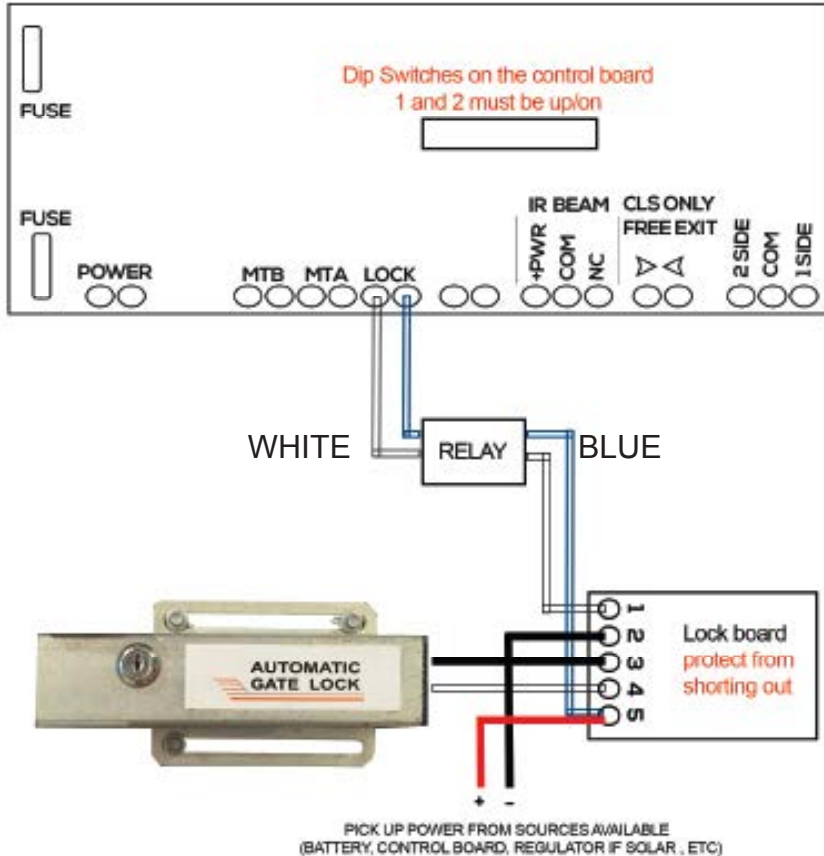
1. Press **P2** on the receiver board for 8 seconds (red LED will go solid, keypad and receiver now unpaired)

## Keypad resetting

1. Remove keypad from weather shield
2. Awake keypad (press any button)
3. Press the reset button located on top of the keypad for 5 seconds until all LED lights come on
4. Now release the reset button, resetting now complete (keypad codes will be cleared)
5. Place back into the weather shield

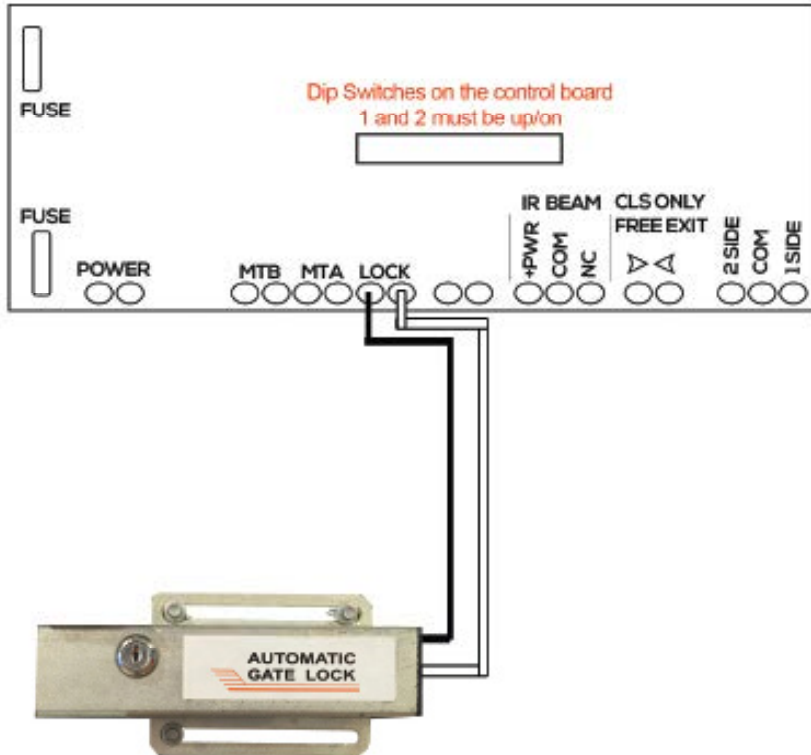
# Electric Gate Lock

## DOUBLE GATE LOCK SETUP



# Electric Gate Lock

## SINGLE GATE LOCK SETUP





# Other Information

## **Important Notice**

An auto gate system cannot prevent burglary. It is only a replacement way for the user to open the gate. Auto gate systems are generally very reliable but they may not work under all conditions and they are not a substitute for prudent security practices or life and property insurance. Your auto gate system should be installed and serviced by qualified professionals who should instruct you on the level of protection that has been provided and on the system operations.

## **Note to Installers**

This warning contains vital information. As the only individual in contact with the systems user, it is your responsibility to bring each item in this warning to the attention of the users of this system.

## **Systems Failures**

This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any auto gate system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some but not all of these reasons may be:

### **Inadequate Installation:**

A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that everything is correct.

### **Criminal knowledge:**

This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that an auto gate system be reviewed periodically to ensure that its features remain effective and that it be upgrade or replaced if it is found that it does not provide the protection expected.

### **Power Failure:**

Control units require an adequate power supply for proper operation. If a device operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as security system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

### **Failure of Replaceable Batteries:**

The expected battery life is a function of the device environment, usage a type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. A low battery will cause a low power condition in the system which will then have a problem functioning as usual. Regular testing and maintenance will keep the system in good operating condition.

### **Compromise of Radio Frequency (Wireless) Devices:**

Signals may not reach the receiver under all circumstances which would include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

### **Component Failure:**

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

### **Inadequate Testing:**

Most problems that would prevent an auto gate system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, fire, storm, earthquake, accident, or any kind of construction activity inside or outside the premises.

# Installer & Owner Notes