



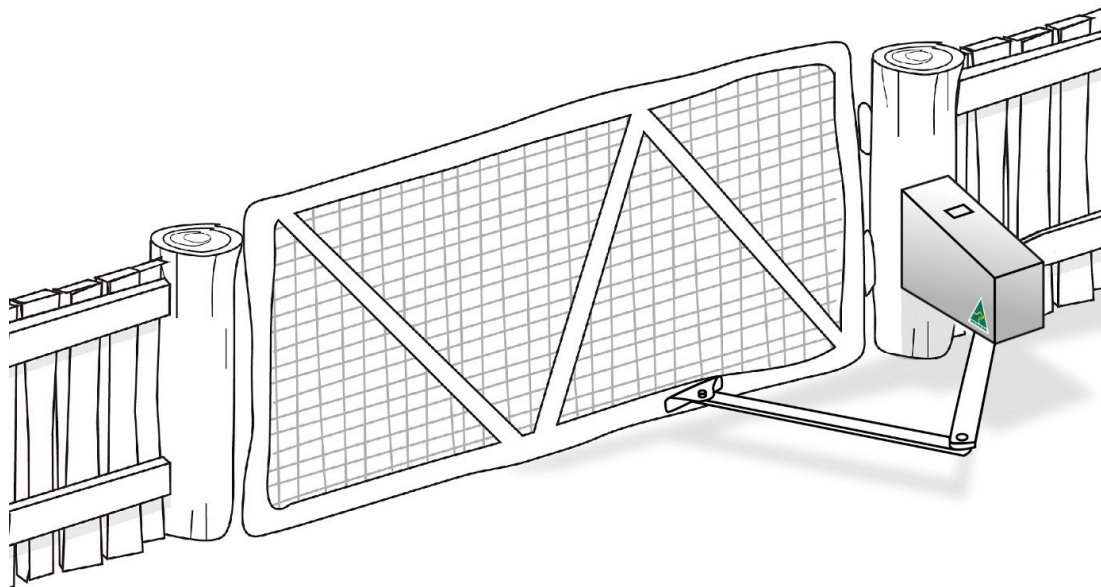
Model AG 5 DC2

Single Swing Gate Motor Kit

Solar Powered and 12V Low Voltage

June 2019

Installation and Set Up Instructions



Unit 27 / 49 Corporate Boulevard Bayswater Vic 3153 Phone 1800 111 930
Email info@gforceautogates.com.au Web www.gforceautogates.com.au



AG5 DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS



Important Safety Warnings

Please read these important safety warnings before attempting to install or use this product.

Do not operate the gate motor unless the gates are in full view and free from objects such as cars and other obstructions.

Children must be supervised near the gates at all times, especially when the gate motor is in use.

Ensure that the obstruction sensing function of the gate motor is operational and adjusted as necessary.

Keep hands and any loose clothing well clear of the gate(s) and gate motor at all times.

Before attempting to service the gate motor or removing the cover, turn off and / or disconnect the power to the gate motor. If you are unable to do this, then we strongly recommend you call an electrician. **Care should be taken as there are moving components inside the gate motor that may cause damage or personal injury.**

Keep any gate controllers out of reach of children. Any wired or wireless controllers must be installed away from any moving parts, and it must be at a minimum height of 1.5m from the ground.

Regularly check that all safety features and safety accessories are fully functioning.

Warning:

Failure to comply with these safety warnings or installation instructions may result in serious personal injury and/or property damage.



AG5 DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS



Installation Checklist

Read all instructions and data sheets before installing the gate motor kit. Failure to follow the instructions could void warranty.

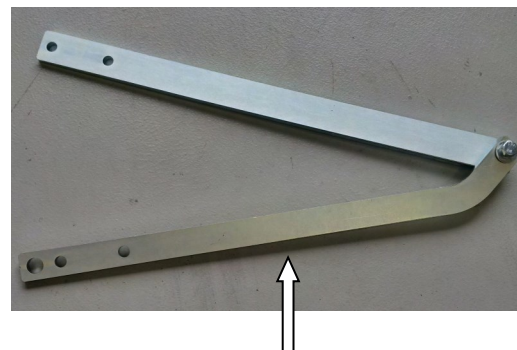
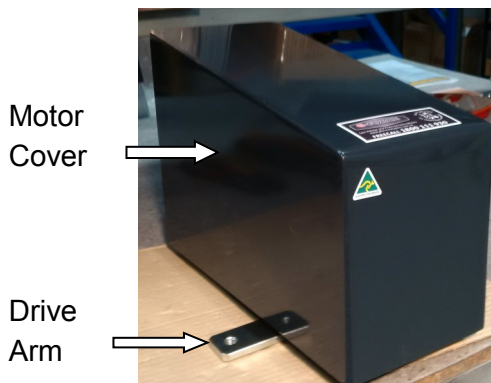
Ensure the gate is in good condition, opens and closes freely for its full length of travel and it does not hit or bind on the driveway or garden beds. Remove any wheels that are fitted to the gate.

Ensure the gate is correctly and securely mounted to the post which is firm in the ground.

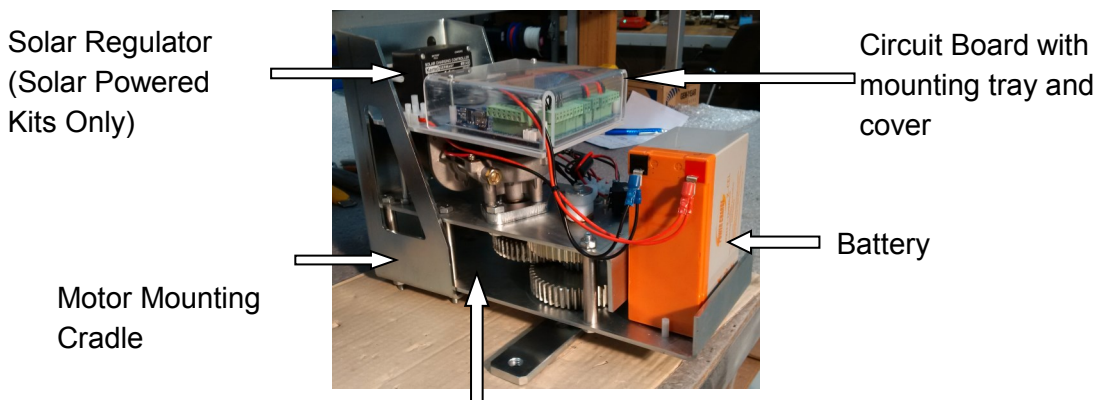
Generally, the gate motor requires about 400mm to 500mm side clearance from the gate hinge to allow the arms to rotate around during the opening of the gate.

We recommend 1.5mm twin active lighting cable for power supply wiring and 1mm figure 8 wire for wiring push buttons and other auxiliary items.

Place the gate motor on a suitable work bench. Unpack the motor and remove the metal motor cover. Visually inspect the motor to ensure nothing has moved during transit. Refer to the "DC 2 *Circuit Board*" data sheet included with this manual and familiarise yourself with the layout and location of the items and wiring terminals.



Safety Swing Arm assembly



Drive Assembly

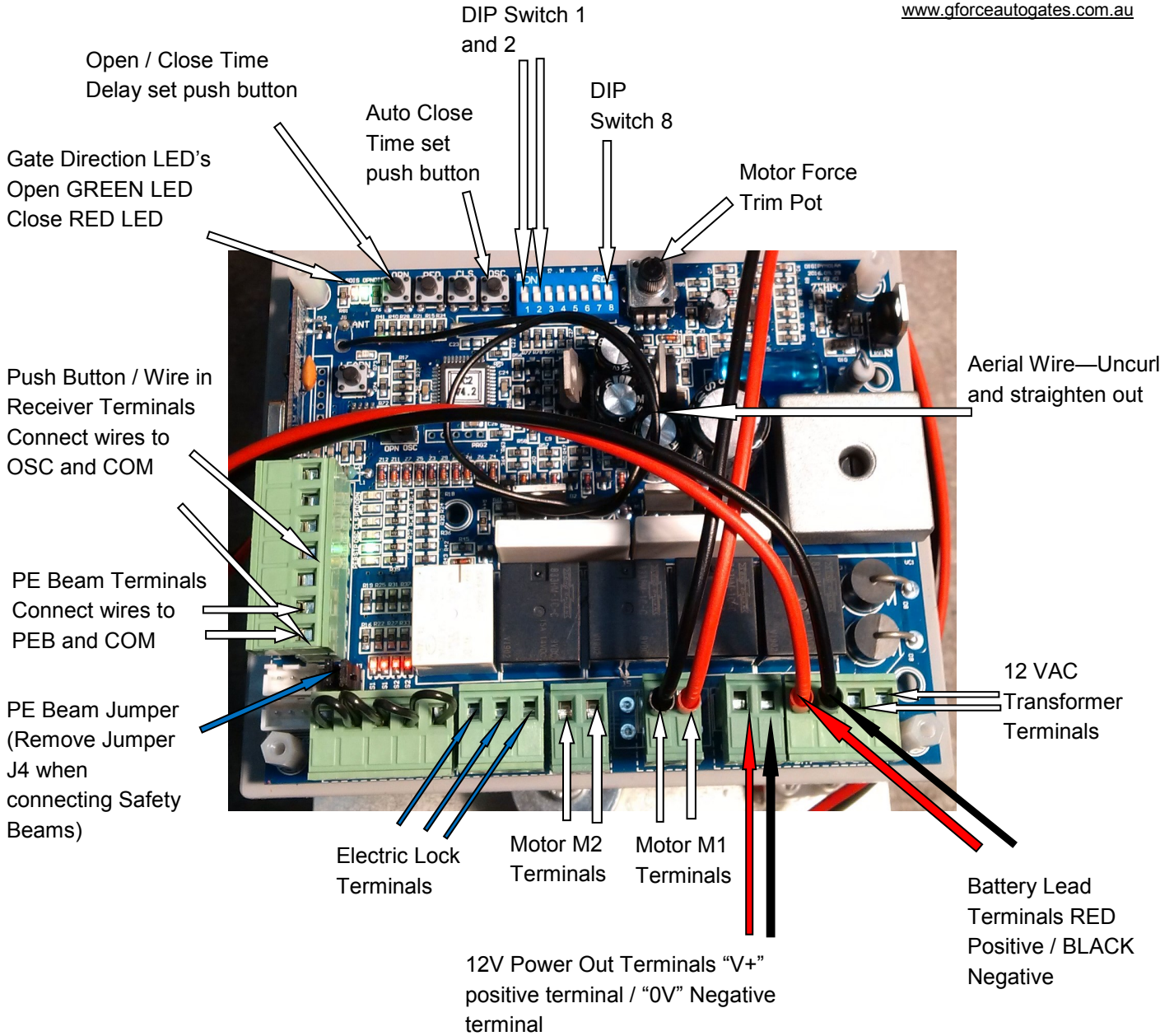


DC2 Circuit Board

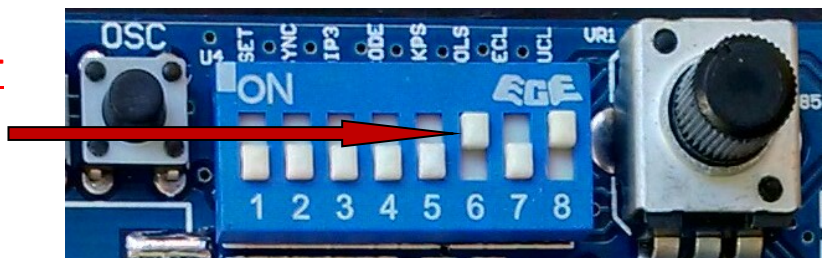
Data Sheet



DIY Automatic Gate Kits
Solar & Low Voltage Specialists
 PH 1800 111 930
 info@gforceautogates.com.au
 www.gforceautogates.com.au



CAUTION—DIP SWITCH 6 MUST BE IN THE 'ON' POSITION

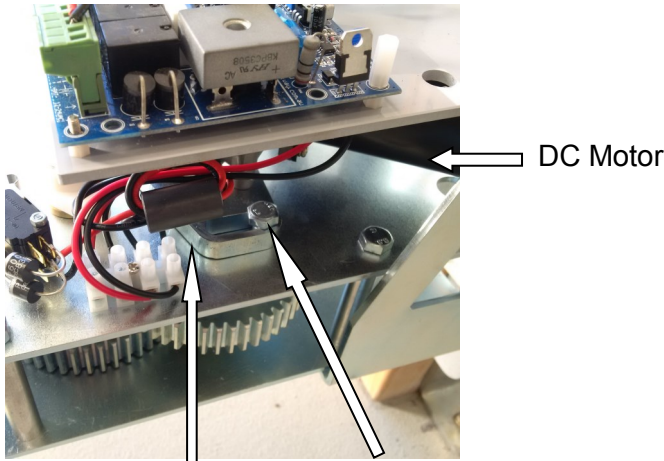




AG5 DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS

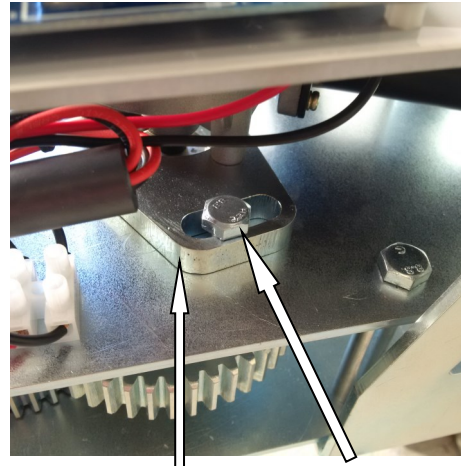


Internal Manual Release



Internal Release
Plate **Engaged**

Internal Release
Bolt **Engaged**



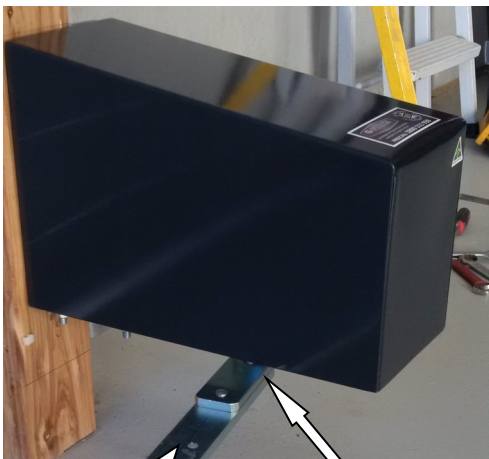
Internal Release
Plate **Disengaged**

Internal Release
Bolt **Disengaged**

Remove the motor cover. Use two 13 mm spanner to loosen the manual release nut and bolt. Push the DC motor away from the gears to disengage the motor and allow the gate drive arm to move by hand.

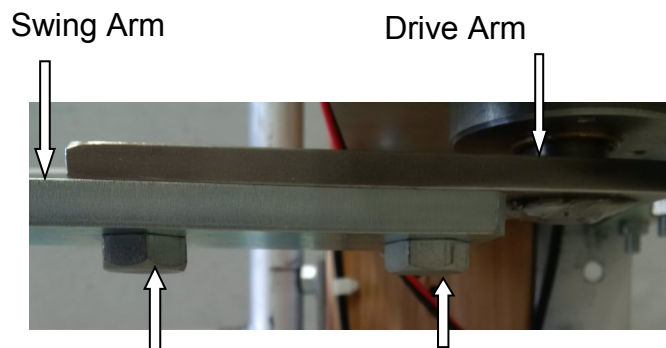
Pull the DC motor back towards the gears to engage. Ensure the DC motor gear has meshed with the drive gear. Fully tighten the Internal Release Bolt and check the gears are engaged.

External Manual Release



Swing Arm

Drive Arm



Use a 19 mm spanner to undo the two bolts. Fold the swing arm back and tie up to the bottom of the gate. Screw the two bolts back into the Drive Arm.



Pre Installation Set Up and Testing AG5 DC2 Gate Motor

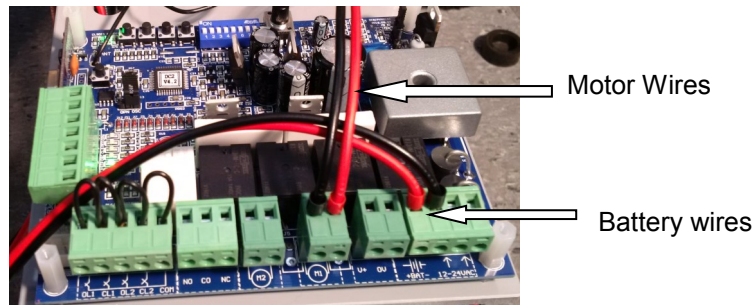


Battery Connection for Bench Testing

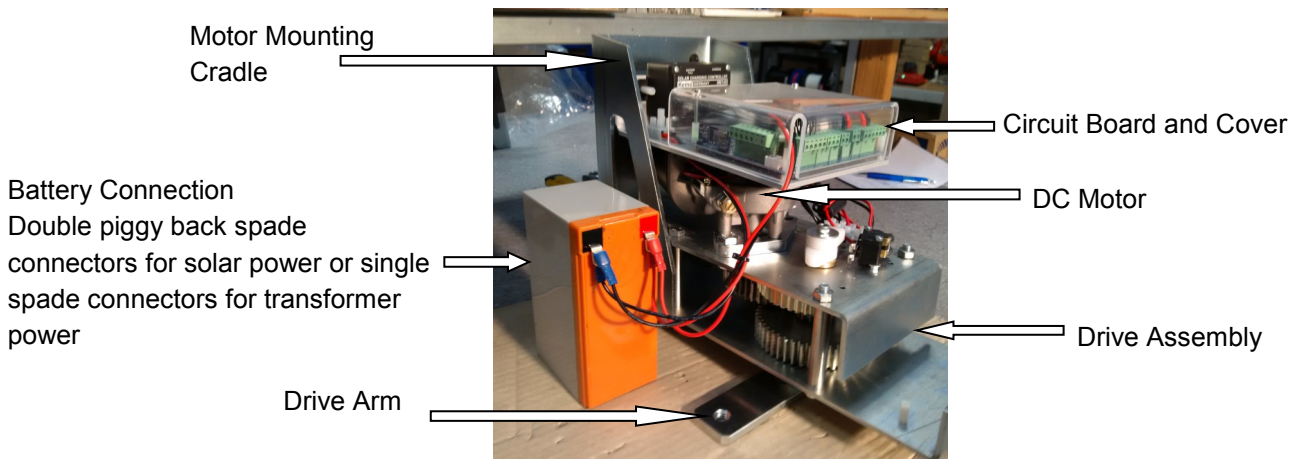
ALWAYS TURN THE POWER OFF AND DISCONNECT THE BATTERY BEFORE MAKING ANY WIRING CONNECTIONS

We recommend the gate motor settings and direction of rotation be set up and tested prior to installation. Place the gate motor on a suitable work bench.

Care should be taken as there are moving components inside the gate motor that may cause damage or personal injury.



Refer to the “DC 2 *Circuit Board*” data sheet included with this manual and locate the battery wires on the circuit board. Ensure the battery wires are correctly connected to the correct terminals on the circuit board.



Place the battery on the bench next to the motor.

Connect the battery wires to the battery terminals on the battery. Note the polarity (**Red** wire to **Red** battery terminal, **Black / Blue** wire to **Black** battery terminal). The board should now be powered and great care should be taken to avoid shorting out or otherwise damaging the circuit board.

Activate the gate motor using one of the handset remote. The remotes are coded to the gate motor during assembly. Alternatively, refer to the “*Handset Remote Programming*” data sheet to code in the handset. Press the handset again to stop the motor and press the handset again to reverse the motor direction. To stop the motor, press the remote handset or disconnect a battery lead.



Pre Installation Set Up and Testing AG5 DC2 Gate Motor



Setting Motor Direction

Refer to the “DC2 Circuit Board” data sheet included with this manual and locate the direction LED’s on the circuit board. The GREEN LED indicates opening direction and the RED LED indicates closing direction.

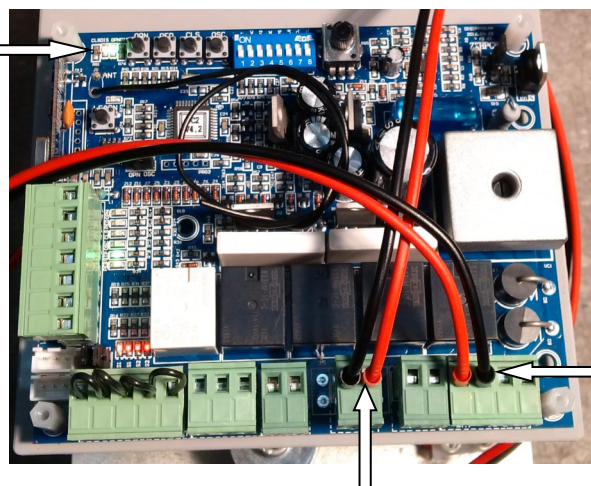


ALWAYS TURN THE POWER OFF AND DISCONNECT THE BATTERY BEFORE MAKING ANY WIRING CONNECTIONS

Activate the gate motor using the handset remote and check the rotation of the motor drive arm is turning in the correct direction for opening the gate and the GREEN LED light is on OR the correct direction for closing the gate and the RED LED light is on.

If the motor is going in the wrong direction, disconnect all power. Refer to the “DC2 Circuit Board” data sheet included with this manual and locate the ‘M1 Motor’ terminals on the circuit board. Swap the red and black motor wires connected to ‘M1 Motor’ terminals on the circuit board. The red wire should be connected to the terminal that had the black wire connected to it and the black wire should be connected to the terminal that had the red wire connected to it. This will reverse the direction of the motor.

Opening Direction
Green LED is on
Closing Direction
Red LED is on



M1 Motor Terminals.
Red and Black Wires.

Battery Wires

Activate the gate motor again using the handset remote and check the rotation of the drive gear is turning in the correct direction for opening the gate and the GREEN LED light is on OR closing the gate and the RED LED light is on.

Care should be taken as there are moving components inside the gate motor that may cause damage or personal injury.



AG5 DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS

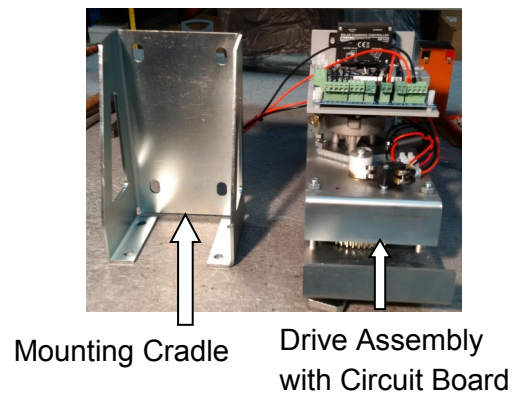
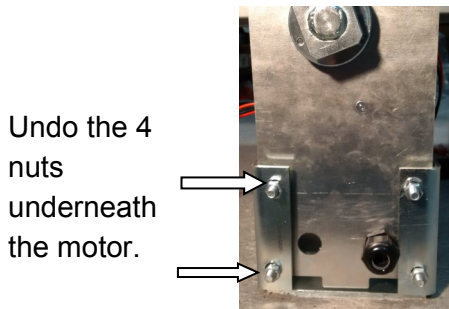
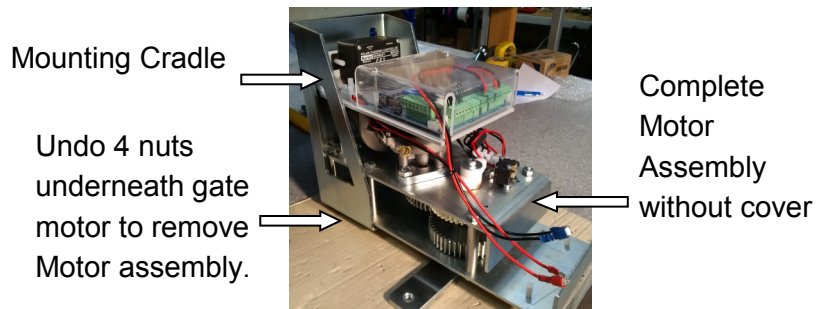
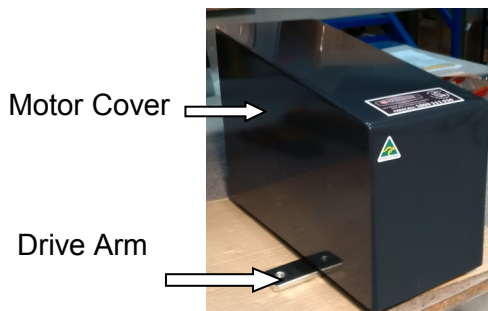


Mounting the Gate Motor

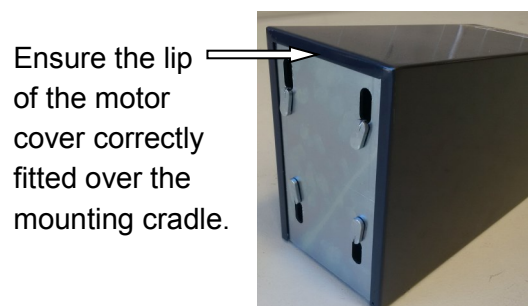
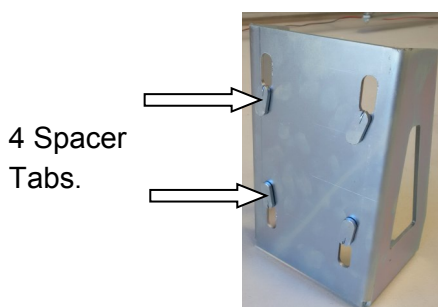
The gate motor should be mounted on a solid post or pillar about 50mm — 100mm from the gate hinges and the motor shaft should be approximately at the same level as the bottom rail of the gate

Place the complete motor on a work bench. Remove the black steel motor cover. Take note or a photo detailing how the gate motor is assembled and the circuit board wiring for possible future reference.

Separate the drive assembly and circuit board from the gate motor mounting cradle by undoing the 4 nuts underneath the motor holding the drive assembly in the mounting cradle and remove the drive assembly and circuit board from the gate motor mounting cradle. Take care not to damage the circuit board or allow it to get wet.



Check the 4 spacer tabs are in place on the back of the mounting cradle. If the spacer tab has fallen off then attach it with silicon otherwise use packing washers to replace the spacer tab. The spacer tabs allow the lip of the motor cover to be correctly fitted over the mounting cradle.



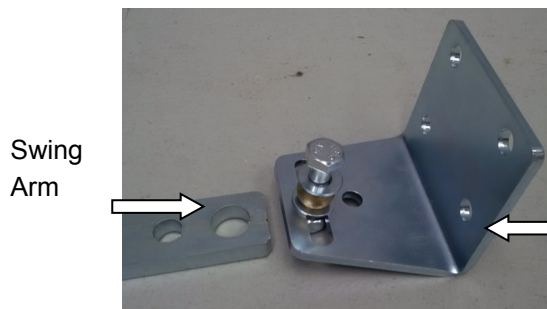


AG5 DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS

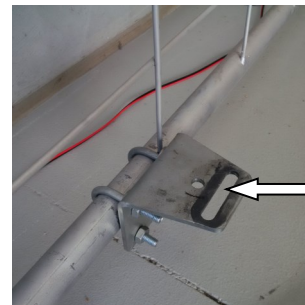


Mounting the Gate Motor (con't)

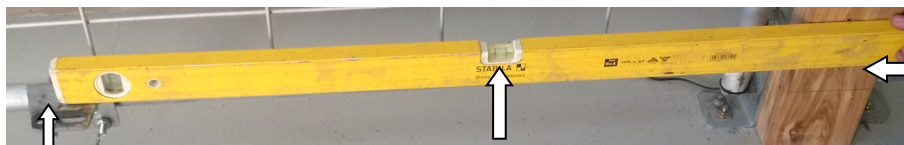
Loosely attach the mechanical latch swing arm bracket to the bottom rail of the farm gate approximately 800mm to 900mm from the inside of the hinge post and tighten by hand. Place a spirit level (or a straight piece of wood with a small spirit level), on the top of the arm bracket, level off the spirit level and mark the post on the underside of the spirit level. Measure upwards 20mm from this mark and draw a straight line. Place the bottom edge of the mounting cradle on this line and mark and drill the mounting holes or use the mounting template included in these instructions. Firmly attach the mounting cradle to the post and check that the cradle is level. Fit the drive assembly into the cradle. Ensure the washers are in place and fully tighten the 4 nuts to firmly secure the drive assembly in the mounting cradle. Remove the mechanical latch swing arm bracket from the gate.



Mechanical Latch Swing Arm Bracket with Brass Olive, Bolt and Nut



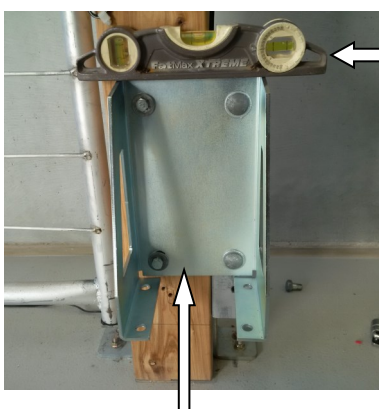
Loosely attach Mechanical Latch Swing Arm Bracket to gate.



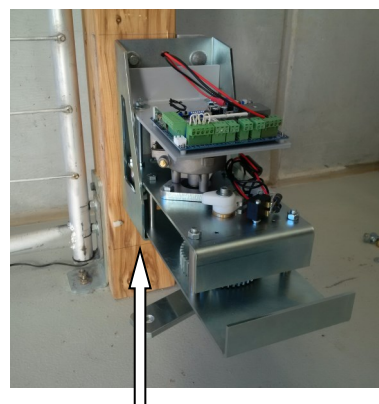
Mechanical Latch Swing Arm Bracket.

Spirit Level

Mark post on the underside of level then measure up 20mm and draw a straight line.



Place the bottom edge of the mounting cradle on this line and mark and drill the mounting holes. Firmly fit mounting cradle and ensure it is level.



Fit the drive assembly into the cradle. Ensure the washers are in place and fully tighten the 4 nuts to firmly secure the drive assembly in the mounting cradle.



AG DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS



Attaching the Arms and Brackets to the Gate

FOR OUTWARD OPENING GATES REFER TO THE SPECIAL INSTRUCTION SHEET

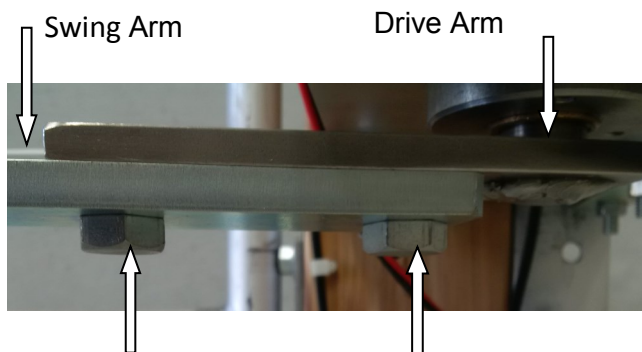
Refer to the "Internal Manual Release" instructions on page 5. Disengage the motor gear by loosening the internal release bolt and push the DC motor away from the gearing. The motor drive arm should now be free to rotate by hand.

Move the gate into the closed position manually.

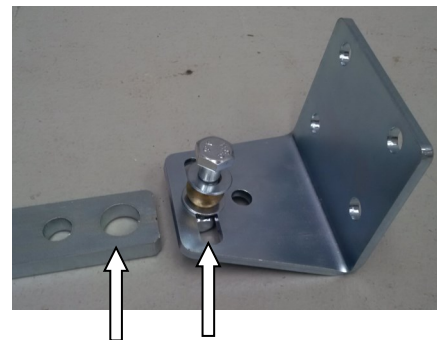
Fit the swing arm assembly to the drive arm. Loosely attach the mechanical latch arm bracket to the other end of the swing arm assembly.

Extend the swing arm straight out and mark a position where the mechanical latch arm bracket touches the gate. Ensure the swing arm is at the end of the slot furthest from the gate motor. Measure approximately 40mm back towards the gate motor from the marked position and attach the mechanical latch swing arm bracket or standard gate bracket to the gate at this point.

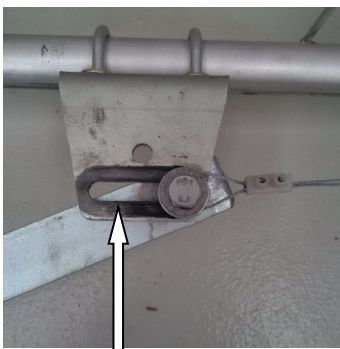
Tighten the two swing arm bolts with care not to over tighten. Open and close the gate manually by hand several times to test.



Screw the two 12mm bolts with lock washers (not shown) to attach Swing Arm to the Drive Arm.

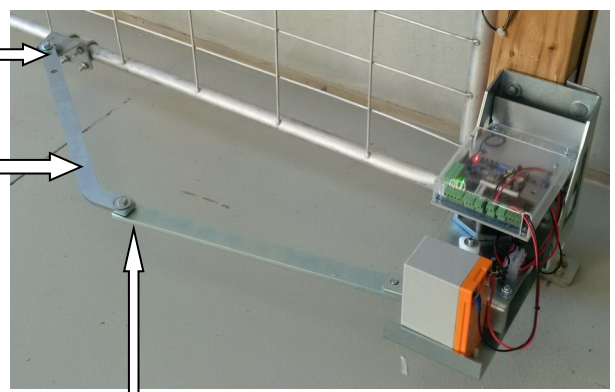


Attach the mechanical latch gate bracket (to the end of swing arm using brass olive, bolt and nut. Ensure the bolt is in the slot.



Mechanical Latch Gate Bracket. Ensure the swing arm is at the end of the slot furthest from the gate motor

Swing Arm Bolt →
The Safety Swing Arm Assembly should be installed as shown here →



Swing Arm Bolt



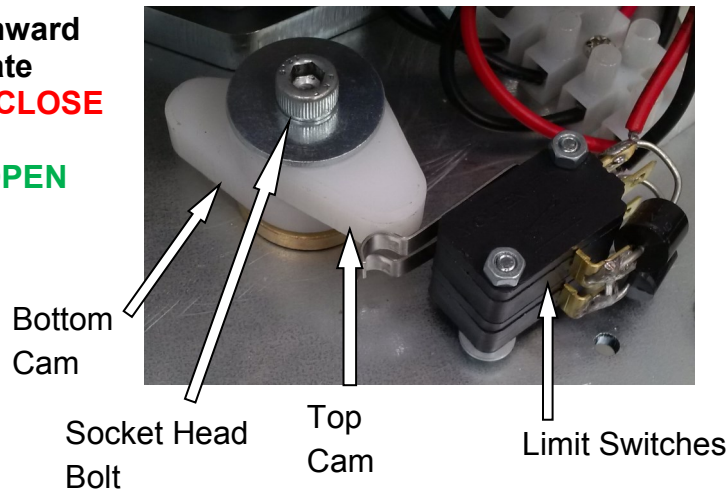
AG DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS



Setting Open / Close Limit Switch Cams



LEFT HAND inward
opening gate
Bottom CAM = **CLOSE**
Position
Top CAM = **OPEN**
Position



RIGHT HAND inward
opening gate
Top CAM = **CLOSE**
Position
Bottom CAM = **OPEN**
Position

FOR OUTWARD OPENING GATES REFER TO THE SPECIAL INSTRUCTION SHEET

Ensure the Internal Release is disengaged (see page 5).

Manually move the gate into the closed position. Using a 5mm allen key loosen the socket head bolt and rotate the correct cam until it clicks the corresponding limit switch (see above). Retighten the cams.

Manually move the gate into the open position. Using a 5mm allen key loosen the socket head bolt and rotate the correct cam until it clicks the corresponding limit switch (see above). Retighten the cams.

Engage the Internal Release (see page 5). **CAUTION: The gate will now open / close when the gate motor is activated.**

Press the handset remote and activate the gate motor to check the gate is stopping at the required open position and closed position. Adjust the cam positions as necessary. Test the gate motor several times to ensure the gate is stopping in the correct positions.

Ensure the gate motor is turning in the correct direction for opening the gate and the GREEN LED light is on OR the correct direction for closing the gate and the RED LED is on as per the pre-installation set up.

Care should be taken as there are moving components inside the gate motor that may cause damage or personal injury.



AG DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS

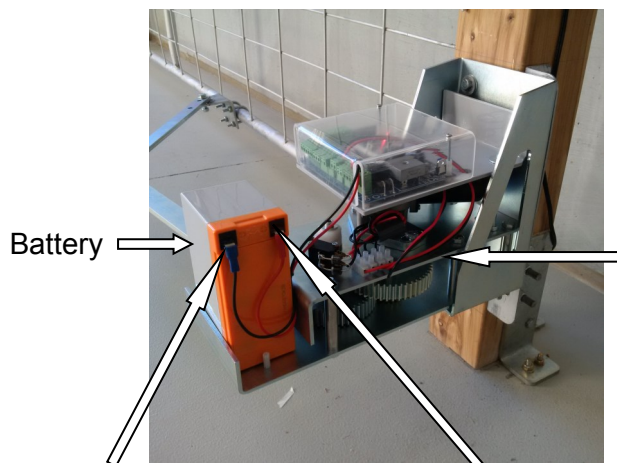


Connecting the Circuit Board and Fitting the Battery

ALWAYS TURN THE POWER OFF AND DISCONNECT THE BATTERY BEFORE MAKING ANY WIRING CONNECTIONS

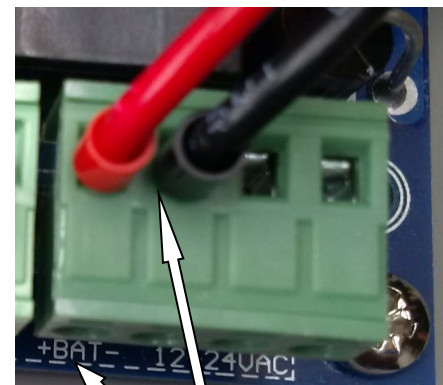
Refer to the “DC 2 Circuit Board” data sheet included with this manual or to any reference notes or photos and fit the wires back into the correct terminal locations on the control board.

Fit the battery on its end into the battery space on the drive assembly as shown below.



Black / Blue wires to **black** Negative battery Terminal / Double piggy back spade connectors for solar power or single spade connectors for transformer power.

Red wires to **Red** Positive Battery Terminal / Double piggy back spade connectors for solar power or single spade connectors for transformer power.



Battery Wires

It is recommended that the battery be connected first during this stage of the installation. The primary power source can be connected after all the necessary set-up procedures and adjustments are made. Refer to the “DC 2 Circuit Board” data sheet included with this manual and locate the battery connection terminals on the circuit board. Ensure the battery wires are correctly connected to the correct terminals on the circuit board. Connect the battery wires to the battery terminals on the battery. Note the polarity (**Red** positive wires to **Red** battery terminal, **Black / Blue** Negative wires to **Black** battery terminal). The board should now be powered and great care should be taken to avoid shorting out or otherwise damaging the circuit board.

Care should be taken as there are moving components inside the gate motor that may cause damage or personal injury.



AG DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS



WARNING

Care should be taken around the moving gate and any moving components to avoid damage or personal injury.

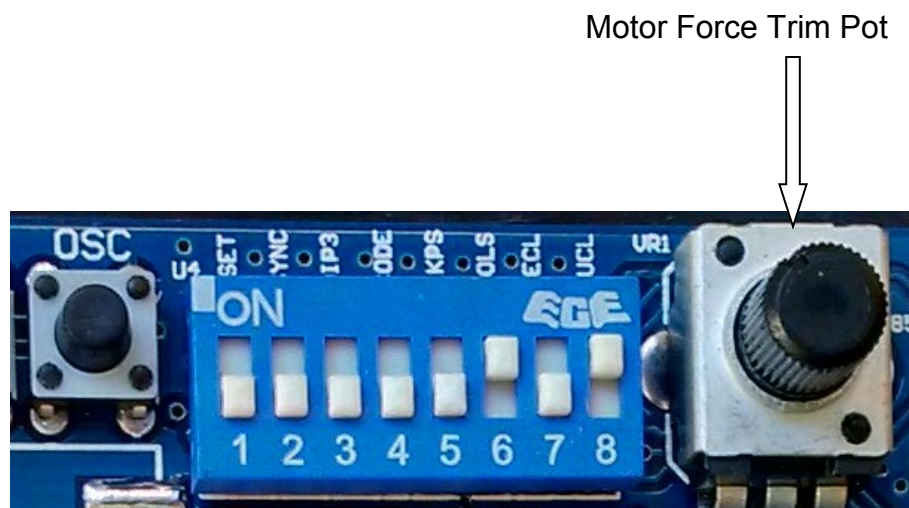
Setting the Safety Obstruction Sensing / Auto Reverse Adjustment

Refer to the “DC2 Circuit Board” data sheet included with this manual and locate the Motor Force trim pot on the circuit board.

This adjustment controls the motor torque and obstruction sensing of the gate motor. The motor needs to have enough torque (force) to fully open and close the gate. **Maximum motor torque disables the safety obstruction sensing and can damage the gate and gate motor.**

Turn the Motor Force trim pot anti-clockwise to reduce the motor torque (increase sensitivity to an obstruction) or turn the Motor Force trim pot clockwise to increase the motor torque (decrease sensitivity to an obstruction).

Once the gate motor is operating, the Motor Force needs to be set to ensure the gate motor responds if the gate is obstructed. When the gate is opening, use an obstruction to stop the gate and the gate motor should click off and stop the gate. When the gate is closing use an obstruction to stop the gate and the gate motor should click off and then the gate should re-open. Adjust the Motor Force trim pot accordingly.



WARNING

Care should be taken around the moving gate and any moving components to avoid damage or personal injury.



AG DC2 GATE MOTOR INSTALLATION AND SET UP INSTRUCTIONS



DC2 Setting Automatic Close Operation

Refer to the “DC2 Circuit Board” data sheet included with this manual and locate the Auto Close Time Set Push Button marked ‘OSC’ and Dip Switch 1 and Dip Switch 8 on the circuit board.

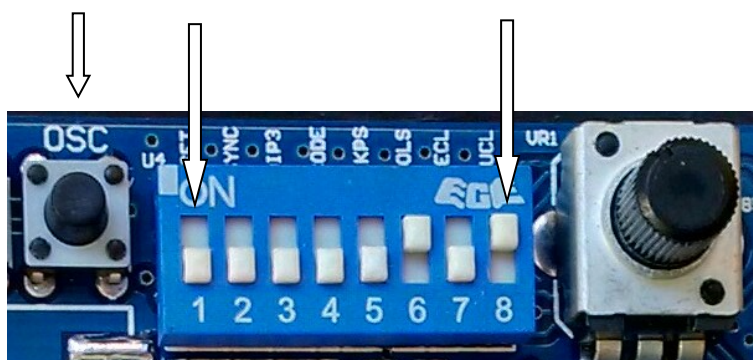
The gate motor is supplied with the Auto Close OFF as standard.

The gate motor can be set to ‘Auto Close’ by simply flicking DIP switch 1 to ON, press and hold down “OSC” button for the required time you want the gate to remain open before it auto closes, and release the button. For example if you want the gate to remain open for 30 seconds before it auto closes then press and hold down the “OSC” button for 30 seconds and release the button. Once time is set flick DIP switch 1 back to OFF.

To start the Auto Close function flick DIP switch 8 to ON and leave it on. To disable the Auto Close flick DIP switch 8 back to OFF.

Flick DIP switch 1 to ON and press
“OSC” to set the Auto Close time.
Flick back to OFF when finished.

Flick DIP switch 8 to ON to start Auto Close
or back to OFF to disable Auto Close



WARNING

If the ‘Auto Close’ feature is enabled, then precautions should be taken to ensure the gate can close without hitting any obstructions or suitable safety accessories are also installed.

Regularly check that all safety features and safety accessories are fully functioning.



DC2 Transformer Wiring Instructions



DIY Automatic Gate Kits
Solar & Low Voltage Specialists
PH 1800 111 930
info@gforceautogates.com.au
www.gforceautogates.com.au

ENSURE THE TRANSFORMER IS SWITCHED OFF AND THE BATTERY DISCONNECTED

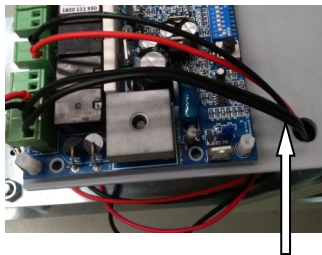
Refer to the “DC2 Circuit Board” data sheet included with this manual and locate the ‘12-24VAC’ terminals on the circuit board.

Connect the 12 v transformer wires to the ‘12-24VAC’ terminals on the circuit board. There is no positive or negative transformer wire and they can connect to either of the two “12-24VAC” terminals. Connect the battery wires to the battery. **Red**, Positive wire to **Red** battery terminal, **Black / Blue** Negative wire to **Black** battery terminal. The board should now be powered and great care should be taken to avoid shorting out or otherwise damaging the circuit board. Turn on the transformer, replace the plastic circuit board cover and metal motor cover and test.

Transformer

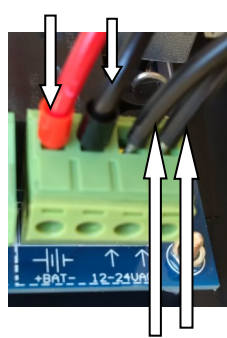


12 V
Transformer
Wires



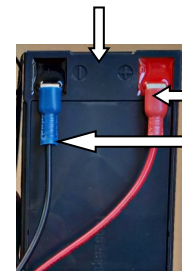
Feed transformer wires through the hole in the support tray with the motor wires

Battery Wires



Connect 12 V Transformer Wires to 12-24VAC Terminals

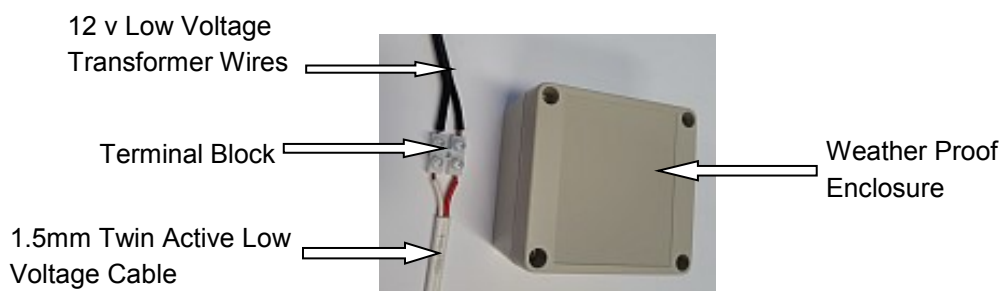
Battery Connection



Red wire to **Red** battery terminal

Black / Blue wire to **Black** battery terminal

If the 12 v low voltage transformer wires need to be extended then we recommend you use a terminal block / joiner. Place the terminal block / joiners into a small enclosure for protection and outdoor installation.





DC2 Solar Panel / Regulator Wiring Instructions

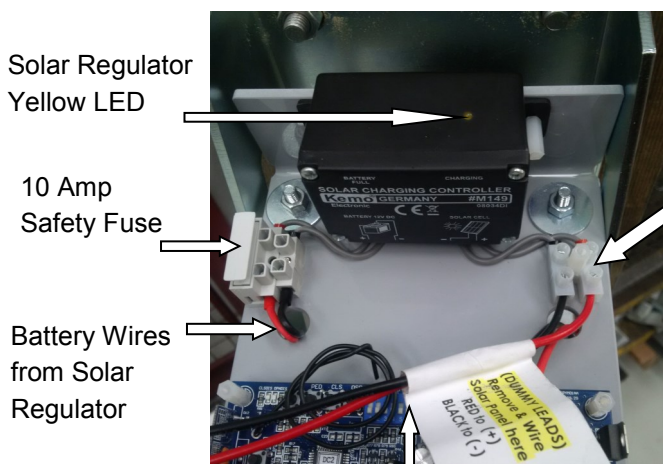


DIY Automatic Gate Kits
Solar & Low Voltage Specialists
PH 1800 111 930
info@gforceautogates.com.au
www.gforceautogates.com.au

ENSURE THE SOLAR PANEL IS COVERED AND THE BATTERY DISCONNECTED

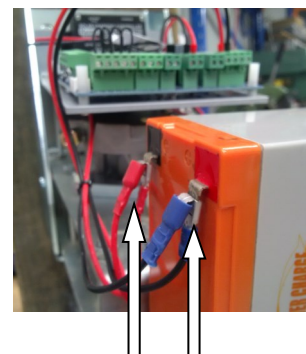
The solar panel is to be connected directly to the terminal block from the regulator and NOT to the circuit board.

Remove the “Dummy” wires and connect the positive and negative solar panel wires to the terminal block from the regulator (grey / red positive wire - grey / black negative wire). Plug the piggy back spade connections to the battery terminals on the battery. Note the polarity (**Red**, Positive wire to **Red** battery terminal, **Black / Blue** Negative wire to **Black** battery terminal). The board should now be powered and great care should be taken to avoid shorting out or otherwise damaging the circuit board. Uncover the solar panel and check the solar regulator yellow LED is glowing. Replace the plastic circuit board cover and metal motor cover and test.



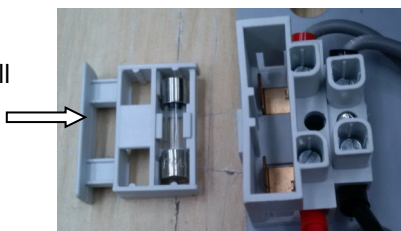
Terminal Block from solar regulator
Connect solar Panel Wires **POSITIVE** wire to grey / **red** wire **NEGATIVE** wire to grey / **black** wire

Remove Dummy Wires



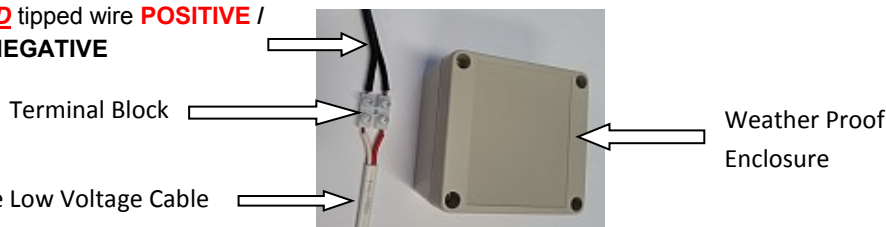
Red wires to **Red** Positive Battery Terminal / Piggy Back Spade Connectors.
Black / Blue wires to **black** Negative battery Terminal / Piggy Back Spade Connectors

10 Amp Safety Fuse holder. Pull out to check. Push to click holder back in.



If the solar panel wires need to be extended then we recommend you use a terminal block / joiner. Place the terminal block / joiners into a small enclosure for protection and outdoor installation. As a minimum, 1.5mm Twin Active cable should be used to extend the wires.

Solar Panel Wires **RED** tipped wire **POSITIVE** / **BLACK** tipped wire **NEGATIVE**





Standard Push Button Wiring Instructions DC 2 Circuit Board



DIY Automatic Gate Kits
Solar & Low Voltage
Specialists

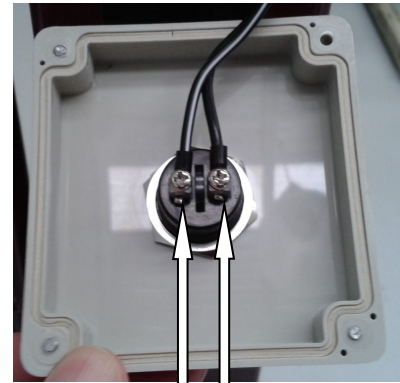
PH 1800 111 930

info@gforceautogates.com.au

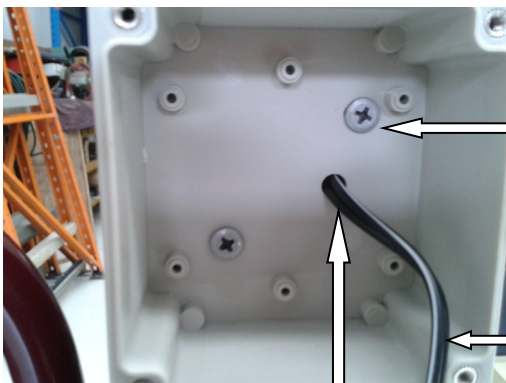
www.gforceautogates.com.au



Undo the 4 screws and
take off the cover



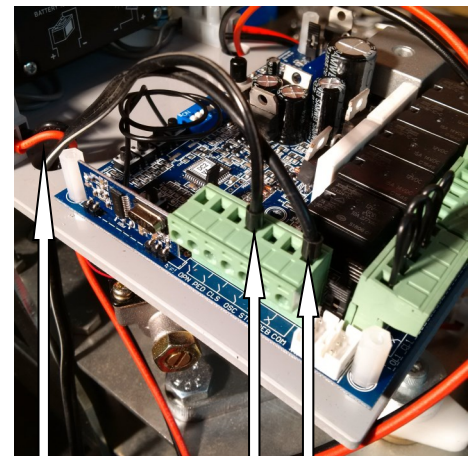
Attach the wire to the terminals on the
push button. We suggest to use
0.75mm figure 8 wire for the push
button wire.



Mounting
Screws

Push Button
Wire

Drill a small hole either at the rear of the
enclosure or the bottom of the enclosure
to run the wire through. Mount the
enclosure to the post. As an option, the
holes can be sealed with silicon. Screw
the cover back on.



Feed the push button wire
through the hole in the
support tray and connect to
terminals "OSC" and "COM"



Warranty & Returns POLICY




GENERAL

G-Force Automatic Gate products are covered by the manufacturer's warranty which covers defects in materials and workmanship for the Warranty Periods stated below. This warranty is additional to any applicable statutory requirements, subject to the exclusions and limitations stated below.

Product is deemed to be warranted from the date of initial purchase from G-Force Automatic Gates. Proof of purchase is required when applying for warranty claims.

Warranty is offered on a Back-to-Base Warranty basis. Where issues can't be resolved by your Installer or local Reseller in person, or by G-Force Staff over the phone, product will need to be returned at Customer Cost to G-Force's Repair Centre in Bayswater, VIC for assessment, repair or replacement.

1 year	 DIY Gate Kits	<i>Applicable Kits:</i> FG 5, SW 5, DSW 5, SL2000,
1 year	Accessories	<i>Such as:</i> Push Buttons, Keypads, PE Beams, .
3 month	Spare Parts (exclusive of warranty replacements)	<i>Such as:</i> <i>Control Boards, Receivers, Remote Controls, Limit Switches, DC Motors, etc.</i>

Warranty Periods

Exclusions & Limitations

The warranties stated herein do not cover damage, malfunction or service failures caused by:

Failure to follow G-Force or Product Installation, Operation or Maintenance Instructions

Repair or modifications to your G-Force product by someone other than a G-Force Service Technician, Authorised Installer or Reseller

Abuse, misuse or negligent acts

Batteries or Fuses supplied with your G-Force product (inc Handset batteries)

Power failure surges, lightning, fire, water damage, pest damage, accidental breakage, actions of third parties and other events or accidents outside of G-Force Automatic Gate's reasonable control and not arising from normal operating conditions

G-Force Automatic Gates is not responsible for any special, incidental, consequential or punitive damages arising from the use

- 1** Request or
To lodge a claim, contact G-Force Automatic Gates on 1800 111 930
- 2** Return Goods to G-Force
Goods are to be returned to G-Force Automatic Gates at the Customer's cost. G-Force will assess returned product within 7 days to determine the extent of warranty cover and likely repair costs
- 3** Repair or Replacement of Goods
In-Warranty Repairs will proceed as soon as practicable. The manufacturer's offering the warranty reserves the right to repair or replace product at its discretion. It may, at its discretion, use new, remanufactured, or refurbished parts or products when repairing or replacing product. Replaced parts become the property of G-Force Automatic Gates. Repair costs and return freight of in-warranty repairs will be covered free of charge
Non-Warranty Repairs will not proceed until you are notified of estimated Repair Costs, we receive authorisation and payment details from you to proceed. Where product is deemed to be unrepairable, and you require goods to be returned to you, freight costs will need to be pre-paid to G-Force prior to return.



Maintenance



1. A regular cleaning to remove dust & dirt. A small soft brush will suffice.
2. Approximately every 6 months remove the motor cover, clean with a soft brush and spray inside the motor cover. Spray with a surface spray suitable for crawling insects, slugs and snails. DO NOT SPRAY ANY ELECTRONIC COMPONENTS.
3. Check Battery terminals for corrosion. If present, bushing with a wire brush or dipping the actual terminals – ‘hot water’ will remove it. A light spray with WD40 will help keep them clean.
4. Using a small screwdriver, tighten all terminal block screws and ensure any cables are not frayed at the ends.
5. Ensure Receiver is firmly mounted.
6. Tighten all mounting and attachment bolts.
7. Check screws on Push Button covers are intact and tight.
8. If Safety Photo Beams are fitted, remove covers and gently brush any cobwebs, etc. away. Check operation and replace.

Finally, there is usually no substitute for good housekeeping. Ensuring the Motors and the area around the Motors and Gates are free of rubbish, leaves, infestation of insects and trimming of plants will help to give a long and trouble free life.

Should you be unsure of any points above, PLEASE contact us.



Unit 27 / 49 Corporate Boulevard Bayswater Vic 3153

Phone 1800 111 930

Email info@gforceautogates.com.au

Web www.gforceautogates.com.au