

AUTOMATIC SOLUTIONS

Australia Pty Ltd

FARM SOLAR



GENERAL

E3300

Motor Voltage – 12 volts
Power Absorbed – 70 watts
Speed – 0,019 metres per second
Maximum Thrust – 1500 N
Protection Level – IP43
Duty Cycle – 50%
Dimensions – 880L x 80Wx 65H
Stroke – 495 mm
Maximum Leaf – 5 metre farm gates
Maximum Leaf Weight – 75 Kg
Opening Time – 26 Seconds

EGATE1224

Motor Voltage - 12 / 24 DC
Motor Inputs - Two
Battery Charger – Inbuilt 12/24V
Receiver – Inbuilt or External
Limit Switches – No
Pedestrian Input – Yes (NO)
Start Input - Yes (NO)
Stop Input – Yes (NC)
Photocell Input – Two (NC)
Electric Lock – Yes 12Vdc 1A
Slow Speed Regulator – Yes

IMPORTANT— READ THIS FIRST

Parts of these instructions are intended as a quick start guide and should be used in conjunction with the full instructions. The quick start instructions provide the basics to get you up and running and are based on the most commonly used installations in Australia.

SAFETY

This booklet will offer you information you may need to install your gear motor and to safeguard your safety. **However, caution is advised and nothing is better than preventing accidents.**

WARNING: any repair or adjustment of working machinery is strictly prohibited unless all the necessary precautions (electrical supply disconnected and motor off) have been taken to avoid possible accidents.

WARNING: any repair must be carried out by qualified people.

WARNING: All moving mechanisms must be provided with suitable protection.

WARNING: Keep the automatic controls out of the reach of children.

WARNING: Command pulses must be given from positions where the gate is visible.

WARNING: Use transmitters only if you can see the gate.

Read carefully the instructions enclosed in this manual.

Keep this booklet in a suitable place well known to all interested people.

PRELIMINARY CHECKS

To make the automation work efficiently; the gate to automate must have the following characteristics:

- It must be balanced.
- It must oscillate fluently.
- You must be able to carry out manual closing and opening of the gate without any effort.
- Make sure that the gate has a solid structure and that there are no friction points in its movement.
- Make sure that the gate/s have both solid opening stops and solid closing stops.

GENERAL ORDER OF INSTALLATION

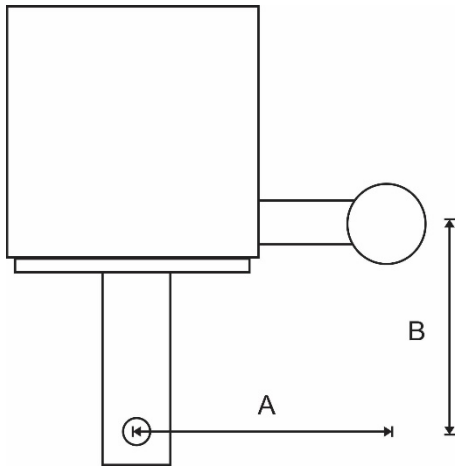
To ensure a good installation of the gear motors E3300, we suggest the following order of installation:

- 1 - Open the box and take out gear motor. Inspect the contents and ensure all components are present.
- 2 - Make sure that the leaf of the gate is perfectly horizontal.
- 3 - Determine the height position of your motor and mark post bracket position.
- 4 - Spend some time here considering the correct height and geometry of your post bracket.
- 5 - Attach the gear motor to the support post.
- 6 - With gate/s leaf closed, turn and slide the screw of gear motor's shaft, until it comes to the end of the screw.
- 7 - Screw shaft back 1 complete turn of 360°.
- 8 - Place the gate support plate in the hole of the shaft end and position it against the gate leaf.
- 9 - Fix it to the gate leaf taking in account the inclination.
- 10 - Put the gear motor into manual operation mode with your override key and test your install for smoothness.
- 11 - If correct proceed in the same way with the other gate leaf.
- 12 - Place the mechanical limit stops
- 13 - Connect the gear motors to the logic controller.
- 14 - Program and test your installation
- 15 - Attach your safety devices and access devices one by one testing for correct operation at each point.

MAINTENANCE

Periodically check your installation for loose or worn fastenings, correct alignment and operation of your gate/s and correct operation of your manual override operation. Clean and keep clean all areas of the installation. Remember that automation has been planned to help you use the gate. This means that it does not resolve the problems caused by inadequate installation or by poor upkeep of the gate.

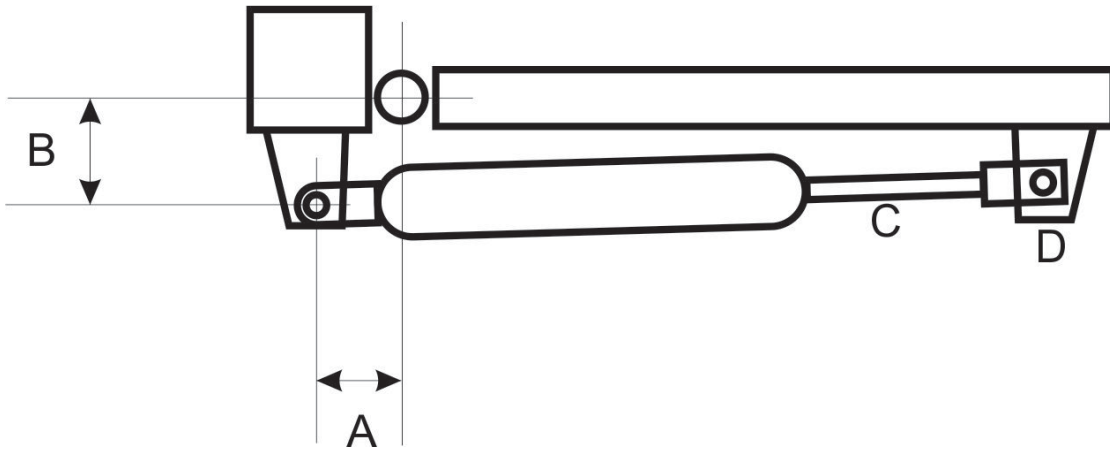
E3300 GEAR MOTOR INSTALLATION



INSTALL POST BRACKET

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 your motor, position the bracket and take note of dimensions "A" and "B". In a standard installation the basic aim is to get dimensions "A" and "B" to be as close as possible to equal.



INSTALL GATE BRACKET

With your post bracket securely fastened, attach your gear motor to the post bracket with the bolts provided. Take care to support the weight of the gear motor at this point and throughout this stage. Wind out shaft "C" all the way till the end. Now turn shaft "C" back one complete turn of 360 degrees. Attach your gate bracket to the shaft end "D" and position on the gate. Fix your gate bracket at this position. Using your battery and the ends of the motor leads simply attach one lead to the battery negative and the other to the battery positive to move your gate and gear motor through the entire 90-degree arc to test the smoothness of your installation. If your gate tries to close instead of open simply reverse the leads on the battery. If your gate and gear motor moves smoothly through the entire travel range, then you are ready to proceed to the next point. If you are having difficulty or hitting sticking points at any point in the travel, you may need to adjust your post bracket pivot point to facilitate a smoother run.

INSTALL GATE STOPS

This is a critical point in ensuring long trouble free operation of your automation system, yet it is relatively simple. Each gate must have a positive and well secured opening stop and closing stop. There are a range of stops available over the counter or you can make them yourself, but the critical point is that the stops must be well secured as the gear motors will exert quite a deal of force on them during programming. In summary, when your gate/s open they must hit a positive stop point that stops the gate/s from opening any further and the same at the closed

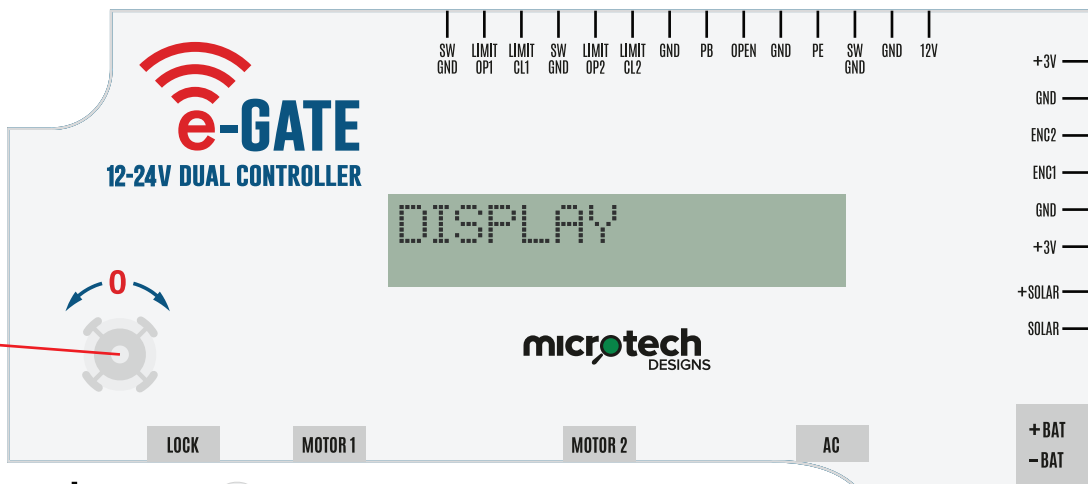
Specifications

Voltage:	12-24V ACDC
Current draw standby:	14mA (AC) 6mA (Solar)
Frequency:	433MHz Bidirectional
Remote storage:	200 remotes, 4 x keypads, 4 x e-loops
Programs:	4 Selectable programs
Solar:	Inbuilt solar charger
Motors:	12-24V ACDC 120W Solid State Motor Drive with short circuit and overcurrent protection






e-GATE

12-24V DUAL CONTROLLER



Menu Index

-  Use the dial to scroll right to move forward in the menu
-  Scroll left to go back through the menu
-  Press PB to enter or exit any of the menus, or to select or alter any settings.



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MAIN MENU

SUB MENUS

CODED DEVICES

- ALLOCATE BUTTON MENU
Allows you to allocate a button number to do a certain function, such as PB Button 1, Open Button 2, Close Button 3, Pedestrian Button 4, Lock Button 5.
- DELETE DEVICE MENU
Allows you to delete all or individual remotes or other devices.
- SET ID MENU
Allows you to set remote numbers to assigned unit numbers, also allows you to define whether a device is an entry device or an exit device, which can then be added in Lock Out Menu.
- LOCK OUT MENU
Allows you to lock out Auto close or a particular device such as an e-Loop or e-Keypad using the e-Remote lock and unlock buttons.
- E-LOOP SETTINGS MENU
Allows you to change settings and diagnose operation of a coded e-Loop.
- E-RADAR SETTINGS
Allows you to change settings and diagnose operation of a coded e-Radar.

ALTER CLOSE DELAY

- CLOSE DELAY TIME
Allows you to change the time delay before closing.

INPUT MENU

- SET PB INPUT TO
Allows you to change the default Push Button inputs to OPEN or CLOSE inputs.
- SET PED INPUT TO
Allows you to change the default Pedestrian inputs to OPEN or CLOSE inputs.

FORCE MENU

- FORCE MARGIN
Allow you to change the safety reverse force to either LIGHT, MEDIUM, HEAVY or MANUAL modes.
- ADVANCED FORCED MENU
Contains more advanced force adjustments. (Refer to a technician).

SPEED MENU

- MINIMUM SPEED
Allows you to change the start up and slow down speeds.
- OPEN SPEED
Allows you to change the OPEN speed.
- CLOSE SPEED
Allows you to change the CLOSE speed.

RAMP MENU

- RAMP UP OPEN
Allows you to change the ramp up open time.
- RAMP UP CLOSE
Allows you to change the ramp up close time.
- RAMP DOWN OPEN
Allows you to change the ramp down open time.
- RAMP DOWN CLOSE
Allows you to change the ramp down close time.

LOCK OUT MENU

- Allows you to turn on and off lockout settings for connected devices.

PE BEAMS MENU

- PE BEAM
Allows you to turn on PE Beam activation.
- PE AUTO CLOSE
Allows you to activate PE Auto Close function.
- PE AC TIME
Allows you to adjust the PE Auto Close time.

AUTO CLOSE MENU

- AUTO CLOSE
Allows you to turn on Auto Close function.
- AUTO CLOSE TIME
Allows you to change Auto Close time.
- SECURE AUTO CLOSE
Allows you to turn on Secure Auto Close (gate will close after set time even if it has not reached the open position)

PEDESTRIAN MENU

- PEDESTRIAN MODE
Allows you activate Pedestrian function.
- PEDESTRIAN
Allows you to change opening position.
- PED AUTO CLOSE
Allows you to activate Pedestrian Auto Close function.
- PED AC TIME
Allows you to adjust Pedestrian Auto Close time.

LOCK MENU

- LOCK TYPE
Allows you to select Pulse Hold or courtesy function.
- COURTESY TIME
Allows you to alter the time the light stays on after gate is opened or closed.

- RADIO SETTINGS** — RADIO SETTING
Allows you to turn off the on-board radio to save power consumption when wiring in a third-party receiver.
- ADVANCED MENU** — Allows you to alter advanced settings (refer to a Technician).
- DIAGNOSTICS MENU** — Allows you to view the last 30 recorded faults such as Obstruction, Low Battery or PE Activations.
- CURRENT TRIPS** — Allows you to view the last 20 recorded current trips.

1. e-Gate Dual Set Up – Encoder

Note: Close stop must be fitted to motor arm for articulated arm style. For linear motor we use the fully extended internal stop.

1. Power up display, it will read 'System Not Setup'. Now press **PB** to enter set up menu.

SYSTEM NOT SETUP
12.9 VOLTS



2. First display is 'Encoder'. Press **PB** to select (or rotate dial to select a different program).

SYSTEM TYPE
ENCODER



3. The screen with display 'Motor type'. Use the **PB** button to select single or dual motor.



MOTOR TYPE
DUAL



4. The screen will now display 'Drive Motor Open'. You can drive the motor in the open direction by holding down the **PB** button, or holding down button **1** on a coded remote.

DRIVE MOTOR 1
OPEN



5. Now rotate the dial to display 'Drive Motor 1 Close'. You can drive the motor in the close direction by holding down the **PB** button, or holding down button **1** on a coded remote. Rotate dial to use 'Drive Motor 2 Open' and 'Drive Motor 2 Close' if you are in dual motor mode.



DRIVE MOTOR 1
CLOSE



6. Now rotate dial to 'Direction Change Press PB'. If you want to change motor direction, press **PB**, and a green light will appear to show the direction has been changed. This can be done for both motors in dual mode. Otherwise rotate dial to 'Motor Setup'.



DIRECTION CHANGE
PRESS PB

DIRECTION
CHANGED



7. Rotate to 'Setup System Press Button', now press **PB**, and the gate will close until it reaches the end stop.



SETUP SYSTEM
PRESS BUTTON



SETTING
CLOSE

8. Once it reaches the end stop it will display 'Set Open'. Press and hold down **PB** or button **1** on a coded remote. Drive the gate to the open position, if you go too far you can rotate dial to 'Drive Motor Close' or use button **2** on a remote.

SET OPEN
0

OPENING
239

After motor has been stationary for 10 seconds, the screen will display 'Open Position Set'.

OPEN POS SET

Once gate board has stored the closed position, the gate will close displaying run current on the left and trip current on the right. This process will then repeat for motor 2.

CLOSING
0.5 A 3.0 A

9. Once gate reaches the closed position 'Setup Complete' will display, then after 2 seconds the main screen will display.

SETUP
COMPLETE

SYSTEM CLOSED
12.9 VOLTS

2. e-Gate Dual Set Up – Limit Switch 5 Wire

1. Power up display, it will read 'System Not Setup'. Now press **PB** to enter set up menu 'System Type'.

SYSTEM NOT SETUP
12.9 VOLTS



First display is 'Encoder', rotate dial to select 'Limit 5 Wire' and press **PB**.



SYSTEM TYPE
LIMIT 5 WIRE



3. The screen with display 'Motor type'. Use the **PB** button to select single or dual motor.



MOTOR TYPE
DUAL



2. Screen will display 'Test Limits'. (You can activate limit switches by hand to ensure you have open and close limits set up correctly).

After testing limits, rotate dial to 'Reverse Limits'. Press **PB** if limits were correct, then rotate dial to 'Drive Motor Open' if limits were incorrect. Press **PB** to reverse limits.

TEST LIMITS



REVERSE LIMITS
PRESS PB

3. Screen will now display 'Drive Motor Open'. You can drive the motor in the open direction by holding down the **PB** button or button 1 on a coded remote.

DRIVE MOTOR 1
OPEN



- Now rotate the dial to display 'Drive Motor 1 Close'. You can drive the motor in the close direction by holding down the **PB** button, or holding down button **1** on a coded remote. Rotate dial to use 'Drive Motor 2 Open' and 'Drive Motor 2 Close' if you are in dual motor mode.



DRIVE MOTOR 1
CLOSE

- Now rotate dial to 'Direction Change Press PB'. If you want to change motor direction, press **PB** and a green light will appear to show the direction has been changed. Otherwise rotate dial to 'Motor Setup'.



DIRECTION CHANGE
PRESS PB

DIRECTION
CHANGED

- Rotate dial to 'Setup System Press Button', now press **PB** and gate will close until it reaches the close limit.



SETUP SYSTEM
PRESS BUTTON



SETTING
CLOSE

- Once gate reaches the close limit, the gate will open then close.

OPENING
239

CLOSING
239

- Once gate reaches the closed position, 'Setup Complete' will display, then after 2 seconds, the main screen will display.

SETUP
COMPLETE

SYSTEM CLOSED
12.9 VOLTS

3. e-Gate Dual Set Up – Limit Switch 2 Wire

1. Power up display, it will read 'System Not Setup'. Now press **PB** to enter set up menu 'System Type'.

SYSTEM NOT SETUP
12.9 VOLTS



First display is 'Encoder', rotate dial to select 'Limit 2 Wire'.



SYSTEM TYPE
LIMIT 2 WIRE



2. The screen will display 'Motor type'. Use the **PB** button to select single or dual motor.



MOTOR TYPE
DUAL



3. Screen will now display 'Drive Motor Open'.
You can drive the motor in the open direction by holding down the **PB** button or button **1** on a coded remote.

DRIVE MOTOR 1
OPEN



4. Now rotate the dial to display 'Drive Motor 1 Close'.
You can drive the motor in the close direction by holding down the **PB** button, or holding down button **1** on a coded remote. Rotate dial to use 'Drive Motor 2 Open' and 'Drive Motor 2 Close' if you are in dual motor mode.



DRIVE MOTOR 1
CLOSE



5. Now rotate dial to 'Direction Change Press PB'.
If you want to change motor direction, press **PB** and a green light will appear to show the direction has been changed. Otherwise rotate dial to 'Motor Setup'.



DIRECTION CHANGE
PRESS PB

DIRECTION
CHANGED



5. Rotate dial to 'Setup System Press Button', now press **PB** and gate will close until it reaches the close limit.



DIRECTION CHANGE
PRESS BUTTON

SETTING
CLOSE



4. e-Gate Dual Set Up – End Stop

1. Power up display, it will read 'System Not Setup'. Now press **PB** to enter set up menu 'System Type'.

SYSTEM NOT SETUP
12.9 VOLTS



First display is 'Encoder', rotate dial to select 'End Stops'. Now press **PB** and a green light will appear .



SYSTEM TYPE
END STOPS



2. The screen will display 'Motor type'. Use the **PB** button to select single or dual motor.



MOTOR TYPE
DUAL



3. Screen will now display 'Drive Motor Open'.
You can drive the motor in the open direction by holding down the **PB** button or button **1** on a coded remote.

DRIVE MOTOR 1
OPEN



4. Now rotate the dial to display 'Drive Motor 1 Close'.
You can drive the motor in the close direction by holding down the **PB** button, or holding down button **1** on a coded remote. Rotate dial to use 'Drive Motor 2 Open' and 'Drive Motor 2 Close' if you are in dual motor mode.



DRIVE MOTOR 1
CLOSE



4. Now rotate dial to 'Direction Change Press PB'.
If you want to change motor direction, press **PB** and a green light will appear to show the direction has been changed. Otherwise rotate dial to 'Motor Setup'.



DIRECTION CHANGE
PRESS PB

DIRECTION
CHANGED



5. Rotate dial to 'Setup System Press Button', now press **PB** and gate will close until it reaches the close limit. (Note: Gate should be in half way position)



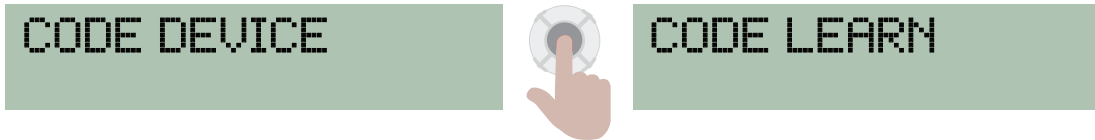
SETUP SYSTEM
PRESS BUTTON



SETTING
CLOSE

5. Coding – Remotes

1. Scroll to 'Code Device' and press **PB** The screen will display 'Code Learn' and the red light will appear.



2. Now press the Remote button once and the e-Gate board will display 'Remote # Coded'. To code more remotes, repeat step 2.
(Note: To exit Code Learn you can press **PB** again or wait 10 seconds and the board will automatically exit back to main screen. Alternatively press the coded remote button again and it will return the the main screen.)



6. Coding – e-Loop

1. Scroll to 'Code Device.



2. Now place the e-Loop close to the antenna of the board then press and release **PB** . If pairing is successful, the screen will display 'Loop (number) Paired'. If not successful, 'Code Learn' will be displayed. To exit 'Code Learn' press **PB** again or wait 10 seconds and it will automatically exit to the main menu.



7. Altering – e-Loop Settings and Diagnostics

1. To alter the e-loop settings, select coded devices from the main menu, and then select e-loop settings. Before doing so, place a magnet on the mode button of the commercial e-loop for 10 seconds to enter diagnostics mode.

CODED DEVICES



E-LOOP SETTINGS



2. Scroll to alter e-loop menu for general e-loop settings, alter radar menu for e-loop radar settings and diagnose e-loop for e-loop information readout. Select any option using the **PB** button.

ALTER E-LOOP
MENU



ALTER RADAR
MENU

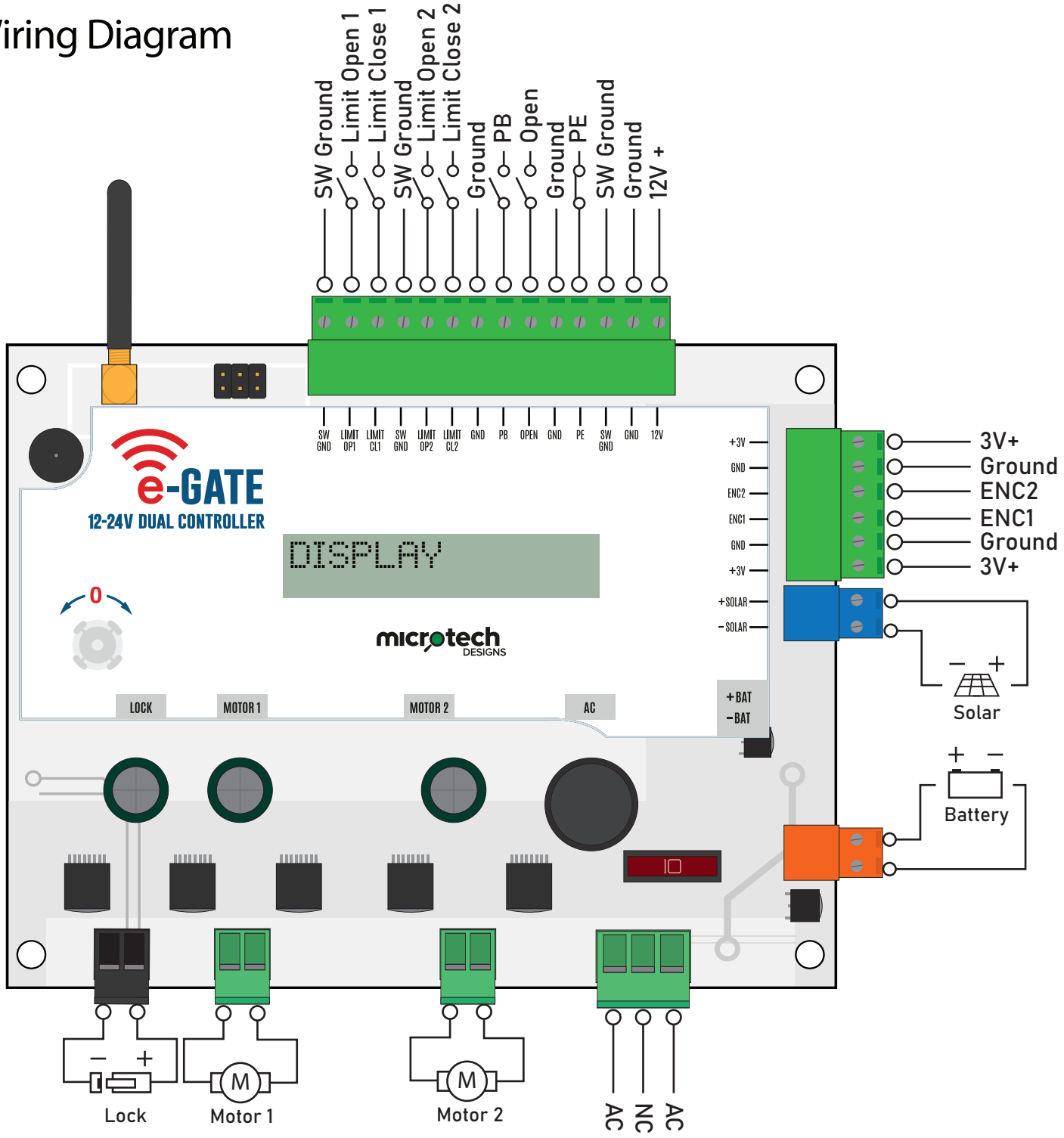


DIAGNOSE E-LOOP
MENU



Note: Diagnostics mode is not required for e-loop and radar settings changes, however the e-loop must be held next to the e-gate board.

Wiring Diagram



The logo for Microtech Designs features the word "microtech" in a bold, lowercase, sans-serif font. A small white circle is positioned above the letter 'o' in "microtech". Below "microtech", the word "DESIGNS" is written in a smaller, uppercase, sans-serif font. The entire logo is white and set against a green background with a circuit board pattern.

microtech
DESIGNS

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