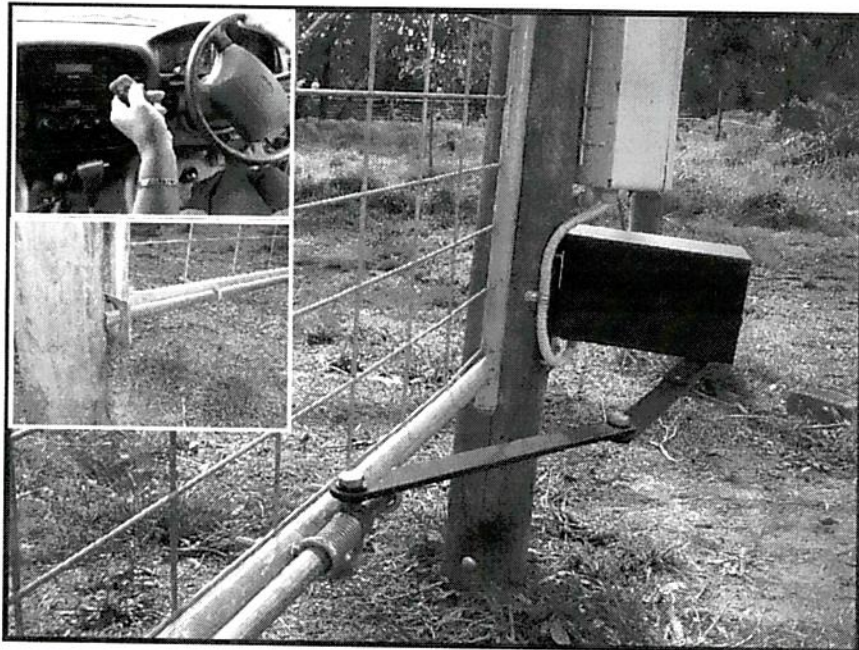


SolarTronics

A Division of Solartronics Pty Ltd

Automatic Heavy Duty Swing Gate Opener

With Remote Control



Installation Instructions and Owners Manual

X2.40 SOL Single & Double

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Important Safety Rules

- ⇒ Do not operate gate opener when children or other persons are near the gate. Serious personal injury and or property damage can result if this warning is not followed.
- ⇒ Only operate gate when in full view and free of objects such as cars and people/children.
- ⇒ The gate must be well balanced and swinging freely without binding or touching the driveway from fully closed to fully open. i.e. must be well clear of ground surface and have no wheels attached.
- ⇒ If installing a 240V system, ensure power point is installed by a qualified electrician and that a safety certificate is provided.

Product Description

The Solartronics Solar/240V/Low Voltage powered swing gate opener consists of one or two Solartronics 24 volt DC Heavy Duty Drive Unit, one electronic/battery control box, locking mechanism for single gates only, solar panel and two remote controls for vehicles.

DRIVE UNIT

The Drive Unit/s are powered by a powerful 24V DC motor, a rugged metal gear gearbox with cam activated limit switch assembly. Has a quick release clutch will release gate to swing freely for emergencies.

CONTROL BOX

The Control Box contains 2 x 9A/H batteries, Control board, adjustable obstacle sensing and close delay time, soft delay to allow gate to come to a soft stop when closing, and solar charging regulator for solar panel to avoid overcharging batteries. The solar charging controller has a display to show solar voltage and current and battery voltage.

SINGLE GATE LOCKING MECHANISM

The Single Gate Locking Mechanism consists of a locking shaft, gate lock, gate stop and tension spring. The positive locking system ensures the gate cannot be pushed open without using the drive unit or using a key to unlock the drive unit.

SOLAR PANEL

A 20 watt solar panel and bracket with regulator is supplied to recharge the batteries.

OPTIONAL 240V

The 240V option comes with power pack and regulator to keep batteries charged.

OPTIONAL LOW VOLTAGE

Low voltage is the same as the optional 240V power, except the power pack and a junction box is supplied so it can be installed at a remote site where 240V is available, it can then be cabled to the gate controller. The cable being low voltage does not have to be installed by an electrician and does not have to be laid 600mm in the ground as would be a 240volt system.

REMOTE CONTROLS

The remote controls use a code hopping technology that consists of over 4.29 billion different codes. This technology ensures maximum security and makes it almost impossible to duplicate and open a gate as is the case with dip switch type remote controls.

VISITOR BUTTON—HARD WIRED

An optional hard wired visitor button can be installed on the gate post to allow visitor entry to people who do not have a remote control button.

VISITOR BUTTON—WIRELESS

Same as above but the visitor button does not require to be hard wired. (no cables to be run or trenched underground).

VISITOR BUTTON—KEYPAD

The Keypad is wireless and does not require to be hard wired. A PIN number is used to enable the gate opening.

REMOTE GATE LOCK

An optional remote gate lock can be fitted to the control board which allows the gate to be remotely locked from your vehicle, as you are leaving your property or maybe going to bed at night. This remote lock disables all visitor buttons and remote controls.

General Description - Options and Features

- ⇒ The Control board provides a convenient point for all cabling to be terminated.
- ⇒ The weatherproof IP55 rated and insect proof control box houses the control board, batteries, remote receiver and solar power regulator. If properly installed only minimal cabling is visible outside the control box.
- ⇒ A timer on the control board and can be adjusted for varying gate close delay times.
- ⇒ A "Soft Stop" feature at DIP SW5 "SOFT" will slow the gate closing as it reaches its closed position. This feature only need be activated if required.
- ⇒ On the bottom of the control box is a switch marked "OPEN / AUTO" . The "OPEN" position stops the gate from automatically closing and allows it to remain in an open position. In the "AUTO" position the gate will automatically close when the timer times out.
- ⇒ The Heavy Duty Solartronics Drive Unit is powered by a powerful 24V DC motor and driven by a heavy duty robust metal gear drive chain.
- ⇒ A Wing Head bolt clutch release pin is provided in the gear chain to disengage the drive unit from the gate. This allows the gate to swing completely free.
- ⇒ The Solar Panel is mounted on a heavy frame and can be mounted up to 30mt. on standard cable ,or further with larger diameter cable.
- ⇒ The remote control has code hopping technology which provides over 4.29 billion different codes and ensures total security from other unwanted remote controls.
- ⇒ Adjustable obstacle detection will detect an obstacle (e.g. make contact with vehicle) then reverse gate to open/close position.
- ⇒ Lamp control option is available for switching on gate/driveway lights at night.
- ⇒ The gate Open/Close button on the remote works as follows:
 - a. When gate is closed - opens gate.
 - b. When gate is fully open or part open - closes gate.
 - c. When gate is opening or closing - stops gate. (pedestrian access)
- ⇒ Optional Visitor buttons either hard wired or free standing wireless button are available.
- ⇒ Optional Visitor Keypads may be installed to enable entry by using a PIN number.
- ⇒ Optional remote "Gate Lock" enables you to disable all visitor buttons from the comfort of your car as you are leaving your property. This option does away with having to get out of your car with a set of keys to lock/unlock all visitor buttons.
- ⇒ Optional remote "Gate Stay Open" enables you to remotely open the gate when the gate is in auto mode and the gate will remain open instead of automatically closing if AUTO/OPEN switch is in "AUTO" position.
- ⇒ Optional PE Sensor to stop gate closing on slow or large vehicles that take longer time to clear the gate way.
- ⇒ Optional Vehicle Loop to activate gate when vehicle drives over loop.
- ⇒ Optional long distance remote controls available to control gate.
- ⇒ Optional long distance gate alarm to sound when gate is opening.
- ⇒ Optional GSM unit to open your gate using a mobile or land line phone.
- ⇒ Optional Strobe light to indicate gate locked, warn gate is closing in 5 seconds etc.
- ⇒ Optional Bluetooth Monitor that displays the battery voltage on your smart phone .
- ⇒ Optional Lithium Batteries.

Initial Check

The Drive Unit is designed to operate on most domestic and farm swing gates. The gates must be in good working order and operate freely without binding, sticking or touching driveway etc. Wind loading may affect the operation of the opener in high wind areas.

Initial Check

Before commencing installation, check the following:

- 1 The gate/s moves freely by hand from fully closed to fully open.
- 2 The gate post/s is of solid construction, is firmly positioned in the ground and cannot be swivelled left or right.
- 3 The gate end rails are vertical and the gate bottom is straight and horizontal.
- 4 The single gate should clear the locking post by approx 25mm. If the gap is greater than 75mm a spacer will be required to be bolted to the locking post. If the gate hits the side of the locking post, it should not exceed more than half of the post. (See fig 1)
- 5 Side room clearance of 450mm must be provided for the actuator arm in the open position.

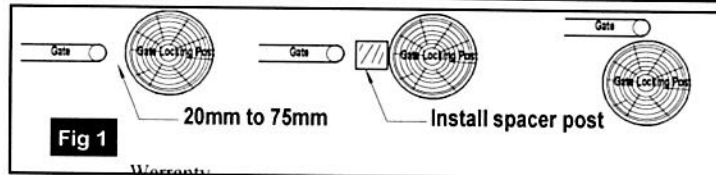
If installing a SINGLE gate, start at step 1 to 17 then step 20+

If installing a DOUBLE gate, start at step 7-11 then step 18+

Caution

Complete each step in the order they are printed.

Single Gates Only



Step 1.

Drill a 3/8" horizontal hole in bottom gate rail, approximately 100mm from lock end of gate. Install eyebolt. See fig 2.

Step 2.

Drill a 3/8" horizontal hole in bottom gate rail, approximately 300mm from centre of gate toward lock end of gate. Install eyebolt. See fig 2.

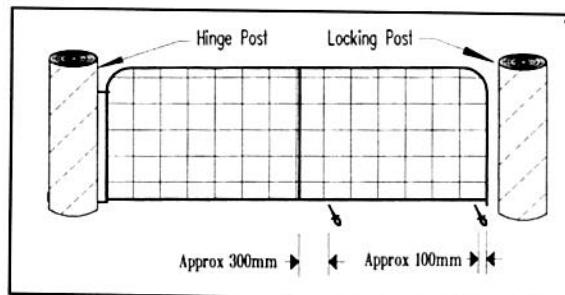


Fig 2

Single Gate - Gate Hardware/Drive Unit

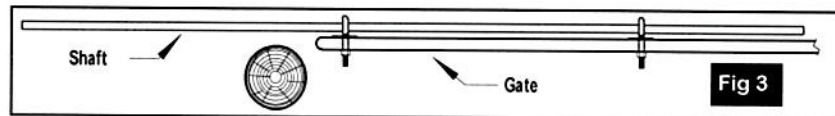
Step 3.

Cut locking shaft approximately 300mm shorter than length of gate.

Note: If locking shaft is cut in half, screw together with coupling provided, make sure coupling is clear of eye bolts.

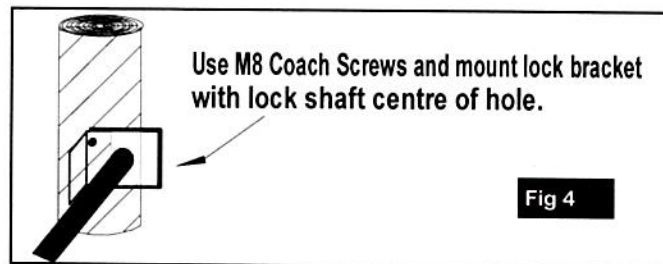
Step 4.

Slide locking shaft through eyebolts. See fig 3.



Step 5.

Mount gate locking bracket with 2 x M8 coach screws and drill out timber inside gate locking area to a depth of approximately 30mm. Make sure locking shaft is centre of locking area. See fig 4



: Timber must be removed from ENTIRE area inside lock bracket so shaft can protrude a min of 30mm

Step 6.

Install top stop bracket on lock gate post approximately 15mm from the gate when it is closed and hitting gate stop bracket

Drive Unit Gear Clutch

Step 7.

Open the cover of the drive unit by turning key 90o clockwise to a horizontal position, then slide the cover toward you.

To disengage Gear clutch turn wing nut bolt down (clockwise) until it stops,
DO NOT OVERTIGHTEN gate swings freely.

To re-engage clutch, unscrew wing nut bolt anti clockwise 5 – 6 complete turns and move gate until gears engage. See fig 5.

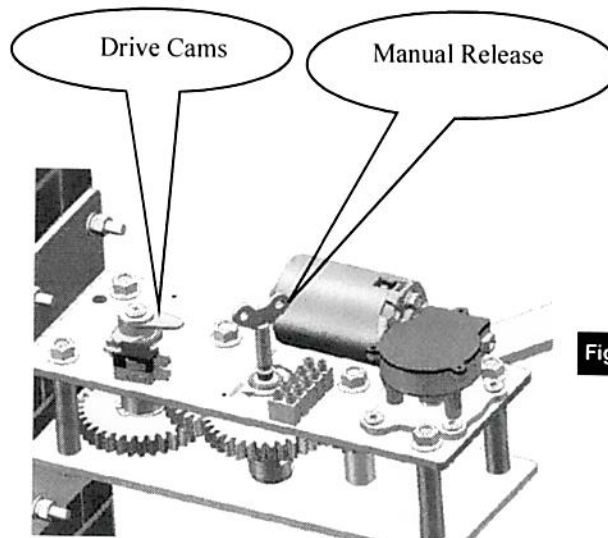


Fig 5

Single/Double Gate - Mounting Drive Unit

Step 8.

Use the mounting charts below to assist locating position of drive unit.

Drive unit cover should be approximately 30 - 50mm from the gate when fully open.

Using a spirit level mark a line on post horizontal from where gate bracket-double gate or top of collar - single gate (see fig 6b) will be mounted on gate. This line must provide a minimum 40mm clearance for drive arms from ground.

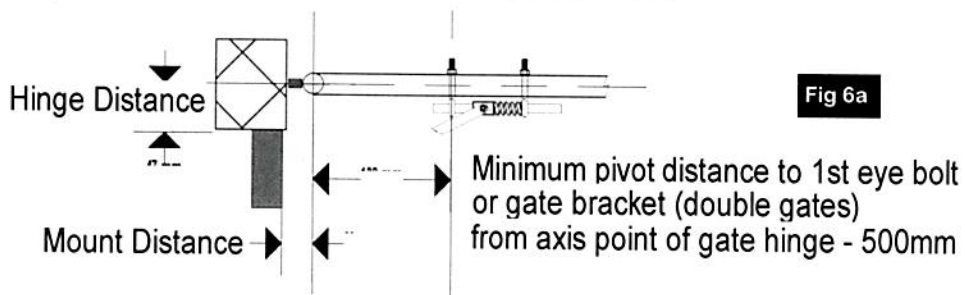
Using template provided in "Installation Instructions" located in Drive Unit box, position it on gate post/gate pillar using correct Datum line where it is to be mounted. Mark position of holes.

Using Mount Distances Drawings (fig 6a - Single gate) or (fig 6d - double gate) and Mount Distances Chart (fig 6c) ensure drive will be mounted within distances specified in Mount Distances Chart.

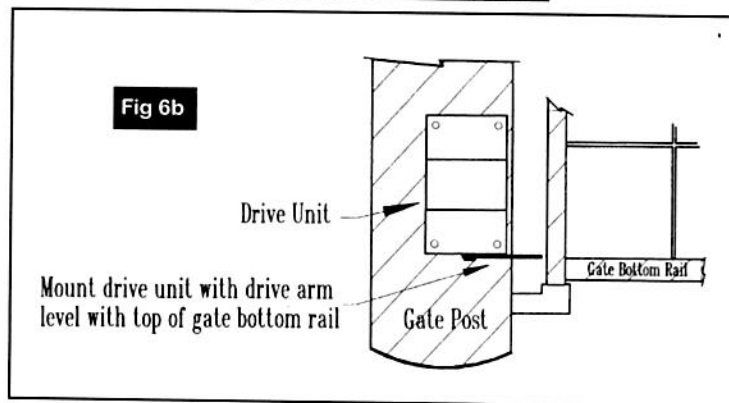
Step 9.

Disconnect drive gears from drive units (see Step 7.) Install drive units using marked holes.

Mount Distances—Single Gate



Single gate with lock shaft



Single/Double Gate - Mounting Drive Unit

Mount Distances Chart

Hinge Distance								Mount Distance
50	100	150	200	250	300	350	400	
Pivot Distance								
700	690	680	675	650	640	620	600	25
650	640	630	625	600	590	570	550	75
600	590	580	575	550	540	520	500	125
550	540	530	525	500	/	/	/	175
500	/	/	/	/	/	/	/	225

Fig 6c

Mount Distances—Double Gate

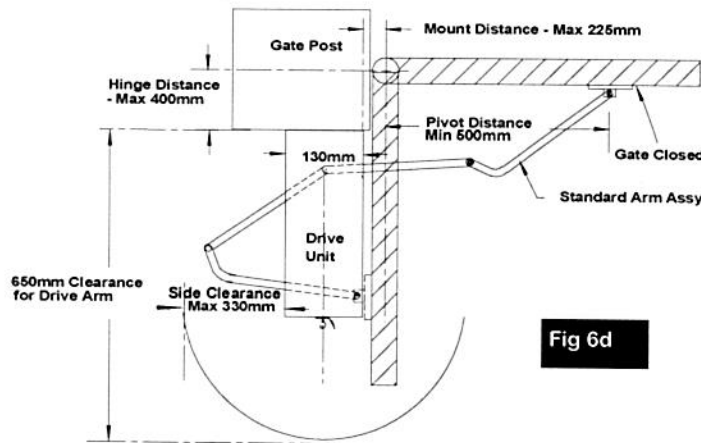


Fig 6d

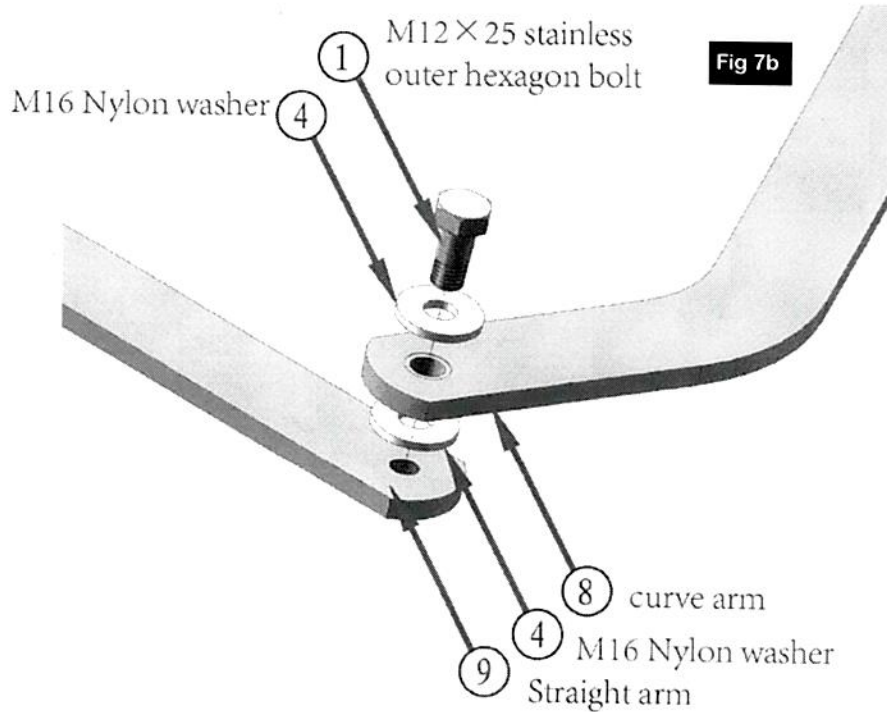
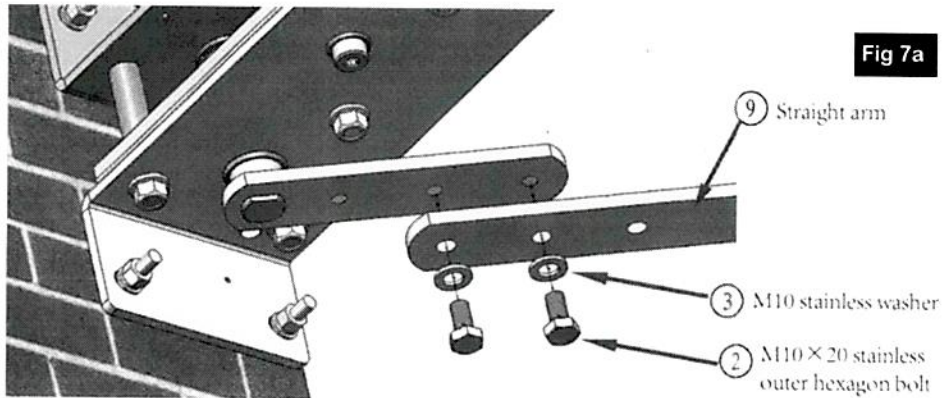
Single/Double Gate - Mounting Drive Arms

Step 10.

Disconnect drive gears from drive unit (see Step 7.) Install drive units using marked holes.

Step 11.

Install drive arms as shown in fig 7a, and 7b.



Single Gate - Mount Drive Arm to Locking Shaft

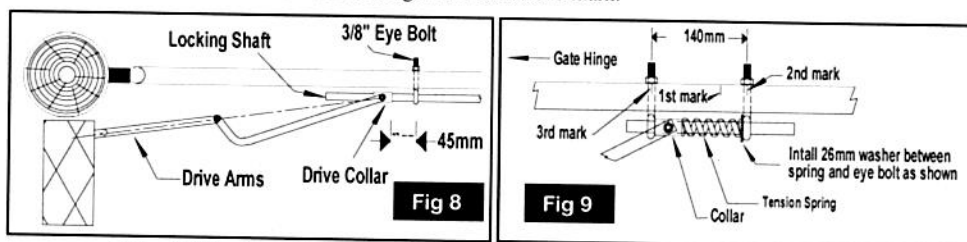
Step 12.

Attach collar to end of curved arm. Only finger tighten bolt so it does not penetrate into inner part of collar.

Remove locking shaft, push gate to closed position and up against gate locking bracket. Extend drive arms fully and mark a position on the bottom gate rail furthest from the gate hinge where the far end of the collar reaches. See fig 8

Step 13.

Make a second mark 45mm away from hinge from the mark in Step 12. (see fig 8), then make a third mark 140mm toward the hinge from the second mark.



Drill a 3/8" horizontal hole at second and third mark. Install eyebolt in both holes. See fig 9.

Step 14.

Open gate slightly, reinstall locking shaft, slide locking shaft through all eyebolts and make sure the locking shaft slides freely. Some adjustment to eye bolts may be required. Slide locking shaft back and remove eye bolt closest to gate hinge at 3rd mark.

Step 15.

Place 25mm washer on locking shaft, slide tension spring then locking collar attached to the drive arm onto the locking shaft. With gears still disengaged, carefully push the drive arms so they become almost fully extended and compress the lock spring. If the collar is clear of eye bolt hole closest to gate hinge at 3rd mark, unscrew winged clutch release bolt in an anti-clockwise direction for 5 - 6 turns to engage clutch and allow gear box to engage and hold the drive arms. Tap the locking shaft toward the end of the collar until the eye bolt can be re-inserted. When inserted, tap the locking shaft back until it is through the eyebolt and clears the gate locking bracket by appr. 10mm. See fig 9. and fig 10.

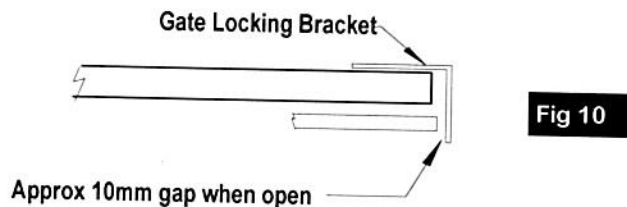
Step 16.

Disconnect drive clutch by turning winged clutch release bolt clockwise until it stops. The spring should push the gate collar to its open position.

Step 17.

With gears clutch disengaged and collar in open position, adjust the locking shaft so that it clears the gate locking bracket by approximately 10mm. See fig 10. Tighten the locking bolt at bottom of the collar, then tighten curved arm bolt at top of collar

Apply some heavy grease to the locking shaft where it slides through the eye bolts either side of spring and collar.



Double Gate - Gate Hardware/Drive Unit

Step 18.

Attach gate bracket to end of curved arm. See fig 11. With gate in closed position extend arm out as far as it will go. Then move gate bracket back toward drive unit 15mm and mount bracket in this position. Arms on single and double gates should have approx 100 angle between them when closed. See fig 12.

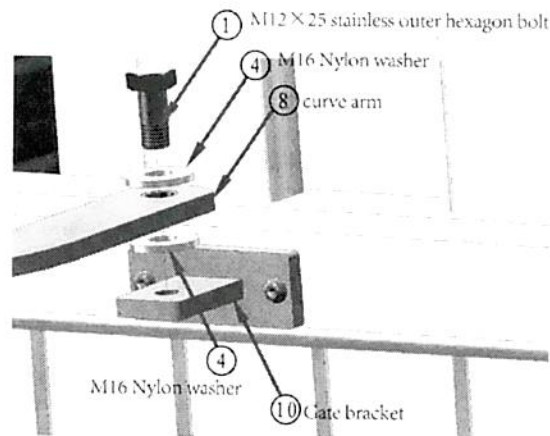


Fig 11

Step 19

When installing double gates there are two Drive Units - one for each gate. The gate opposite the control box has a longer cable to be installed under the driveway.

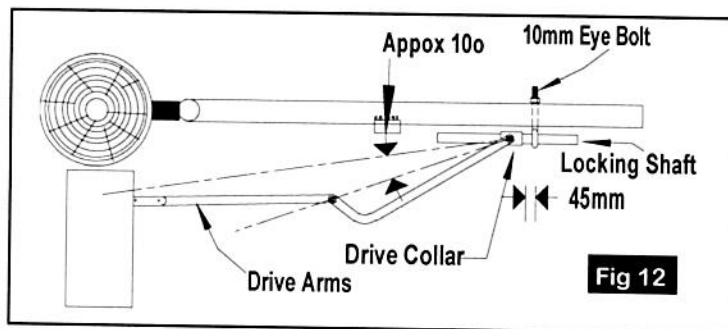


Fig 12

Single/Double - Control Box/Drive Unit

Step 20.

Mount the control box close to the drive unit, preferably 100mm above the drive unit to minimize exposed cable and provide a neater job. Make sure the control box is not in the way of the gate when opened. Use 4 x 30mm screws provided. Do not put screws through gear plate in top of control box.

Step 21.

Measure corrugated conduit to hole in bottom of drive unit 1 and carefully cut conduit without damaging wires inside. Feed cable up through bottom hole in bottom plate then through top hole in top plate. With cable tie supplied, tie cable to support post. Saddle conduit with saddle supplied. Strip outer cable sheath, and cut wires long enough to reach terminal strip. Install wires as follows: See fig 14

- a. **RED** - Terminal 5
- b. **BLACK** - Terminal 4

Note: If gate opens clockwise, Green wire goes to terminal 5 and Red goes to terminal 2. (default).

If gate opens anti-clockwise, reverse **MOTOR** wires
RED and **GREEN** on terminals 5 and 2.
 See fig 14.

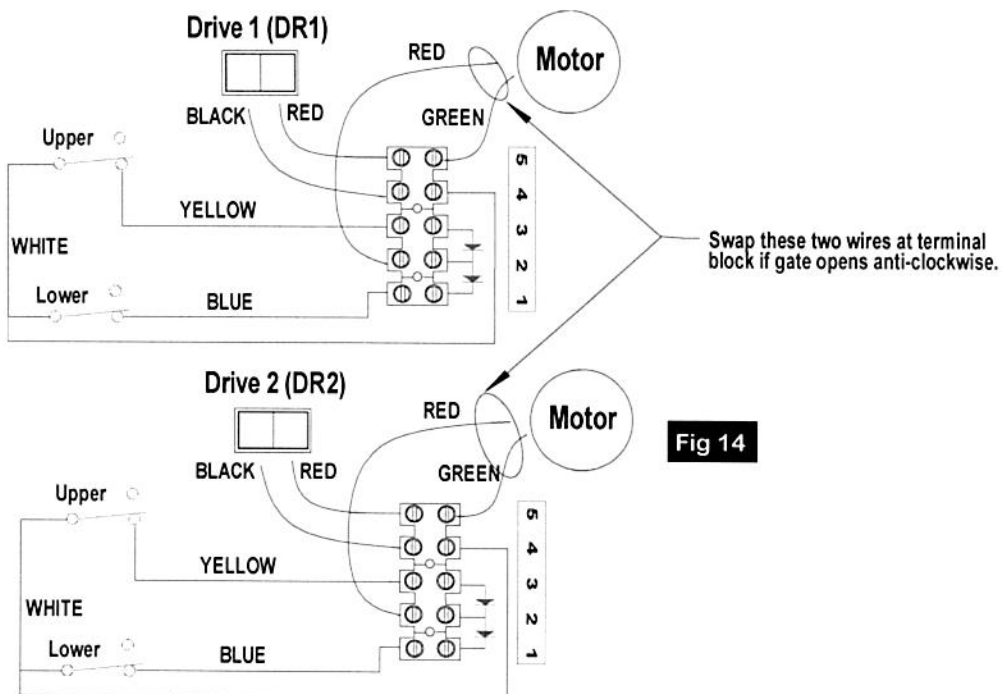


Fig 14

Single/Double - Control Box/Drive Unit

Step 22.

OPEN POSITION

Disengage drive clutch.

With arm on single gate connected to drive collar, and arms on double gates connected to gate "T" piece., open gate/s to fully open position.

If gate/s opens in an anti-clockwise direction, adjust the **BOTTOM** cam in an anti-clockwise direction until an audible click can be heard from the **BOTTOM** micro switch. If gate/s opens in a clockwise direction, adjust the **BOTTOM** cam in a clockwise direction until an audible click can be heard from the **BOTTOM** micro switch.

CLOSE POSITION

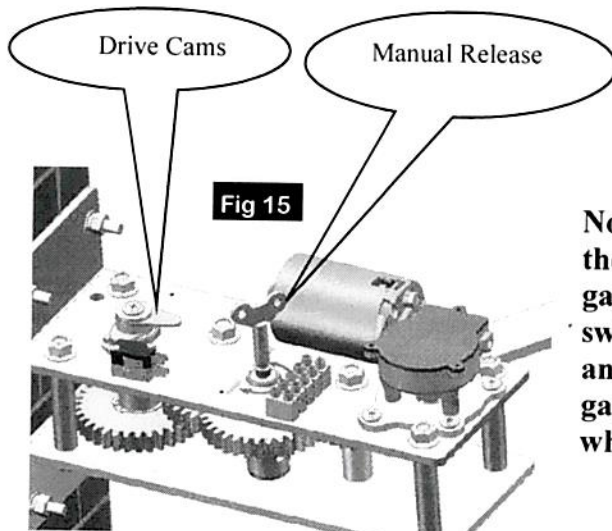
If **SINGLE** gate - fully close gate, until it is touching gate lock bracket. If gate closes in a clockwise direction, adjust the **TOP** cam in a clockwise direction until the cam is approx 2mm from the **TOP** micro switch actuator.

If gate closes in an anti-clockwise direction, adjust the **TOP** cam in an anti-clockwise direction until the cam is approx 2mm from the **TOP** micro switch actuator. See fig 15.

The 2mm gap then allows for additional travel to push the locking shaft into the locking bracket. Final adjustment can be made later when drive is re-engaged and gate driven home under power.

If **DOUBLE** gates - fully close gates then adjust **TOP** cam to stop gates at closed position. Final adjustment may be required to align gates when under power.

Single/Double - Drive Cams



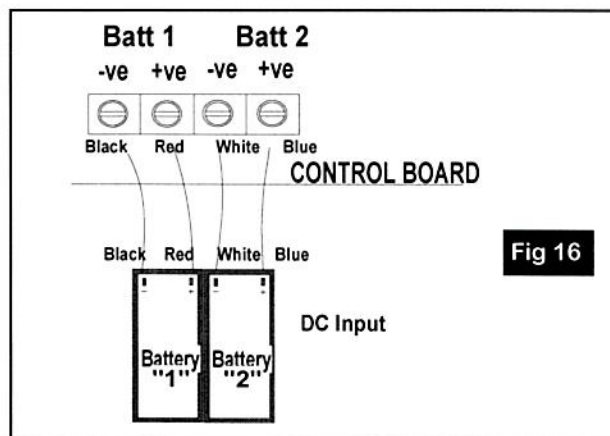
Note: For correct operation, the **BOTTOM** cam must engage the **BOTTOM** micro switch when gate is **OPEN**, and the **TOP** cam must engage the **TOP** micro switch when gate is **CLOSED**.

Single/Double - Battery

Step 23

Place batteries on end at bottom right hand corner of control box with terminals on top front. Install **BLACK** and **RED** wires to battery "1" (left battery) - **BLACK** wire to Neg (-ve) and **RED** wire to Pos (+ve). Install **WHITE** and **BLUE** wires to battery "2" (right battery) - **WHITE** wire to Neg (-ve) and **BLUE** wire to Pos (+ve). See fig 16.

Warning: Failure to wire batteries as shown will damage the control board.



Step 24

Switch "Auto/Open" switch under control box to "Open".

Step 25.

With gears in Drive/s disengaged locate gate/s to a half open position. Re-engage gears. Locate the Open/Close and Reset buttons on control board, Locate the actuators on both micro switches. Press and release the Reset button. Then press and release the "Open/Close" button on the control board. Check that the drive motor/s are driving the arm/s in the correct direction. If the gate is going in wrong direction, quickly pull back on both micro switches for 5-10 seconds to stop gates. Disconnect batteries and swap **Red** and **Green** wires (terminals 1 & 4) from motor on drive unit travelling in wrong direction. Press Reset, then press Open/Close button to check gate direction again.

Note: If gate is fitted with a Gate Lock feature and gate does not open, the red LED on the control board will light for 2 seconds, indicating the gate is in lock mode. Press button 2 on the remote control to unlock the gate.

Step 26.

With drives going in correct direction, closing and opening make any final adjustments to cams for correct opening and closing positions.

Note: In the closed position the drive arms should **not** be fully extended but be at an angle of approx 10°. See fig 13.

Single/Double - Gate Close Delay

Step 27.

To set gate close time, press and hold "Gate Close Delay" button (centre of control board - see fig 17), then count red LED flashes, each flash equals 1 second.

Release "Gate Close Delay" button at the number of seconds you want the gate to delay closing.

If you press and release the "Gate Close Delay" button once, the Red LED will flash to indicate how long the gate close delay is set for - 3 to 120 seconds.

See flash indicator instructions below:

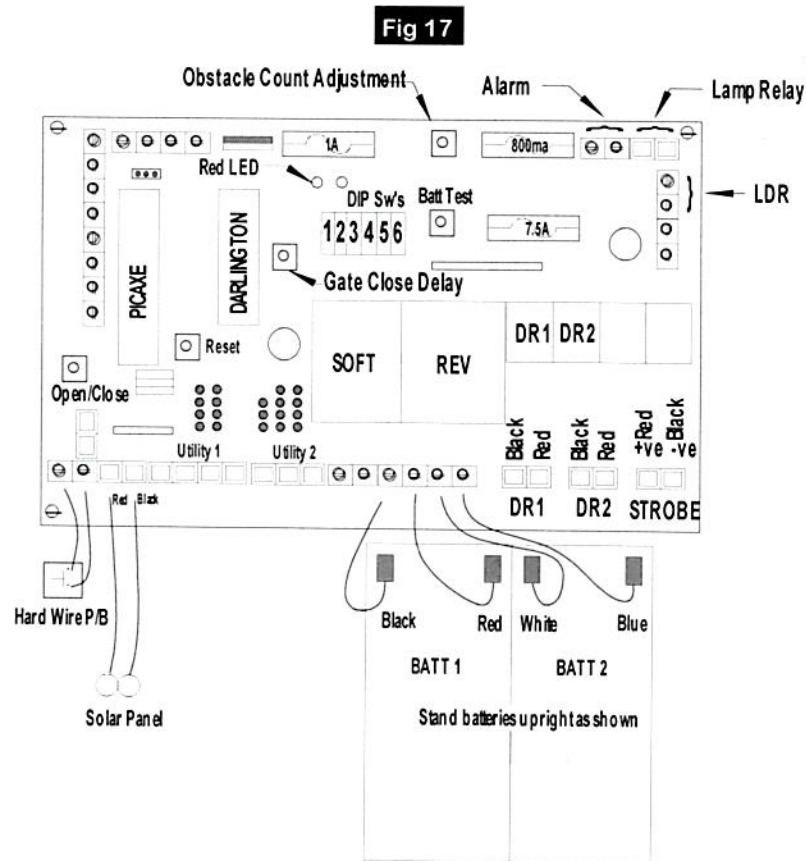
Note: Gate close delay is pre-set at 15 seconds. (Adjust if required.)

Flash Indicator

Any flash less than 2 seconds from button release indicates number of 10's count.

Any flash after 1 second pause from first flash/es indicates number of units.

e.g. 2 flashes followed by a 1second pause followed by 4 flashes = 24 seconds



Soft Stop

Step 28.

The control board is fitted with a soft stop feature, which will slow the gate before it reaches the closed position. Normally this feature is not required and is shipped out with feature turned off. If the gate closes too hard on the lock post stop bracket, then turn the Soft feature on by switching DIP SW5 "SOFT" on and pressing the reset button. There are 11 different delay settings 3-12 (approx 3 to 12 seconds delay from start of close) with default set at 8 (approx 8 seconds)

To check and or adjust Soft delays:

1. Turn SOFT delay on (SW5) and all other SW's off.
2. Press and hold "Reset" then press and hold "GATE CLOSE DELAY" buttons.
3. Release "Reset" then release "GATE CLOSE DELAY" buttons.
4. Red led will display 3 x long dashes followed by short flashes to indicate seconds
5. Press "Gate Close Delay" button to change seconds (3-12)
6. Press "Open/Close" button to exit. Displays seconds as in 4. above.

The soft adjustment is preset so that the gate will travel approx 8 seconds from fully open then switch to slow mode until it reaches close position.

Step 29

Install and test visitor buttons, check all remotes.

Note: All remotes, visitor buttons, keypads etc. are pre-programmed and coded into receiver.

Obstacle Sensing

Step 30

The Obstacle Sensing adjusts the amount of force required to stop the gate if it detects an obstacle hitting the gate. Adjustment may be necessary because of gate size, weight, wind etc.

To check Obstacle count, press and release "Obstacle Count" button. Each red flash indicates one count.

To adjust the Obstacle Sensing, press and hold "Obstacle Count" button (on top of control board, see fig 17.), each flash of the red LED indicates one count.

For example, a normal 14ft farm gate may be set to a count of 6.

To check the obstacle sensing count, press and release the "Obstacle Count" button, the red LED will flash to indicate number of counts. (1 to 9 counts or 12 if disabled)

If the red LED flashes occasionally as the gate opens or closes this indicates the gate sensing is close to stopping and reversing the gate, and count may need to be increased.

If the gate senses an obstacle it will stop and reverse in slow mode until open or closed. If the gate senses an obstacle again when in slow mode it will just stop. Press button 1 on your remote or a visitor button to continue the gates Open or Close.

Note: Setting Obstacle Count to:
1 will automatically go to 6 when Reset is pressed.
2 will disable obstacle detection. (obstacle count =12)
3 - 9 normal

Note: Obstacle count is pre-set at 6. (Adjust if required.)

If the gate hits an object when opening or closing and force is too harsh, reduce the Obstacle count as required.

Reset

To reset board, press Reset. Red LED will come on. If red LED does not come on, hold down Reset then "Obstacle Count" button, then release Reset then release "Obstacle Count"

Solar Panel

Step 31

Before installing the solar panel; the gate drive unit should be working and adjusted.

The solar panel must be mounted where it will receive full sun and not shadowed by trees or other objects. Preferably mounted on the same gate post as the control box.

The panel can be mounted with a cable length up to 30mtrs. from the control box using an extension cable suitable for outdoor use with a minimum cross sectional area of 1.5mm. Additional distance can be achieved with a heavier cable.

A special bracket is provided to mount the panel which can either be screwed to the gate post or mounted on an extension pole above the gate.

To mount solar panel:

Remove panel from packing boxes.

Turn solar panel upside down and use 4 metal threads and nuts to secure bracket to the solar panel. The black junction box under the solar panel should be at the higher end of the solar panel. Insert cable down centre of bracket stem.

With panel facing in a northerly direction, mount support bracket to gate post/extension post etc. Two 75mm wood screws are provided for fixing to timber.

Solar cable should be pushed through rubber grommet in bottom of control box.

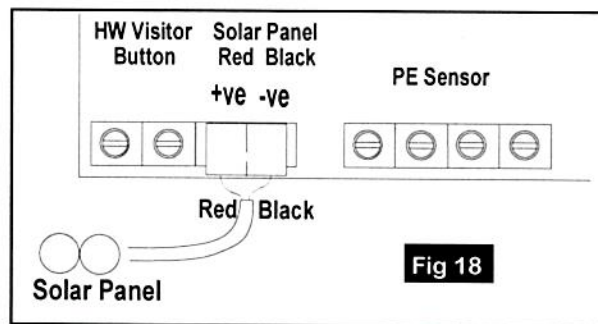
Step 32

CONNECT SOLAR WIRES TO CONTROL BOARD

Connect **RED** wire from solar panel to +ve on left side of 2 way plug and **BLACK** wire to -ve right side of 2 way plug where it is marked "Solar Panel". See Fig 18.

Note: The Red and Black solar wires connect to the PCB via a removable plug.

WARNING: Be sure RED wire goes to +ve (positive - left) and BLACK wire goes to -ve (negative - right)



Note: Always test the gate controller with batteries connected before connecting the solar panel. When the solar panel is connected, check the LED's on top of the solar regulator. (You may have to shade the sun from the control box). If the amber LED is glowing the batteries are being charged, if the green LED is glowing the batteries are charged.

Don't try to open or close the gate with only the solar panel connected.

DIP Switch Settings

A DIP switch with 6 switches is located near the centre of the control board.

Each switch has the following functions:

SW1 - Delay drive 1 closing (Double gates only)

SW2 - Delay drive 2 closing (Double gates only)

SW3 - On only if Time Clock fitted. (Disables lock override)

SW4 - On only if Vehicle Loop fitted. (Disables lock override)

SW5 - On if Soft Stop is required.

SW6 - PE must be installed

On will keep PE on when gate is held open and sound alarm when vehicle passes through.

On will stop gate closing until PE beam is broken

Note: Only SW1 or SW2 can be on at one time, not both and only for double gates.

Only SW3 or SW4 can be on at one time, not both. When either is on it will disable lock override

SW5 and SW6 can be on together. See fig 17.

Adjusting Gate Close Delay for Double Gates 1 or 2

If gates have an overlapping leaf (refer page 26) and one gate must close before the other then set

DIP SW1 or SW2 on and press reset button.

SW1 delays gate 1 from closing for 3-8 seconds. It also opens gate 1 (DR1) before opening gate 2 (DR2)

SW2 delays gate 2 from closing for 3-8 seconds. It also opens gate 2 (DR2) before opening gate 1 (DR1)

To set gate 1 or gate 2 close delay time:

Turn on SW1 and turn off all other SW's.

Press and hold Reset button.

Press and hold "Gate Close Delay" button (centre of control board).

Release Reset button.

Release "Gate Close Delay" button.

Red LED will display seconds - 1 long dash followed by short flashes to indicate seconds .

Press "Gate Close Delay" button to change seconds (1-8 seconds)

Press "Open/Close" to exit. Displays seconds changed.

SW1 or SW2 on will delay gate opening regardless of delay time.

- Note:**
1. SW1 (Drive 1) all other SW's must be off.
 2. Regardless of delay set, the opposite gate will delay opening.
 3. The maximum time that can be set is 8 seconds.
 4. By design, the motor on the clockwise closing gate will close faster than the anticlockwise closing gate.

Visitor Buttons

Hard Wired Visitor Button

Connect 2 wires from visitor button/s to terminals marked "Visitor" on the control board. See fig 18.

Wireless Visitor Button

The wireless visitor button must be coded to the receiver and can be mounted anywhere within range of the receiver. To code remote visitor button see "Coding of Receiver / Transmitter" page 18-19. All wireless visitor buttons shipped with new gate controller kits have been programmed before shipping and no further action is required by the installer.

Remote Gate Lock (optional)

If your gate controller has a Remote Controlled Gate Lock feature, when installing the gate controller, if the gate will not operate, it is probably because the gate controller is in the lock state.

If the red led on the PCB lights up when you attempt to open the gate, this indicates that the gate is locked.

Press button 2 once on the remote control button, then try again.

All button 2 on remote controls that have the remote Lock/Unlock option, have been programmed when shipped. Each alternate press of button 2 will alternately lock then unlock the gate electronics.

Lamp Control (optional)

The Lamp control (top right of control board) has 2 way socket that supplies 12 volt at max 2 amp to drive an LED lamp.

To activate the lamp control, a Light Dependent Resistor (LDR) must be fitted to turn light on at sunset. The default setting 1 hr. will turn light on when gate opens, then turn light off 2 minutes after gate closes. 2 hr. setting is only used for GSM S271 and will not turn light on.

3-10 hrs. will turn light on at dusk and stay on for hours set.

To change lamp ON hours proceed as follows:

1. Turn on SW1 and SW3—all other SW's off.
2. Press and hold Reset.
3. Press and hold "Open/Close" buttons.
4. Release Reset then release "Open/Close" buttons.
5. Red LED will display hours: 2 x Long dashes followed by short flashes to indicate hours.
6. Press "Gate Close Delay" button to change hours (1 - 10 hours).
HR=1 - Comes on when gate open. Turns off 2 minutes after gate closes.
HR=2 - Used to control GSM S271. Lamp Jumper must be on GSM
HR=3-10 Turns on light at dusk for hours set.
7. When finished press Open/Close to exit, LED displays hours set as in 5. above.

Coding of Transmitter to Receiver - Secura/Trio

Storing Transmitter Code:

Remove the blue cover from the receiver in the control box.

Press and hold the code SW1 button on the Receiver. See fig 2.

Press the button (one of four) on the Transmitter you would like to use to control the gate for approximately 2 seconds. Pause for two seconds. Press the same button again on the Transmitter for approximately two seconds. See fig 1.

Release the Code SW1 button. See fig 2.

Press the Transmitter button to see if it opens the gate. If you wish all four buttons can be coded to open the gate.

Note: SW1 is programmed to open the gate. If you have a SW2 this switch is programmed to lock/unlock your gate.

Deleting Transmitter Codes

To Delete One Transmitter

Press and hold SW1 button on the receiver.

Press and hold (one to four) the button on the Transmitter you would like to delete from the Receiver for approximately two seconds. Pause for two seconds. Press the same button again on the Transmitter for approximately two seconds.

Release the Code SW1 button.

Press the Transmitter button to see if it operates the gate.

To Delete all Transmitters

Remove 240V power if applicable. Remove power from battery.

Press and hold the Code SW1 button on the Receiver whilst returning power to the Receiver.

(Replace battery connection). Continue to hold the Code SW1 button for a further ten seconds.

Press the Transmitter button to see if it operates the gate. No Transmitter should operate the gate.

Storing additional Transmitters from a Remote Location

Using this method you don't need to have access to the control box or receiver. However, you do need a Transmitter that is pre-coded to the controllers receiver.

IMPORTANT NOTE:

The gate must be activated when the step below is performed. The moving gate is to confirm from a remote location that the correct button was pressed and the receiver is in range of the pre-coded Transmitter.

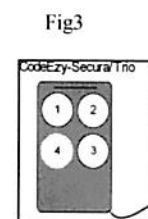
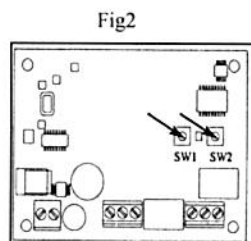
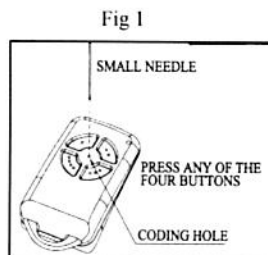
Take any pre coded Transmitter. Press the button for the function you require until the gate is activated and release.

Then using a small needle or wire press and hold firmly for approximately two seconds through the **Coding Hole**. See fig 1.

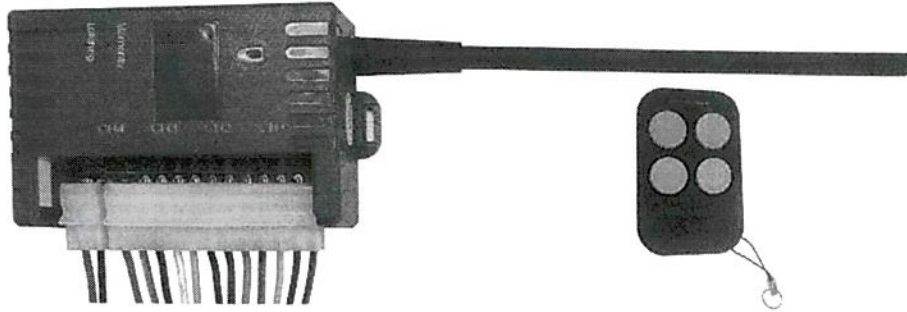
Within ten seconds take the additional Transmitter you wish to code and press the button (1,2,3 or 4) on the Transmitter you would like to use to control the gate for approximately two seconds. Pause for two seconds. Press the same button again on the Transmitter for approximately two seconds.

Programming additional Wireless Visitor Buttons

Same as above except press the Visitor button instead of buttons one to four on the transmitter.



Coding of Transmitter CodeEzy 4ch Receiver



Functions

1. To code remotes into receiver for momentary and latching control:

Momentary

- a. Press button Momentary through hole in top of receiver:
Once for channel 1 (Normally opens gate 1), Twice for channel 2, 3 times for channel 3, 4 times for channel 4

RED led will come on, flash a few times, then stay on.
Press remote button for that function and RED led will go off to indicate coding was successful.

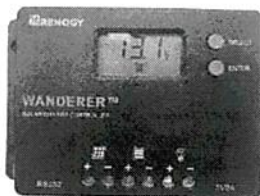
Latching

- b. Press button Latching Twice through hole in top of receiver to programme Lock/Unlock for gate 1 lock.
RED led will come on, flash a few times, then stay on.
Press remote button No 2 for that function and RED led will go off to indicate coding was successful.
NOTE: Latching is only used to Lock/Unlock gate.

Erasing Remotes

To erase remote buttons from receiver, press and hold Momentary button, RED led comes on.
Hold depressed until RED led flashes. Release button, RED led should go off and Green led comes on.
All buttons should be erased.

Wanderer Solar Charge Controller



The Wanderer Solar Controller is set to GEL batteries by default for normal AGM batteries.

To change battery type to Lithium, hover over the Battery Voltage screen and press "Enter" button until display flashes.
Press "Select" until "LI" (Lithium) is displayed, then press and hold "Enter" until display returns to battery voltage.

Note: The Wanderer solar controller must be on "Lithium" if lithium batteries are being used, otherwise it will destroy the batteries.

Coding of Transmitter to Receiver - Digitech

The Digitech receiver is a black box with a black antenna attached at the top. It has a red LED on the top right hand corner.

To program the remote and/or visitor button, open control box, using a piece of wire or paper clip with 3/16" bent at 90o at one end, then press the program button on the right hand side of the receiver (below white line) for approx 1 second, see fig 19. The red LED on the receiver will flash waiting to receive the remote, then press any button on the remote or visitor button, a 1 second LED flash will indicate a valid transmission.

To delete all remotes, press the program button on the side of the receiver for 5 seconds, the LED will go on for 3 seconds to indicate erase complete.



Digi Remote

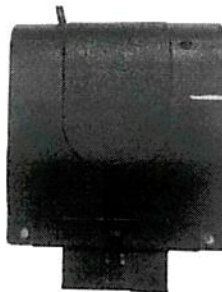


Fig 19

Programming hole

Digi Receiver

CodeEzy Indoor Receiver Programming Instructions

Programming:

Press the P1 button: (red LED comes on)

- 1 time to program CH1 in momentary mode. (to open/close gate)
- 2 times to program CH2 in momentary mode. (to open/close gate)
- 3 times to program CH1 in latching mode. (to lock/unlock gate)
- 4 times to program CH2 in latching mode. (to lock/unlock gate)

Hold down button on remote control to operate this function whilst red LED is on (20 secs).

or

Enter PIN number and # from keypad to code in keypad. Code both keypad channels to CH1.

Note: You cannot set CH1 and CH2 in latching mode at the same time.

Erasing:

There are two ways of erasing:

Erasing a single code

Press P2 for about three seconds then release, the red LED will light up.
Press button on remote you want to delete.

Erasing all codes

Press P2 until red LED turns on (approx 8 seconds). All codes will be deleted.

**Note: Remote uses rolling code data and is slightly longer than fixed code data.
This will take a little more time to operate.**

PE Sensor-CodeEzy (optional)

The PE sensor has an operating range of 1-12mts and should be mounted at a height that is suitable for the type of vehicle it is detecting. eg. a car can be detected at 500 to 700mm but a truck would need to be detected at tray height etc. Connect wiring for PE sensor as shown in fig 20.

To apply power for set up purposes.:

- a. Plug PE into control board, **DO NOT MOUNT EMITTER** yet.
- b. Turn on switch SW6 and press reset.
- c. Turn AUTO/OPEN switch to OPEN.
- d. Open gate
- e. PE receiver will turn on and stay on. Blue light will come on and Alarm will sound. (inside receiver)
- f. Place emitter in front of receiver until Blue light and Alarm goes off.
- g. Adjust emitter until it is aligned central to receiver in final position. Move emitter up, down, left, right to achieve this.
- h. When finished, close gate
- i. If no alarm is fitted, or you don't want the gate to stay open until the PE beam is broken, switch SW6 to off position and press reset .

If a vehicle is travelling through the gate, the close delay time does not begin until PE sensor is clear giving added time for the vehicle to clear the gate. If the gate is closing when a vehicle breaks the PE sensor beam, the gate will stop, then slowly open and remain there until the beam is clear and the timer has timed out again.

- Note:**
1. If an alarm is fitted, turn SW6 (Alarm) on and press Reset. This will leave the PE sensor on when the gate is left open with AUTO/OPEN switch in OPEN, or STAYOPEN pressed, to sound the alarm if a vehicle passes through the gateway.
 2. If SW6 is on, the gate will not close until the PE beam is broken.

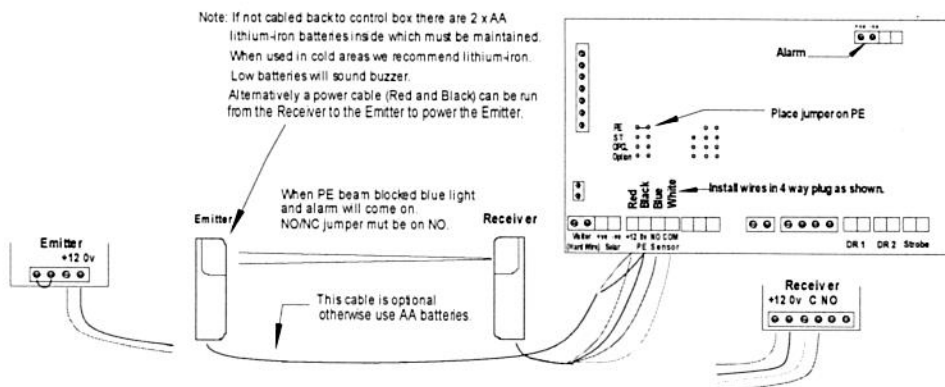


Fig 20

Keypad Programming Instructions CodeEzy

Programming Code:

Programming code has been set to **2345**

To change programming code, proceed as follows:

- Enter 2345 plus * e.g. 2345* - will hear a long beep and BLUE led should come on.
- Enter 69# - short beep.
- Enter new 4 digit programming code plus # - 1 long beep then 1 short beep.
- Keypad exits programming mode.

Note: Programming must be completed in 6 seconds before keypad reverts back to normal mode.

To Add Client PIN'S (channel 1 max 8, channel 2 max 3)

- Enter Programming Mode – (2345*) – Blue led comes on with long beep.
- Enter 2 digit channel number plus # - 01# (channel 1) - confirms with 1 beep (or 2 beeps for channel 2).
- Enter 4 digit Client PIN plus # - e.g. 9876# - confirms with 1 x long beep and 1 x short beep.
- Keypad exits programming mode.

Note:

- If PIN code already exists the RED led will flash 5 times and exit programming mode.
- If all 8 PIN's are loaded and a 9th Pin is attempted, when the channel number is entered the RED led will flash 5 times. If the PIN is entered after the RED led stops flashing, it will delete the first PIN entered and enter this new PIN in Position 1.
- If more than 8 PINS are required, there are 3 additional PIN's are available in channel 2 (see above)
- When first PIN is entered the factory default PIN (1111-CH1, 2222-CH2) will be overwritten.

To Delete all User PIN'S

- Enter Programming Mode – (2345*) - Blue led comes on with long beep.
- Enter 00 plus # - 00#- confirms with 1 x long beep and 1 x short beep
- All client PIN's are deleted. Channel 1 can be activated using PIN 1111, channel 2 can be activated using PIN 2222 (factory defaults)
- Programming code and coding to receiver remain unchanged.
- Keypad exits programming mode.

Security Lock

If 5 attempts are made to enter an incorrect PIN, the keypad will lock and beep 3 times.
The RED led will come on and go off in 2 minutes with 1 beep to enable keypad again.

Factory Reset

If programming Code is forgotten, contact Solartronics to have it reset.

To Code Keypad into Indoor Receiver (has P1 and P2 buttons) (already done in factory)

- Press and release P1 button once on receiver. (momentary for receiver channel 1)
- Enter a Client PIN with # that's in channel 1. (if no client PIN has been entered use 1111 for channel 1 and 2222 for channel 2)
- If channel 2 is being used (additional 3 PIN's) repeat steps a. and b. using client PIN in channel 2. (if no client PIN has been entered use 2222)
- Keypad should now be coded to the receiver.

To check which channel a PIN belongs to (channel 1 or 2)

- Enter Programming Mode – (2345*) - Blue led comes on with long beep.
- Press 86# - 1 long beep
- Enter PIN code to check plus #.
- 1 beep = channel 1, 2 beeps = channel 2, 1 very short beep = PIN not entered.
- Keypad exits programming mode.

Battery Test

- Enter Programming Mode – (2345*) - Blue led comes on with long beep.
- Press 89#
- 1 long beep indicates battery okay, short beep and RED led indicates battery low
- Keypad exits programming mode.

Note: Keypad battery should be tested every 2-3 months.

If keypad emits a series of rapid beeps this indicates battery is low.

Installing Leaf on Double Gates

When installing drives on double gates it is preferable to have a means of stopping the gate at a gate stop described as follows:

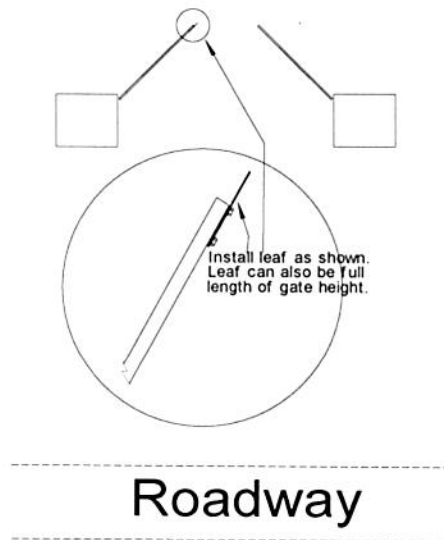
1. If gates are only small then the drive arms can hold the gates in the closed position.
2. Install a ground gate stop mounted on a concrete base in driveway.
When using this system, bring both gates home then adjust top cams so the gate turns off just prior to hitting the stop, then the overthrow of the gate will push the gate hard up against the stop.
3. If you don't want to install a stop in the driveway then install a gate leaf as shown in figure below. Install leaf on roadside of left hand gate when looking into your property.

The reason we use this gate is that a clockwise travelling gate will travel faster than an anticlockwise travelling gate. This should bring the leaf gate (left) home first without having to set a delay on the right gate.

Bring the left gate home and stop gate short of home position e.g. 150mm to 300mm depending on gate construction and width so that the right hand gate will hit the leaf and drag both gates home to alignment and keep tension between both gates.

Turn on SW1 (DR1) or SW2 (DR2) whichever the right hand gate is connected to. This will delay the left hand gate opening so the right hand gate will open and clear the overlapping leaf. If the delay closing is not long enough you can increase double gate delay for 2-8 seconds. See page 16.

4. Install special gate stop/lock bracket (supplied by Solartronics) to lock gate similar to single gates.



Troubleshooting

Symptom	Problem	Solution
Gate stops before it is completely open or closed and then reverses	a. Gate has hit an obstacle or very strong winds have stopped the gate.	Try to open gate again. If gate continues to stop and reverse, increase obstacle detection count.
Gate stops when partially open/closed	a. Battery voltage in control box too low.	Press "BATT TEST" button on PCB, if green LED does <u>not</u> come on, or glow is very low, batteries are too low. Check that the solar regulator LED is glowing (Yellow or Green) If the gate is used excessively with little sun you may need to increase the size of the solar panel and/or use larger batteries. Make sure there are no trees or buildings shading the solar panel and the solar panel is clean. Note: Recharge batteries using a battery charger that does not exceed 2 AMP.
Gate will not open	a. Battery flat in control box. b. Fuse blown c. Gate lock is enabled	(See a. above) Replace fuse with same size fuse. Unlock gate with remote control. (Usually button 2 on the remote control) (If the "Open/Close" button is pressed on the control board and the red LED near top left of control board glows, this indicates the gate is electronically locked)
Gate will not close	a. Auto/Open switch is in Open position. b. Battery flat in control box. c. Fuse blown d. Timer not timing out	Switch Auto/Open switch to "Auto" (See a. above) Replace fuse with same size fuse. Switch "Open/Auto" switch to "Open" then back to "Auto" and see if red LED on top of control board is flashing. This indicates the timer is timing out. When it stops the gate should close, if it doesn't contact Solartronics. Press the "Open/Close" button on the control board to see if this closes the gate.
Remote control not working	a. Battery flat in remote control. b. Remote control not programmed to receiver	Replace battery. Programme remote to receiver in control box. See "Coding of Receiver/Transmitter"
Wireless visitor button not working	a. Battery flat in remote control. b. Remote control not programmed to receiver. c. Faulty push button switch	Replace battery. Programme remote to receiver in control box using pushbutton on visitor button. See "Coding of Receiver/Transmitter". Remove visitor button cover and short wires at terminal at back. If LED on remote lights up and gate opens, replace push button.
Keypad not working (CodeEzy)	a. Battery flat. b. Keypad PIN incorrect	Check battery as described in "Battery Test". (pg. 16) Use correct PIN or add PIN to keypad.

Warranty and Exclusion of Liability

Subject to all matters set out below, Solartronics Pty Ltd, Trading as Solartronics (herein referred to as Solartronics) WARRANTS for twelve months from the date of purchase (specified on the Tax Invoice) that the swing gate kit supplied is free of defects in material and workmanship rendering it inoperable.

This warranty applies only where the consumer:

- A. Returns the Product which it claims to be defective to the place of manufacture; and
- B. Presents the Tax Invoice or receipt.
- C. Notifies Solartronics immediately upon experiencing or learning of the alleged defect.

The warranty ceases or is made void by any of the following exclusions:

- 1. Accidental damage to or normal wear and tear to the Product or to the Products components.
- 2. Flood, Fire or Lightning.
- 3. Unit is installed or adjusted improperly or in a way that contravenes the installation manual.
- 4. Incorrect, improper or unreasonable maintenance and/or use.
- 5. Damage caused by overloading, abuse, misuse. Stock or animals, vehicles or human factors.
- 6. Attempted or complete modification or repairs to the Product carried out by persons who are not authorized by Solartronics to carry out such modifications / repairs.
- 7. If the unit is installed in an application for which it is not designed for.
- 8. If failure to observe and follow any instruction provided with the unit or given to the customer by the manufacture or one of its approved representatives.
- 9. Faulty or unsuitable wiring.
- 10. Radio (including citizen band transmission) or any electronic interference.
- 11. Blown fuses or damage caused by electrical interference / surges / lightning.
- 12. Water damage and/or moisture damage.
- 13. Damage caused by insects and/or vermin.
- 14. Use of faulty or leaking batteries, or batteries not specified by Solartronics, or overcharging with incorrect battery charger.

It is expressly declared that this warranty is a return to manufacturer warranty. The unit must be returned to Solartronics or one of its authorized representatives for warranty work. All freight and transport costs are payable by the customer. If the customer requests a site visit during the warranty period, all time and travel costs must be paid for by customer.

If after taking possession of the unit the manufacturer is of the opinion that the unit or alleged defect is not covered by the warranty for whatever reason, the customer will be liable for any inspection, labour, parts or transport costs incurred by the manufacturer.

Solartronics liability under the warranty set out above is limited, at Solartronics absolute opinion, to replacing and or repairing the Product which Solartronics in its unfettered opinion, considers to be defective in material or workmanship or to the credit of the consumer with the price at which the Product was purchased by the consumer.

Where the Product is retailed by any person other than Solartronics, except for the warranty set out above, such person has no authority from Solartronics to give any warranty or guarantee on Solartronics behalf in addition to the warranty set out above.

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