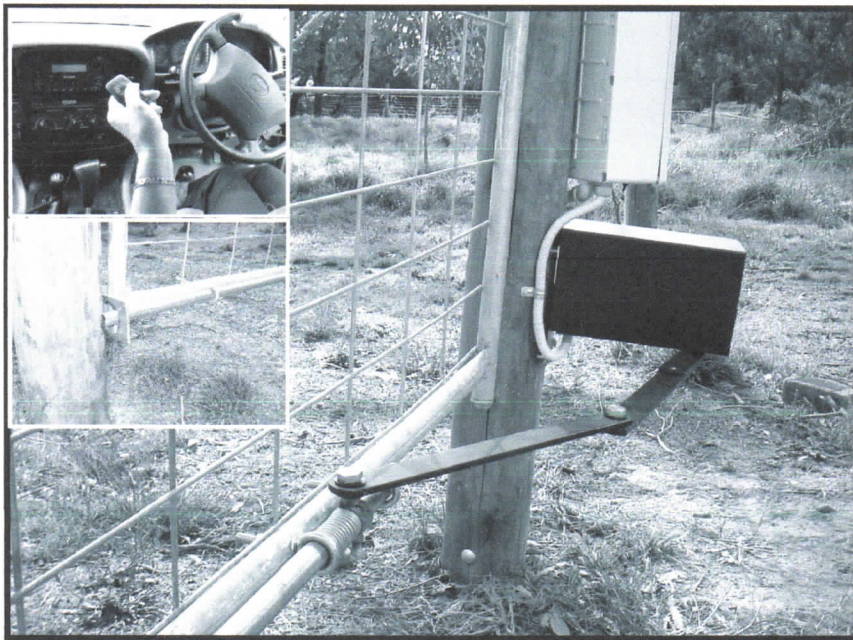


SolarTronics

A Division of Solartronics Pty Ltd

Automatic Heavy Duty Swing Gate Opener

With Remote Control



Installation Instructions and Owners Manual

SG16 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 any sticking, binding or touching the driveway from fully closed to fully open. i.e. must be well clear of ground surface
- ⇒ 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 Elite 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.

CONTROL BOX

The Control Box contains 2 x 7A/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 power regulator for solar panel to avoid over-charging batteries.

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 10 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 and regulator. 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 Elite Heavy Duty Drive Unit is powered by a powerful 24V DC motor and driven by a heavy duty robust metal gear drive chain.
- ⇒ A Pull Ring is provided on the drive motor 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 freestanding 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. (up to 2km)
- ⇒ Optional long distance gate alarm to sound when gate is opening. (up to 2km)

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 500mm must be provided for the actuator arm in the open position.

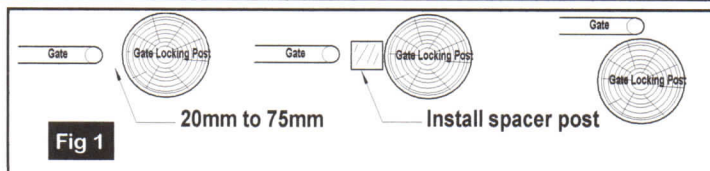
If installing a SINGLE gate, start at step 1 to 15 then step 20+

If installing a DOUBLE gate, start at step 16+

Caution

Complete each step in the order they are printed.

Single Gates Only

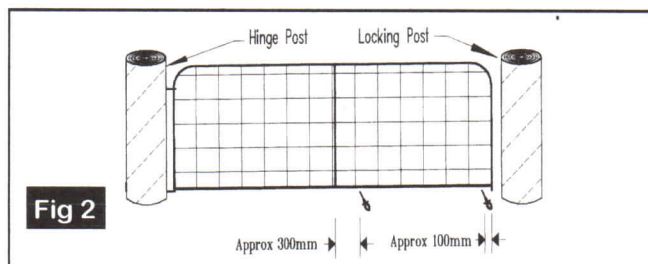


Step 1.

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.



Single Gate - Gate Hardware/Drive Unit

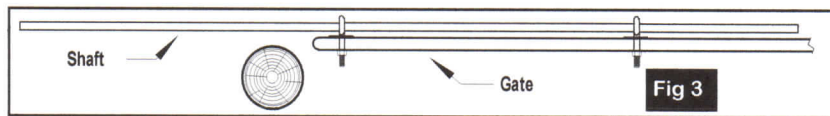
Step 3.

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.

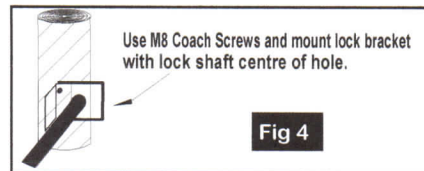
Step 4.

Slide locking shaft through eyebolts. See fig 3.



Step 5.

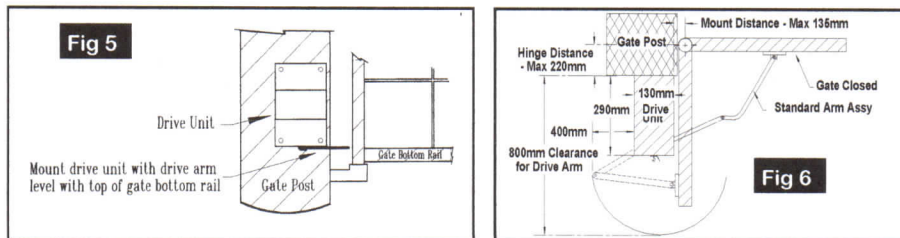
Mount gate locking bracket with 2 x M8 coach screws and drill out timber inside gate locking area to a depth of approximately 30mm. Make sure locking shaft is centre of locking area. See fig 4



Note: 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 1/2" from the gate when it is closed and locked.



Step 7.

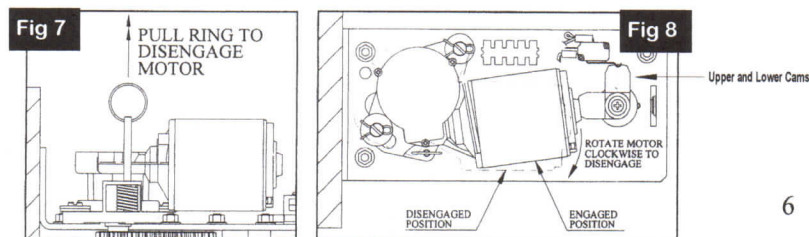
Mount drive unit to gate post so that the unit is vertical, as close as possible to the gate hinge point and with the drive arm under the drive unit, level with the top of the bottom gate rail. See fig 5.

When gate is fully open it should clear the drive cover by only 15mm - 100mm.

Maximum Hinge and Mount distance must be maintained for standard arms. See fig 6.

Step 8

Disconnect drive motor by lifting the pull ring and pushing the drive motor in a clockwise direction until the lock pin engages in the retaining hole. (lock pin has a pull ring on top). Install both drive arms and attach drive collar to drive arm. See fig 7, 8 & 9.



Single Gate - Gate Hardware/Drive Unit

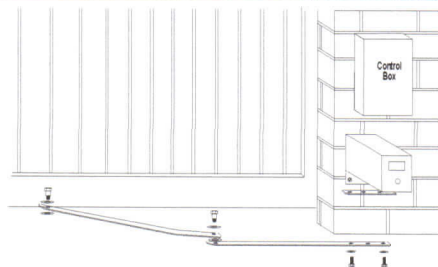


Fig 9

Step 9.

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 10.

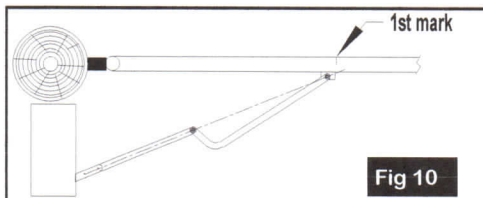


Fig 10

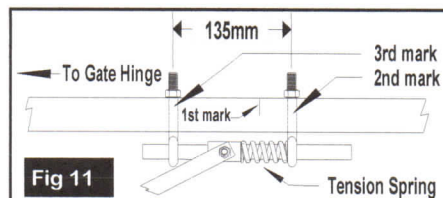


Fig 11

Step 10

Make a second mark 45mm away from hinge from the mark in step 9. (see fig 11), then make a third mark 135mm 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 11.

Step 11.

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.

Step 12.

Slide locking spring then locking collar attached to the drive arm onto the locking shaft. With motor 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, carefully hold the drive motor, lift the motor lock pin and allow the motor to return to the engaged position to hold the drive arms. Tap the locking shaft toward the end of the locking collar until the eye bolt can be re-inserted. When inserted, tap the locking shaft back until it is through the eyebolt. See fig 11.

Step 13.

Disconnect drive motor by lifting the pull ring and pushing the drive motor in a clockwise direction until the lock pin engages in the retaining hole. The spring should push the gate collar to its open position.

Step 14.

With collar in open position and gate motor disengaged, adjust the locking shaft so that it clears the gate locking bracket by approximately 10mm. See fig 12. Tighten the locking bolt at bottom of the locking collar.

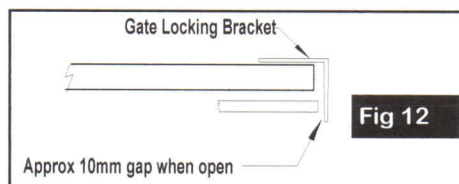


Fig 12

Single Gate - Gate Hardware/Drive Unit

Step 15.

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 16.

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. Mount both Drive Units to posts using 4 x 100mm M10 coach bolts (if wood) on each Drive Unit. Make sure the drive arms are approximately level with the top of the bottom rail of the gate, are vertical and have a minimum of 35mm from the ground to allow clearance for the drive arms. The Drive Units should be mounted so that they are clear of the gates in the open position. See fig 6. When fully open the gate should clear the drive cover by only 15mm - 100mm. If using standard arm set, do not exceed max hinge distance and max mount distance as shown in fig 6.

Step 17

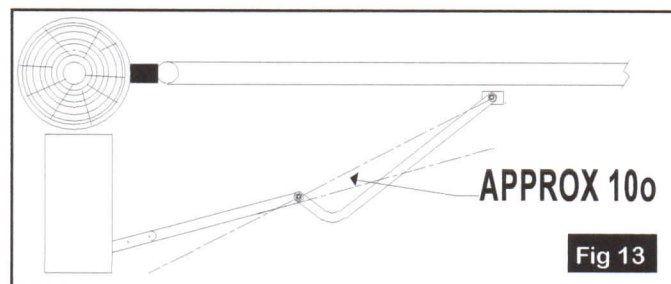
Disengage drive motor by lifting the pull ring and pushing the motor in a clockwise direction, until the lock pin engages the retaining hole. (lock pin has a pull ring on top). See fig 7& 8

Step 18

Assemble drive arm and slave arm to drive unit. Position gate in closed position. See fig 9. Then assemble gate mounting bracket ("T" piece) to slave arm.

Step 19.

Extend arms out straight and mark a position where the Gate Mounting bracket touches the gate. Both gates must be aligned with each other in their closed position. Mark this position, then move bracket 15mm toward the drive unit and mount the gate mounting bracket at this point. With the gate in the closed position the slave and drive arm will have an approx 10° bend. See fig 13. Repeat the above for other gate.



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. See fig 9.

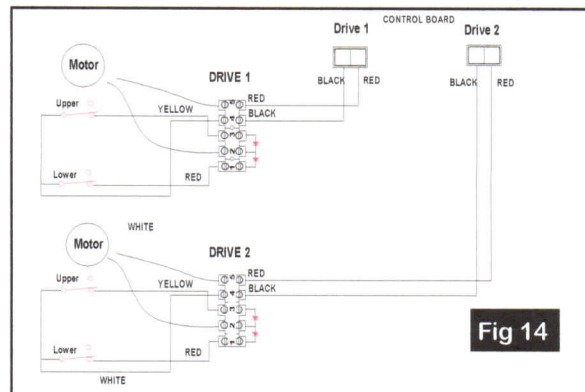
Step 21.

Measure corrugated conduit to hole in bottom of drive unit 1 and carefully cut conduit without damaging wires inside. Install drive unit conduit through hole in bottom of drive unit 1. Feed cable up through top hole, strip outer cable sheath, and cut wires long enough to reach terminal strip. Install wires as follows: See fig 14

- | | | | | |
|----|--------------|---|-----|-----|
| a. | RED | - | Mot | (5) |
| b. | BLACK | - | Mot | (4) |

Note: If gate opens anti-clockwise, reverse **MOTOR** wires **RED** and **YELLOW** on terminals 5 and 2
 If gate opens clockwise, Yellow wire goes to terminal 2 and Red goes to terminal 5. (default)
 If gate opens anti-clockwise, Yellow wire goes to terminal 5 and Red wire to terminal 2.

If double gates, install drive unit "2" cable and connect as shown. See fig 14



Step 22.

OPEN POSITION

Disengage drive motor/s with release pin.

On single gate, connect arm to drive collar, on double gates connect arms to gate "T" piece. Then 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

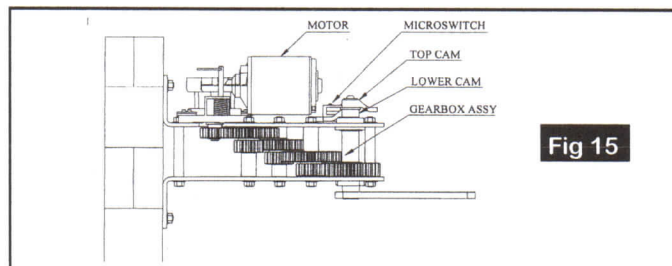
If **SINGLE** gate - **fully close** gate. until it is touching gate lock bracket. If gate **closes** in a **clockwise** direction, adjust the **TOP** cam in a **clockwise** direction until the cam is approx 2mm from the **TOP** micro switch. If gate **closes** in an **anti-clockwise** direction, adjust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

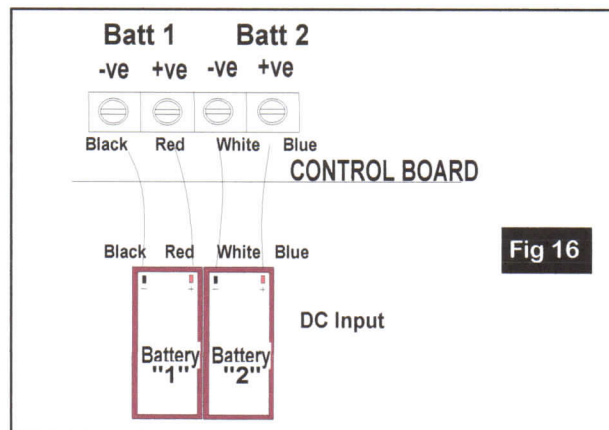
Remove drive arms from the drive unit/s before connecting battery.

Place batteries on end at bottom right hand corner of control box with terminals on top.

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.



Note: Batteries come fully charged and ready for operation.

Single/Double - Battery

Step 24

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

Step 25.

Lift pull ring and pull drive motor back to re-engage gears. Release pull ring to engage shaft in lock hole. **With drive arms disconnected**, press the "Open/Close" push button on the control board. Check that the drive motor/s are driving the arm/s in the correct direction. If the motor is going in wrong direction, disconnect batteries and swap Red and Yellow wires from motor on drive unit. Use "Open/Close" pushbutton on control board to close the gate.

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 motor/s going in correct direction, closing and opening at approximately the correct position, disengage the motor/s, reconnect the drive arms and drive collar (single gate). or "T" piece (double gates). Re-engage drive motor/s again.

Step 27.

Using the "Open/Close" pushbutton check the open and close position of the gate.

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 28.

To set gate close time, press and hold "Gate Close Delay" button (bottom 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:

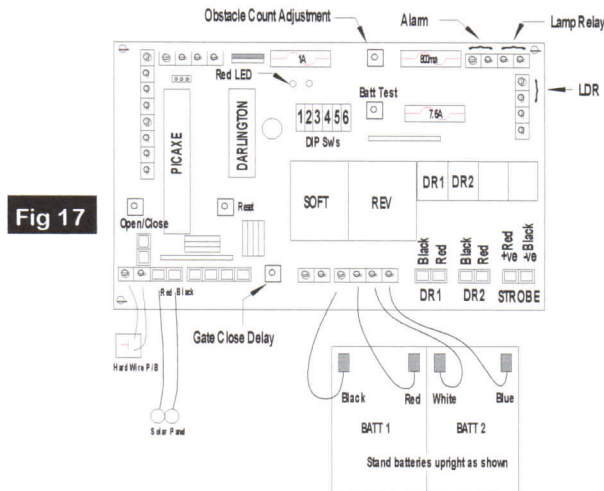
Note: Gate close delay is pre-set at 15 seconds. (Adjust if required.)

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



Step 29.

Install and test visitor buttons, check all remotes. See page 16.

Note: All remotes, visitor buttons, keypads etc. are pre-programmed.

Soft Stop

Step 30.

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 setting DIP SW5 "SOFT" on and pressing the reset button. The soft adjustment is automatic and will require several opens/closes to automatically adjust soft stop.

Obstacle Sensing

Step 31

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 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 12ft farm gate may be set to a count of 20.

To check the obstacle sensing count, press and release the "Obstacle Count" button, the red LED will flash to indicate number of counts as per flash indicator on page 11. (0 to 85 counts.)

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: Obstacle count is pre-set at 20. (Adjust if required.)

Solar Panel

Step 32

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 2 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. Three wood screws are provided for fixing to timber.

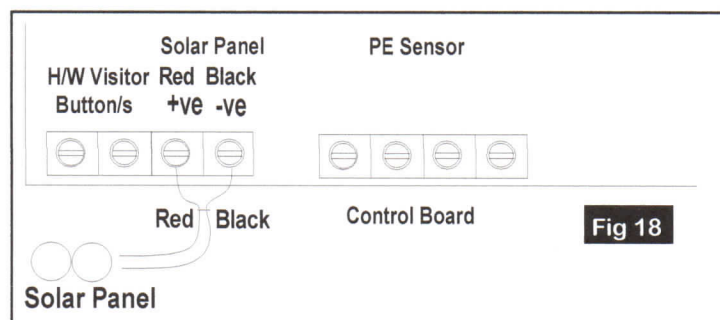
Solar cable should be pushed through rubber grommet in bottom of control box.

Step 33

CONNECT SOLAR WIRES TO CONTROL BOARD

Connect **RED** wire from solar panel to +ve terminal on control board (left terminal) and **BLACK** wire to -ve terminal on control board (right terminal) where it is marked "Solar Panel". See Fig 18.

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



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

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.
SW 5 and SW6 can be on together. See fig 17.

Coding of Receiver / Transmitter - 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 90° 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.

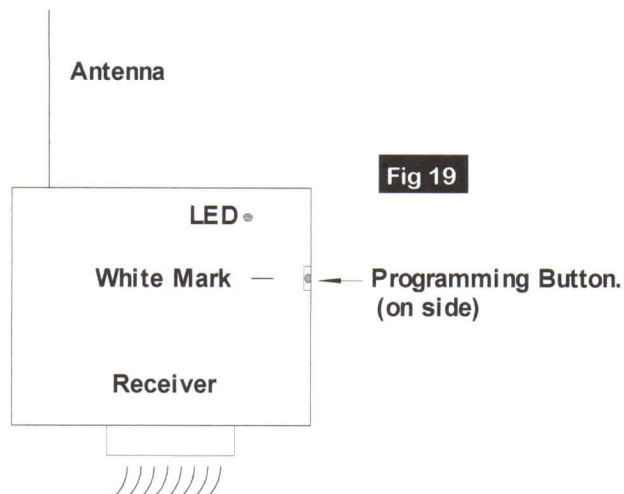


Fig 19

Keypad Programming Instructions KPX-7

Keypad Programming Instructions – KPX-7

1. Code Keypad to Receiver in Control Box (This step is already done at factory on all new kits - see note)

- Press and hold SW1 button on Trio receiver.
- Enter Master PIN (1234 – See step 2.)
- Press button 1 on keypad for 2 seconds, then release button 1, then pause 2 seconds.
- Repeat step c.
- Release SW1 button on Trio receiver.

2. Set Master/Primary PIN – First Time (This step is already done at factory on all new kits - see note)

- Press and hold **FCN** – Keypad will beep and flash, then release button.
- Enter 1234 (Master PIN) and press **FCN**.
- Repeat step b.
- Keypad will beep and flash to indicate acceptance and return to normal mode.

3. Adding additional User PIN's

- Press **FCN**
- Enter Master PIN, then press **FCN**.
- Press button '1', then press **FCN**.
- Enter user number (2-20), then press **FCN** three (3) times
- Enter 4 digit user PIN, then press **FCN**.
- Repeat step e. Keypad will beep and flash to indicate acceptance and return to normal mode.

4. Changing User PIN

- Enter user PIN to change.
- Press and hold **FCN** – Keypad will beep and flash, then release button.
- Enter new 4 digit PIN and press **FCN**.
- Repeat step c. Keypad will beep and flash to indicate acceptance and return to normal mode.

5. Deleting User PIN's

- Press **FCN**.
- Enter master PIN and press **FCN**.
- Press button '2' followed by **FCN**.
- Enter user number (2-20) for PIN to be deleted, then press **FCN**.
- Repeat step d. Keypad will beep and flash to indicate acceptance and return to normal mode.

6. Clear Memory and Reload Factory Settings – Default PIN 0000

- Press **FCN**, then enter Master PIN, then press **FCN** again.
- Press '0', then press **FCN**.
- Enter '0000', then press **FCN**.
- Enter '0000', then press **FCN** again.
- All memory is now cleared. Master PIN is now '0000'. All user PIN's are deleted.
Keypad is still coded to your receiver and the receiver will continue to respond to the keypad when new Master PIN and additional user PINS are set.

7. To Open Gate – Enter User PIN and press '1'

- Note:**
- Items 1 & 2 have already been done. Your **Master PIN** is now "**1234**" and coded to your gate receiver.
 - Enter "**1234**" then "**1**" and your gate will open.
 - To change Master PIN, do step 6. then step 2.
 - Additional User PINs can be added as in item 3.
 - Additional information can be found in the Keypad instructions.

WARNING! If Master PIN is lost/forgotten the unit has to be sent back to the factory to be reset.
Always record Master PIN and other PIN No's with their user numbers and keep in a safe place.

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 14-15. 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 two terminals that provide a COM and NO set of contacts to drive a 1A load 12v to 240v AC or DC. See fig 17

To activate the lamp control, a Light Dependant Resistor (LDR) must be fitted to turn light on at sunset.

The default setting when LDR is fitted will turn the relay on when gate opens then remain on for approx 2 minutes after gate closes. The light can only turn on after dusk.

The second option is to turn lights on at dusk and leave on for a pre determined amount of time with a minimum 1 hour on time.

To change lamp ON hours proceed as follows:

1. Turn all DIP SW's (6) off (down).
2. Switch AUTO/OPEN to "OPEN", press and hold reset, then press and hold OPEN/CLOSE, release reset then wait 2 seconds and release OPEN/CLOSE.
3. Turn AUTO/OPEN to "AUTO".
4. Press and release OPEN/CLOSE, Led will flash 3 times, followed by 1 long dash, followed by number of flashes to indicate hours set (default = 0 flashes).
5. To change hours set, press and release OPEN/CLOSE number of hours to stay on at dark.
Note: 0 hr. = light on 2mins when gate opens, 1 + hrs. Goes on at dusk and stays on for hours set.
6. Turn AUTO/OPEN to "OPEN", Led will flash number of hours set. If OPEN/CLOSE is not pressed will reset to 0 hours.
7. Press reset button.

Note: Lamp control can only be used if gate is not fitted with a MIMIC panel.

PE Sensor (optional)

The PE sensor has an operating range of 1-9mts 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, press and hold Reset button, press and hold OPEN button, release Reset then release OPEN buttons. PE SENSOR will turn on (green light on) and stay on.

If PE sensor is NOT blocked, red LED on PCB and amber light on PE sensor, will both come on.

Align reflector with PE sensor by watching yellow light on PE sensor. When finished press Reset.

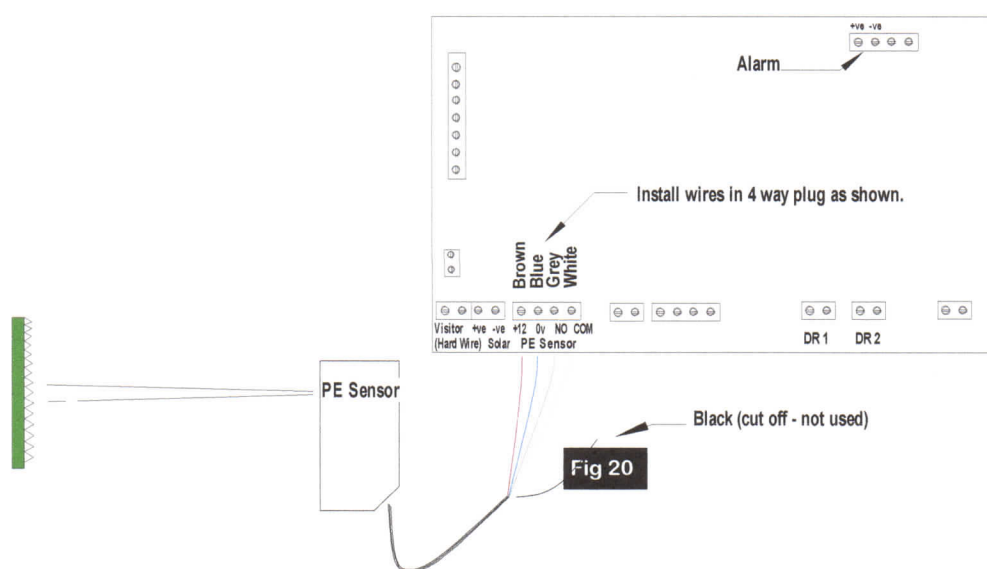
The PE sensor and reflector should be mounted on each gate post and should have clear line of sight when gate is open or closed. Ensure the reflector is in the middle of the light beam by moving the reflector up/down, left/right whilst monitoring the yellow light on the PE sensor.

When power is on the sensor, the green light will come on.

When aligned correctly with reflector the yellow light will come on and stay on until the beam is broken.

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. To improve poor reflection caused by rain or overnight dew, apply a product such as Rain.X this will help disperse the droplets of moisture causing them to become transparent, additionally, a protective cover over the reflector will help keep sun and rain off the reflector.
 2. If an alarm is fitted, turn SW6 (Mimic) on and press Reset. This will leave the PE sensor on when the gate is left open with AUTO/OPEN switch in OPEN, to sound the alarm if a vehicle passes through the gateway.



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 1.5 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 (KPX-7)	a. Battery flat (beeps heard). b. Keypad PIN incorrect	Replace battery. Use correct PIN or add PIN to keypad.

Warranty and Exclusion of Liability

Subject to all matters set out below, Magnetronics Australia 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.

To make a warranty claim under this warranty, first notify Solartronics or one of its authorized representatives and send a copy of this document, signed and dated, with a copy of the original Tax Invoice / receipt to Solartronics.

I,(insert name), the undersigned, accept and agree to the terms and conditions as stated in this warranty.

Signed: Dated:

Address:

Contact Phone Number:

SolarTronics

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