



INSTALLATION & OWNERS MANUAL



**SPRINT, CONDO
& CONDO AC/DC**



**COMPACT
500**

Incorporating the:



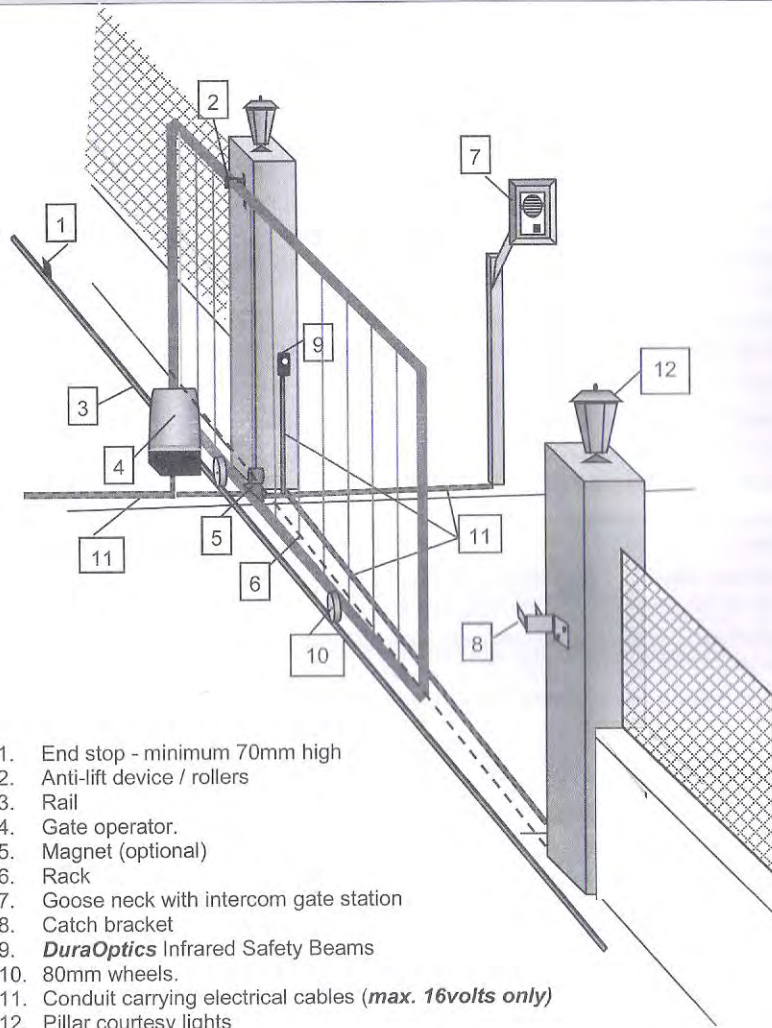
**DIGITAL
BUSINESS
CARD**



GENERAL INFORMATION cont.

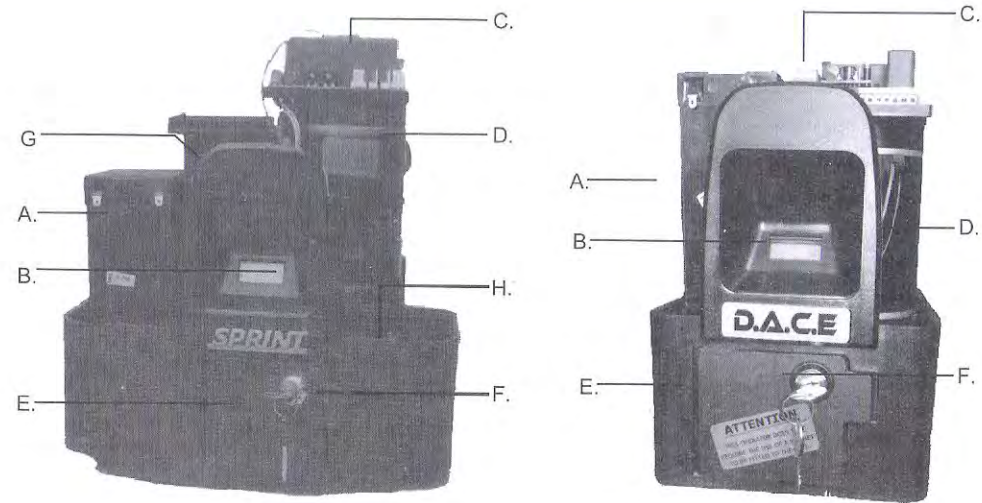
- **End stop:** a physical stopper preventing the gate from running off the end of the rail and causing injury or damage.
- **Intercom:** equipment that allows communication between the gate and the house.
- **LCD Screen:** indicates information regarding the operator status.
- **Manual override:** allows the gate to be moved manually.
- **Party-mode:** allows the gate to remain open even when auto-close is selected.
- **Positive close:** This means that the gate will close up against the end stop / gate post leaving no gap between the gate and the stop. This ensures that any potential electrical contacts of an electric fence make a solid connection when the gate is closed.

GENERAL SITE LAYOUT



1. End stop - minimum 70mm high
2. Anti-lift device / rollers
3. Rail
4. Gate operator.
5. Magnet (optional)
6. Rack
7. Goose neck with intercom gate station
8. Catch bracket
9. **DuraOptics** Infrared Safety Beams
10. 80mm wheels.
11. Conduit carrying electrical cables (*max. 16volts only*)
12. Pillar courtesy lights

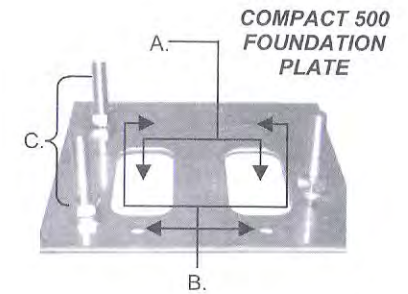
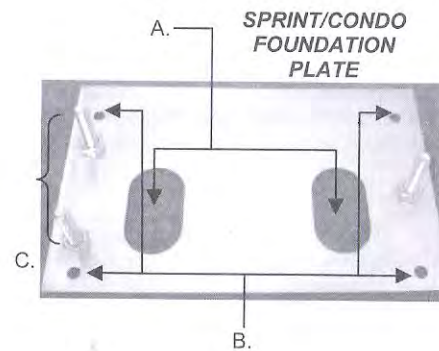
OPERATOR LAYOUT



SPRINT/CONDO OPERATOR

COMPACT 500 OPERATOR

- A. 12V 7AH Battery
- B. LCD Screen
- C. Main PC Board
- D. 12V DC Electric Motor
- E. Manual override access door with lock
- F. Override access key
- G. Transformer
- H. Cable risers

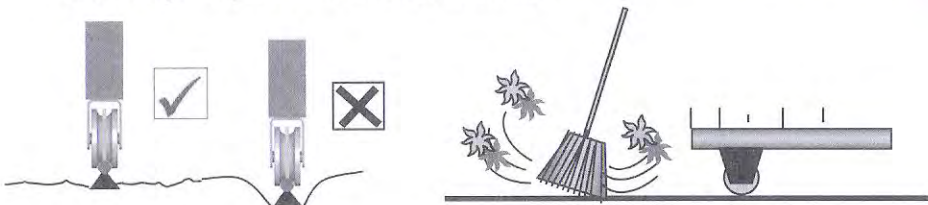


- A. Conduit entry holes.
- B. 4 Holes for bolting the plate to the concrete plinth.
- C. Jacking bolts to secure the operator to the plate and for height adjustment.

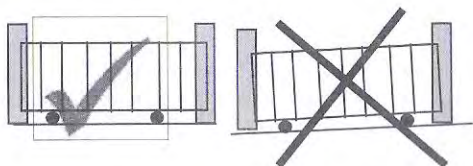
SITE INFORMATION

The site should be evaluated before the installation begins. The following items should be checked.

- The operator should be installed above flood level to avoid any water damage to the operator.
- To avoid the operator from malfunctioning the rail should be level and above ground level. This will help to keep debris out of the path of the wheels. Any debris lying on the rail may cause the gate to jam or the PC Board to blow a fuse.



- The gate must not move on its own when left in any position along the rail, if this does occur, the rail must be leveled before the gate is automated.



- Keep all trees, branches, bushes and other growth clear of the gate. Failure to do this may lead to the gate jamming.

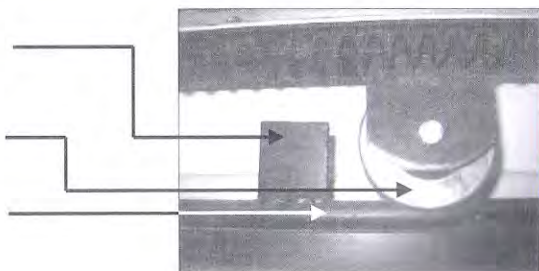


It is extremely important to evaluate the gate that is to be automated before any automation is done. The following points must be checked. All of the points mentioned below are common causes of gate problems if not checked.

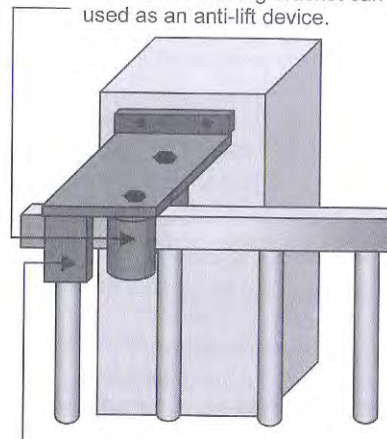
Ensure that the end stops are secure.
Min. height 70mm.

Recommended 80mm dia. wheels.

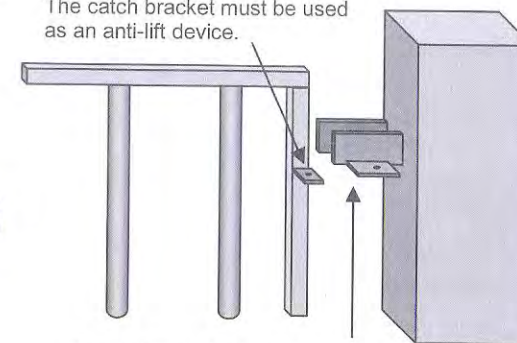
It is recommended that 16mm round bar is used to assist with the smooth operation of the gate.



Rollers must roll freely.
The roller mounting bracket can be used as an anti-lift device.



The catch bracket must be used as an anti-lift device.



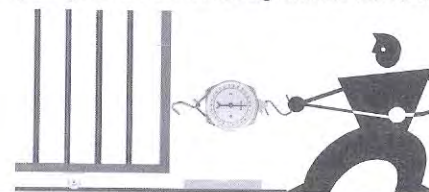
The gate must not jam in the catch bracket when opening or closing as this may cause the operator to over current or the fuse to blow.

All precautions must be taken to ensure that the gate cannot run free of the rollers. A device can be fabricated and fitted to prevent this

MAX. GATE MASS, START UP FORCE & RUNNING FORCE

It is important to check the start up force of the gate before the operator is installed. Place the gate in the fully closed position. Using a fishing scale, pull the gate open and check the kilogram force required to start the gate rolling. This is the start-up force.

At no stage while moving the gate must the reading exceed the force shown in the table below.

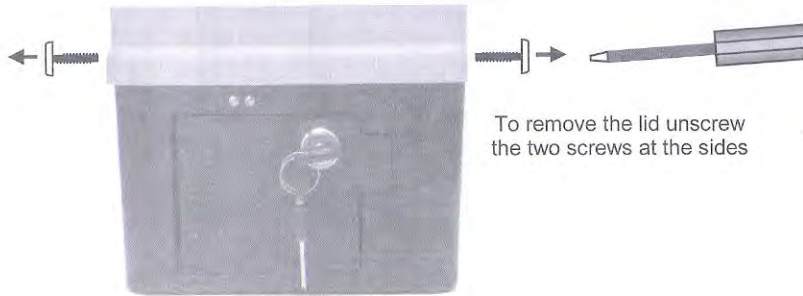


The D.A.C.E warranty will be void if the gate mass, start up force or running force exceeds the specifications as per the table below

OPERATOR	MAX. GATE MASS	MAX. START UP FORCE	MAX. RUNNING FORCE
COMPACT 500	500kg	22kgF	15kgF
SPRINT	500kg	30kgF	18kgF
CONDO	600kg	30kgF	18kgF
CONDO AC/DC	600kg	30kgF	18kgF

REMOVING THE LID

COMPACT 500 OPERATORS

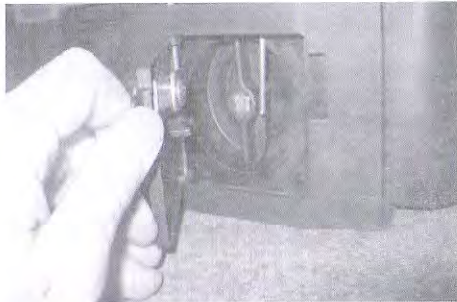


To remove the lid unscrew the two screws at the sides

SPRINT/CONDO OPERATORS

STEP 1

Open the access door



STEP 2

Pull out the pin (the pin will move about 5 mm). The lid can now be removed

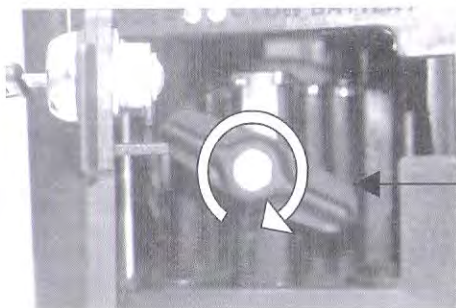


PLACING THE OPERATOR IN MANUAL OVERRIDE

Step 1: Unlock and open the access door (as in step 1 above).

Step 2: To prevent the gate from knocking the end stoppers after reactivating the gate later, be sure to take note of the current position of the gate before proceeding to step 3.

Step 3: Turn the thumbwheel clockwise until the gate is free to move.



Thumbwheel

Step 4: Before putting the gate back into operational mode, place the gate back in the position it was in step 2.

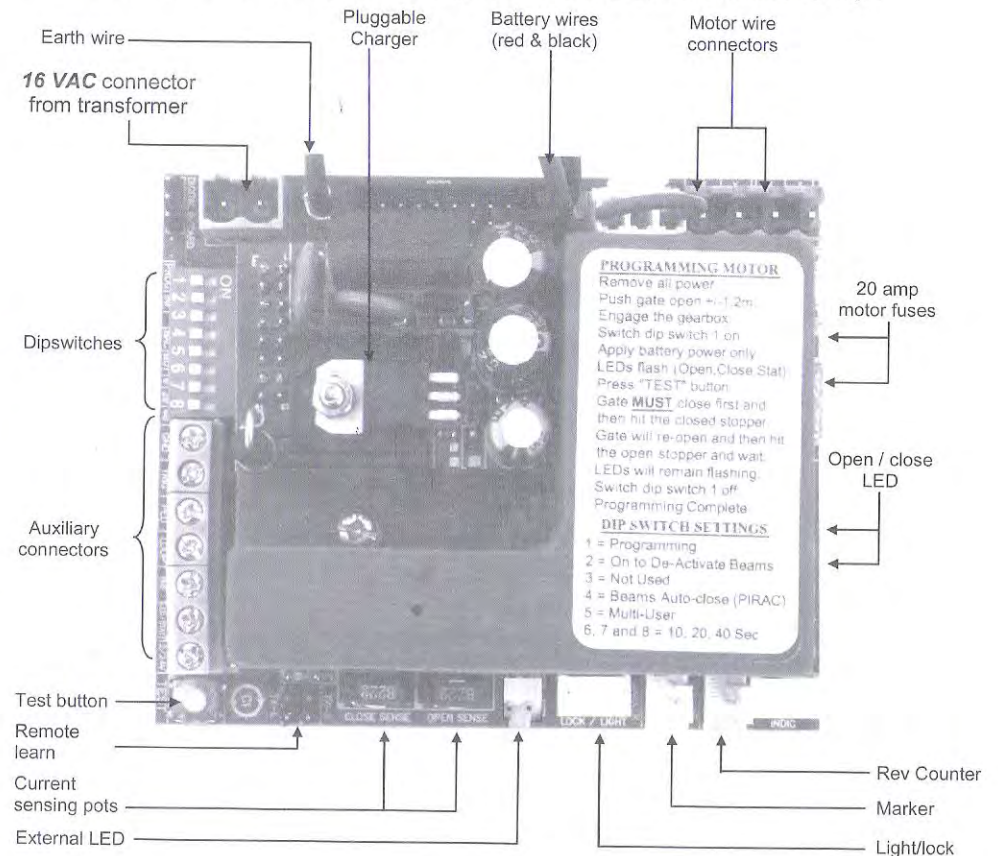
Step 5: Turn the thumbwheel anti-clockwise to re-engage the operator. Move the gate until you hear a click.

Step 6: The gate must always be operated at least three times after it has been placed back into operational mode. This is called Calibration Mode as it recalibrates the gates end stoppers.

PC BOARD LAYOUT

The PC Board is a sensitive piece of electronic equipment and should be handled with care.

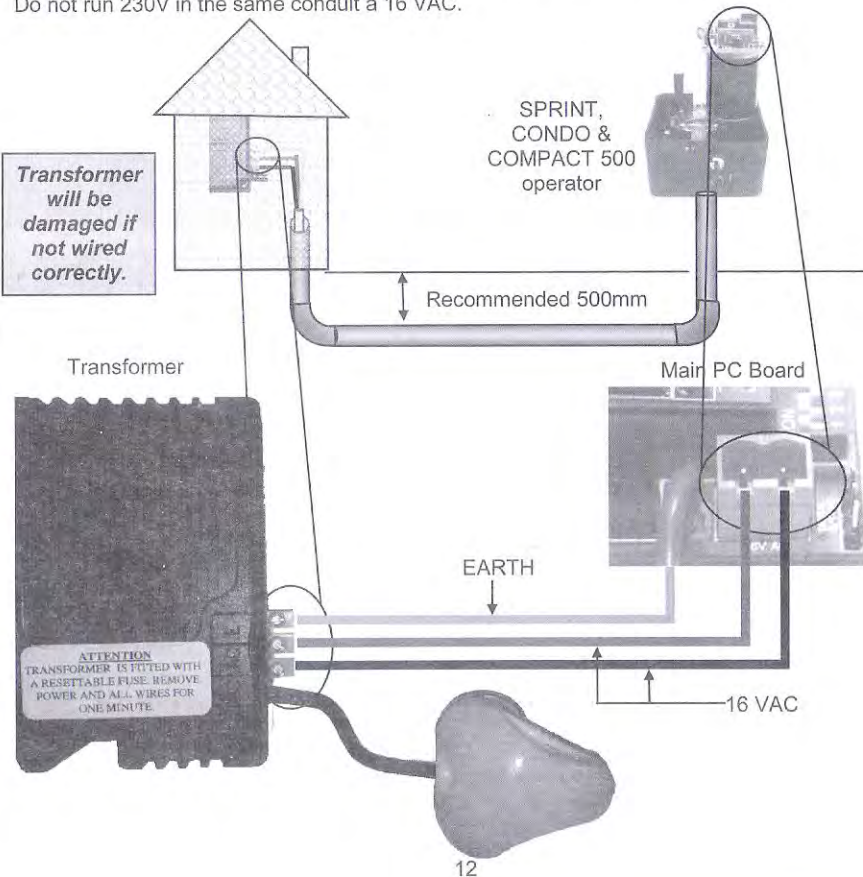
- Never connect or remove wires on a PC Board while there is power on the board as this may lead to damage.
- Never touch the board with any metal object.
- Never allow the board to get water on it as this may lead to short circuiting and corrosion and will lead to the board malfunctioning.
- No insecticide or other sprays should be used on a PC Board.
- Do not attempt to repair the PC Board. Any repairs must be carried out by an authorized agent.
- Do not apply 230volts to the board (16 VAC and 12 VDC only).
- Never reverse the polarity of the battery wires as this will lead to extensive damage.



The charger circuit on the PC Board has a rectifier which converts AC voltage to DC voltage, this will generate some heat on the rectifier heat sink. Care should be taken that no wires touch the heat sink as this may cause the plastic insulation of the wire to melt and may lead to a short circuit.

ELECTRICAL WIRING (SPRINT; CONDO & COMPACT 500 OPERATORS ONLY)

- Ensure that ALL power is switched off or isolated before any connections are made.
- The transformer must be plugged into a normal plug socket in the house. 16 VAC is then run directly to the PC board 16V AC connection (does not apply to CONDO AC/DC).
- Do not open or tamper with the transformer as this may cause electrical shock (this will also void any warranty).
- The Earth wire on the PC Board must be connected from the E on the transformer. Alternatively the Earth wire must be connected to an earth spike buried in the ground.
- The cable should be run in a 500mm deep trench in a water proof conduit and must be terminated inside the operator.
- The conduit should have no sharp bends in it as this may cause problems in the future if the cable needs to be pulled out and replaced.
- There must be no joins in the cable underground.
- The cable should be a three core 1.5mm cable.
- Do not use Communication cable as this will void any warranty and is illegal.
- Do not run 230V in the same conduit a 16 VAC.

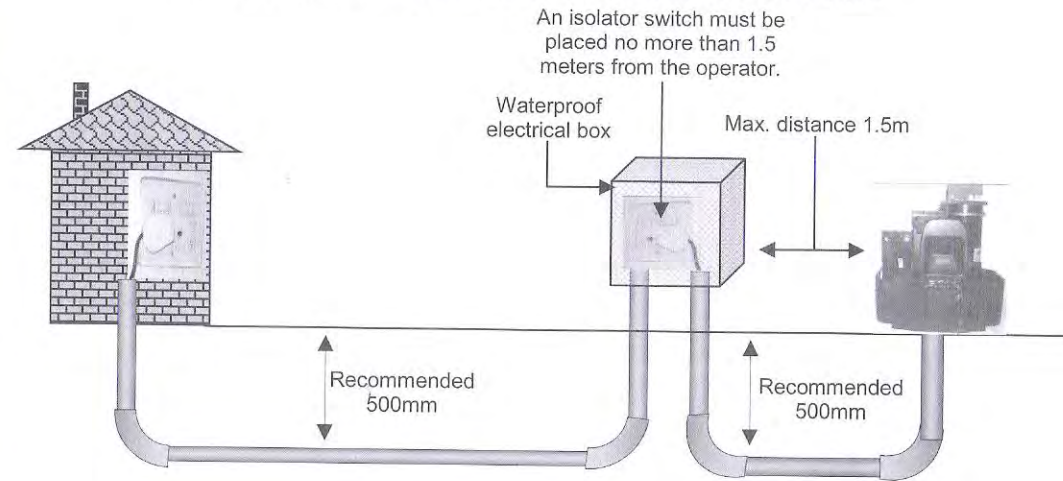


ELECTRICAL WIRING. (CONDO AC/DC ONLY)

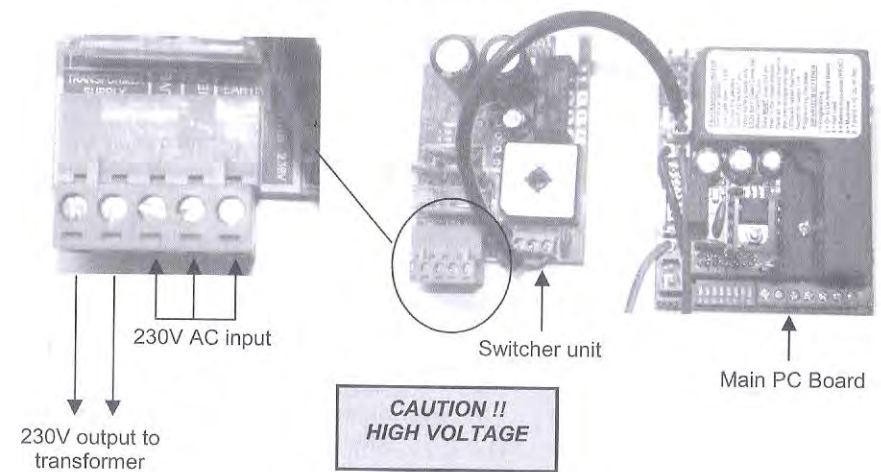
The AC/DC operator has a switcher unit that changes from mains power supply to battery back up supply if the mains power fails. The battery will continue to operate the operator and will switch back to mains power when the mains power returns.

The following section explains the wiring for the CONDO AC/DC operator. This operator is designed to be used in installations where the traffic volume is higher than normal. Caution must be taken when wiring the operator as it requires 230V running to the operator. Wiring this operator must be done in accordance with the local E.C.A. regulations. The wiring should be done by a registered electrician. Extreme caution must be used when wiring the 230V as electrical shock can occur.

Note! Do not run other cables in the same conduit as the 230V cable.



WIRING THE AC/DC SWITCHER UNIT



LED INDICATIONS ON MAIN PC BOARD

STATUS LED

- ON:** gate open or in motion.
- OFF :** mains power off
- FLASHING:** this LED will flash once every 2 seconds when the gate is closed and the mains power is on.

OPEN LED

- ON:** gate open.

CLOSED LED

- ON:** gate closed.

12V LED

- ON:** 12V output fuse ok.
- OFF:** 12V output fault.

INF LED

- ON:** infrared beams circuit is ok.
- OFF:** beams obstructed or faulty

TRIG LED

This LED should be **off** at all times and will flash when receiving a trigger.

- ON:** permanent on indicates trigger fault
- OFF:** normal

PED LED

This LED should be **off** at all times and will flash when receiving a pedestrian trigger.

- ON:** permanent on indicates pedestrian trigger fault
- OFF:** normal

LOOP LED

- ON:** vehicle parked on ground loop
- OFF:** normal

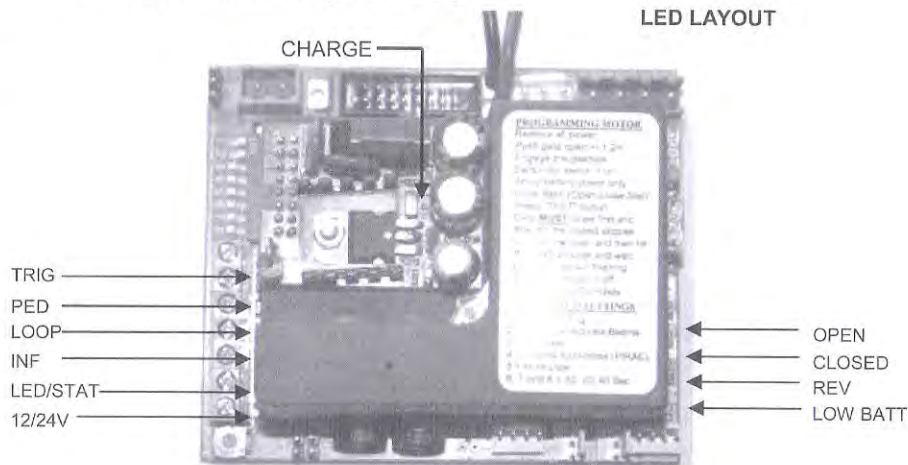
REV

This LED will flash when receiving a pulse from the rev counter when gate is in motion. If the LED does not flash when in motion this will indicate a faulty rev counter.

LOW BATT

This LED will flash indicating a low battery.

LED LAYOUT



SETTING PARTY MODE (AUTO-CLOSE OVERRIDE)

This function is normally used when the gate is required to stay open but Auto-close function is active.

- To set the party mode, push and hold the gate's trigger button (this can be the on-board test button, the remote button or the gate trigger button from the intercom) until the gate starts to open. Release the trigger. The gate will now stay open until it is reset into normal operating mode.
- To reset the gate into normal operating mode, push the gate's trigger button twice within three seconds. The gate will now operate as normal.

SETTING OVERCURRENT SENSITIVITY

The PC Board is designed to detect overcurrents. This means that if the gate hits an object or is obstructed it will see an increase in the electrical current and the gates will stop driving. The results of the detected overcurrent will be different depending on what the gate is doing at the time of the overcurrent.

- If the gate is closing and an overcurrent is detected the gate will stop and then re-open.
- If the gate is opening and an overcurrent is detected, the gate will stop and will not move until it receives another trigger; the auto-close time is reached or the obstruction has been removed.

Setting the overcurrent sensitivity:

The sensitivity can be adjusted dependent on gate's requirements. It must be noted that if the sensitivity is set too low, the gate will drive harder when an obstruction is encountered increasing the risk of injury or damage to a vehicle/object. Before adjusting the sensitivity check that the gate is operating correctly i.e. dirt, branches or garden growth hindering operation etc.

There are two pots found on the PC Board. One pot is to set the open sensitivity and the other is to set the close sensitivity.

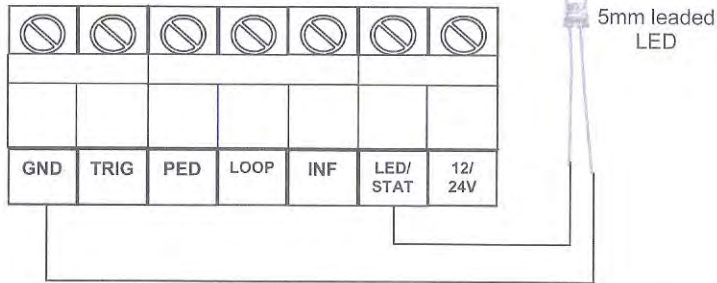
- To decrease sensitivity (usually because a heavier gate is being automated or due to wear and tear over time) use a small flathead screwdriver and turn the pot clockwise. The adjustment should be done in very small increments, until the desired sensitivity is achieved. Use **extreme caution** when setting the pots as this can cause severe injury or damage if the sensitivity is set too low.
- To increase sensitivity (usually because a very light gate is being automated) turn the pot anti-clockwise. Take care not to set the pot too sensitive as this may cause the gate to overcurrent too easily due to other external forces such as wind, small pebbles, leaves, sand etc.



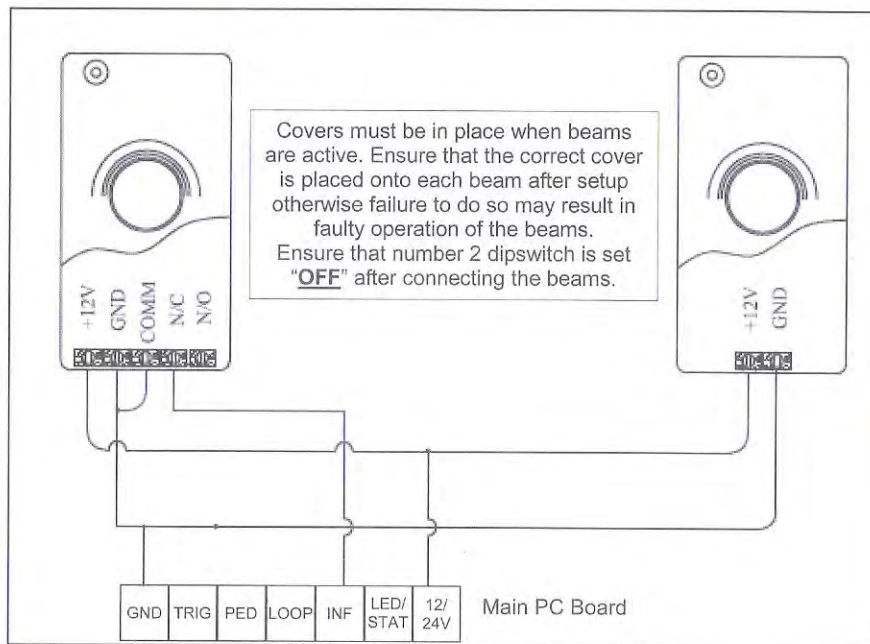
CONNECTING AN EXTERNAL STATUS LED

An external status LED can be connected to the main PC Board. This LED will indicate the status of the gate. The LED can be fitted to the intercom or any other convenient place.

CONNECTOR BLOCK ON MAIN PC BOARD



WIRING INFRARED SAFETY BEAMS (DuraOptics)



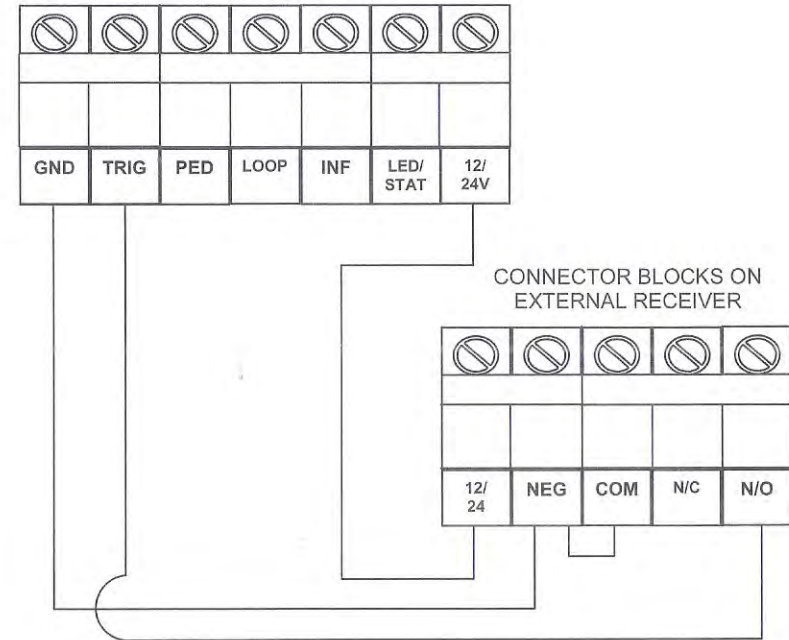
Note: although the installation of infrared safety beams does reduce the risk of the gate striking an object while closing it does not guarantee against it.

CONNECTING AN EXTERNAL RECEIVER

When connecting any auxiliary equipment to the PC Board ensure that all power is removed from the PC Board.

A DuraTronic external receiver can be connected to the PC Board. This will be necessary if there are more than 15 remotes to be used or if the range of the on-board receiver is not sufficient. The DuraTronic external receiver can hold 128 remotes. The DuraTronic receiver should be mounted outside the operator housing for increased range.

CONNECTOR BLOCKS ON MAIN PC BOARD



To program remotes to the receiver:

1. Press and hold the button on the remote.
2. Place the jumper over the two TX LEARN pins for 1 second.
3. Remove the jumper.
4. Release the button on the remote.

Repeat the above steps for each remote to be programmed.

PEDESTRIAN OPERATION: Remotes can be programmed to the 2 channel on-board receiver to operate the gate in pedestrian mode. A separate receiver, keyswitch or keypad can also be connected to operate the gate in the pedestrian mode. The connection is done in the same manner as the diagram above with the exception of the TRIG connection. Instead of TRIG to N/O it must be PED on the main PC Board to N/O.

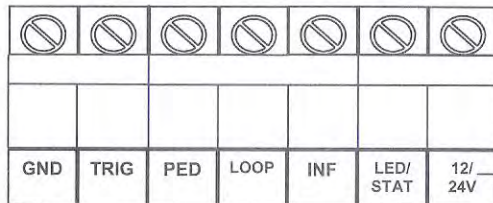
In pedestrian mode the gate will open partially and then close automatically after 6 seconds.

CONNECTING A VEHICLE DETECTOR

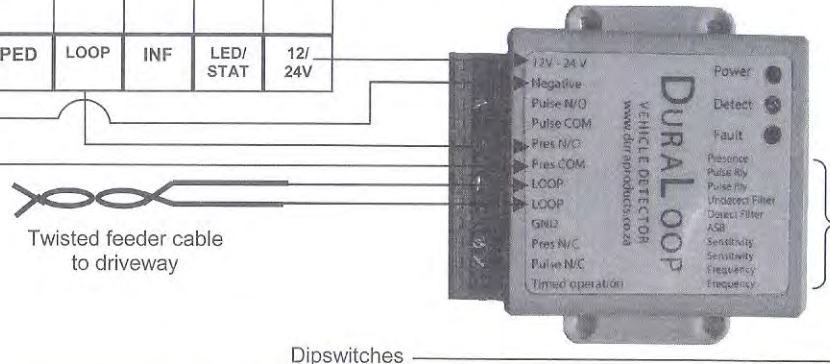
A vehicle detection loop is used to automatically open the gates when a vehicle approaches (most commonly in the exit direction). The following instructions are for a Duraloop Vehicle Detector. Note that whatever product is used it is important to follow the manufacturers installation instructions as these may differ from one product to another.

It is extremely important that the loop is placed in the driveway far enough from the gate so that the vehicle does not collide with the gate

Connector block on main PC Board



PLEASE NOTE: LOOP input is used for slide operators ONLY!!



DIGITAL BUSINESS CARD (D.B.C)

The Digital Business Card (D.B.C) enables the installer to load his company details onto the operator LCD. These details will constantly display on the LCD so that the installer can be called when technical assistance is required or a service is due.

For the installer to load his company details the following steps must be followed:

Step 1: Acquire a D.B.C.

Step 2: Installer details to be loaded onto D.B.C by dealer, merchant or agent of D.A.C.E products.

Step 3: Keep D.B.C at all times for future installations.

Step 4: When installation is complete remove all power from the operator (this includes mains power).

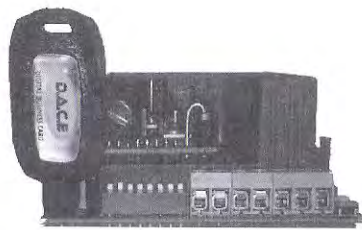
Step 5: Insert D.B.C on pins labelled DIGITAL B/CARD.

Step 6: Apply power to main PC Board.

Step 7: Remove D.B.C.



Step 5: Insert D.B.C into pins labelled DIGITAL B/CARD



Step 6: Apply power

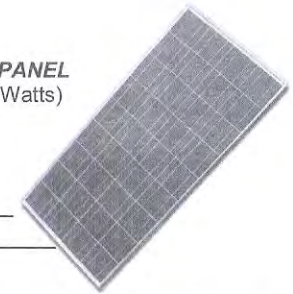


Step 7: Remove D.B.C

CONNECTING A SOLAR PANEL

A REGULATOR IS NOT REQUIRED WHEN CONNECTING A SOLAR PANEL

SOLAR PANEL
(min 20 Watts)

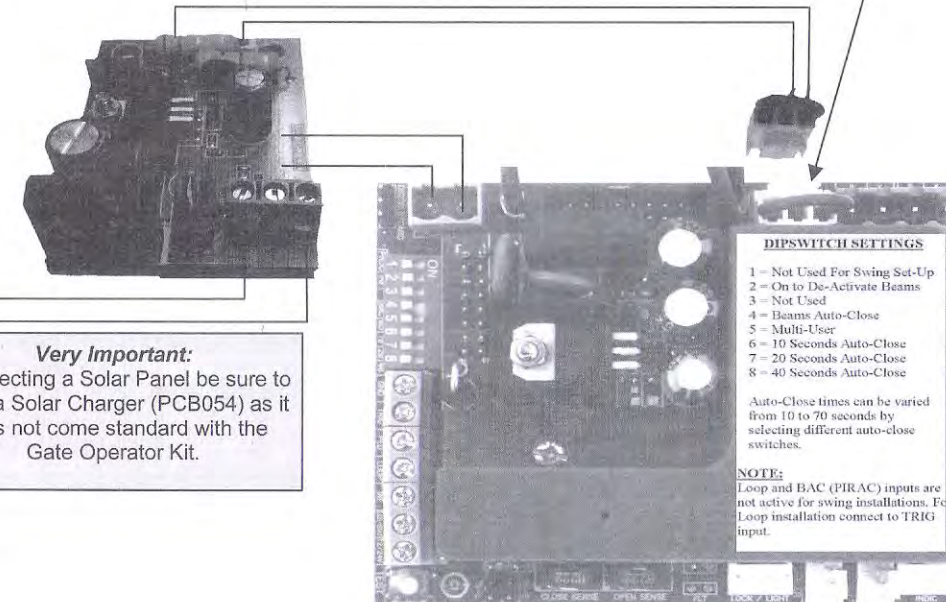


An external regulator is NOT required when connecting a solar panel. Ensure that the panel does NOT exceed the min and max specifications.

Solar Panel Specifications:

- **Min output voltage 16.5 VDC**
- **Max output voltage 21 VDC**
(an output voltage below 16.5 VDC will not charge the internal battery).

Remove existing connector and replace with Solar Charger Connector



Very Important:
if connecting a Solar Panel be sure to order a Solar Charger (PCB054) as it does not come standard with the Gate Operator Kit.

DIPSWITCH SETTINGS

- 1 - Not Used For Swing Set-Up
- 2 - On to De-Activate Beams
- 3 - Not Used
- 4 - Beams Auto-Close
- 5 - Multi-User
- 6 - 10 Seconds Auto-Close
- 7 - 20 Seconds Auto-Close
- 8 - 40 Seconds Auto-Close

Auto-Close times can be varied from 10 to 70 seconds by selecting different auto-close switches.

NOTE:
Loop and BAC (PIRAC) inputs are not active for swing installations. For Loop installation connect to TRIG input.