



DTS 512/624 (Sentry PCB)

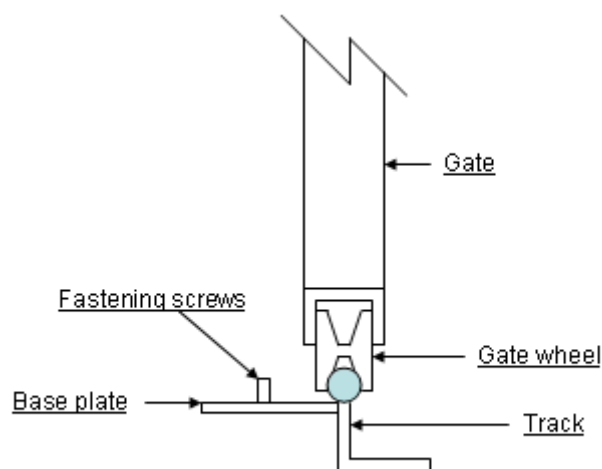
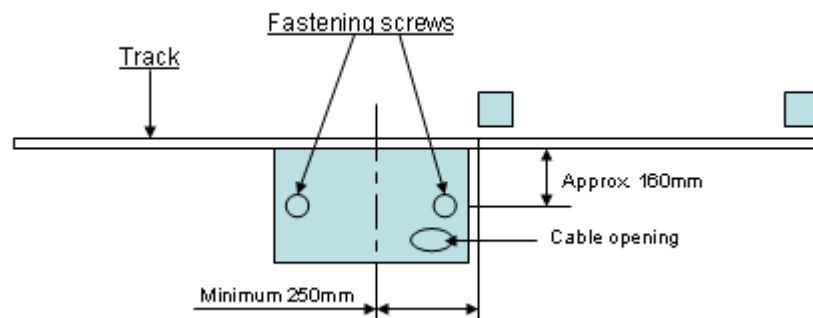
SLIDING GATE MOTOR INSTALLATION MANUAL

**DTS SECURITY
P.O.BOX 3399
EDENVALE
1610
TELEPHONE 086 1000 387**

Spartan	+2711 392 5540 (H/O)
Pretoria	+2712 548 2336
Alberton	+2711 907 8846

www.dtssecurity.co.za

BASE PLATE MOUNTING INSTRUCTIONS



1. Assemble base plate by fastening M10x30 Hex set screws into base plate from under the base plate up and tightening into position.
2. Mount base plate with bolts 160mm from the centre of the gate track and centre of base plate a minimum of 250mm away from the gate opening.
3. Secure the base plate to the gate track by welding the base plate directly to the gate track. (Ensuring a distance of 160mm from centre of gate track to centre of fastening screws).
4. Fit all required cabling through hole provided in base plate.
5. Support the back of the base plate with 40x40x3 angle iron (not provided) or similar off cut steel knocked approximately 300 to 400mm into the ground.
6. Fill area below and around the base plate with approximately 300x400x300 concrete to ensure that the motor will be secure.
7. **NOTE** - The DTS 624 motor must be fitted with a set of IR beams.

Gearbox mounting instructions

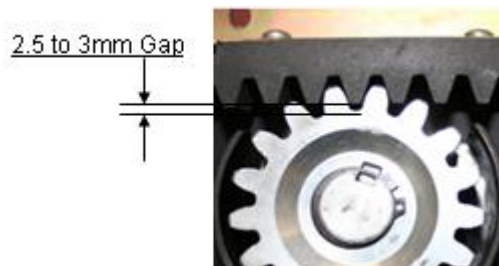
1. Fit gearbox over mounting bolts protruding from base plate.
2. Slide gate fully open and closed, insuring pinion gear has approximately 5mm clearance to gate at all times.
3. Fasten gearbox down firmly to base plate using M10 washers and nuts.

Rack mounting instructions

1. Unlock and pull manual override lever fully out to disengage gearbox.
2. Using a 2,5 to 3mm spacer between the pinion gear and the rack, mount the rack using Tek screws No12x20 (not provided) and screw the rack to the gate starting from the tail of the gate and ensuring that the rack is mounted level.

(A spacer can also be put between motor and base plate when fitting rack).

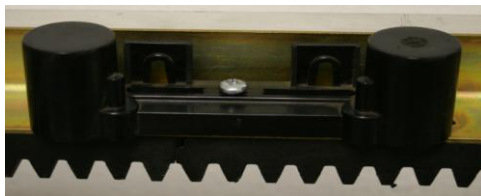
NB: Ensure that one of the screws attaching the nylon rack to the angle is in line with the limit switch spring when the gate is fully closed.



Limit switch actuator mounting instructions

1. Remove screw attaching the nylon rack to angle that is closest to the position that you wish the gate to stop.
2. Fit limit switch actuator with screw provided, screwing into the nylon rack.
3. Adjust limit switch actuator so that the gate stops approximately 10mm before the post.

Magnetic limit actuator



Spring limit actuator



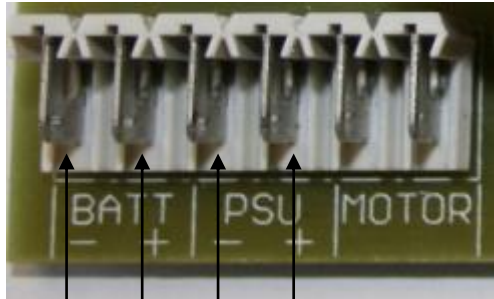
Important: A solid stop must be fitted at **both ends** of the gate to prevent the gate from moving past its full open or close position.

POWER CONNECTIONS

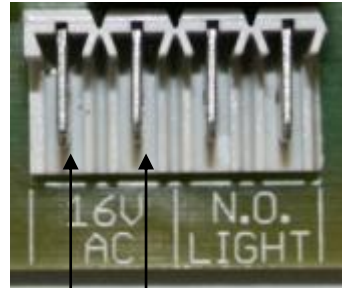
Low voltage Plug in transformer.

Connect 16V AC connectors on plug in transformer to 16V AC connectors on controller card.

DO NOT CONNECT 220V DIRECTLY TO PCB



BATT (-) BLACK
BATT (+) RED
NOT USED
NOT USED

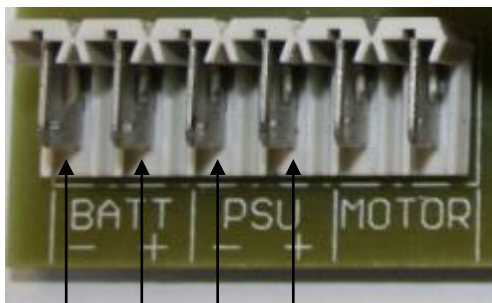


16 VAC from transformer
16 VAC from transformer

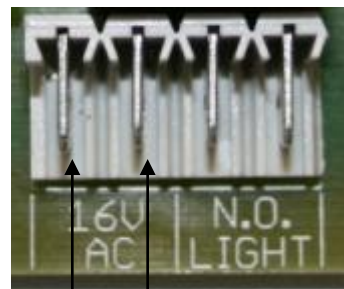
Low voltage on board transformer – 220V at gate.

Connect 220V AC to input side of 16V AC transformer (black & brown wires), connect output wires (red) to 16V AC connectors on controller card.

DO NOT CONNECT 220V DIRECTLY TO PCB



BATT (-) BLACK
BATT (+) RED
NOT USED
NOT USED



16 VAC from transformer
16 VAC from transformer

IF 220V IS USED AT GATE MOTOR, A SEPARATE DOUBLE POLE ISOLATOR MUST BE FITTED WITHIN 1M FROM MOTOR.

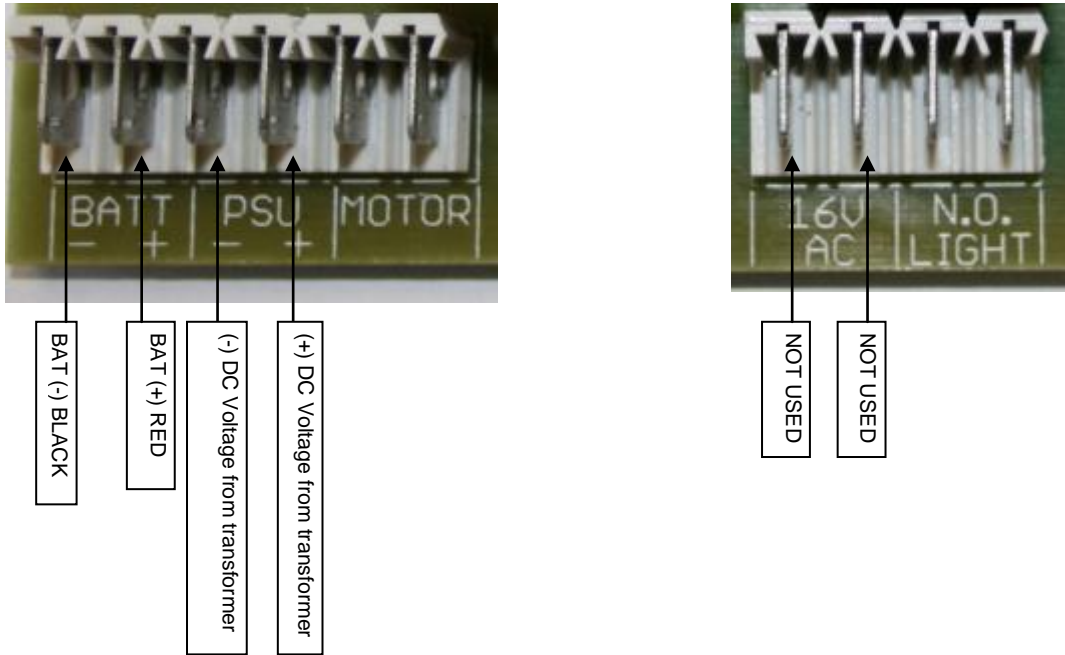
High access power supply unit – 220V at gate.

Connect 220V AC to LEN (Live/Earth/Neutral) connector on side of power supply unit.

Black lead from power supply unit gets connected to – (neg.) PSU connection on Pcb.

Red lead from power supply unit gets connected to + (pos.) PSU connection on Pcb.

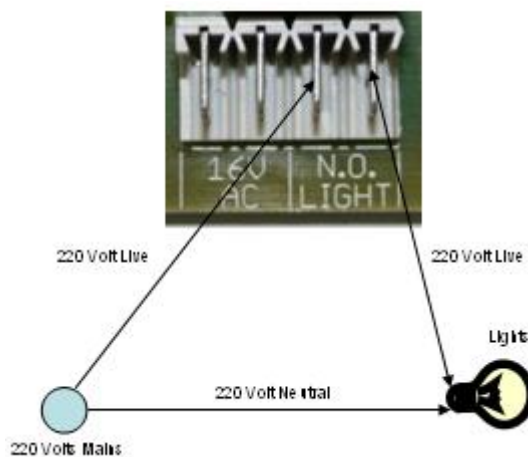
DO NOT CONNECT 220V DIRECTLY TO PCB



DO NOT USE POWER SUPPLY UNIT (PSU) AND LOW VOLTAGE TRANSFORMER (16V AC) TOGETHER.

IF 220V IS USED AT GATE MOTOR, A SEPARATE DOUBLE POLE ISOLATOR MUST BE FITTED WITHIN 1M FROM MOTOR.

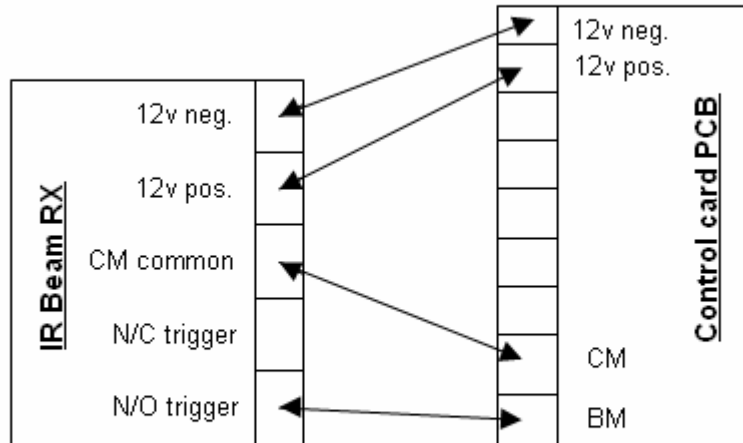
COURTESY LIGHT OUTPUT (Will stay on for 3 minutes after a trigger is received)



DO NOT CONNECT 220V DIRECTLY TO PCB UNDER ANY CIRCUMSTANCES.

DO ALL RUNTIME AND TRANSMITTER PROGRAMMING BEFORE CONNECTING ANY ADDITIONAL INPUTS SUCH AS, -INTERCOM, BEAMS ETC.

Diagram to connect IR Beams to PCB



Note: for sentry beams, connect BM to N/C trigger.

NOTE- IR beams must be fitted if DTS 624 motor is installed.

DO NOT CONNECT 220V DIRECTLY TO PCB

Dipswitch selections to activate a function.

Dipswitch 1 - Programming.

2 - Motor direction. (This can only be changed before programming or if neither limit switches are activated).

3 - Auto close.

4 - Condominium mode.

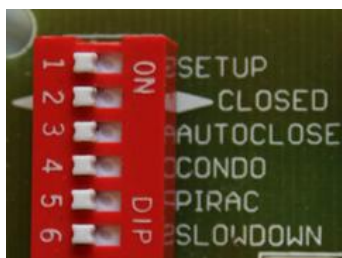
5 - P.I.R.A.C. mode

6 - Slow down distance change

Dipswitch selection for programming. (With dipswitch 1 ON)

Dipswitch 3 - Auto close. (Infra red beams must be fitted if auto close is activated).

Dipswitch 4 - Pedestrian (Distance and time).



PROGRAMING

1 – Run Time Setup (This will automatically happen when triggered after total power up or by following the steps below).

- Gate approximately 1metre open
- With all dipswitches OFF (excluding dipswitch 2 pending motor direction), press & release Bt/SET button.
- Gate will close, open and close again and stop on close limit (Motor speed can be increased during programming of open cycle by pushing and holding down the Bt/SET button). The closing cycle of programming will automatically run at fast speed.
- Control card will beep to confirm end of run time setup.

NOTE: If gate opens first, dipswitch number 2 is wrongly selected.

2 – Auto close (Default 15 seconds) (Infra red beams must be fitted if auto close is activated).

- Switch Dipswitch 1 and 3 ON.
- Press & hold Bt/SET button
- PCB will Beep (1 Beep = 1 Sec)
- Release Bt/SET button at required auto close time.
- Switch Dipswitch 1 and 3 OFF.
- Switch Dipswitch 3 back ON to activate the auto close.

3 – Pedestrian Opening (Default 1 meter / 4 seconds auto close)

- Switch Dipswitch 1 and 4 ON.
- Gate should be in closed position.
- Press & Release Bt/SET Button.
- Gate will open.
- Press & release Bt/SET button to stop gate at required pedestrian opening distance.
- Press & Hold Bt/SET button to program auto close time required.
- Control card will Beep (1 Beep = 1 Sec)
- Release Bt/SET button at required pedestrian auto close time.
- Gate will close again.
- Switch Dipswitch 1 and 4 OFF.

To reset factory default, push and release Bt Lrn or Pd Lrn, then press and hold Bt/SET for approximately 5 seconds, the PCB will give 2 short beeps as acknowledgement.

Load setting

To adjust the load, turn the provided load pot very slowly to determine the load setting (Minimum-anticlockwise & Maximum clockwise). The control card will beep as you turn the pot (1 - 5 beeps).



ON BOARD RECEIVER PROGRAMING

The onboard receiver is designed to work with Sentry rolling code transmitters.



PROGRAMMING A TRANSMITTER FOR FULL OPEN OPERATION –Bt Lrn	PROGRAMMING A TRANSMITTER FOR PEDESTRIAN OPERATION-Pd Lrn
<ol style="list-style-type: none">1. Push the Bt Lrn button, the RX led will go on.2. Push the required button on the transmitter, the board will give 2 beeps.3. Repeat Step 1 and 2 for additional transmitters. Up to 25 transmitters can be programmed for this operation.	<ol style="list-style-type: none">1. Push the Pd Lrn button, the RX led will go on.2. Push the required button on the transmitter, the board will give 2 beeps.3. Repeat Step 1 and 2 for additional transmitters. Up to 5 transmitters can be programmed for this operation.

The button used for Bt Lrn CANNOT be used for Pd Lrn and vice versa.

To erase a button from the receiver, in case of incorrect programming i.e. blue button should be for Bt Lrn and not Pd Lrn.

Simply push and hold the Bt Lrn or the Pd Lrn for 5 seconds, the board will give 1 beep. Then push the button you want to erase, the board will give 2 beeps as confirmation. That button is then erased and can be relearned into the correct input.

To master erase:

Push and hold the Bt Lrn or the Pd Lrn button, after 5 seconds the board will give 1 beeps. Keep holding for another 5 seconds then the board will give 2 beeps. All transmitters will now be erased.

ELECTRONICS

FEATURES:

1. Standard
2. Easy motor direction change
3. Auto close facility (Infra red beams must be fitted if auto close is activated).
4. Condominium / Free exit loop facility
5. P.I.R.A.C (Passive Infra Red Access Control) facility
6. Slowdown (Ramp down) facility

1. Standard Mode (No function selected)

When the gate is activated it will open and can be stopped in mid cycle by pressing the transmitter or manual push button. Pressing the transmitter or push button can reverse the gate. In standard mode the gate will remain on its open limit until it is triggered to close. If main power fails, the motor will still operate until battery reaches 20 volt. Gate will then remain close. Change to manual by overriding the motor by the override lever. When the main power comes on again, lock in the override lever and the motor will function as normal.

2. Easy motor direction change (Dipswitch 2)

By selecting the dipswitch, the motor direction and the limit wires are changed automatically. Dipswitch ON, gate closes to the right. Dipswitch OFF, gate closes to the left.
(This can only be changed before programming or if neither limit switches are activated).

3. Auto close (Dipswitch 3 ON) (Infra red beams must be fitted if auto close is activated).

When Auto close is activated and the Gate opens to the open limit, the gate will wait the pre-programmed time before automatically closing. If the gate is triggered while the gate is in its closing cycle it will stop and reopen.

To override the auto close wait till the gate reaches its open limit then press & hold the transmitter or manual push button for 5 sec. (The control card will give 1 long beep to confirm the override) To reactivate the auto close, press the transmitter or manual push button.

If the transmitter or manual push button is pressed while the gate is in its opening cycle, the gate will close after the preprogrammed auto close time (from any position, not only from the open limit)

4. **Condominium/free exit loop (Dipswitch 4 ON)**

When condominium/free exit loop is activated on the unit, the unit will not respond to any transmitter or manual push button while in its opening cycle or open position. When the gate is on the open limit the unit will automatically wait the pre-programmed auto close time and then close (even if auto close function is not selected i.e. dipswitch 3 is off). When the gate is in its closing cycle and the transmitter or manual push button is pressed the gate will stop and open. Auto close cannot be over ridden in condominium mode. If main power fails, the motor will still operate until battery reaches 20 volt. Gate will then remain open. Change to manual by overriding the motor by the override lever. When the main power comes on again, lock in the override lever and the motor will function as normal.

5. **P.I.R.A.C (Passive Infra Red Access Control) (Dipswitch 5 ON)**

With P.I.R.A.C mode activated, if the gate is in its opening cycle and the IR beam is activated and released the gate will stop and close immediately. When the gate is on the open limit the unit will not automatically close unless auto close has been selected.

6. **Slowdown (Dipswitch 6)**

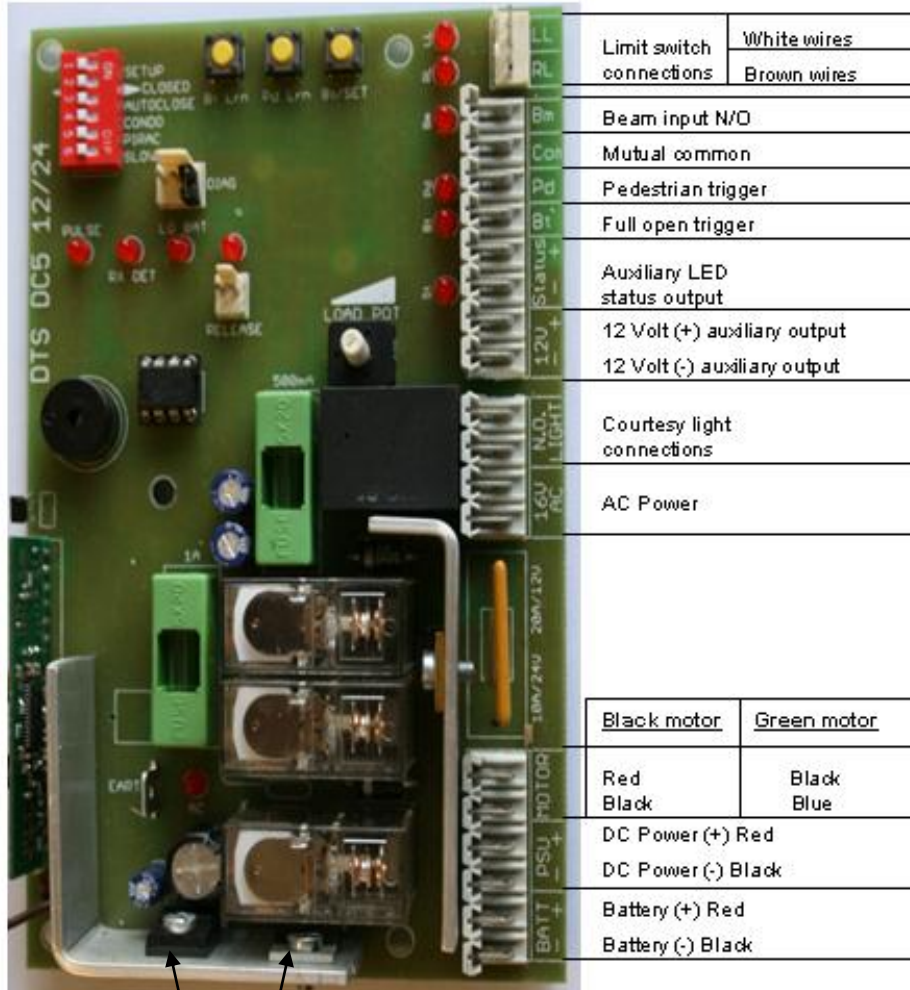
With dipswitch selected ON, the gate will have a long close and open ramp down distance, and with the dipswitch OFF, a short ramp down distance.

NOTE - (For any gate exceeding 3.5 meters width, the long ramp down is recommended).

FOR SAFETY REASONS

Infra red beams are recommended for all
gate motor installations.

PCB Control card.



For PCB identification

2 x Voltage regulators = 24V motor.

1 x Voltage regulator = 12V motor.

NB – When connecting intercoms to the control card, please ensure that your intercom trigger output is potential free (ZERO voltage). If not, a gate relay module must be fitted.

TROUBLESHOOTING

SYMPTOMS	CAUSES	ACTION
<p>When pressing the remote transmitter the gate operator will not respond at all</p> <p style="text-align: center;">OR</p> <p>PCB responds but gate will not open</p>	<p>Transmitter battery flat.</p> <p>Transmitter physically damaged.</p> <p>Transmitter has not been programmed into the receiver memory.</p> <p>Battery has reached its low level (10/20 Volt) indicated by 3 beeps / 3 beeps.</p> <p>Motor is in holiday lock-out, indicated by 4 quick beeps.</p> <p>Override door is open, indicated by 3 short beeps.</p> <p>PCB faulty, indicated by 1 long and 1-5 short beeps.</p> <p>Motor/Load Fuse blown, indicated by the relays clicking followed by 4 short beeps</p>	<p>Replace transmitter battery.</p> <p>Check with supplier.</p> <p>Follow the receiver setup instructions.</p> <p>Check the household main supply, the transformer or PSU and all related cabling.</p> <p>Press and hold the pedestrian remote for approximately 13 seconds. PCB will give 5 long beeps to indicate holiday lock-out is released.</p> <p>Close override door.</p> <p>Return PCB to supplier.</p> <p>Replace the (12Volt) 25 Amp Fuse, (24Volt) 10 Amp Fuse.</p>
<p>When pressing either the transmitter or the PCB button (Bt/SET), no movement or opens a short distance only.</p>	<p>Not picking up the encoder reader, indicated by a short movement followed by 4 short beeps.</p> <p>Motor overload, indicated by a short movement followed by 4 short beeps and the St LED flashing fast.</p>	<p>Fix encoder reader position to the magnet on the motor.</p> <p>Turn up the load on the load pot.</p> <p>Remove any obstructions from the rail.</p> <p>Check weight and pulling force of gate.</p>

Before operating, the unit gives two long beeps	The primary supply has failed and the unit is running on battery reserve.	Check the household main supply, the transformer or PSU and all related cabling.
The gate opens but will not close	The primary supply has failed and the unit is running on battery reserve with the condominium/loop option selected and it has reached its low battery limit (10/20 Volt) indicated by 3 beeps / 3 beeps. Safety infra-red beams are obstructed or the beams equipment/cabling are faulty.	Check the household main supply, the transformer or PSU and all related cabling. Clear obstruction or repair/replace safety infra-red beams equipment/cable.
The gate when closing stops and reverses or when opening stops. OR Gate tries to run and the relays kick out.	The unit is sensing an obstruction The infra-red beam has been triggered. Another trigger has been received by the control card. Encoder is faulty.	Clear obstruction or adjust load sensing. Clear obstruction. Check with other operators on the system. Turn ring magnet on the motor by hand: if no activity on the encoder LED, contact supplier.
Gate does not remain open.	Auto close has been selected. Another user has triggered the unit. Condominium/loop has been selected.	Deselect auto close or use auto close override. Deselect condominium / loop mode.
When the beams input is triggered, the gate stops and reverses during opening cycles.	P.I.R.A.C. mode has been selected. Gate is closing in the wrong direction.	Deselect P.I.R.A.C. mode Dipswitch 2 is selected incorrectly.

<p>The unit beeps 3 times and opens partially, beeps 3 times and the closes. This can sometimes continue indefinitely.</p>	<p>The pedestrian (Pd) mode is being triggered. This is constant if the sequence keeps repeating.</p> <p>A transmitter code has been programmed into the pedestrian (Pd Lrn) function of the receiver.</p>	<p>Check with the other operators and check switching equipment / cabling attached to the (Pd) input.</p> <p>Re-code the receiver as per instructions</p>
<p>When gate reaches a limit actuator, the unit does not stop running.</p>	<p>Limit inputs wired incorrectly (out of sync' with the motor direction.)</p> <p>Limit switch is faulty.</p>	<p>Re-wire</p> <p>Check with supplier.</p>
<p>Gate motor is jumping teeth on the rack.</p>	<p>Pinion to rack spacing is incorrect.</p> <p>Rack is insufficiently fastened to gate leaf.</p>	<p>Re-align.</p> <p>Re-align and correct fastening.</p>
<p>Gate jams in the open or closed position and is not easy to manually release.</p>	<p>Gate is running too far.</p> <p>Gate is running past its limit actuator.</p>	<p>Adjust the limit actuators so that the gate does not ram into the end stops.</p> <p>Replace the switch, rewire correctly or check limit spring assembly.</p>

Manufacturers warranty.

- **All goods manufactured by DTS Security carry a 12 month factory warranty from date of invoice.**
- **All goods are warranted to be free from faulty components and manufacture.**
- **Faulty goods will be repaired or replaced at the sole discretion of DTS Security Products, free of charge.**
- **This warranty is subject to the goods being returned to the premises of DTS Security Products.**
- **This warranty excludes lightening damage, insect damage and damage caused by faulty installation.**
- **In the event of the goods being supplied by dealer, merchant, agent or duly appointed installer of DTS Security Products, the claim must be directed to that supplier.**
- **The carriage of goods is for the customer's account.**
- **This warranty is only valid if the correct installation and application of goods, as laid out in the applicable documentation accompanying said goods, is adhered to.**
- **All warranty claims must be accompanied by the original invoice.**
- **The liability of DTS Security Products and / or their distributors is limited as herein set out DTS Security Products and / or their distributors will not be liable for consequential or incident damages howsoever arising.**