DTS 512/624

SLIDING GATE MOTOR
INSTALLATION MANUAL
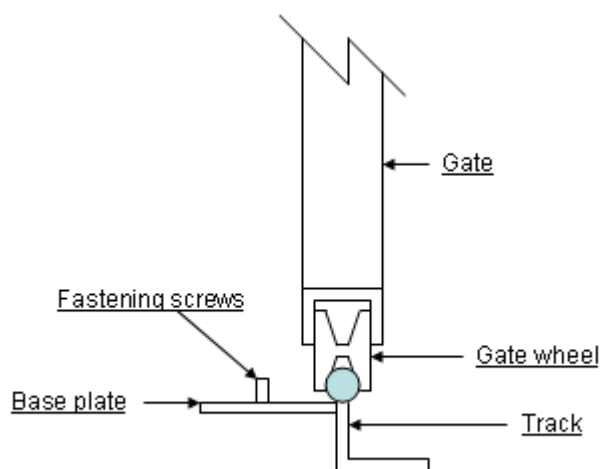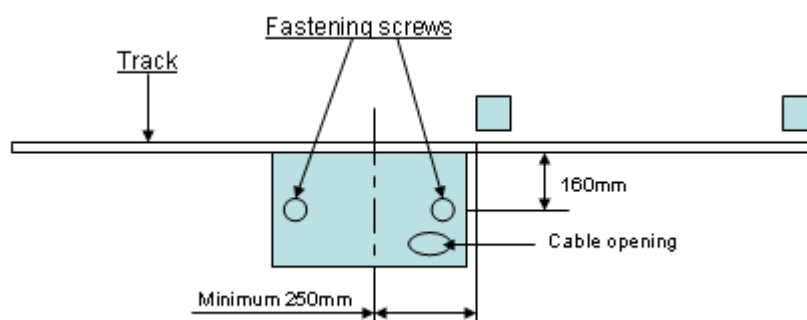
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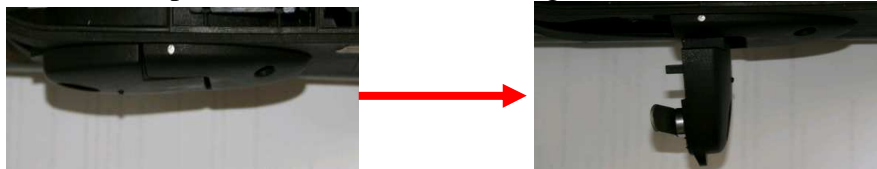# BASE PLATE MOUNTING INSTRUCTIONS

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** – For safety reasons, 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.

How to override the gate motor for manual operation

1. Unlock and open the override lever on the gearbox.

2. The gate can now be opened and closed manually.

Rack mounting instructions

1. Unlock and open manual override lever fully to disengage gearbox. (See above).
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 2.5 to 3mm spacer can also be put between motor and base plate when fitting rack. This must be removed once the rack is in place).
   NB: **Ensure that one of the screws attaching the nylon rack to the angle is in line with the read switch or limit switch spring when the gate is fully closed and open position.**
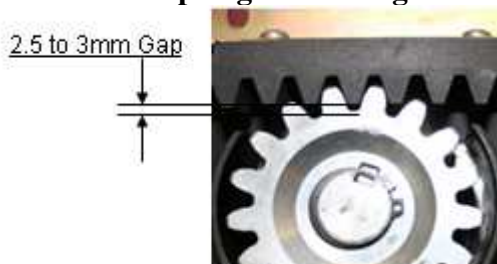
Limit switch actuator mounting instructions

1. Remove the screw attaching the nylon rack to the angle that is closest to the position of the reed switch or the spring on the motor when the gate is in the close and open position.
2. Fit limit switch actuators with screws provided onto the nylon rack.
3. <u>Setting the gate close actuator</u> – Close the gate with approximately 10-20mm gap between gate and close stopper. Now move the actuator until the close LED lights up. Fasten the actuator.
4. <u>Setting the gate open actuator</u> – Open the gate with approximately 10-20mm gap between gate and open stopper. Now move the actuator until the open LED lights up. Fasten the actuator.
5. (The gate must never bump against the close or open end stoppers).

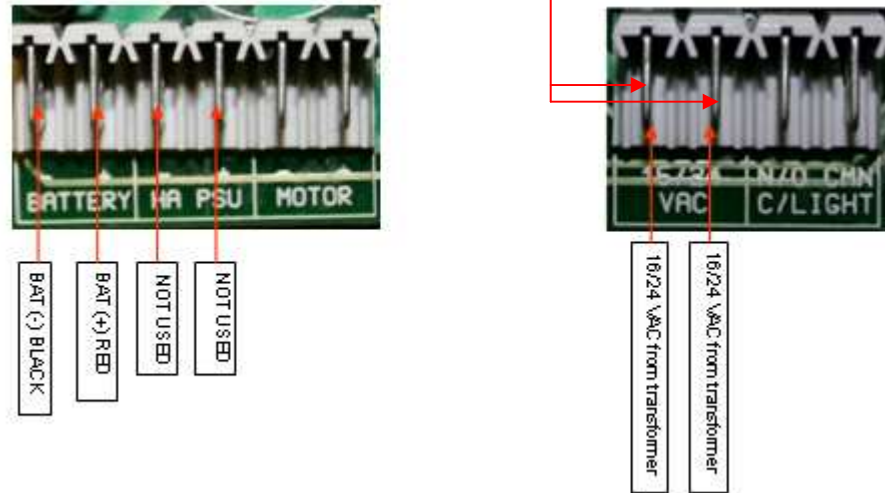Magnetic limit actuator   Spring limit actuator

Important: For safety reasons, 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 512/16volt or 624/24volt AC from transformer to <u>16/24V AC</u> connectors on controller card.

DO NOT CONNECT 220V DIRECTLY TO PCB

Low voltage on board (OBT) transformer – 220V at gate.

Connect 220V AC to input side of 512/16volt or 624/24volt AC transformer (black & brown wires), or to NEL (Neutral/Earth/ Live) connector on side of transformer, then connect the output wires (red) to <u>16/24V AC</u> connectors on controller card.
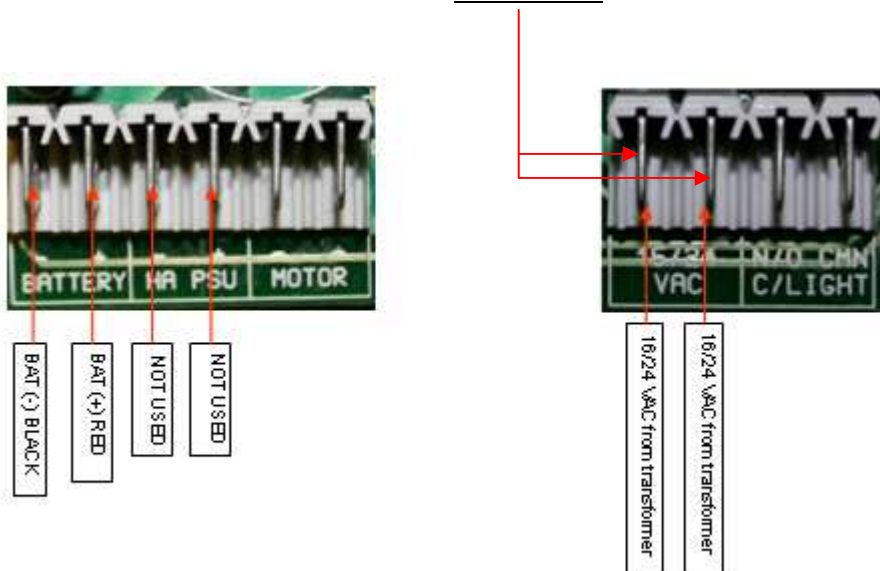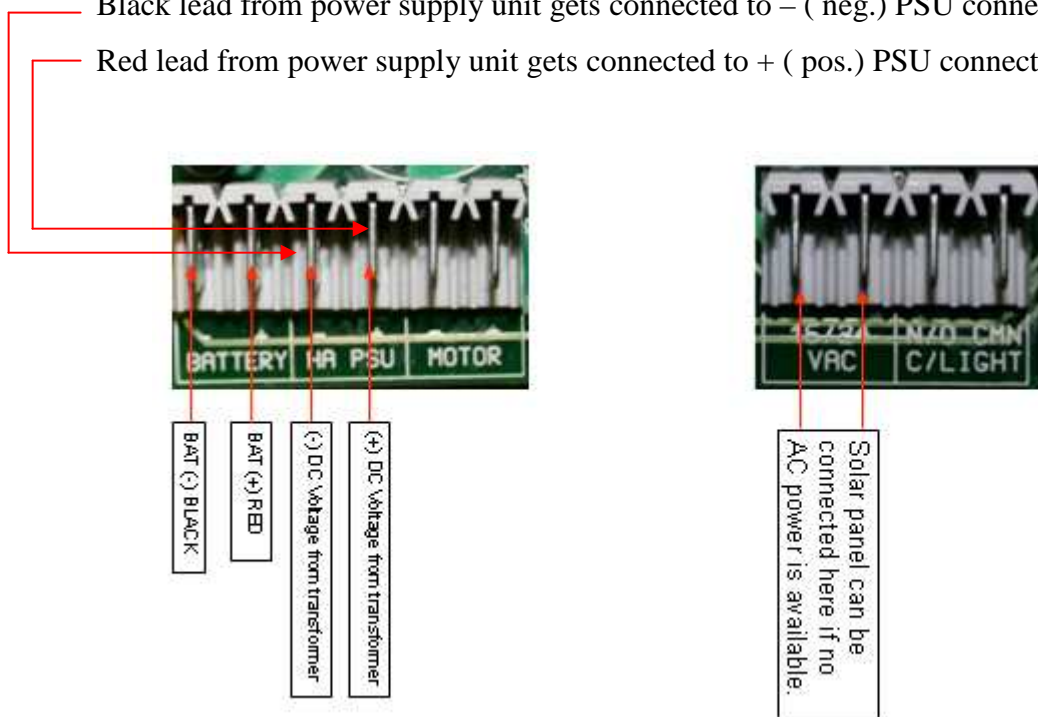

DO NOT CONNECT 220V DIRECTLY TO PCB

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

BATTERY HA PSU MOTOR

BAT (-) BLACK

BAT (+) RED

(-) DC Voltage from transformer

(+) DC Voltage from transformer

VAC C/LIGHT

Solar panel can be connected here if no AC power is available.

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 1Meter FROM MOTOR.

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

Light

220 Volt Mains (Live).

VAC C/LIGHT

220 Volt Mains (Live).

220 Volt Mains (Neutral).
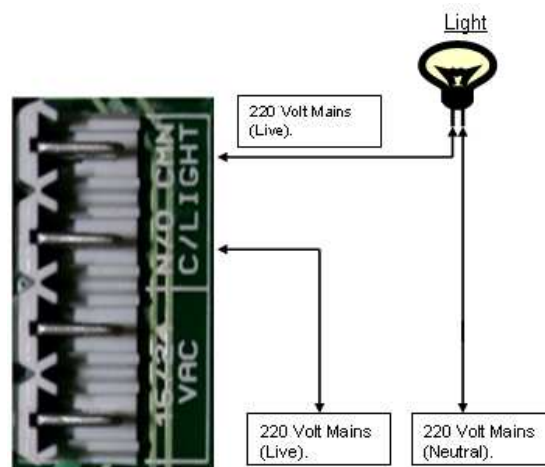
(If this facility is not being used, it can then be utilized as a tamper alarm facility, see page 10).

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

DO ALL RUNTIME (Calibrating) AND TRANSMITTER PROGRAMMING BEFORE CONNECTING ANY ADDITIONAL   INPUTS SUCH AS, –INTERCOM, EXTERNAL RECEIVERS, BEAMS, ETC.
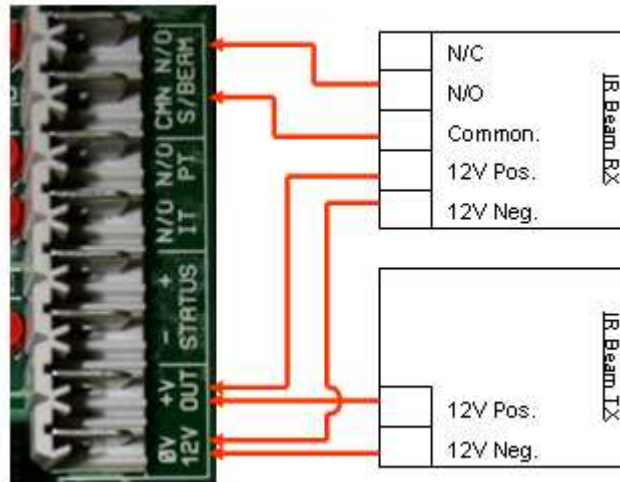
<u>Diagram to connect IR Beams to PCB</u> (Beam pins <u>not</u> bridged, The pins are next to the BT/SET button)

With the beam pins bridged, the <u>S/Beam N/O</u> must be connected to <u>N/C on the RX</u> (Receiver)

Note: If sentry beams are fitted, then <u>S/BEAM, N/O</u> on the PCB must be connected to <u>N/C on the RX</u> with the pins not bridged and <u>N/O</u> if the pins are bridged.

<u>NOTE</u>- IR beams <u>must</u> be fitted if a DTS624 motor is installed.

<u>Dipswitch selections to activate a function.</u>
 Dipswitch 1 - Programming.
         2 - Motor direction. (This can only be changed before programming or if neither limit switches are activated).
         3 – Auto close.
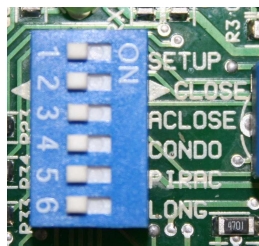   4 – Condominium mode.
         5 – P.I.R.A.C. mode
         6 – Slow down distance change

<u>Dipswitch selection for programming.</u> (With dipswitch 1 ON)

Dipswitch 3 – Auto close. (Infra red beams <u>must</u> be fitted if auto close is activated).
Dipswitch 4 – Pedestrian (Open distance and auto close time).

DO NOT CONNECT 220V DIRECTLY TO PCB

PROGRAMMING

1 – <u>Run Time (Calibrating) Setup</u> (With total power up, AC and DC, on PCB)

- Unlock and open the override lever on the gearbox.

- Open the gate manually approximately 1metre.
- Close and lock the override lever on the gearbox. (PCB should beep 1-5 beeps pending on load pot setting).

- Pull the gate in any direction until the gear locks in.
- With all dipswitches OFF (excluding dipswitch 2 depending on motor direction), press & release the BT/SET button.
- Gate will close, open and close again and stop on close limit. (Motor speed can be increased during programming cycle by pushing and holding down the BT/SET button, but release the button approximately 500mm before the close and open position). The final closing cycle of programming will automatically run at normal speed.
- Control card will beep twice to confirm end of program run time (calibrating) setup.

<u>NOTE:</u> 1) If gate opens first, dipswitch number 2 is wrongly selected.
2) Gate will automatically calibrate every time the power is restored after a total power failure, irrespective of present dipswitch selection.
3) The controller will drive the gate approximately 6mm past the closed limit activation position. Allowance must be made for this when setting the limit actuators.

2 – <u>Auto close</u> (Default 10 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 of auto close time) (Maximum 240 seconds).
- 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 – <u>Pedestrian Opening</u> (Default 1 meter / 10 seconds auto close)

- Switch Dipswitch 1 and 4 on.
- Gate must be in the <u>closed</u> 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 of auto close time) (Maximum 120 seconds).
- Release BT/SET button at required pedestrian auto close time.
- Switch Dipswitch 1 and 4 off.
- Gate will close again.
- <u>Do not</u> switch dipswitch number 4 back on for activating of pedestrian as this is a preprogrammed function.

<u>To reset factory defaults.</u>
Remove all power from the PCB. Hold down the BT/SET button and re-connect the AC power, with AC power now on, release BT/SET button. PCB will give one 2 second long beep followed by 1-5 beeps, depending on load setting on pot, as acknowledgement.

Load setting

To adjust the load, turn the provided load pot to determine the load setting (Minimum, anticlockwise & Maximum, clockwise). The control card will beep, 1 minimum to 5 maximum beeps on next trigger before movement.

ON BOARD RECEIVER PROGRAMMING

The onboard receiver is designed to work with most rolling code transmitters.
(The override lever must be closed for programming transmitters).

PROGRAMMING A TRANSMITTER (TX) FOR FULL OPEN OPERATION – BT LRN (Version 1.3)	PROGRAMMING A TRANSMITTER FOR PEDESTRIAN OPERATION - PD LRN (Version 1.3)
1. Push the BT LRN button, the RX led will go on. 2. Push the required button on the transmitter, at arms length from PCB once, the Rx led will flash. Press the same button again, and the PCB will emit 3 beeps for a full Keelog transmitter or 2 beeps for other transmitters. 3. Repeat Step 1 and 2 for additional transmitters. Up to **31** transmitters can be programmed as a joint combination between BT LRN & PD LRN.	1. Push the PD LRN button, the RX led will go on. 2. Push the required button on the transmitter, at arms length from PCB once, the Rx led will flash. Press the same button again, and the PCB will emit 3 beeps for a full Keelog transmitter or 2 beeps for other transmitters. 3. Repeat Step 1 and 2 for additional transmitters. Up to **31** transmitters can be programmed as a joint combination between BT LRN & PD LRN.

The button used for BT LRN CANNOT be used for PD LRN and vice versa.

To individually erase transmitters:

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 button for 5 seconds, the board will give 1 beep. Release the BT LRN button. Then push and release the TX button you want to erase, the PCB will beep twice as confirmation. The TX is erased and can be learned into correct input.

To master erase:

Push and hold the BT LRN button, after 5 seconds the board will give 1 beep. Keep holding for another 5 - 10 seconds then the board will give 2 beeps. Release BT LRN button. The green receiver (RX) led will also flash 5 times indicating all transmitters erased.

Note: When programming TX no.32, the PCB will give 1x 1.5second beep after pressing and releasing the BT LRN button indicating, Receiver (RX) is full.
The RX will abort programming automatically.
A TX must then be deleted before a next TX can be programmed to the RX.
If a transmitter is already programmed, the RX LED will go off with no beep on the 1st press from the TX.

ELECTRONICS

FEATURES:
1. Standard mode.
2. Easy motor direction change.
3. Auto close facility. (Infra red beams <u>must</u> be fitted if auto close is activated).
3a. Party mode. (Auto close override)
4. Condominium / Free exit loop facility.
5. P.I.R.A.C. (Passive Infra Red Access Control) facility.
6. Slowdown (Ramp down) facility.
7. Tamper alarm facility. (Only available from Version 1.8 software).
8. Anti highjack. (Only available from Version 1.9 software).
9. Holiday Lockout.

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 9.5/19 volt. (9.5 volt for 512 and 19 volt for 624 motors). 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 <u>and the limit wires</u> are changed <u>automatically</u>. Dipswitch ON, gate closes to the right. Dipswitch OFF, gate closes to the left.

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.
   If the transmitter or manual push button is pressed while the gate is in its opening cycle, the gate will stop and close after the preprogrammed auto close time (from any position, not only from the open limit)
   3a. Party mode. To override the auto close, wait till the gate reaches its open limit then press & hold the transmitter or manual push button for approximately 6 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.

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. <u>Auto close cannot</u> be over ridden in condominium mode. (<u>No party mode</u>). If main power fails, the motor will still operate until battery reaches 9.5/19 volt. (9.5 volt for 512 and 19 volt for 624 motors). 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 open, or in its opening cycle and the IR beam is activated and released the gate will stop and close immediately. This will happen even if auto close has not been selected.

6.   Slowdown (Dipswitch 6)
With dipswitch selected ON, the gate will have a long close and open controlled slow down distance of 800mm and with the dipswitch OFF, the gate will have a short close and open controlled slow down distance of 400mm. (These distances in reality looks much shorter).
NOTE - (For heavy gates, the long controlled slow down distance is recommended).

7.   Tamper Alarm Facility (Only available from Version 1.8 software and later)
If the courtesy light feature is not used then the courtesy light relay can be re-configured as a general Tamper alarm output. Re-configuration is achieved with the following procedure.
A) Latching tamper (Siren – N/O relay contact) output.
  Make note of the option dip switch settings, then remove the power (AC and DC) from the control PCB and open the gearbox release. Switch all dip switches to the OFF position, then select dipswitch 1 and 6 to the ON position. Reconnect the power to the PCB and after approximately 2 seconds, select dipswitch 1 and 6 back to OFF position. The setting is confirmed by 1 to 5 beeps (depending on where the load pot setting is). Select the dipswitch settings back as per your notes. Close the gearbox release and perform the normal power up calibration routine.
B) Impulse tamper (Alarm – N/O relay contact) output.
  Repeat section A) using dipswitch 1 and 5.
C) Normal Courtesy light mode. (No Tamper alarm).
 Repeat section A) using only dipswitch 1.

The tamper alarm will automatically arm itself when the gate is in the closed position for 3 minutes and will trigger the alarm relay if the gate is moved or forced off the closed limit switch without a valid trigger.

If latching mode is configured, the relay will switch every 3 minutes until the alarm is restored.
If impulse mode is configured, the relay will trigger every 3 minutes until the alarm is restored.

Any valid gate or pedestrian input trigger will cancel the tamper alarm which will automatically re-arm after 3 minutes once the gate is again in the close position.

The alarm can also be disabled for maintenance by opening the gearbox release and pressing the remote control push button (confirmed by 3 short beeps). The alarm will remain disabled until the gearbox release is closed and the gate closed position re-confirmed.
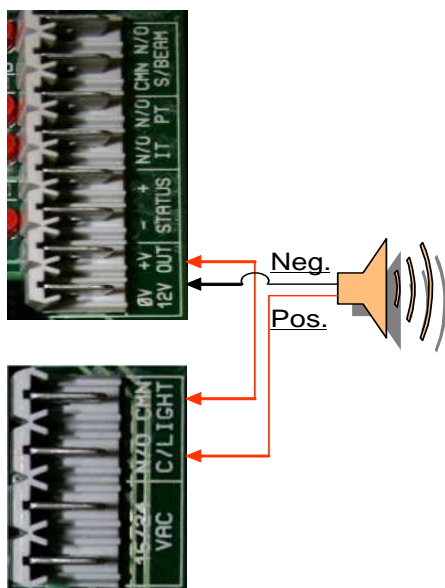
Wiring, Latch (Siren)   **Wiring, Pulse (Alarm)**
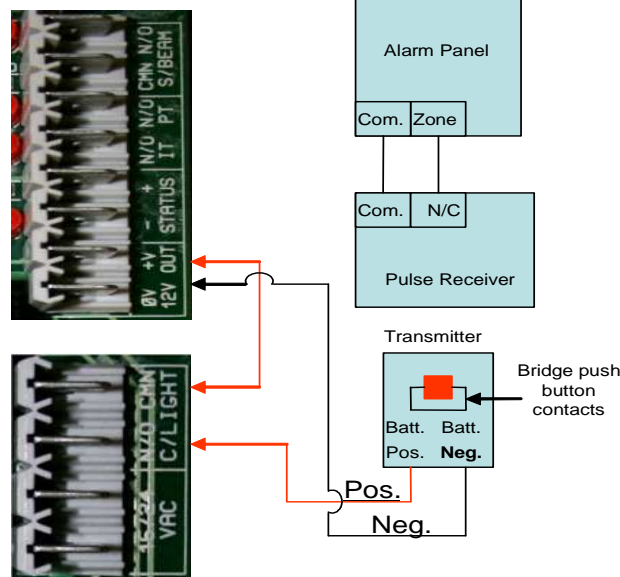
8. <u>**Anti-highjack**</u> (Only available from Version 1.9 software)
When the tamper alarm function is active and the gate receives a valid trigger but is obstructed and cannot move or did not move more than 150mm, the alarm or siren will activate.

If the beams are obstructed or blocked when a trigger is received, the gate will open but will then also sound the alarm.

9. <u>**Holiday Lock-out facility**</u> **(Not available when condominium mode selected).**
To activate holiday lock-out, (the gate must be in the closed position) press and hold any pedestrian trigger function for a period of approximately 13 seconds. After approximately 13 seconds the PCB will give one three second beep as acknowledgement that holiday lock-out is now activated. To de-activate holiday lock-out, repeat the above process. The PCB will in this instance give five 1 second beeps as acknowledgement de-activate.

List of audio indications and warnings.

One continuous beep	- PCB is damage, replace PCB.
One 1.5 second beep	- "Party mode" has been activated.
One 2 second beep	- Factory defaults have been set.
One 2 second beep	- Beams are incorrectly wired or faulty when programming the motor. or Runtime was aborted for whatever reason.
One 3 second beep	- Holiday lockout mode has been activated.
One 3 second beep	- Gate triggered when motor is in 3 minute overload lockout.
Two 400 ms beeps	- Run time programming (calibrating) has been successful.
Two 1 second beeps	- Pedestrian mode was activated.
Two 2 second beeps	- No AC power is present, running battery power only.
Three 200ms beeps	- Battery power is too low, or Override function is open or faulty.
Four 100ms beeps	- Motor is in holiday lockout.
Four 200ms beeps	- Check motor/load fuse (512/25amp or 624/10amp). - Check motor brushes and armature.
Five 1 second beeps	- Holiday lockout mode has been de-activated.
Ten 200ms beeps	- Program run time exceeded (limits not working).
Twenty 100ms beeps	- Motor has stalled or overloaded, then check the following points:

    1) Gate pulling force (should not exceed 512/12.5kg or 624/15kg)
    2) Load pot is set too low (Turn pot completely clockwise)
    3) Check pulse reader/encoder reader
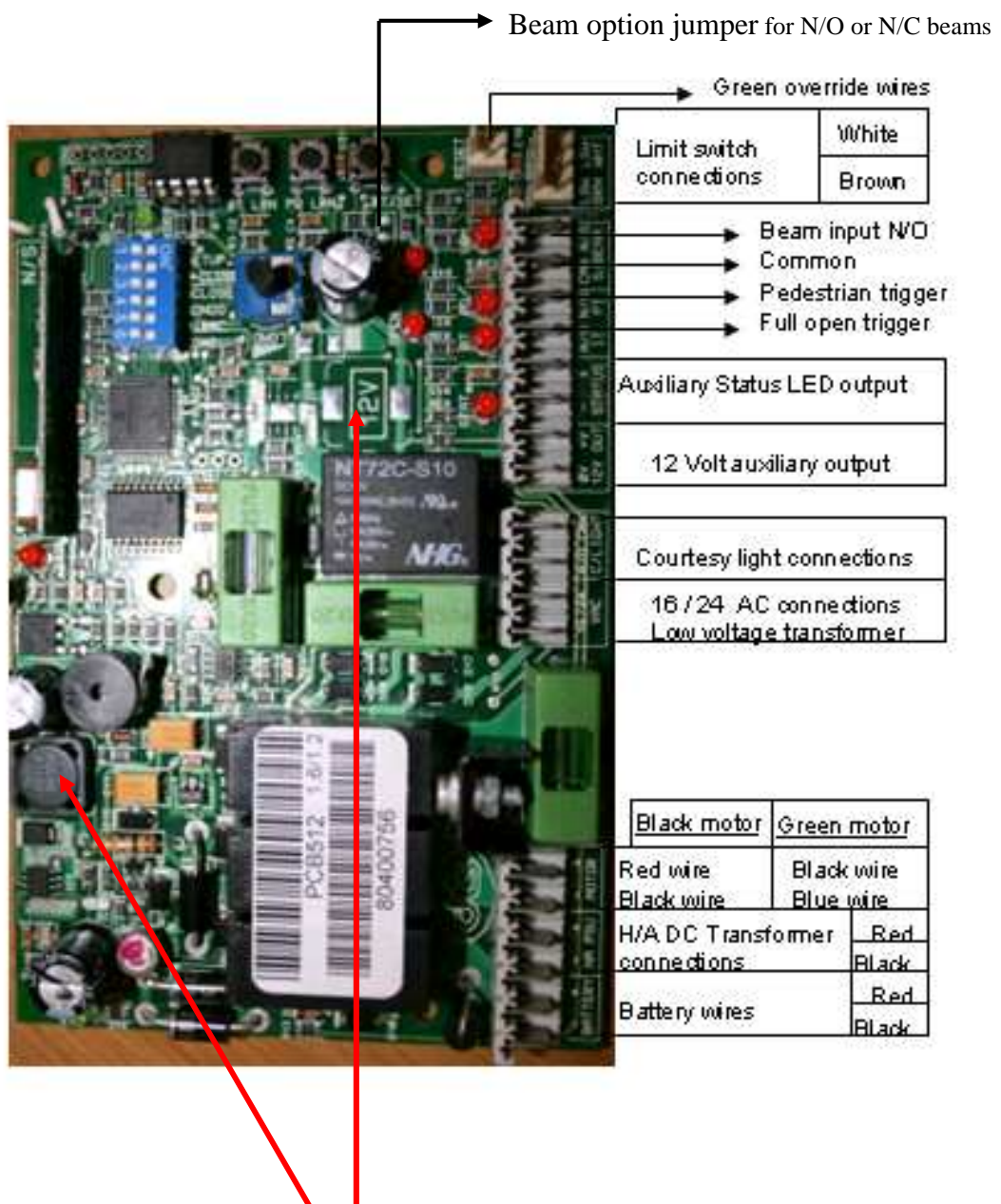   4) Battery voltage under load (512/12volt or 624/24volt)
    5) Gearbox gearwheel

List of LED indications.

- **LED ON when open limit is activated. (gate open).**
- **LED OFF when close limit is activated. (gate closed).**
- **LED flashing SLOW (1 sec. on/1 sec. off) (gate is in motion).**
- **LED flashes 2 long/3 short continuously (gate is stopped midway).**
- **LED flashes fast (250ms on/250ms off) continuously. (gate in overload).**
- **LED flashes 3 fast flashes every 1.5 seconds. (battery low, <11/22VDC).**
- **LED flashes 1 slow/2 fast continuously. (NO 220 VAC power present).**

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<u>FOR SAFETY REASONS.</u>

<u>Infra red beams are recommended for</u>

<u>all gate motor installations.</u>

</div>

PCB Control card.

Beam option jumper for N/O or N/C beams

Green override wires

| Limit switch connections | White |
| | Brown |

Beam input N/O
Common
Pedestrian trigger
Full open trigger

Auxiliary Status LED output

12 Volt auxiliary output

Courtesy light connections

16 / 24 AC connections
Low voltage transformer

	Black motor	Green motor
Red wire		Black wire
Black wire		Blue wire
H/A DC Transformer connections		Red
		Black
Battery wires		Red
		Black

For PCB identification
2 x Voltage regulators = 24V motor. (2nd voltage regulator will cover 12V)
1 x Voltage regulator = 12V motor.

NOTE: With the infra red beam option pins not bridged with the option jumper the PCB operates with N/O beams.
With the option jumper fitted the PCB operates with N/C beams. (Fail safe mode).
With this option and beams connected, the BEAM LED will be ON.

NB – When connecting intercoms to the control card (IT and CMN), 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
When pressing the remote transmitter or manual push button the gate operator will not respond at all.	Transmitter battery flat.	Replace transmitter battery.
	Transmitter or manual push button is physically damaged.	Check with supplier.
	Transmitter has not been programmed into the receiver memory or manual push button is not connected to the PCB or push button.	Follow the receiver setup instructions. Check wiring between PCB and push button.
	The override reed switch in the gear box is faulty or failing to make connection between PCB and read switch or the magnet in the override door is missing.	Replace the reed switch and or the magnet. (For short term solution, bridge out the two pins on the PCB were the read switch wires should go).
PCB responds but gate will not open.	Condominium /loop option is not activated and the battery has reached its low level (9.5 or 19 Volt).	Check the household main supply, the transformer or Power Supply Unit and all related cabling.
PCB responds by giving 4 very quick 100ms beeps but will not open.	Motor is in holiday lockout.	Press and hold the pedestrian remote or manual push button connected to PD on PCB for approximately 13 seconds until PCB gives 5 long beeps.
PCB responds by giving 4 200ms beeps but no movement.	Motor/Load fuse is faulty or motor brushes not making contact with armature.	Replace fuse. (Fast blow fuse). Repair or replace motor brushes.
Before operating, the unit gives two long 2 second beeps.	The primary supply has failed and the unit is running on battery reserve.	Check the household main supply, the AC transformer or DC Power Supply Unit 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 (9.5 or 19 Volt).	Check the household main supply, the transformer or PSU and all related cabling.
	Safety infra-red beams are obstructed or the beams equipment/cabling are faulty or incorrectly wired.	Clear obstruction, repair or replace safety infra-red beams equipment/cable, fix incorrect wiring connections.
The gate when closing stops and reverses or when opening stops. **OR**	The unit is sensing an obstruction	Clear obstruction or adjust load sensing.
	The infra-red beam has been triggered.	Clear obstruction.
	Another trigger has been received by the control card.	Check with other operators on the system.
Gate tries to run and the relays kick out.	Encoder is faulty.	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 activated.	De-activate auto close or use auto close override.
	Another user has triggered the unit.	Check with other operators on the system.
	Condominium/loop has been activated.	De-activate 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 activated.	De-activate P.I.R.A.C. mode
	Gate is closing in the wrong direction.	Dipswitch 2 is selected incorrectly.

The unit gives two short 1 second beeps and opens partially and stops, gives two short 1 second beeps and then closes.	The pedestrian (PT) mode on the PCB is being triggered.	Check equipment /cabling attached to the pedestrian (PT) on the PCB input.
	A transmitter code has been programmed incorrectly into the pedestrian (PD LRN) function of the receiver.	Delete the transmitter and re-program the transmitter into the receivers (BT LRN) as per instructions.
When gate reaches a limit actuator, the unit does not stop running.	Limit input wired incorrectly (out of sync' with the motor direction.)	Re-wire
	Limit switch is faulty.	Change limit switch or check with supplier.
Gate motor is jumping teeth on the rack.	Pinion to rack spacing is incorrect.	Re-align.
	Rack is insufficiently fastened to gate leaf.	Re-align and correct fastening.
	Debris on track	Clean track
Gate jams in the open or closed position and is not easy to manually release.	Gate is running too far.	Adjust the limit actuators until there is a gap between gate and stoppers of approximately 10 – 15 mm
	Gate is running past its limit actuator.	Replace the switch, rewire correctly or check limit spring assembly.
Gate opens pedestrian when full open trigger is given.	Gate is overloading in the close position after it received a pedestrian trigger.	Move the closing limit actuator towards the closing cycle approximately 10mm.
PCB does not beep 1-5 beeps on closing the override lever.	The magnet inside the override lever is missing.	Replace the magnet.
	The double green wire reed switch inside the gearbox is faulty.	Replace the reed switch. (The reset pins on the PCB can be bridged as a short term solution).

Manufacturers warranty.

- **All motors manufactured by DTS Security carry a 24 month factory warranty from date of invoice. (Excluding batteries & Remote controls).**
- **Batteries & remote controls carry a 12 months warranty.**
- **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, incident damage or injury howsoever arising.**