



# **DTS**

## **SLIDING GATE MOTOR INSTALLATION MANUAL**



**Elite 600 with SL150 PCB**

**DTS SECURITY**

**P.O.BOX 3399**

**EDENVALE**

**1610**

**TELEPHONE 086 1000 387**

|                 |                             |
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**Default settings****Error Codes and messages**

| <u>Factory defaults</u>   | <u>Default setting</u> | <u>Code</u> | <u>Error message</u>                           |
|---------------------------|------------------------|-------------|--|
| Auto close                | 10 sec.                | 90          | Mains OFF & Battery voltage below 10.5V        |
| Pedestrian                | 1 meter/5 sec.         | 91          | Motor timed out.                               |
| Auxiliary Relay           | Gate light             | 92          | No error for this number.                      |
| Alarm mode                | OFF                    | 93          | Limit switch error. Check open & close limits. |
| 100-400Kg - Speed, Open   | 25M/min                | 94          | Collision detected, collision setting to low.  |
| Close                     | 25M/min                | 95          | Motor stall with low current. Check load fuse. |
| Calibrating               | 8M/min                 | 96          | Motor over current trip, Load setting to Low.  |
| Creep                     | 4M/min                 | 97          | Over temperature alarm, Mosfets hot.           |
| 400-700Kg - Speed, Open   | 20M/min                | 98          | Safety beams failed, beams not working.        |
| Close                     | 20M/min                | 99          | Motor current flowing, damaged MOSFET          |
| Calibrating               | 7M/min                 |             |  |
| Creep                     | 3M/min                 |             |  |
| 700-1000Kg - Speed, Open  | 15M/min                |             |  |
| Close                     | 15M/min                |             |  |
| Calibrating               | 6M/min                 |             |  |
| Creep                     | 3M/min                 |             |  |
| ACC - 100-400Kg           | 100mm                  |             |  |
| 400-700Kg                 | 200mm                  |             |  |
| 700-1000Kg                | 250mm                  |             |  |
| DEC - 100-400Kg           | 400mm                  |             |  |
| 400-700Kg                 | 800mm                  |             |  |
| 700-1000Kg                | 950mm                  |             |  |
| Force settings, 100-400Kg | 50%                    |             |  |
| 400-700Kg                 | 80%                    |             |  |
| 700-1000Kg                | 100%                   |             |  |
| Collusion, 100-400Kg      | 50%                    |             |  |
| 400-700Kg                 | 50%                    |             |  |
| 700-1000Kg                | 65%                    |             |  |

## **FEATURES:**

Standard mode.

Selectable motor direction change.

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

Party mode. (Auto close override)

Condominium / Free exit loop facility.

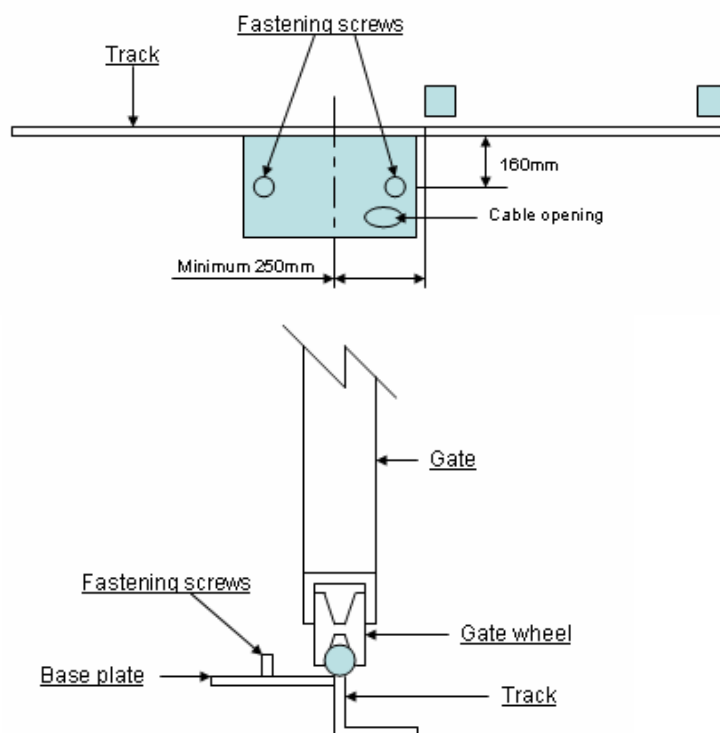
P.I.R.A.C. (Passive Infra-Red Access Control) facility.

Slowdown (Ramp down) facility.

Tamper facility, Anti-hijack/Alarm facility.

On board Receiver.

## **BASE PLATE MOUNTING INSTRUCTIONS**



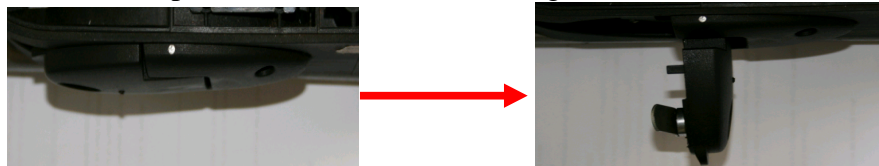
1. Assemble base plate by fastening M10x30 Hex set screws into base plate from under the base plate up and tightening into position.
2. Mount base plate with bolts 160mm from the centre of the gate track and centre of base plate a minimum of 250mm away from the gate opening.
3. Secure the base plate 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 secured.
7. **NOTE** – For **SAFETY** reasons, **ALL** motors should 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.

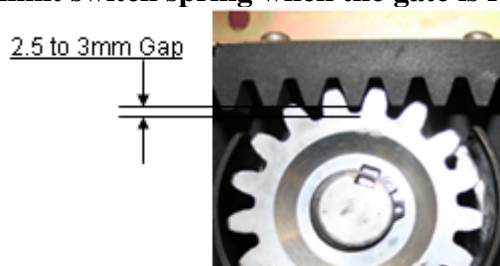


2. The gate can now be opened and closed manually.

## 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.**



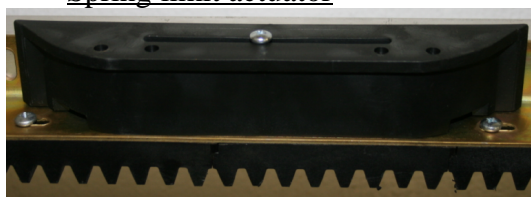
## Limit switch actuator mounting instructions

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. Setting the gate close actuator – 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. Setting the gate open actuator – 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.

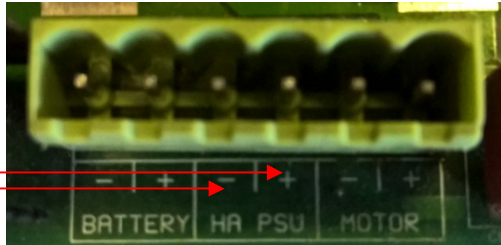
## POWER CONNECTIONS

### High access power supply unit – 220V at motor. ( DTS600, 120VA has a 2 Amp fuse)

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.) HA PSU connection on PCB.

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

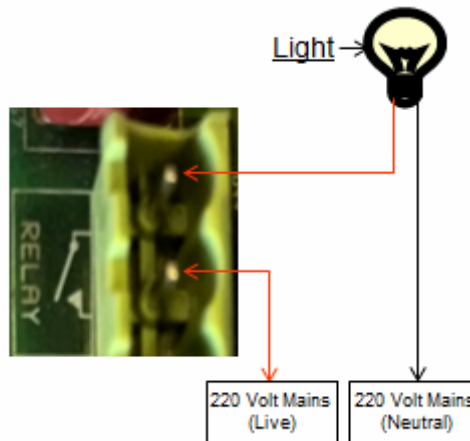


### DO NOT CONNECT 220V DIRECTLY TO PCB

### 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 1Meter FROM MOTOR.

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

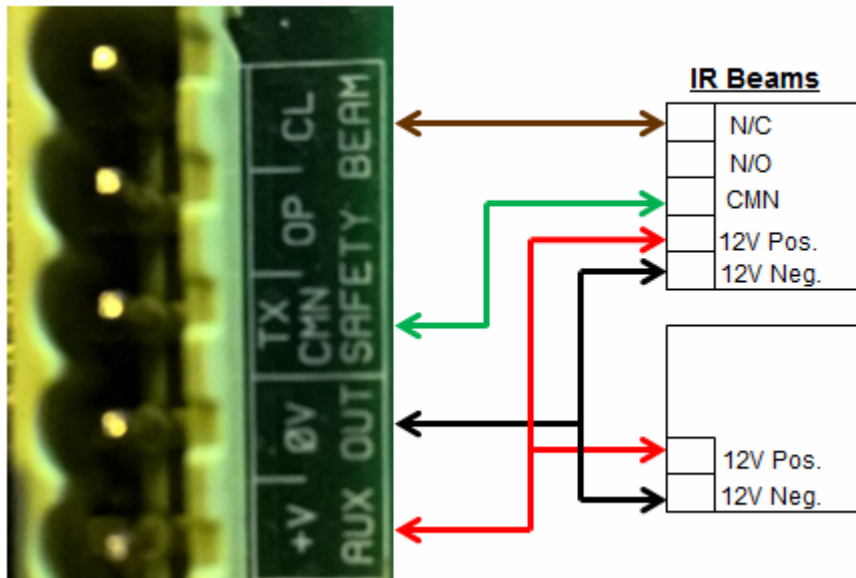


Please note that the Amps usage on the courtesy lights must not exceed 10Amps.  
(If this facility is not being used, it can then be utilized as a tamper alarm facility, see page 10).

### 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.

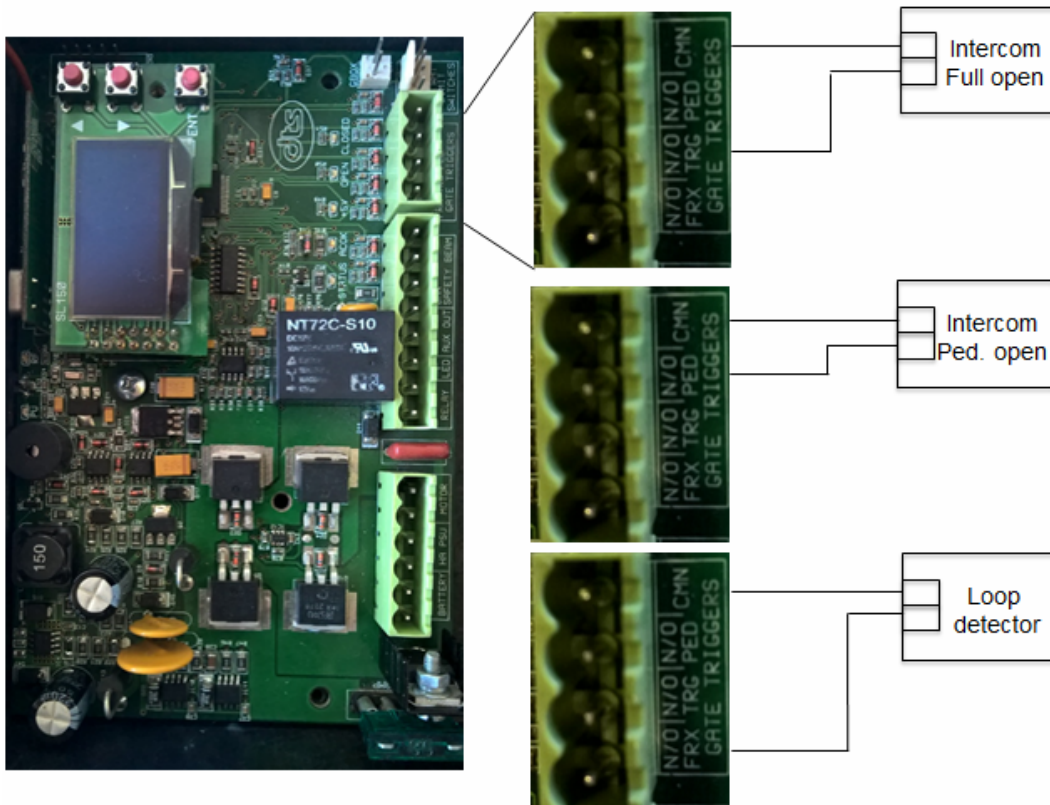
## Diagram to connect IR Beams to PCB



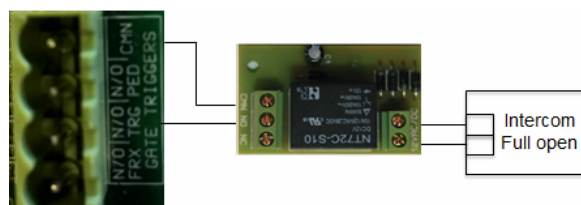
Note: If SENTRY beams are fitted, then BEAM, CL on the PCB must be connected to N/O on the beam (CL = N/C and OP = N/O)

**Note:** - If no beams are connected, CL and TX CMN on the PCB by the Safety beams MUST be bridged.  
**Also NOTE-** IR beams must be fitted if a DTS600 motor is installed.

## Diagrams for gate open triggers



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



## PROGRAMMING

### 1 – Run Time (Calibrating) Setup (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.



- Pull the gate in any direction until the gear locks in.

- NOTE:**
- 1) If gate opens first, motor direction is incorrectly selected.
  - 2) Gate will automatically calibrate every time the power is restored after a total power failure.
  - 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.

On power up screen display will bring up Close L or Close R. This must be changed to suit the site by pressing ENT. Scroll down to MENU BACK and Press ENT to exit.

The motor direction can also be done from a black screen pressing the ENT button twice, the Screen will display the following: - TEST MODE, SETTINGS, PROFILES, REMOTES, RUN STATUS and GEN STATUS.

In **TEST MODE** press ENT button. Screen will display the following: - TRIG GATE and AUTOSET.

#### 1 – Trig Gate

- Press ENT button to trigger Gate to open or close.
- Press ENT button to exit.

#### 2 – AUTOSET

- Press ENT button to start calibration of gate motor.
  - Press ENT button to exit.
- 

From TEST MODE, scroll down to **SETTINGS** and press ENT. Screen will display:- DIRECTION, AUTOCLOSE, CONDO, PIRAC, PEDESTRIAN, AUX RELAY & DISPLAY.

#### 1 – Direction

- Press ENT button.
- Now select Close L (Left) or Close R (Right) by using the ENT button.
- Scroll down to MENU BACK and Press ENT to exit.

#### 2 – Auto close (Default, 10 seconds) (Infra-red beams must be fitted if auto close is activated).

- From TEST MODE, scroll down to **SETTINGS** and press ENT.
- Scroll down to AUTO CLOSE and press ENT.
- Select ON or OFF by using the ENT button.
- If ON, scroll down to Sec=, press the ENT button and an arrow will appear next to the Sec=.



- By using the Up or Down arrow buttons, select the time in seconds required.
- Min. 1 second to Max. 179 seconds
- Press ENT button on desired seconds.
- Scroll down to MENU BACK and press ENT button twice to exit.

### 3 – **Condo Mode**

- To select condominium mode.
- From TEST MODE, scroll down to SETTINGS and press ENT.
- Scroll down to CONDO MODE and press ENT.
- Now select ON or OFF by pressing the ENT button.
- Note: if Condo is selected, IR CLOSE beams is then enabled.
- Once selected, scroll down to MENU EXIT and press ENT to exit.

### 4 – **Pirac Mode**

- To select condominium mode.
- From TEST MODE, scroll down to SETTINGS and press ENT.
- Scroll down to PIRAC MODE and press ENT.
- Now select ON or OFF by pressing the ENT button.
- Once selected, scroll down to MENU EXIT and press ENT to exit.

### 5 – **Pedestrian Opening** (Default, 1 meter / 5 seconds auto close)

- From TEST MODE, scroll down to SETTINGS and press ENT.
- Scroll down until you get to PEDESTRIAN and press ENT.
- Press ENT button and an arrow will appear next to Sec=.
- By using the Up or Down arrow buttons, select the time in seconds required.
- Min. 1 second to Max. 179 seconds
- Press ENT button on desired seconds.
- Scroll down to Mtr=.
- Press ENT button and an arrow will appear next to Mtr=.
- By using the Up or Down arrow buttons, select the opening distance required.
- Press ENT button on desired distance.
- Scroll down to MENU BACK and press ENT twice to exit.

### 6 – **Auxiliary Relay** (Default, Gate light)

- From TEST MODE, scroll down to SETTINGS and press ENT.
- Scroll down until you get to AUX RELAY and press ENT.
- By pressing ENT button, select REMOTE RELY, GATE LIGHT, GATE FLASH or ALARM MODE.

#### A) **Remote Relay**

Scroll down to MENU EXIT and press ENT to exit.

The remote/transmitter that is programmed into the Remote Relay will now trigger the unit that is connected to the PCB relay output.

#### B) **Gate Light**

Scroll down to MENU EXIT and press ENT to exit.

The lights that are connected to the PCB relay output will go on for 3 minutes once the gate has been triggered to open. The lights will remain ON for 3 minutes after the last trigger even if the gate has closed or go OFF after 3 minutes even if the gate is still open.

#### C) **Gate Flash**

Scroll down to MENU EXIT and press ENT to exit.

The same as above will happen except that the light will FLASH instead of staying ON.



#### **D) Alarm Mode**

Scroll down one level and select by pressing the ENT button ALARM OFF, CONTINUOUS, TIMED MODE or PULSE MODE.

- 1) Alarm OFF  
The alarm facility connected to the PCB relay output will not be active.
- 2) Continuous  
The alarm facility connected to the PCB relay output will give a continuous alarm/siren output when the alarm is triggered.
- 3) Timed mode  
The alarm facility connected to the PCB relay output will give a 3 minute alarm/siren output when the alarm is triggered.
- 4) Pulse mode  
The alarm facility connected to the PCB relay output will give a 1 second pulse alarm/siren output when the alarm is triggered.

On all the above, scroll down to MENU EXIT and press ENT to exit.

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From TEST MODE, scroll down to **PROFILES** and press ENT. Screen will display:- CUSTOMS, HI ACCESS or DOMESTIC & 100-400Kg or 400-700Kg or 700-1000Kg.

#### **1 – Customs, press ENT button.**

Scroll and select either, SPEED Mmin, Acc/Dec mm, LOAD=, COLL=, SBEAM and press ENT button.

##### a) SPEED

- Press ENT and start to select the following:-
- OPEN=, press ENT and an arrow will appear next to OPEN=.
- Select speed from Min. 8 M/min. to Max. 28 M/min with UP & Down buttons.
- Press ENT button on desired speed.
- Scroll down to CLOSE=, press ENT and select desired speed as above (Close Min. speed cannot be greater than Open Min. speed)
- Press ENT button on desired speed.
- Scroll down to CREEP=, press ENT button and an arrow will appear next to CREEP=.
- Select creep speed from Min. 1.5M/min to Max. 4M/min.
- Press ENT button on desired speed.
- Scroll down to CAL and press ENT button, an arrow will appear next to CAL.
- Select calibrating speed from Min. 5 M/min to Max. 8M/min.
- Press ENT button on desired speed.
- Scroll down to MENU BACK and press ENT three times to exit.

##### b) Acc/Dec

- Press ENT and start to select the following:-
- ACC= (Accelerating distance in mm) press ENT and an arrow will appear next to ACC=.
- Select the distance from Min. 50MM to Max. 500mm
- Press ENT button on desired distance.
- Scroll down to DEC= and press ENT and an arrow will appear next to DEC=.
- Select with UP or Down buttons the required distance from Min. 300MM to Max. 990mm.
- Press ENT button on desired distance.
- Scroll down to NORM CLOSE or POS CLOSE (Presently not in use), press ENT to select the required CLOSE. (Select at present only **NORM CLOSE**)
  - a) Norm Close, Gate must not bump in close or open position. (+- 15 – 20 mm Gap)

- b) Pos Close, Gate will close hard on end stopper and release automatically in the gearbox. (No movement will be visible on the gate)
- From desired selection, scroll down to MENU BACK and press ENT button three times.

c) LOAD=

- Press ENT button and an arrow will appear next to LOAD=.
- Select with UP or Down buttons the required % from Min. 20% to Max. 100%.
- Press ENT button on desired %.

d) COLL=

- Press ENT and an arrow will appear next to COLL=.
- Select with UP or Down buttons the required % from Min. 15% to Max. 100%.
- Press ENT button on desired %.

e) SBEAM NORM, SBEAM TEST

- Select either, No IR Beam, IRClose (normal w/o test), IR Close+T (with test before closing), IR CL+OP (normal closing + opening beams) or IR CL+OP+T (closing + opening beams with test)
- Scroll down to MENU BACK when selection was made.
- Press ENT button twice to exit.

**2 - HI ACCESS or DOMESTIC (Generally select HI ACCESS)**

- Select Hi Access or Domestic by pressing the ENT button.
- Press ENT button to exit.
- **Note:** If High Access is selected then:- (PIRAC, CONDO & Auto close will be ON)  
If Domestic is selected then: - (PIRAC, CONDO & Auto close will be OFF)  
On both of the above - PIRAC, CONDO & Auto close can still be change as required.

**3 - 100-400Kg or 400-700Kg or 700-1000Kg (Force requirement) (Generally select, 400-700KG)**

- Select the required Kg gate weight by pressing the ENT button.
- Press ENT button to exit.

From TEST MODE, scroll down to REMOTES and press ENT. Screen will display:-  
LRN GATE, LRN PED, LRN RELAY, LRN MASTER, DELETE and DELETE ALL.  
Select required function and press ENT button.

**1 - Lrn Gate (Full open trigger)**

- Once you have pressed the ENT button.
- Enter key P1 will appear with some blocks below the time out period to press and release your transmitter button.
- If the remote is successfully accepted, P2 will appear.
- Press and release the transmitter button again.
- The display will indicate which location the transmitter was saved in.
- Press MENU with ENT button back to exit.
- Should the display indicate Learn failed, Press on MENU BACK the ENT button and start again.

**2 – Lrn Ped (Pedestrian trigger)**

- Follow the same steps as for LRN GATE.

**3 – Lrn Relay (Will trigger item connected to relay output on PCB)**

- Follow the same steps as for LRN GATE.

#### 4 – Lrn Master

- Follow the same steps as for Lrn Gate.

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#### Remote Programming using Master Remote (Gate must be in the close position)

- Press the master remote button, buzzer will emit a continuous beep for 5 seconds.
- During that 5 seconds, press the new remote button. Continuous beep changes to rapid beeps for 5 seconds.
- During that 5 seconds, press the same remote button again to validate the remote.
- Successful programming will be acknowledged by 2 or 3 beeps.
- If 3 x 100ms beeps are emitted on the pressing of the master remote, gate is not in the close position.
- If 1 x 2 second beep emits on pressing the remote button, RX memory is full. (Max. 500)
- If 4 x 100ms beeps are emitted on pressing the remote button, remote is already in memory.
- If new remote validation failed, rapid beeping will stop without the acknowledged 2 or 3 beeps being emitted.

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#### 5 – Delete

- Once you have pressed the ENT button.
- Press the transmitter button that you want to delete.
- The transmitter location will appear next to LOC=, EG LOC=4.
- Press the ENT button and that remote will show as delete.
- If the transmitter is not available but the number is known.
- Scroll down to LOC= and press ENT button.
- An arrow will appear next to LOC=.
- Use the UP or Down buttons to select the required transmitter button.
- Press the ENT button and scroll up to DELETE.
- Press the ENT button and that transmitter number will be indicated as deleted.
- Press ENT on MENU BACK to exit.

#### 6 – Delete All (Master erase)

- Once you have pressed the ENT button.
- Scroll to select YES or NO and press the ENT button.
- If No was selected, the display will go back to Main Menu.
- If YES was selected, the system will delete ALL possible 500 transmitters.

---

From TEST MODE, scroll down to RUN STATUS and press ENT. Screen will display:-  
TR (Triggered by EG. transmitter.)  
LS (Open or Close limit switch)  
MAINS ON or OFF  
BATT (Whatever the battery voltage is, EG 12.2V)  
Press ENT to exit.

---

From TEST MODE, scroll down to GEN STATUS and press ENT. Screen will display:-  
ER (Flashing Error number and Description of error)  
OP (Number of Operations)  
OL (Number of Overloads)  
PU (Number of times unit was powered up)  
Press ENT to exit.

## ELECTRONICS

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 volt. Gate will then remain closed (Open if condominium mode is selected). 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. **Motor direction change.**  
By selecting the correct closing direction the motor direction and the limit wires are changed automatically.
3. **Auto close.** (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 4 sec. (The control card will give 1 long beep to confirm the override) To reactivate the auto close, press and release the transmitter or manual push button.
4. **Condominium/free exit loop.**  
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).** 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 overridden in condominium mode. (No party mode).** If main power fails, the motor will still operate until battery reaches 9.5 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)**  
With P.I.R.A.C mode activated, if the gate is its opening cycle and the IR beam is activated the gate will stop and close immediately after the IR beam is clear.  
**(This will happen even if auto close has not been selected).**  
**(Be aware of this factor should a trailer be in tow!!!!)**
6. **Slowdown**  
This distance is programmed on the display.

**NOTE** – 800mm slow down distance is recommended if the limit is continuously being overrun.

## 7. Tamper Alarm Facility.

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

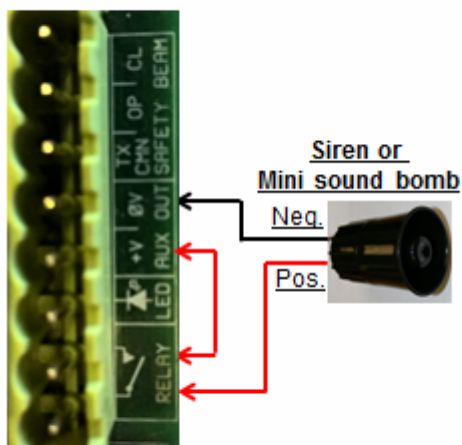
If latch mode is configured, the relay will switch every 3 minutes until the alarm is restored.

If impulse mode is configured, the relay will trigger only once.

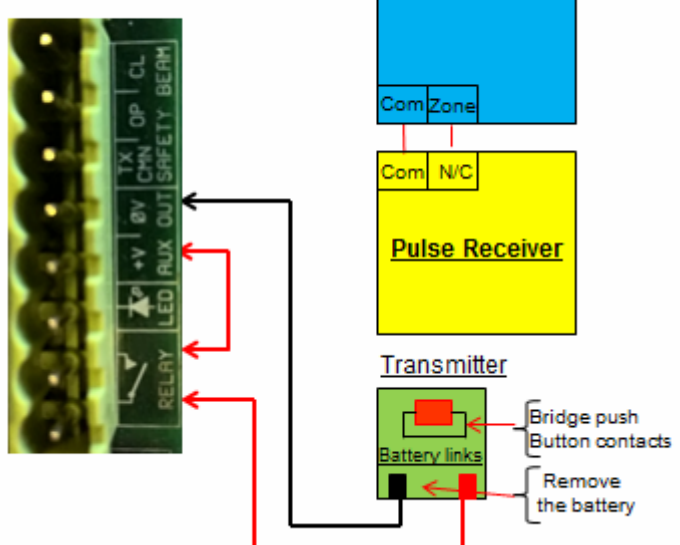
Any valid gate or pedestrian input trigger will cancel the tamper alarm which will automatically re-arm once the gate is again in the close position.

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. Anti-hijack/Alarm.

- 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.
- If the gate should be forced or moved from the close limit in any way without receiving a valid trigger. The alarm will be activated.
- Should the gate be tightened up in any manner and therefore on trigger cannot move or cannot move more than 150mm. The alarm will be activated.

## **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. or 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 (25amp).  
- Check motor brushes and armature.  
- PCB reader not picking up Magnet on motor.
- Five 1 second beeps - Holiday lockout mode has been de-activated.
- Twenty 100ms beeps - Motor has stalled or overloaded, then check the following points:
  - 1) Gate pulling force (should not exceed 15kg)
  - 2) Load pot is set too low (Turn pot completely clockwise)
  - 3) Battery voltage under load (Should not drop more than 1 volt)
  - 4) Gearbox gearwheel.

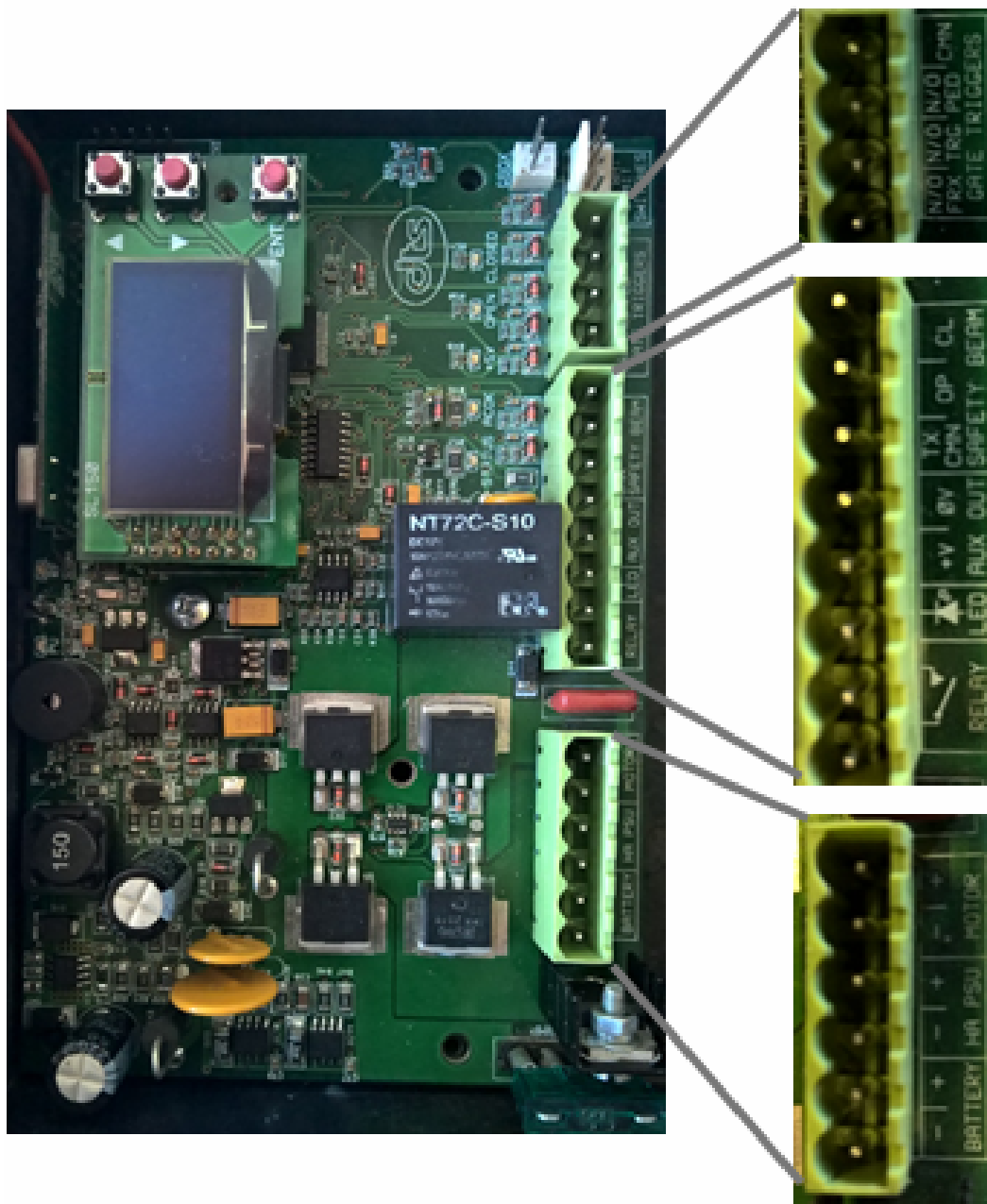
## **List of LED indications.**

- 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, <11VDC).
- LED flashes 1 slow/2 fast continuously. (NO 220 VAC power present).

### **FOR SAFETY REASONS.**

**Infra red beams are recommended for  
all gate motor installations.**

## PCB Control card.



**NOTE:** If no beams are fitted, CL and TX CMN on the PCB by the Safety beams MUST be bridged.

**Note:** 1) The 12V OUT on the 600 PCB is a regulated voltage up to 12Volt DC.

2) Please ensure that the auxiliaries connected to the 12 volt auxiliary output do not exceed 500 m/Amps in total. (If so, remove from aux. output and connect directly to battery)



## TROUBLESHOOTING

| SYMPTOMS   | CAUSES   | ACTION  |
|--|--|---|
| <p><b>When pressing the remote transmitter or manual push button the gate operator will not respond at all.</b></p> <p><b>When pressing the remote transmitter the PCB gives 3 beeps and does not move but the 12v 7AH battery is OK.</b></p> <p><b>PCB responds but gate will not open.</b></p> <p><b>PCB responds by giving 4 very quick 100ms beeps but will not open.</b></p> <p><b>PCB responds by giving 4 200ms beeps but no movement.</b></p> <p><b>Charge rate drops to +-7 volt.</b></p> | <p>Transmitter battery flat.</p> <p>Transmitter or manual push button is physically damaged.</p> <p>Transmitter has not been programmed into the receiver memory or manual push button is not connected to the PCB or push button.</p> <p>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.</p> <p>Condominium /loop option is not activated and the battery has reached its low level (9.5Volt).</p> <p>Motor is in holiday lockout. <b>(DO NOT do a Factory Default)</b></p> <p>Motor/Load fuse is faulty or motor brushes not making contact with armature.</p> <p>12 Volt aux. output of 500m/Amps have been exceeded.</p> | <p>Replace transmitter battery.</p> <p>Check with supplier.</p> <p>Follow the receiver setup instructions.<br/>Check wiring between PCB and push button.</p> <p>Replace the reed switch and or the magnet. (For short term solution, bridge out the two pins on the PCB where the read switch wires should go).</p> <p>Check the household main supply, the transformer or Power Supply Unit and all related cabling.</p> <p>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.</p> <p>Replace fuse. (Fast blow fuse).<br/>Repair or replace (if shorter than 7mm) motor brushes.</p> <p>Remove some of the auxiliaries. (Can connect them to the battery directly)</p> |
| <p><b>On opening the unit gives two 2 beeps while opening but not on closing.</b></p>  | <p>The primary supply has failed and the unit is running on battery reserve.</p>   | <p>Check the household main supply, the AC transformer or DC Power Supply Unit and all related cabling.</p>   |

|   |   |   |
|---|---|---|
| <p><b>The gate opens but will not close.</b></p>  | <p>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 Volt).</p> <p>Safety infra-red beams are obstructed or the beams equipment/cabling are faulty or incorrectly wired.</p> | <p>Check the household main supply, the transformer or PSU and all related cabling.</p> <p>Clear obstruction, repair or replace safety infra-red beams equipment/cable, fix incorrect wiring connections.</p>   |
| <p><b>The gate when closing stops and reverses or when opening stops.</b></p> <p><b>OR</b></p> <p><b>Gate runs a short distance and stops.</b></p>  | <p>The unit is sensing an obstruction</p> <p>The infra-red beam has been triggered.</p> <p>Another trigger has been received by the control card.</p> <p>Encoder is faulty.</p>   | <p>Clear obstruction or adjust load sensing.</p> <p>Clear obstruction.</p> <p>Check with other operators on the system.</p> <p>Turn ring magnet on the motor by hand: if no activity on the encoder LED, contact supplier. (Check that the PCB is fitted correctly)</p> |
| <p><b>Gate does not remain open.</b></p>  | <p>Auto close has been activated.</p> <p>Another user has triggered the unit.</p> <p>Condominium/loop and or Pirac mode has been activated. (Dipswitch 4 or 5)</p>  | <p>De-activate auto close or use auto close override.</p> <p>Check with other operators on the system.</p> <p>De-activate condominium / loop mode and or Pirac mode.</p>  |
| <p><b>When the beam input is triggered, the gate stops and closes during opening cycles.</b></p> <p><b>When the gate auto opens.</b></p> <p><b>If the gate on programming does not run in slow speed.</b></p> | <p>P.I.R.A.C. mode, Dipswitch 5 has been activated.</p> <p>The motor direction is incorrectly selected.</p> <p>The MOS-FET on the PCB is blown or faulty.</p>   | <p>De-activate P.I.R.A.C. mode</p> <p>Select Dipswitch 2 correctly.</p> <p>Replace the PCB.</p>   |

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

## **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 month warranty.  
(Remote batteries are consumables and therefore carry NO 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.**