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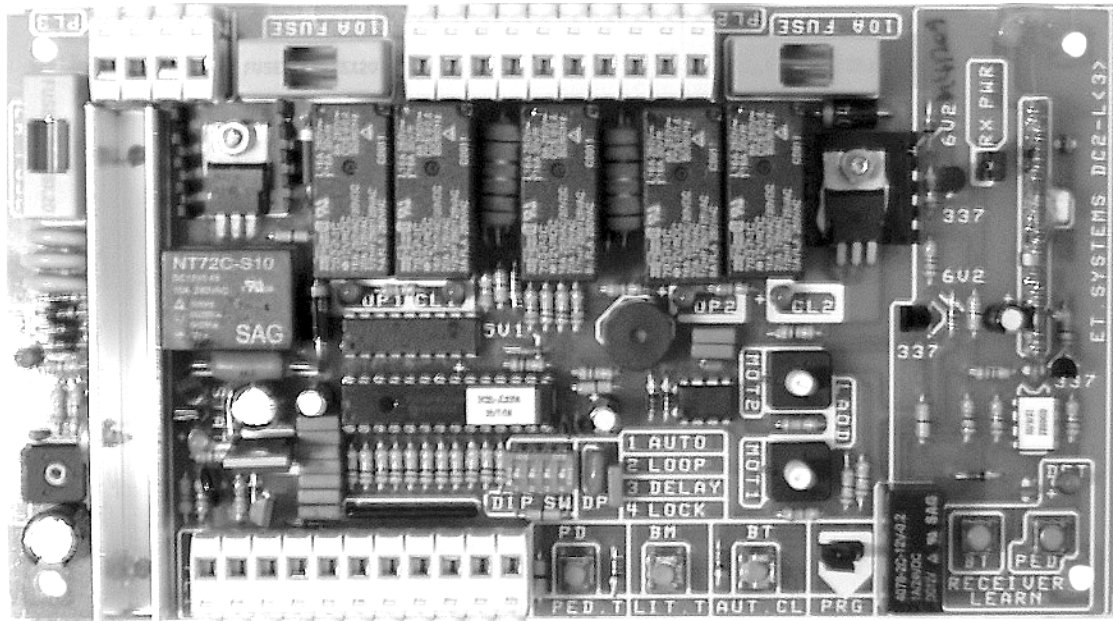


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Take Control Of Your World !

## DC2-L CONTROL CARD



### FEATURES

- Adjustable load sensing for obstruction.
- Infra-red beam obstruction input
- Onboard multitask learning receiver:
  - gate opening control from transmitter
  - pedestrian opening control from upgradeable button transmitter
  - courtesy light control from upgradeable button transmitter
- Onboard buttons for all input controls for convenient setup.
- Onboard indication LED's for:
  - Gate status
  - Charger
  - Receiver
  - All programming inputs
- Onboard 800mA battery charger
- Audible BATTERY LOW indication
- Selectable and programmable AUTO CLOSE TIME.
- Selectable and programmable DELAY OPENING on second gate.
- Pedestrian gate control with programmable gate opening distance and auto close time.
- Lock or Courtesy light relay output and programmable ON/OFF time.
- FET control for NON RELAY contact burn out.
- Operation from a power pack (PSU2) and TRUE BATTERY BACKUP for high usage or for domestic with a battery and a plug in charge transformer (PSU1).
- Electrical spike protection.

# **CONTROL CARD INSTALLATION** **PROCEDURE**

(Refer to “DC2-L SWING MOTOR CONTROL CARD WIRING DIAGRAM”  
pages 6 & 7)

## **A. LIMIT SWITCH CONNECTION – normal open limit (N/O)**

- **MASTER MOTOR (M1)** : OPENING limit to PL1 Pin OP (M1)  
COMMON to Pin CM, CLOSING limit to Pin CL (M1).
- **SLAVE MOTOR (M2)**: OPENING limit to PL1 Pin OP (M2),  
COMMON to Pin CM, CLOSING limit to Pin CL (M2).

## **B. 12V DC MOTOR CONNECTION**

- MASTER MOTOR 1: to PL2, 2 Pins M1 (MOT)
- SLAVE MOTOR 2: to PL2, 2 Pins M2 (MOT)

## **C. PEDESTRIAN OPENING CONNECTION**

- Normal open SPRING RELEASE KEY SWITCH, KEYPAD OR INTERCOM button connected to PL1 Pin PD and common to Pin CM.

## **D. INFRA RED BEAM CONNECTION**

- The infra red beam prevents the gate hitting an object in its path.
- When the gate is closing, breaking the beam will make the gate stop, then open.
- The beam (N/O) contacts: to PL1 Pin BM and Pin CM
- 12V DC supply for beams from PL2 Pin + (AUX) and Pin – (AUX)

## **E. MAGNETIC FREE EXIT LOOP DETECTOR CONNECTION-**

- The loop detector can be used by vehicles to trigger the gate to open for complexes.
- The control card must be set on condominium mode.
- The loop (N/O) contacts: to PL1 Pin BT and Pin CM
- 12V DC supply for loop from PL2 Pin + (AUX) and Pin – (AUX).

## **F. GATE STATUS INDICATION**

- There is an on board (STAT) GREEN STATUS LED and a connection for an external LED to the house.
- LED anode to PL1 Pin + (LED) and Pin – (LED)

<b>GREEN LED INDICATOR</b>	
<b>ON</b>	<b>GATE OPEN</b>
<b>OFF</b>	<b>GATE CLOSED</b>
<b>FLASHING SLOW</b>	<b>GATE MOVING</b>
<b>FLASHING FAST</b>	<b>GATE STOPPED/OBSTRUCTED</b>

### **G.1 COURTESY LIGHT CONNECTION**

- The courtesy light relay will switch on automatically, timed from when the gate is opened and for a period after the gate is closed.
- The relay (N/O) contacts are used to switch the neutral for the 220V AC mains to the light bulb.
- Relay (N/O) contacts from PL3 Pin NO (LITE) and PL3 Pin C (LITE)

#### **CAUTION – LIVE MAINS!!**

*Make sure mains are off before connections are made to control card*

### **G.2 LOCK RELAY CONNECTION (DIP 4 ON)**

- Instead of the relay operating a light, with dip switch 4 on it will control a electric lock which will release momentary before and after the motors turn.
- The relay (N/O) contacts are used to switch power to the lock

### **H. BATTERY CONNECTION**

- 12V/7 AHR BATTERY +POS to PL2 Pin + (BAT) and – NEG to Pin – (BAT)

#### **NB!!**

*When card is powered up for the first time, buzzer will beep a few times. Thereafter, if it beeps while opening both gates, the battery is flat.*

### **I. PLUG IN TRANSFORMER CONNECTION**

- Used in DOMESTIC APPLICATIONS, then DO NOT USE POWER PACK.
- The transformer (PSU1) is plugged into nearest powerpoint and 16VAC is run in conduit to the gate motor.
- 16VAC/1AMP supply connected to PL3 Pin ~ (16VAC) and Pin ~ (16VAC)

### **J. CHANGING RADIO RECEIVER**

- If another make of radio receiver needs to be installed, the built-in receiver can be deactivated by removing the RX power jumper.
- The new receiver pulse N/O contact must be connected to PL1 Pin BT and Pin CM Power for the receiver from PL2 Pin+ (AUX) and Pin – (AUX)

### **K. POWER PACK CONNECTIONS**

- Used in high usage gates such as complexes.
- Mains need to be supplied to the gate motor
- Mains 220V AC must be connected to the 220V AC POWERPACK INPUT (PSU2).
- The POWER PACK OUTPUT 18VDC/18AMP is connected to positive PL2 Pin + (18V) and negative Pin – (18V).

#### **CAUTION!**

*High DC current and mains voltage. Be sure connections are correct BEFORE switching on.*

# CONTROL CARD PROGRAMMING AND SET-UP

**NB!**  
*Both gates must be set up on limits and CLOSED before programming can be done*

DIP SWITCH SETTING (DP)	
1	ON = AUTOCLOSE
2	ON = FREE EXIT/CONDOMINIUM MODE
3	ON = ONE GATE DELAYED ON OPENING
4	ON = LIGHT RELAY BECOMES LOCK RELAY

## 1. AUTOCLOSE

- Both gates must be on CLOSED LIMITS.
- Switch dipswitch (DP) (AUTO CL) ON.
- Place (PRG) jumper across two pins: buzzer will beep twice.
- Press and hold (BT-AUT.CL) button for required AUTO CLOSE TIME, buzzer will beep every second. When time reached release (BT-AUT.CL) button, buzzer will give one long beep plus one short beep.
- Remove (PRG) jumper. (To remove AUTOCLOSE: switch dipswitch 1 OFF)

**NB!**  
*Autoclose should only be used with an infra-red beam for safety, so the gate does not autoclose onto an object unsupervised.*

## 2. CURRENT LOAD ADJUSTMENT FOR MASTER & SLAVE MOTORS

- The current adjustment is for setting the sensitivity of the obstruction sensing.
- When a gate senses an obstruction on closing, both gates will stop and automatically open.
- When a gate senses an obstruction on opening, both gates will stop and stay triggered by button or remote.
- Turn the LOAD POT (LOAD MOT1) master and (LOAD MOT2) slave clockwise, to increase the force of gate before sensing obstruction.

**NB!**  
*It is not recommended to set the sensitivity too fine.*

### 3. CONDOMINIUM/FREE EXIT LOOP MODE

- Switch DIPSWITCH 2 (DP) (LOOP) ON.
- This mode is used for multiple user dwellings and its function is to prevent another user operating the gate while one user is in the process of driving through the gate.
- The gate can only be triggered to open by remote, button or free exit loop.

**NB!**

*An infra-red beam must be used in this mode as autoclose is active.*

### 4. RUN TIME

- Run time is fixed at 25 seconds.

### 5. PEDESTRIAN OPENING

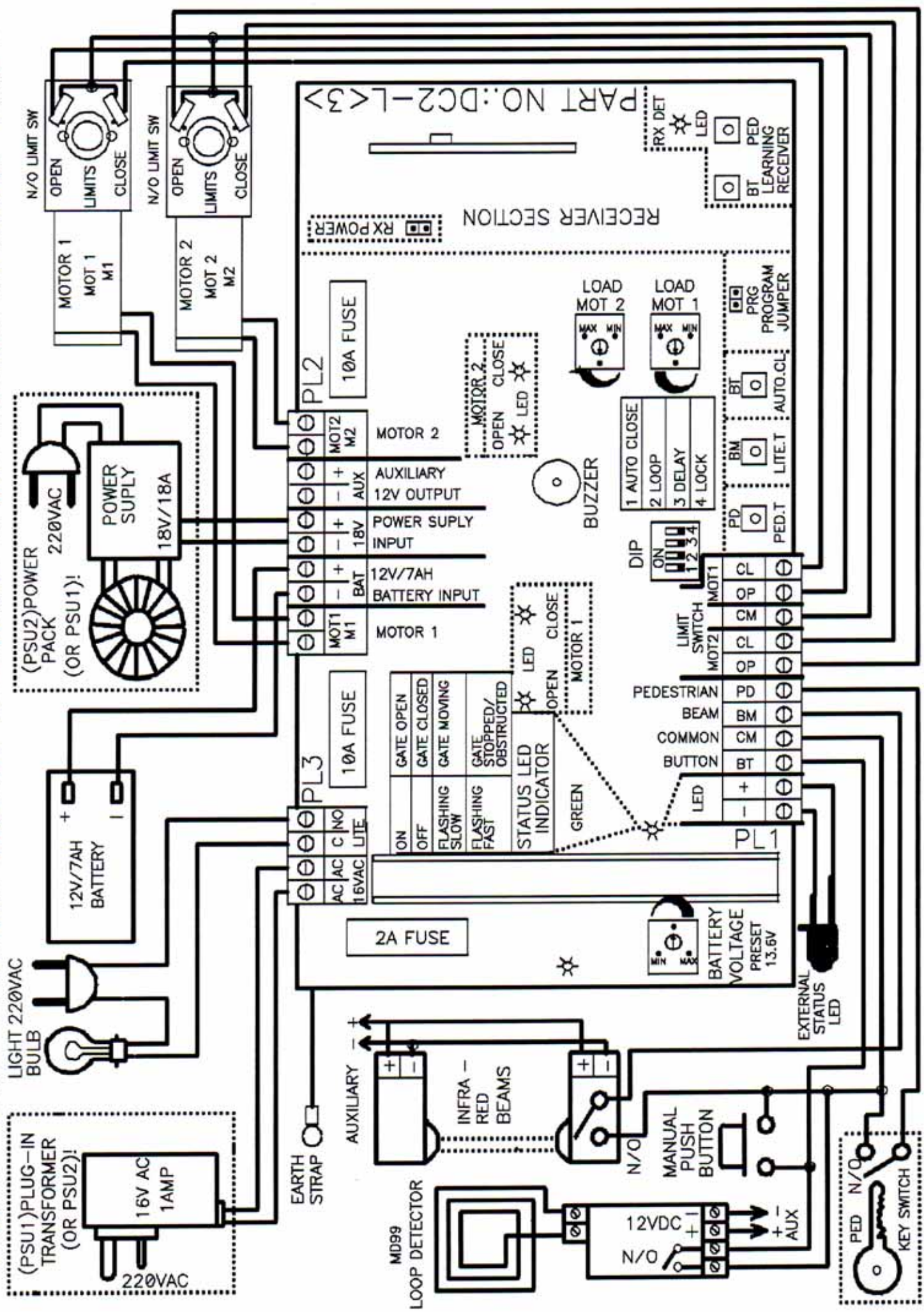
- Both gates must be closed on CLOSED LIMITS.
- Place (PRG) jumper across two pins: buzzer will beep twice.
- Press and hold (PD-PED.T) button: Gate (MOT1) MASTER will OPEN, release (PD-PED.T) button at required opening distance, buzzer starts to beep for autoclose time, each beep = one second. When required autoclose time reached, press (PD-PED.T) button: gate will CLOSE onto close limit and buzzer will give one long beep.
- Remove (PRG) jumper.

### 6. DELAY TIME

- Both gates must be on CLOSED LIMITS
- Used for gates with overlap flap or where one gate opens wider than the other.
- Gates must be closed on limits.
- Switch DIPSWITCH 1 (DP) OFF (if autoclose is learnt)
- Switch DIPSWITCH 3 (DP) ON (Delay dipswitch)
- Press and hold (BT-AUT.CL) button for required DELAY TIME, buzzer will beep every second. When time reached, release (BT-AUT.CL) button: buzzer will give one long beep.
- Remove (PRG) jumper. (To remove delay time: switch dipswitch 3 OFF)

### 7. LIGHT RELAY ON/OFF TIME

- Both gates must be on CLOSED LIMITS
- Place (PRG) jumper across two pins: buzzer will beep twice.
- Press & hold (BM-LITE.T) button for required 'ON' time, buzzer will beep every second. When time reached, release (BM-LITE.T) button: buzzer will give one long beep.
- Remove (PRG) jumper.



PART NO.: DC2-L<3>

## 8. RECEIVER SETUP

- The on board learning receiver has 3 functions built in: GATE OPENING, PEDESTRIAN OPENING AND LIGHT RELAY CONTROL
- A TX1 can control GATE OPENING, or TX2 can control GATE and PEDESTRIAN OPENING, or TX3 can control GATE, PEDESTRIAN and the THIRD RED BUTTON can control the LIGHT RELAY.
- Code a transmitter with a personal code 1 to 7, leave 8, 9 on '0'.
- To learn the transmitter codes into the receiver:
- **FOR BOTH GATE OPENING:** Press and hold TX1 RED or TX2, TX3 BLUE OR GREEN BUTTON, then press control card (BT-RECEIVER LEARN) button – (RX DET) LED will come on.
- **FOR SINGLE PEDESTRIAN GATE OPENING:** Press and hold any one of the other buttons not used, then press control card (PED-RECEIVER LEARN) button (RX DET) LED will come on.
- **THE LIGHT RELAY CONTROL :** Press & hold any one of the other buttons not used, then press control card (BT & PED RECEIVER LEARN) button – (RX DET) LED will come on.

## FAULT FINDING THE DC2L CONTROL CARD

SYMPTOM	CAUSE	ACTION
Gate does not operate when the button or transmitter is pressed,	Control board battery flat. AC power light off.  Transmitter & control board receiver codes are not the same.  Motor wires not connected to control card.  Motor fuse blown.  Control card faulty.	Reconnect transformer and allow battery to charge for 6 – 8 hours. For powerpack version reconnect mains.  Correct the code on either the receiver or transmitter.  Connect motor wires.  Replace fuse.  Contact Supplier
Gate does not operate when the button or transmitter is pressed even though the battery is fully charged.	Control board battery has gone completely flat +/-2 volts and then allowed to charge again. Control board locked up.	Press button on board to reset microprocessor or remove both 12V DC and 16V AC power for +/- 10 sec and reconnect.
Gate does not operate when transmitter is pressed even though the coded detect LED on the control lights up.	Button input on control card is shorted out.	Remove short from button input, either from external button or intercom button.
Gate motor control board beeps when button or transmitter is pressed.	Battery is going flat. (Battery versions only)	Allow battery to charge 2-3 hours.
Gate swings a short distance then stops and beeps.	Battery is going flat (Battery versions only)	Allow battery to charge 2-3 hours.
Gate opens a short distance then stops.	Gate motor load current control set is too sensitive.  Pedestrian key permanently activated.	Disengage gate from motor and test that gate is running smoothly then adjust load control.  Check pedestrian key and make sure the contact is open.
Gate opens but does not close after button or transmitter has been pressed.	Gate jammed open. Close limit jammed. Control card set to condominium.	Unjam or replace limit switch. Switch dipswitch 2 off.
Gate opens but does not autoclose.	Autoclose not set.  Gate motor beam input activated.  Gate stopped on obstruction or open limit faulty.	Switch dipswitch 1 on and maybe learn autoclose.  Remove obstruction in front of the beam, or beam is incorrectly installed or faulty.  Gate will only autoclose from open limit. Remove obstruction or replace open limit.
Gate opens then autocloses.	Gate motor set up for autoclose.	Switch dip sw 1 + sw 2 off



Gate will not respond to the button or transmitter while opening.	Gate motor set on free exit loop mode.	Switch dip sw 2 off.
While closing , gate will stop and open after button or transmitter is pressed.	Gate motor set on free exit loop mode.	Switch dip sw 2 off.
Gate travels in the wrong direction when opening or closing but does not stop on limit switches.	Motor & limit switch wires incorrect.	Change motor and limit switch wires around.
Gate travels in the right direction when opening or closing but does not stop on limit switches.	Limit switch wired incorrectly or broken.  Limit switch broken.	Correct wiring or replace.  Replace limit switch
Not enough range from remote control.	Transmitter battery flat.  Built in receiver interference from surrounding installation.  Radio interference.  Receiver on gate motor control card, low sensitivity.	Replace transmitter battery.  Mount ET-RX1L external receiver as high as possible on post. Remove card RX power jumper.  Return transmitters and control card to change frequency.  Make sure aerial is not bent down on control board.
Gate motor 12V, 6.5 amp hour battery seems to go flat quickly. (Battery versions only)	Excessive traffic through gate.  Battery under or over charged.  Frequent mains power failures.  Over extended battery life.  Too much other electrical equipment connected to motor's auxiliary supply.	Consult supplier.  Consult supplier.  Consult electricity supplier.  Replace battery.  Connect separate power supply to other electrical equipment
One gate leaf opens before the other.	Delay opening has been setup.	Switch dip sw 3 off.
Gate opens with the transmitter or button pressed.	A neighbour has the same transmitter code.  The button is picking up inductive interference.	Change the code.  Connect an ET-RELAY board interface to isolate the interference.