SYMPTOM	CAUSE	ACTION
Gate opens then autocloses	Autoclose has been selected	Switch DIP 4 OFF
Autoclose time is too long	Programmed incorrectly	Reprogramme
Gate will not respond to the button or transmitter while opening	Gate motor set on free exit loop mode	Switch DIP 5 OFF
While closing, gate will stop and open after button or transmitter is pressed	Gate motor set on free exit loop mode	Switch DIP 5 OFF
Gate travels in the wrong direction when opening, closing or auto-opens	Motor wires incorrect	SWOP wires around
Gate travels in the right direction when opening or closing but does not stop on required opening position	Not programmed correctly Obstruction on track	Reprogramme learning gate running time Remove obstruction
Gate jams in the open or close position sometimes causing difficulty in manual releasing	Gate is travelling too far and is hitting the end stops	Make sure correct motor selected with DIP SW7. Reprogramme leaning gate running time, stopping gate before opening STOPPER
No range from remote control	Transmitter battery flat	Replace transmitter battery
	Transmitter off tune	Replace transmitter battery and is still no range return to supplier
	Receiver on gate motor control card low sensitivity	Make sure aerial is not bent down control board if okay, contact supplier
Gate motor 12 Volt, 6.5 amp hour battery seems to go flat quickly	Excessive traffic through gate	Consult supplier
	Battery under or over charged	Consult supplier
	Frequent mains power failures	Consult electricity supplier
	Over extended battery life	Replace battery

E.T. SYSTEMS

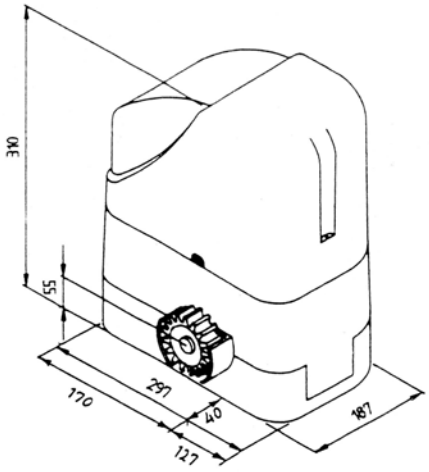
DC SLIDER MOTOR

LIMITLESS - ENCODER

The Italian TAU DC Limitless Geared Motor for sliding gates comes in two different versions:

1. **T5-DC** battery operated. Charging from separate 16V AC/1 Amp. transformer
2. **T5-ACDC** motor with battery backup

FIGURE 1



COMPARISON BETWEEN THE DC AND 220 VAC MOTORS

FEATURES	DC MOTOR	220 VAC MOTOR
Temperature	DC Motor does not get hot and can run continuously with a 18V DC derived from mains	AC Motor gets hot after a short time and cuts out
Power Failure	DC Motor can run from a battery or 18 V DC with true battery backup. So if mains fail the DC motor can run for the capacity of the battery	AC Motor stops with mains failure

TECHNICAL SPECIFICATIONS

FEATURES	T5-DC	T5-ACDC
Power supply voltage	12 VDC / 7AH	18 VDC/18 Amp + 12 VDC / 7AH
Current consumed	3.5A - 17A Max.	3.5A - 17A Max.
Gear reduction ratio	1/30	1/30
Pinion revolution	50 Rpm	70 Rpm / 50 Rpm batt.
Pinion sliding speed	11 m/min.	16m / min. - 11m / min batt.
Pinion pulling force (max. start)	32kg max.	32kg max.
Pinion pulling force (normal running)	< 10kg	< 10kg
Maximum gate weight	600kg	600kg

FAULT FINDING	12 VOLT ET / TAU SLIDER MOTOR KIT	
SYMPTOM	CAUSE	ACTION
Gate does not operate when the button or transmitter is pressed	Control board battery flat. AC power light off	Reconnect AC power and allow battery to charge for 6 - 8 hours
	Transmitter and control board receiver codes are not the same	Correct the code on either the receiver or the transmitter
	Motor wires or ENCODER not connected to control card	Connect motor or ENCODER wires
	Control card faulty	Contract supplier
Gate does not operate when the button or transmitter is pressed even though the battery is fully charged	Control board battery had gone completely flat +/- 2 volts and then allowed to charge again. Control board locked up	Press reset button on CONTROL CARD micro processor or remove both BATTERY and CHARGE power for +/- 10 sec and reconnect
Gate does not operate when transmitter is pressed even though the code 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	Allow battery to charge for 2 - 3 hours
Gate runs a short distance then stops and beeps	Battery is going flat	Allow battery to charge for 2 - 3 hours
Gate opens a short distance then stops	Gate motor obstruction load control set is too sensitive	Disengage gate from motor and test that gate is running smoothly then adjust load control
	Pedestrian key permanently activated	Check pedestrian key and make sure it is open
Gate opens but does not close after button or transmitter has been pressed	Control card set to condominium	Switch DIP SW5 OFF
Gate opens but does not autoclose	Autoclose not selected	Switch DIP SW4 ON and RE-PROGRAM
	Gate motor beam input activated	Remove obstruction in front of beam, or beam is incorrectly installed or faulty

LEARNING LIGHT ON TIME: DIP SW3 OFF (If not required Skip)	
1	Short beam input or brake beam: Buzzer will give short beeps
2	Wait for HALF required light on time, then SHORT beam input or brake beam again: Buzzer will give one long beep - this has selected DOUBLE light ON time (MAX. 8 minutes)
REMOVE PR JUMPER	
Any one of the above can be reprogrammed from gate closed position by placing PR JUMPER ON.	

TEMPORARY OVERRIDE AUTOCLOSE
If Autoclose has been selected it can be temporary overriden with the remote button
When gate opens, hold remote button on for 3 seconds - Buzzer will give short beeps
Autoclose is now overridden
Press remote button again, autoclose goes back to normal

	INSTALLATION TIPS
1	Make sure polarities are connected correctly before powering card
2	- 220V AC supply wire should be 1.5mm diameter -12V DC Motor supply wire should be 2.5mm diameter - the rest of the control wires should be 0.5mm diamter
3	All wires should be protected with conduite
4	A blown fuse must be replaced with same value.

NB!	IF MOTOR EVER LOOSES COUNT AND GATE DOES NOT CLOSE PROPERLY OPERATE MOTOR TO OPEN AND CLOSE GATE UNTIL GATE CLOSES PROPERLY. THIS REQUIRES NOT MORE THAN THREE OPERATIONS

12 V DC VERSION

This motor is used when there is no 220 V AC mains at the gate. The motor runs off the battery. Charge transformer is plugged in the nearest mains point and the 16V AC, 1 Amp voltage is run to the motor on board battery charge. Openings per hour determined by battery size.

AC DC VERSION - TRUE BATTERY BACKUP

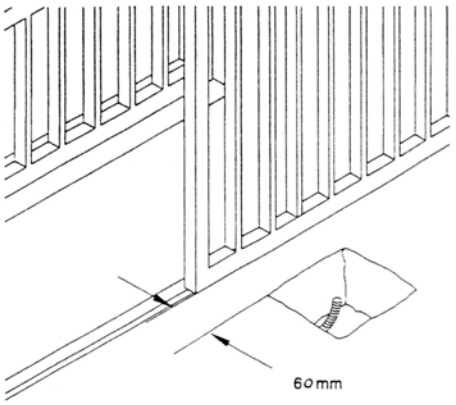
This motor is the AC DC version with a battery for backup. The motor uses the power pack to run and battery only comes in for backup when mains fail.

REQUIREMENTS PRIOR TO INSTALLATION

- The gate wheels have bearings and are securely mounted
- The sliding rail is straight and level. It must be clean of any obstructions along its entire length
- The top guide is set to hold the gate vertically level to the bottom rail, that it is lubricated and gives the gate about 1mm lateral play
- The gate should ideally run from open to close with less than 10kg pulling force (a fish scale can be used and are inexpensive from hardware stores)
- An IDEAL gate of ANY weight should have a pulling force of 5kg.
- The gate MUST have a OPEN and CLOSE stopper

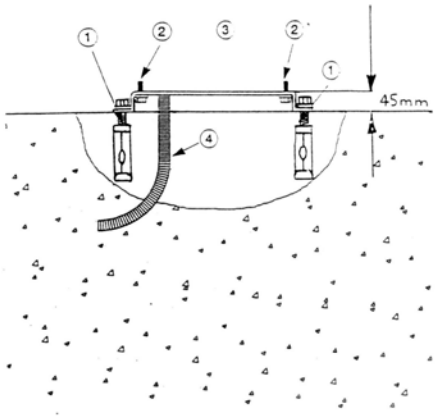
PREPARING THE BASE

FIGURE 2



Dig comfortably wide foundations, at least 15cm deep and should ideally be joined to the rack foundations and guide post foundation. Protect the cables with a sheath or conduit.

FIGURE 3



1. Anchor: Fish Tail Clamp Rawl Bolt or J Bent Ready Bolt
2. Bolt
3. Base Plate
4. Cable protection sheath or conduit

PIRAC - PASSIVE INFRA RED ACCESS CONTROL	
6 OFF	Beam broken on gate OPENING, gate will continue to OPEN
6 ON	While gate OPENING, beam broken then restored after car passed through, gate will STOP and then CLOSE
MOTOR SELECTION	
7 OFF	Sliding Gate Motor. When gate hits close stopper, motor will stop then reverse slightly
7 ON	Linear Arm Motor. Gate will stop and stay pressed up tight on close stopper

PROGRAMMING MEMORY MODE

AFTER INSTALLATION

LEARNING GATE RUNNING TIME & AUTO CLOSE TIME	
1	Open gate half way
2	Place PR jumper ON TWO PINS: MEMORY MODE
3	Press main push button or transmitter : Buzzer will beep a few times then gate will close. If not, reverse the motor polarities.
4	After gate has closed hard up against stopper it will after 2 seconds automatically open
5	Gate must be stopped at least 30mm from open stopper
6	If auto close has been selected (Dip. SW4 ON) Wait for required time then press button to close gate. (Buzzer will give a long beep - This has selected the auto close time). (MAX. 60 seconds)
7	Press main push button or transmitter - gate will close
LEARNING PEDESTRIAN: OPENING DISTANCE AND AUTOCLOSING TIME (If not required Skip)	
1	Press Pedestrian Key: Buzzer will give short beeps and gate will open
2	Stop gate at required pedestrian opening
3	Wait for required pedestrian open time press pedestrian key: Buzzer will give one long beep - This has selected pedestrian auto close time (Max. 60 seconds)
4	Activate pedestrian key again - gate will close

Infra Red Beam (N/O) Contact	Infra-red beam prevents gate hitting an object in path. Gate closing, beam broken, gate will stop then open. N/O contacts are connected to: PL1: Term 5, Term 6

MOTOR ENCODER CONNECTION	
Blue	PL1: - Term 8
White	PL1: E Term 9
Brown	PL1: + Term 10

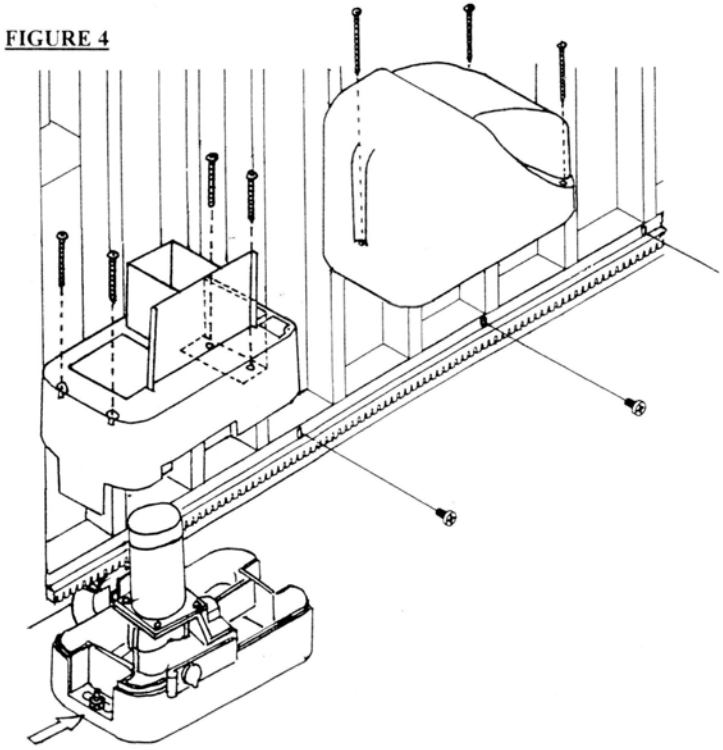
DIP SWITCH SETTINGS FOR GATE CONTROL		
SWITCH NO		**FUNCTION**
OBSTRUCTION LOAD SENSING The motor can sense reduction in speed caused by an obstacle and will stop and reverse on closing or just stop on opening		
1 OFF	2 OFF	1 Minimum
1 OFF	2 ON	2
1 ON	2 OFF	3
1 ON	2 ON	4 Maximum
NORMALLY OPEN RELAY CONTACTS (REL N/O) MAX. 5 AMP		
3 OFF		Courtesy Light operation
3 ON		Strike Lock operation
AUTOCLOSE		
4 OFF		When gate is OPEN, it will only CLOSE if manual command is given
4 ON		When gate is OPEN, it will CLOSE automatically after setting pause time in programming memory mode
MAGNETIC FREE EXIT LOOP		
5 OFF		When loop triggered on gate opening or closing, gate will STOP
5 ON		When loop triggered: - On closed gate, it will open - On gate closing, it will stop then open - On gate opening, it will continue to open

Fill the foundation hole with concrete, setting the bolts in. Lay the base plate so it is perfectly flat and level with the ground and about 60mm away from the centre of the rack as in Figure 2.

If a base plate is not used the foundation should be raised so that the motor stands level 10mm to 20mm above ground.

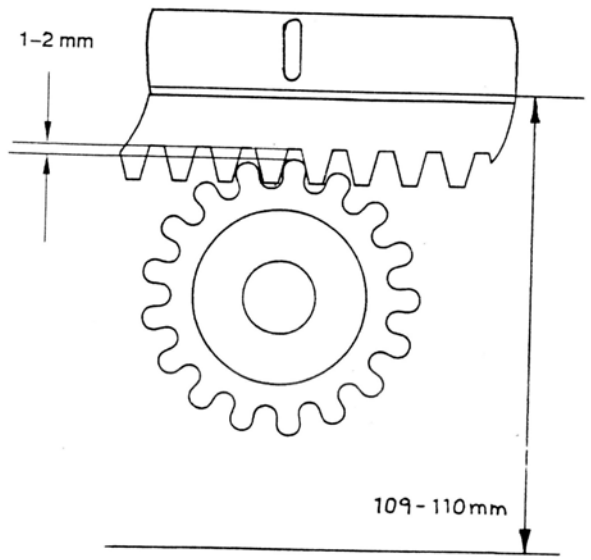
ANCHORING THE MOTOR AND FIXING THE RACK

FIGURE 4



The nuts must be tightened on both sides of the motor preferably using lock-tight and spring washers.

FIGURE 5



The rack must be positioned 1 - 2 mm between the top of the pinion gear and bottom of the rack gear as in Figure 5. The rack can be secured using either self tappers or pop rivets.

FIXING THE RUBBER CLOSE STOPPER

As in Figure 6, screw the rubber stopper provided onto the close bracket so that gate will close onto the rubber stopper.

12V Output	Auxiliary 12Vdc OUTPUT, max 80W power for extra devices, beams etc PL3: + Term.3 (AUX) - Term.4 (AUX)
12V Motor	12Vdc Motor OUTPUT OPEN PL2: +Term.2, - Term.1 CLOSE PL2: - Term.2, +Term.1
Courtesy Light OR	Relay contacts normally open (N/O) to switch Neutral 220VAC to light bulb, max switching 5 Amps (dip: Prog code SW 3 OFF) Time ON can be programmed PL4: Term.1, Term 2 (Rel N/O)
Strike Lock	Relay contacts (N/O) to switch power to the strike lock, max switching 5 Amps (dip. Prog code SW3 ON. Active before and just after gate opens PL4: Term.1, Term 2 (Rel N/O)
Gate Status Indicator	L.E.D. OUTPUT L.E.D. in house intercom can be used ON - Gate open OFF - Gate closed Flashing slow - Gate moving Flashing fast - Gate stopped / obstructed PL1: + Term.3, - Term.4
Pedestrian Push Button (N/O) Contact	Pedestrian (normally open contact) will open gate to programmed opening, auto close can be selected with (Prog. dip SW 4 ON) to programmed time. PL1: Term 1, Term 2
Main Control Push Button and Radio Receiver OR	Normally open contacts of a push button or radio receiver relay will open / close gates. If connecting receiver, de-activate built-in receiver by removing jumper RX POWER PL1: Term 6, Term 7
Magnetic Free Exit Loop (N/O) Contact	N/O contacts of detector used to trigger gate to open only, to give vehicles free exit out of complex. Prog. dip SW 5 ON PL1: Term 6, Term 7

DC1-98 SLIDER CONTROL CARD AND SETUP FEATURES

- Limitless motor control
- Adjustable load sensing for obstruction
- Automatic closing after a selectable time option
- PIRAC option
- Remote control temporary override of automatic closing
- Pedestrian opening distance and selectable time option
- Condominium option
- Free Exit loop option
- Infra red beam obstruction input
- Regulated battery charger 800mA
- Obstruction sensing
- Status indication of gate
- Audible battery low indication
- Courtesy light relay output
- Lightening and electrical spike protection
- Mains power pack option for multi-user
- True battery backup option

CONTROL CARD INSTALLATION PROCEDURE

Refer Figure 9

POWER CONNECTIONS	
16 VAC Plug in transformer OR 18 VDC Power Pack	16 VAC, 1 Amp INPUT PL4: ac Term 3, ac Term 4 18 Vdc, 18 Amp INPUT PL3: + Term.1 (18V), - Term.2 (18V)
12 V Battery	12 Vdc Lead Acid Battery. 7 Amp Hour Approximately 30 openings PL3: + Term.5 (BATT) - Term.6 (BATT)

FIGURE 6

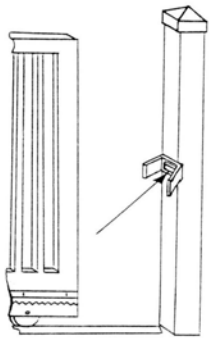


FIGURE 7 & 8

MANUAL UNLOCKING

Figure 7

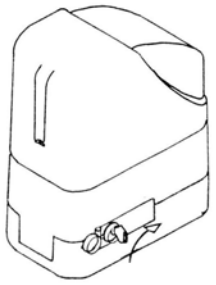
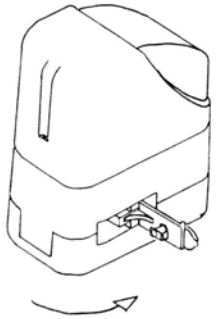


Figure 8



Turn key Figure 7, pull lever Figure 8. Disengage gear leaving gate free to slide manually.

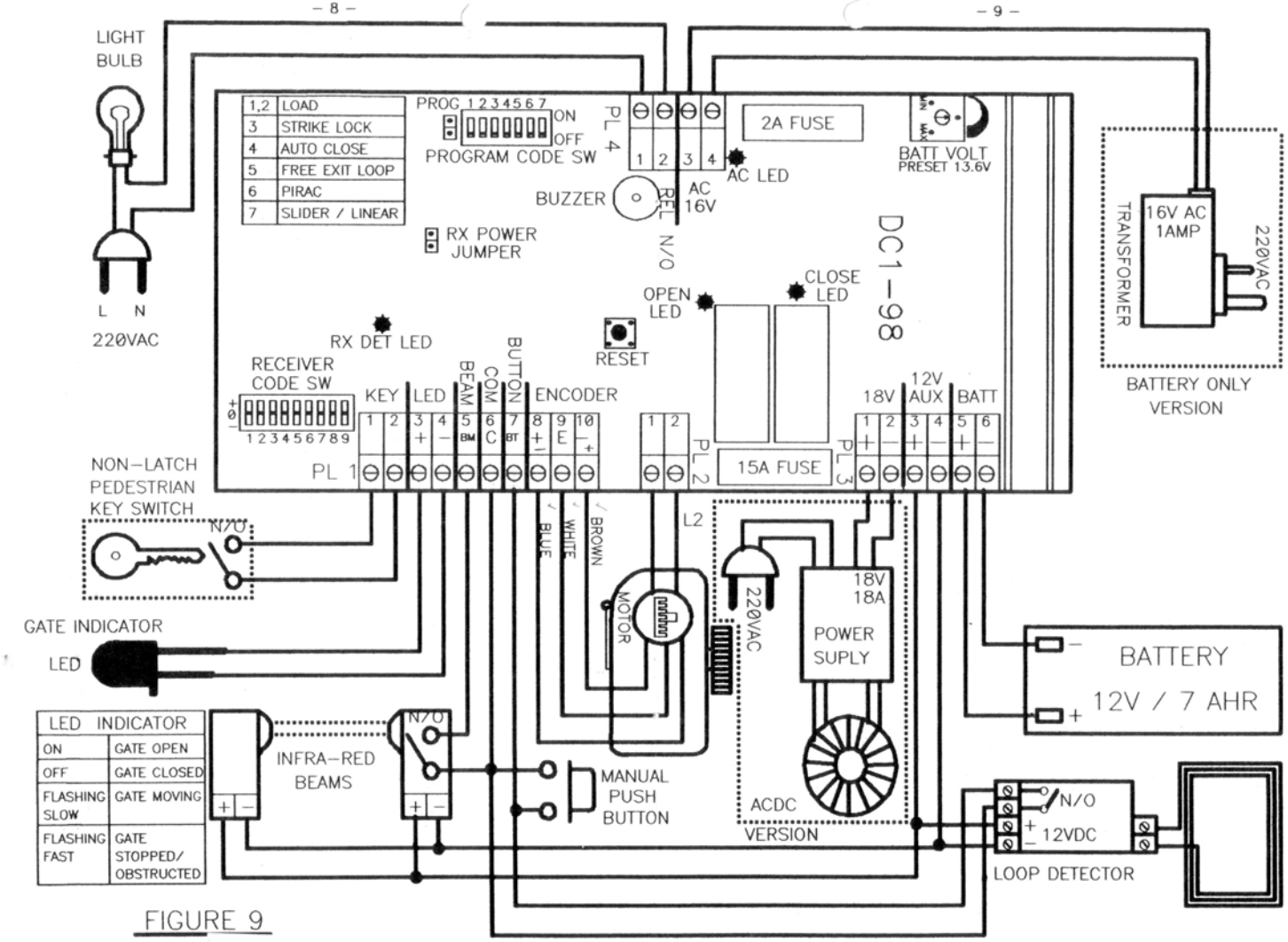


FIGURE 9

DC1-98 ACDC