



12V DC MOTORISED OPENER FOR SWING GATES

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Section 1: Introduction

It is worthwhile reading these instructions carefully and heeding the instructions given.

IT WILL SAVE YOU TIME, TROUBLE AND MONEY.

This instruction book has been written to assist the owner in the correct installation, operating and maintenance procedures of your **GEMINI** to ensure continued reliability and a long life.

Before leaving the factory, each unit is thoroughly inspected and functionally tested. Although the unit has a factory guarantee, **DMI ENGINEERING** has done everything possible to ensure that your **GEMINI** is safe and reliable. The manufacturer cannot be held responsible for poor workmanship during installation.

Electrical connections and repairs must be carried out by qualified artisans to ensure that all the legal requirements for your local area are complied with.

Please heed all **WARNINGS** in this book for the safety of your children, animals and yourself.



Section 1: Introduction (continued)

Congratulations on having chosen the **GEMINI** Motorised Opening System for Swing gates. It will meet your strictest requirements regarding ease of operation, safety, as well as trouble- free service. By following the basic principles of installation as explained in this easy-to-read-and-understand Installation/User Manual, your **GEMINI** swing gate will give you years of trouble free service.

The **GEMINI** system is of rugged design and manufacture, built for reliability and safety. It consists of a master and/or slave motor, which drive arms to open or close the swing gate.

The **GEMINI** 12Volt DC swing gate system is a self-contained unit, which comprises of a 12Volt DC electrical motor and battery. The electrical motor and associated components are mounted in a rust resistant base. The base is secured to the pedestal, which in turn is cemented into a concrete base. The complete unit is enclosed with a weather resistant lid.

The electronic control card in conjunction with the limit switches makes provision for several unique features, such as remote controlled gate opening, pedestrian opening facility, obstruction ("impact") sensing, adjustable "auto close" facility, infra red obstruction sensing facility (optional), courtesy light facility and normal push button operation.



Section 2: Warnings

- **Never work on the system with the electrical power on.**
- **Never allow persons or animals to stand on the gate while the gate is in motion.**
- **Keep hands clear of the operating arms while the motor is in operation.**
- **Do not allow anyone to put his or her hands through the gate trellis while the gate is moving.**
- **Test all operating systems on a regular basis, especially those related to the safety features.**

CAUTION: Under NO circumstances must the main electrical supply be wired directly from a power source. As a safety precaution, an ON/OFF switch must be incorporated into the electrical circuit, normally within 1 meter from the unit. A 17 volt AC transformer is supplied with the motor.

Electrical power supply - 220V mains is supplied to the transformer. The 17v supplied by the transformer is connected to the **“AC IN”** points on the control board.

Ground (earth) connection - Connect the ground (earth) wire to the position marked: **GRND**



Section 3: Technical Specifications

Motor	12V DC
Gate speed	10 sec / 90°
Limit switches	Independent in both directions
Activation	Remote control, N/O push button
Weight	± 26 kg
Electric current	1 A
Duty cycle	65 %
Other features	(1) Manual override in case of malfunction (2) Auto close function (3) Courtesy light facility (4) Pedestrian facility (5) Electric lock facility (6) Battery back up

Section 4: Positioning

MOTOR POSITION RELATIVE TO GATES

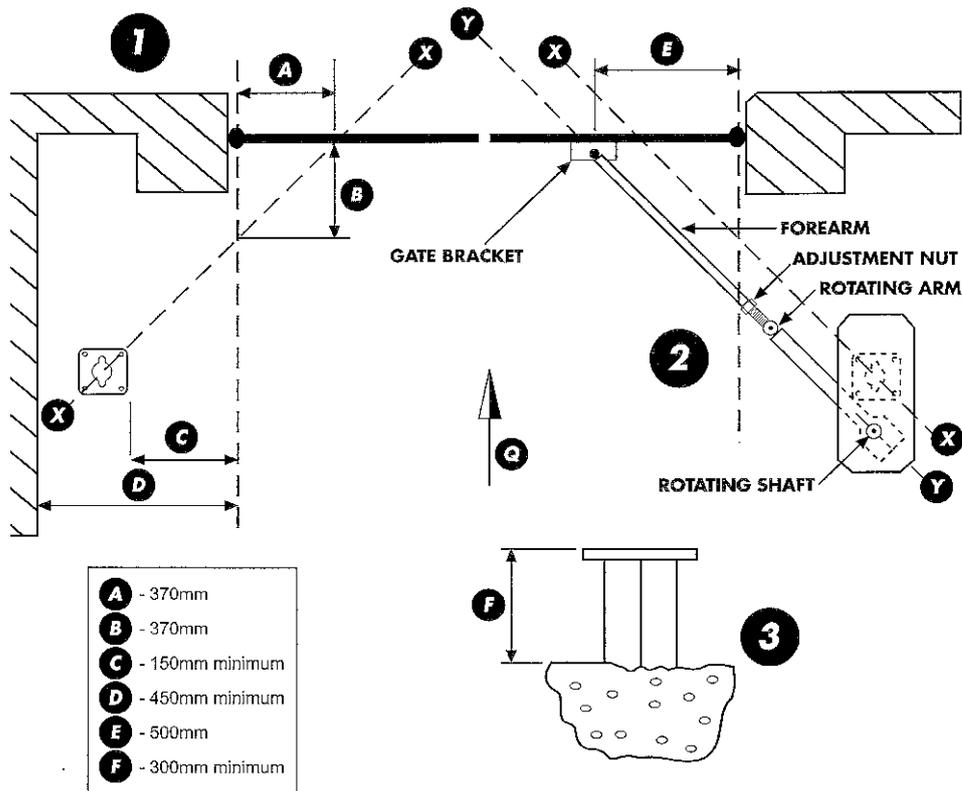
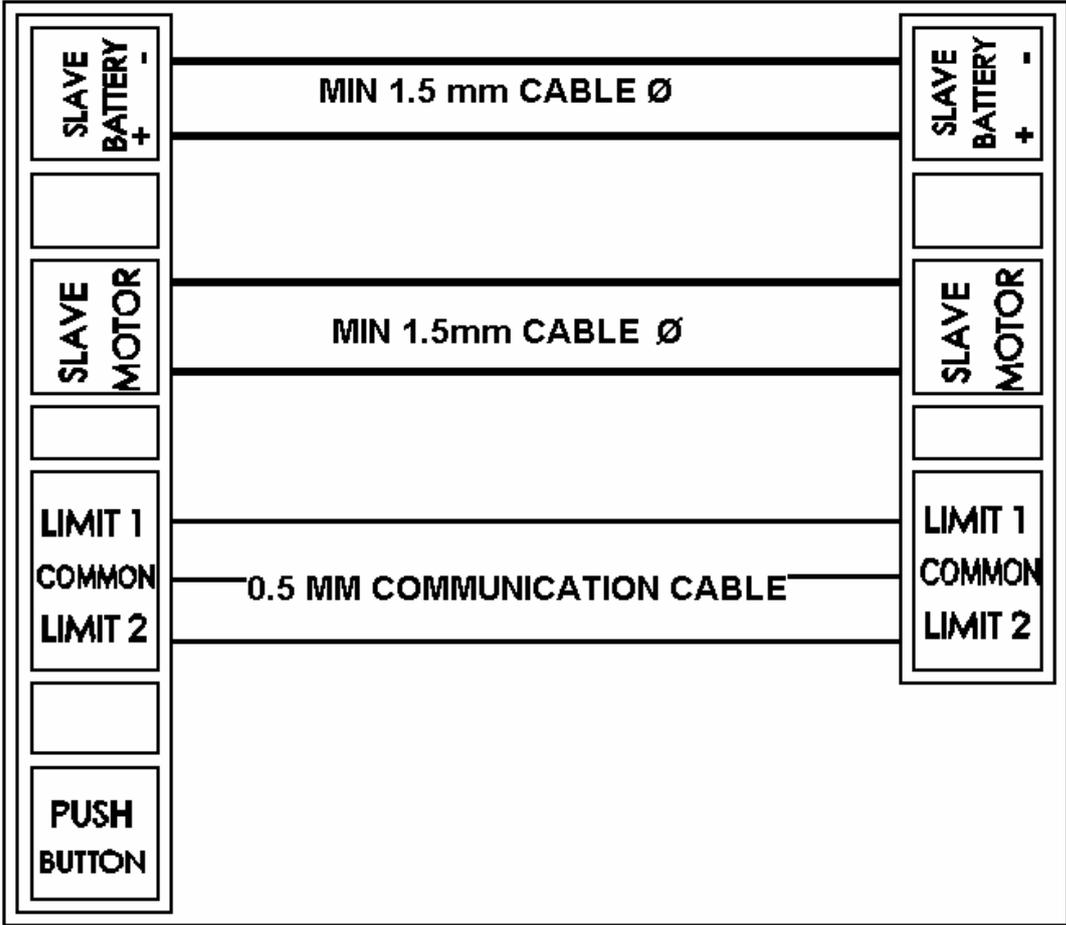


Figure 1

Section 5: Wiring Diagram

WIRING DIAGRAM FOR GEMINI DOUBLE SWING MOTORS
(For single swing application ignore slave motor connections and ensure correct settings on PCB)



MASTER MOTOR

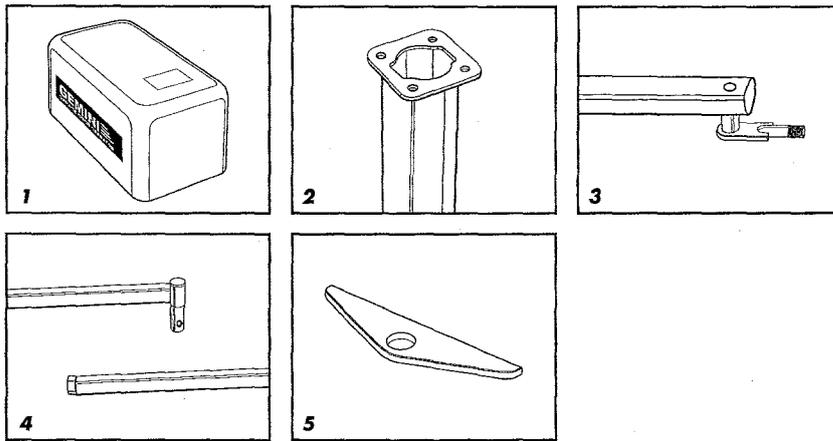
SLAVE MOTOR

Figure 2



Section 6: Standard Installation Kit

YOUR GEMINI GATE OPENING KIT FOR SINGLE GATE APPLICATION COMPRISES OF THE FOLLOWING:



1. Motor Carrier Box
2. Post with mounting flange
3. Crank Arm
4. Connecting Arm with Adjustment Nut.
5. Gate Bracket

Section 7: Installation Instructions

7.1 - PLANTING POSTS

Refer to Figure 1 on Page 6.

The posts can be planted anywhere on the dotted line X – X shown in Figure 1 provided “C” does not become less than 150mm. Note that the posts are positioned so that the diagonal of the mounting flange corresponds with the line X – X to ensure the correct alignment of the motors when mounted. Also note that the height of the mounting flange above ground level should be at least 300mm. See below figure 3.

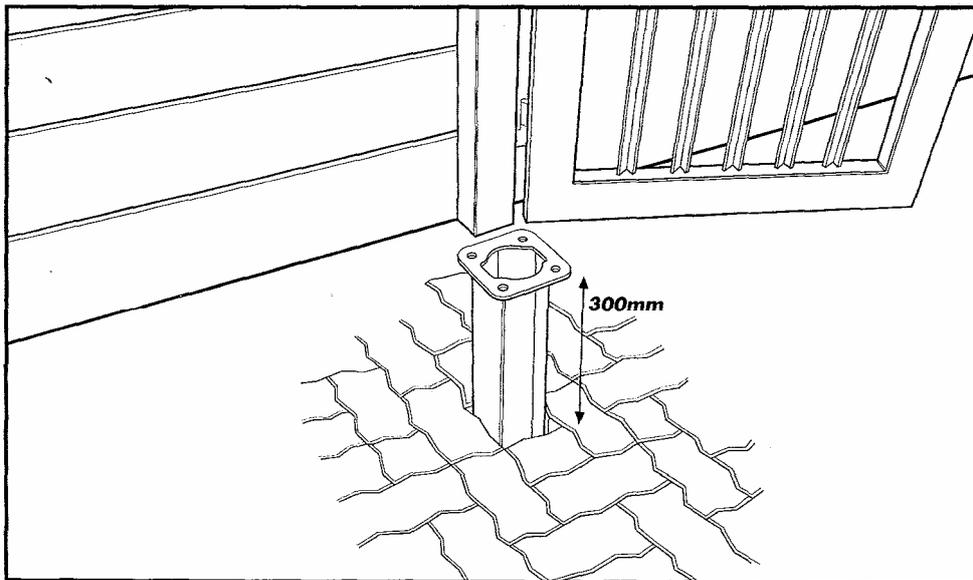


Figure 3

Section 7: Installation Instructions (Continued)

7.2 - MOUNTING MOTORS AND BRACKETS

Refer to Figure 1 on Page 6 Section 2

The master motor can be mounted on either side of the gate. Complete all electrical connections and get the motors operational as per the wiring diagram. Do not connect gate. See below Figure 4.

Activate the motors to rotate to the closed position. Mount the gate brackets onto the gate. See following page Figure 5.

As the crank arms are not locked onto rotating shaft at this stage, rotate them until they point to the gate bracket and measure the distance from the hole in the gate bracket to the end of the crank arm. See following page Figure 5.

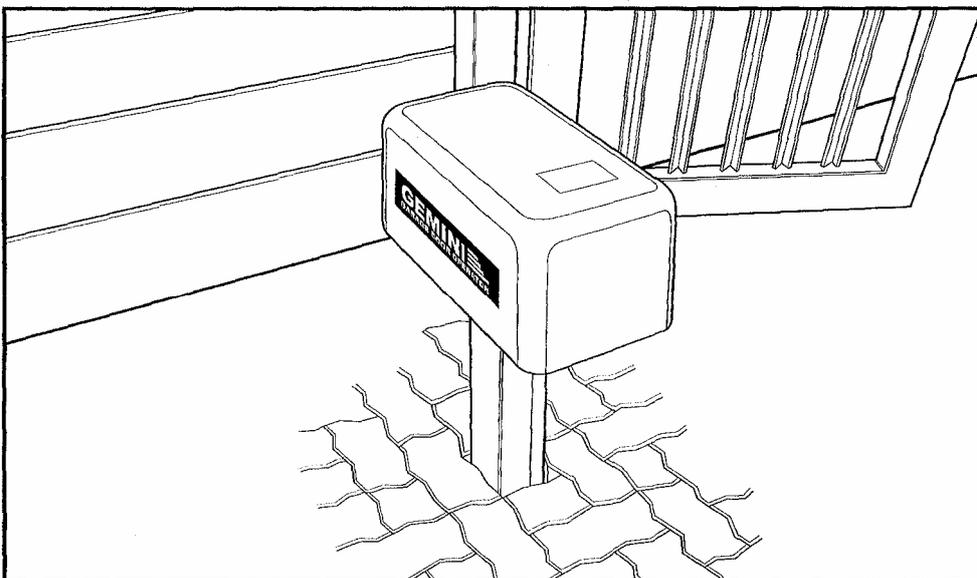


Figure 4

Section 7: Installation Instructions (Continued)

7.2 - MOUNTING MOTORS AND BRACKETS Continued.

Refer to Figure 1 on Page 6. Section 4

Rotate the arm by 180° or to maximum open position. When the gate is opened by 90° or to the required open position, the distance between the hole in the gate bracket and the end of the crank arm should still be the same, as when in the 'CLOSED' position. If not, shift the gate bracket and re-measure. See below Figure 5.

Once the ideal positions have been located, cut the connecting arm and weld onto adjusting nut. Weld gate bracket onto the gate and hook the connecting arm into the hole in the gate bracket. See below Figure 5.

The crank arm can now be locked by means of a 10 mm Hexagonal key or other suitable means. See below Figure 5.

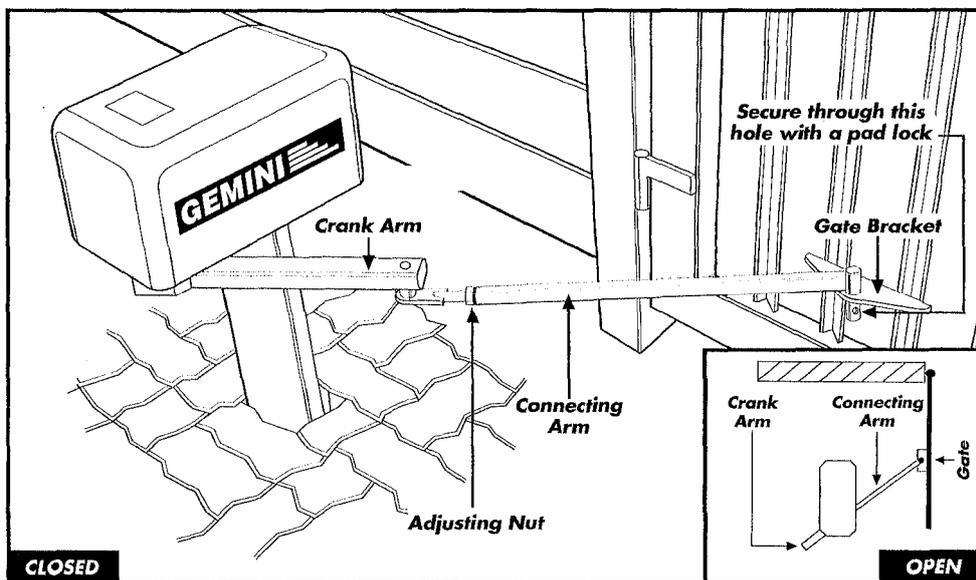


Figure 5

Section 7: Installation Instructions (Continued)

7.3 - SETTING LIMIT SWITCHES

Refer to Figure 6 below

The close limit switch is not adjustable, but if all the previous stages have been followed to mount the connecting arm, it will not be necessary to adjust the close limit switch.

The open limit switch is adjusted by rotating the cam on the worm wheel (flip the control board on the master motor for access to the worm wheel).

7.4 - AUTO CLOSE FUNCTION

The facility can be utilized by selecting dipswitches on the PC board representing different time delays. Only select the switches marked 'AUTO CLOSE'.

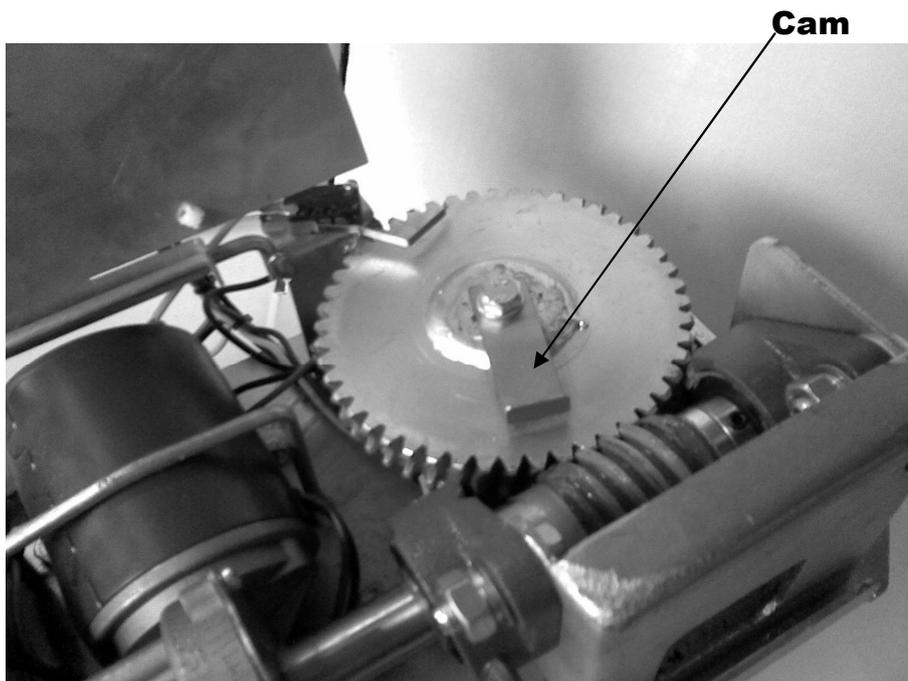


Figure 6

Section 7: Installation Instructions (Continued)

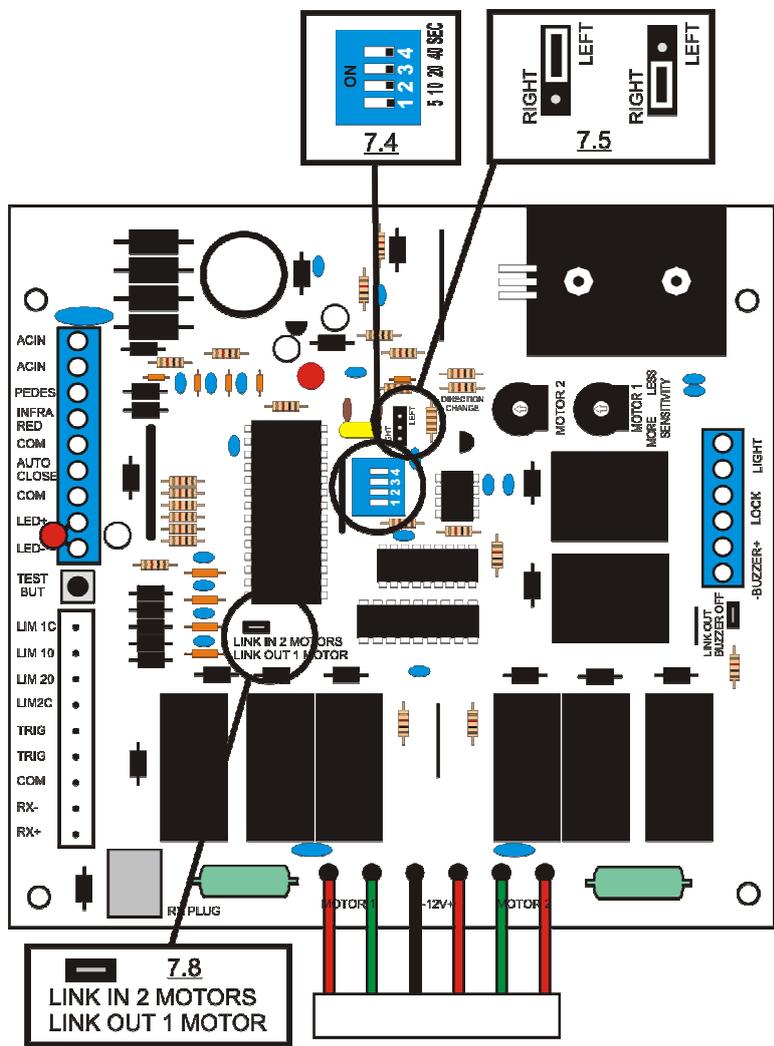


Figure 7
7.5 – REVERSING THE ELECTRICAL MOTOR DIRECTION
Refer to Figure 7 above

The electrical motor direction default is set by positioning the gate direction jumper on the electronic control card either to the left or right.

The electronic control card is equipped with 3 small pins; the center pin is the common pin, the left hand pin for the left direction and the right hand pin for the right direction.

When the gate is initially activated (during installation) and the gate direction is incorrect, the gate direction jumper must be unplugged and moved to the opposite set of pins. Ensure that the jumper is fully plugged in.



Section 7: Installation Instructions (Continued)

7.6 – OTHER CONNECTIONS

- 220V Light:** Connect to the terminal block marked **LIGHT**. Light will be activated when the gate is opened and switches off \pm 3 minutes after the gate has closed. The relay on the control board serves as a switch and will not supply any power.
- Pedestrian Facility:** Connect push button to the terminal blocks marked: **COM** and **PEDES**.
- Push Button:** Connect to the terminal blocks marked: **PUSH BUTTON**
- Infra Red Sensor:** Connect to the terminal blocks marked: **COM** and **INFRA RED**.
- Loop-Detector:** Connect to the terminal blocks marked: **PUSH BUTTON**
- Receiver:** Plug in on electronic control card where marked: **RX PLUG**
- External LED:** Connect to electronic control card as illustrated.
- Buzzer:** Connect to the terminal block marked: - **BUZZER** +
- Lock:** Relay on board to activate this function. Connect to the terminal blocks marked: **LOCK**
- CAUTION:** **Ensure that all the legal requirements for your local area are complied with.**



Section 7: Installation Instructions (Continued)

7.7 – PEDESTRIAN OPENING FACILITY

The Pedestrian Opening Facility can be utilized to give pedestrians access to the premises. The facility allows the gate to open and remain open for ten (10) seconds before automatically closing.

In the double swing gate application, the pedestrian facility will only open the master gate motor and automatically close after ten (10) seconds.

7.8 – SELECTING THE DOUBLE OR SINGLE SWING OPTION (See Figure 7)

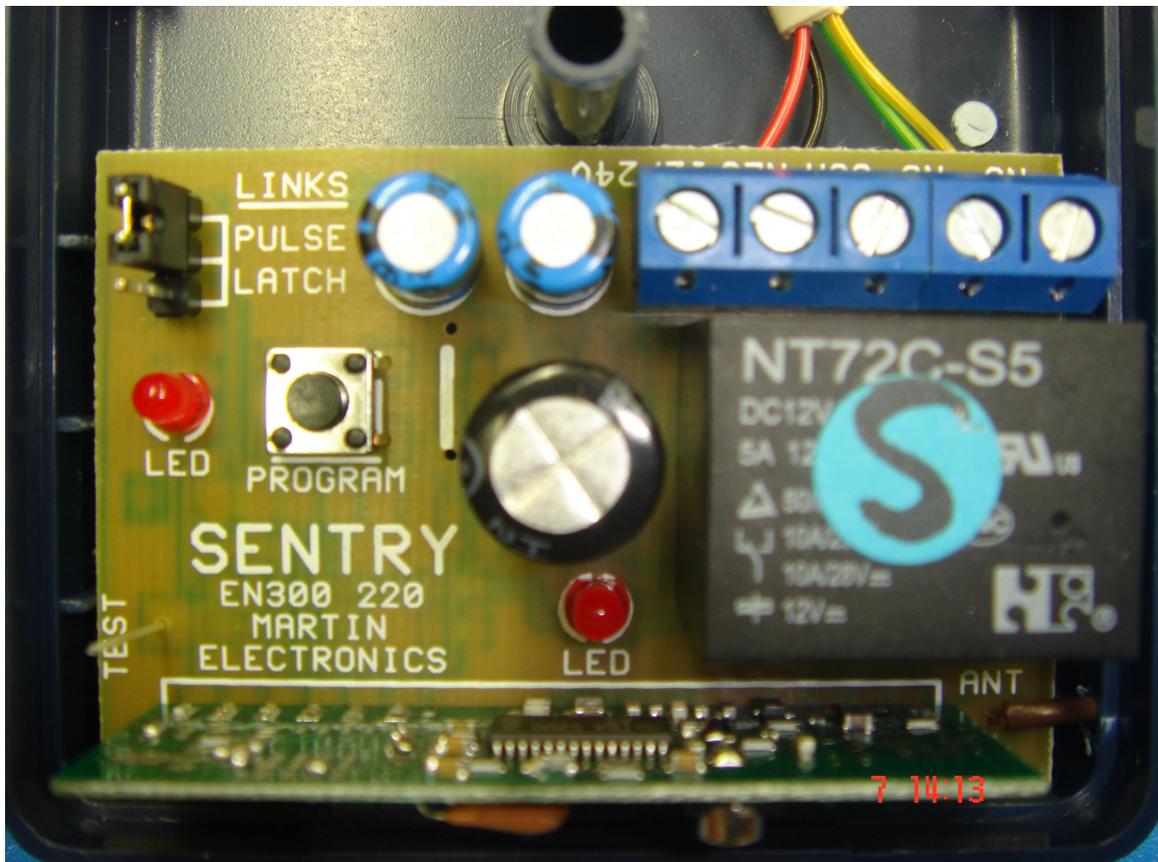
Link in (2 Motors) -

Select this option when a master and slave motor are used (two gates)

Link out (1 Motor) -

Select this function when only a master motor is used (single gate)

Section 7: Installation Instructions (Continued)



7.9 – PROGRAMMING A GEMINI CODE HOPPING RECEIVER

1. Select pulse before connecting power.
2. Connect power to receiver as per PC board.
3. Press and release program / learn button.
4. LED will flash for 1 second once.
5. Operate transmitter to be learnt at least 1 meter away.
6. LED will flash three times to confirm learning.
7. Repeat steps 3 to 5 until all transmitters are learnt.
8. Maximum transmitters per receiver 32.
9. To exit learn mode, press and hold program button down for +- 5 seconds until led turns on, and then release.
10. Operate transmitters as required.
11. To erase all codes, press and hold down program button until LED flashes. (Do this only on power-up or when out of program mode.)



Section 8: Trouble shooting Guide

Should a problem occur, consult the following table first before calling your local GEMINI dealer.

The table is set out in Problem, Possible Cause and Remedy and/ or Test, to enable quick identification and location of faults. Care has been taken in the compilation of this Trouble – Shooting Guide to include all likely malfunctions that could occur.

WARNING

During some of the following checks/tests, it will be necessary to work on the unit while the electrical power is switched on (Live), therefore utmost care must be taken to prevent electrical shocks.



Table 1: Problems during the installation / operating phase

PROBLEM	POSSIBLE CAUSE	REMEDY AND/OR TEST
Electrical motor does not turn on	<ul style="list-style-type: none"> • Is the main power switched on? • Is battery connected? • Is the electrical power correctly connected? 	<ul style="list-style-type: none"> • Switch the power ON. • Charge battery • Check and rectify as necessary
Motor operates by activating with the push button, but not with the remote control	<ul style="list-style-type: none"> • Is the security code set correctly? • Remote control battery flat? • Remote control defective 	<ul style="list-style-type: none"> • Check and if necessary, reset security code. • Replace battery • Replace remote control
Motor activates by remote control, but not with the push button	<ul style="list-style-type: none"> • Faulty wiring to the push button. <ul style="list-style-type: none"> • Push button faulty 	<ul style="list-style-type: none"> • Disconnect push button wiring from the GEMINI and momentarily bridge the COMMON and the TRIG connections at the connectors block. If motor operates, the wiring is faulty and must be repaired. • Disconnect push button wiring at the push button. Momentarily bridge the wires at the push button. If motor operates, the push button is faulty and must be repaired or replaced.
Gate (motor) direction incorrect	<ul style="list-style-type: none"> • Incorrect setting 	<ul style="list-style-type: none"> • Refer to “Reversing Electrical Motor Direction” and use alternative positioning of the jumper.
Motor opens the gate for a short distance only, then closes again	<ul style="list-style-type: none"> • Obstruction in the way of the gate 	<ul style="list-style-type: none"> • Discuss problem with your local GEMINI agent. • Remove obstruction
Gate opens and closes by itself	<ul style="list-style-type: none"> • Faulty Push Button wiring • Faulty remote control receiver • Somebody in your area is using the same security code as yours 	<ul style="list-style-type: none"> • Check and rectify as necessary • Replace the remote control receiver • Change your security code
Receiver reception insufficient	<ul style="list-style-type: none"> • Transmitter battery flat • Receiver range is obstructed 	<ul style="list-style-type: none"> • Replace remote control battery • Reposition receiver in different position
Gate moves with difficulty	<ul style="list-style-type: none"> • Check hinges 	<ul style="list-style-type: none"> • Lubricate or replace hinges



Section 9: Maintenance

The GEMINI swing gate Opener system is a maintenance free unit and needs very little attention.

On a 6 monthly basis, it is advisable to remove the protection lid and blow off accumulated dust and dirt from the unit with low pressure compressed unit.

9.1 REPLACING THE REMOTE CONTROL BATTERY

Using a small flat screwdriver, remove the cover from the remote control unit.

Remove the battery from its holder.

Check that the holder and contact points are clean (signs of corrosion, etc)

Fit a new battery, noting the position of the (+) and (-) end of the battery. The (-) end of the battery faces towards the spring connection.



Section 10: Standard Guarantee

GEMINI AUTOMATION SYSTEMS manufactured by DMI Engineering are warranted against defects in material and faulty workmanship for 24 months from the date of purchase.

This warranty applies only to products purchased new from DMI Engineering or its authorized dealers. This warranty does not apply to products which have been subjected to lightning, flood damage or any other freak occurrence of nature, abused, modified, or repaired by someone other than DMI Engineering or its authorized dealers.

- A) No batteries are included in the warranty.
- B) Electronic components have a 12 month warranty.

If a DMI Engineering product proves defective in material or workmanship within 24 months after purchase, return it to any authorized dealer or DMI Engineering, transportation to and from DMI Engineering's factory prepaid, enclosing your name and address, adequate proof of date of purchase and a short description of the defect. DMI Engineering, at its discretion will repair or replace the defective product free of charge. Repairs or replacements are warranted as described above for the remainder of the original warranty period. DMI Engineering's sole liability and your exclusive remedy under this warranty is limited to repair or replacement of the defective product.

The foregoing warranty is exclusive and in lieu of all other warranties or condition, written or oral, expressed or implied all of which are hereby disclaimed. There shall be no liability, for incidental, consequential or special damages, or any other damages, costs or expenses, excepting only the cost or expense of the replacement or repair.

Use only authorized parts and/or accessories. Any damage or malfunction caused by the use of unauthorized parts is not covered by the warranty.

No warranty is applicable on products not registered with DMI Engineering within the prescribed time and on the correct form.



Section 11: Service Record

FOR YOUR RECORDS

GEMINI 12 VOLT DC SYSTEM

Installation date: Dealer Name:

Tel No: () Installer's Name:

Unit Serial No:

Gate size : Heightmm Widthmm Mass ±kg

Remote control Type:

UNIT SERVICE RECORD

Date	Fault	Parts required	Invoice No.	Serviced by	Job No.



Section 12: Warranty Registration Form

GEMINI 12 VOLT DC SYSTEM

Name: Date:

PO Box: Code:

Address:

..... Code:

Tel No : () Fax No: ()

Name of Dealer or Installer:

Date of Installation: Serial No. of Unit:

Are you satisfied with the service provided by your dealer / installer : YES NO

Comments:

.....

For Office Use Only:

Date Received: File No:

Please forward this warranty registration form to the following address:

DMI Engineering
PO Box 36816
Menlo Park
0102