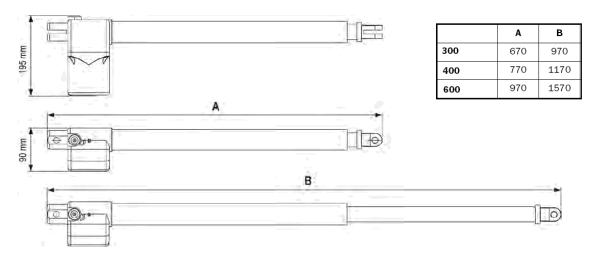
Easysystems Installation Guide GR400 and GR600 Swing Gate System.



NOTE: Measurement between pins centres

Model	Stroke	A (fully retracted)	B (fully out -10mm)
GR400	400mm	730mm/min	1130mm/max
GR600	600mm	930mm/min	1530mm/max

Unpack product.

Check that all items are present and are in good condition. Check also inside the control box for remotes and other product that may have been packed inside. Before each order is dispatched a check sheet is completed. Please notify Easysystems immediately if you suspect missing parts. No claims accepted unless notified within 7 days of delivery.

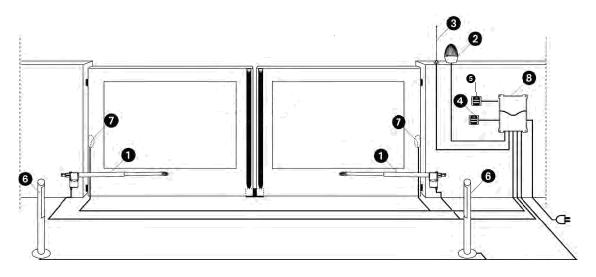
Standard Double kit includes: 2 x actuator arms with 1m wire, 4 x arm-mounting brackets, 4 x cylinder pins, 4 x grub-screws, 2 x arm unlocking keys, 2 x keyhole plastic covers, 1 x control box, 1 x battery, 1 x control board, 1 x transformer (not with solar system), 2 x remotes.

Standard Single kit includes: 1 x actuator arm with 1m wire, 2 x arm-mounting brackets, 2 x cylinder pin, 2 x grub-screw, 1 x arm unlocking key, 1 x keyhole plastic cover, 1 x control box, 1 x battery, 1 x control board, 1 x transformer (not with solar system), 2 x remotes.

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INSTALLATION LAYOUT



1 Actuator	cable 2 x 2.5 mm ² (max. 10m)
2 Blinker	cable 2 x 1,5 mm ²
3 Aerial	cable RG-58
4 Key or digital selector	cable 2 x 1 mm ²
3 Exit button	cable 2 x 1 mm²

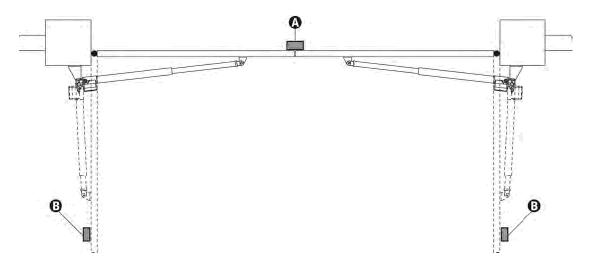
⑤ Internal photocells	cable 4 x 1 mm² (RX) cable 2 x 1 mm² (TX)
External photocells	cable 4 x 1 mm² (RX) cable 2 x 1 mm² (TX)
3 Control unit	cable 3 x 1,5 mm ²

PREPARATORY STEPS

Before proceeding with the installation, please make sure that your gate opens and closes freely, and that:

- · Hinges and pins are in optimum condition and properly greased.
- No obstacles are within the moving area.

 There is no friction with the ground or between the leaves.
- \cdot Your gate MUST be equipped with central \odot and side \odot stops, which are fundamental to system operation.



Gate swing ground Limit Stops. Place firmly the physical limit stops (A) at the fully closed position and approx 90-100 degrees at the fully open position (B). This system is reliant on the gate making contact with a solid stop to correctly programme the swing distance! This could also

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be a fence post. For sloping driveways that run from side to side see last photo below. It has a limit stop tab on gate (high side) while the other gate makes contact with the first gate .

Warning: We do not recommend you use a wall at the fully open position as this could become an entrapment area for people and animals.

<u>Do not use chain or cables as limit stops</u> as this will give a fulse preasure reading to the control board CPU and making your system unreliable.

Post support bracket. Position the arm on the post bracket temporarily as you set up the gate bracket position.

Note: The standard brackets for the post may not work with every installation so you may need to custom build brackets in some situations, for example using angle-iron. To gain a closer fit you can use the inner pivot point on the post bracket (you MUST cut off the other hole so as to clear the motor body). You can extend the bracket with an adaptor plate that can be bolted to the post bracket 2 x pivot holes to a max100mm.

For best performance: Remember the greater the angle the arm is placed to the gate the greater the force the arm will place on the limit stop at the closed position! This will add to the security of the gates when closed. An arm fitted <u>parallel</u> to the gates <u>will damage</u> the system and rip the brackets from the gate as well as giving a sloppy installation system. In some cases it can be easier to place a separate post along side your current gate post to mount the bracket on. You can extend the supplied brackets using a simple extension plate bolted to the 2 x 12mm pin mounting holes provided. This may give you a better angle for gates longer then 2m each wing. You can also reduce the bracket by sawing off the end pin mounting hole and using the inner hole

We recommend you use fasting bolts that are drilled completely through to the other side of post/gate for maximum retention of bracket due to high force of motor.

Photo 1 Angle Bracket

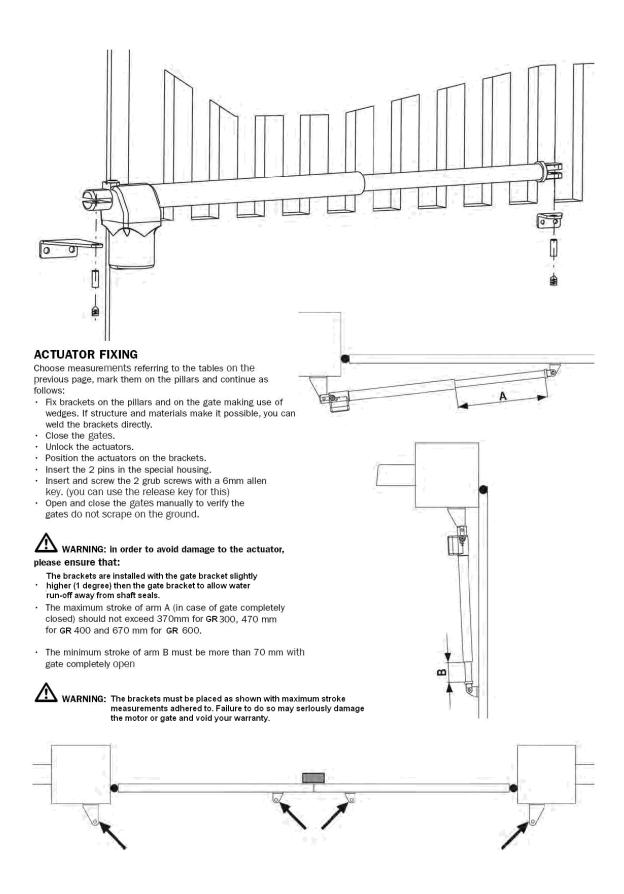
Photo 2 Push to Open

Photo 3 Free standing post.









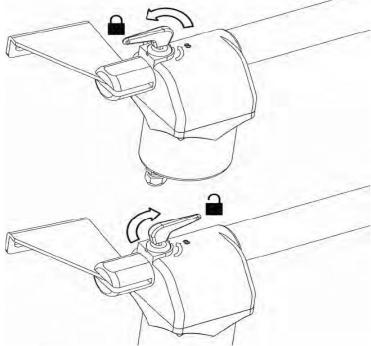
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Warning: Do not position shaft fully extended as it will place strain on the shaft end cap which will damage the thread and void your warranty! Ensure limit stop is firmly positioned.

EMERGENCY RELEASE

In case of a power failure, the gate can be operated manually. Insert the key supplied in the lock, perform 1/2 of a turn. To restore the automation, simply rotate the key in closed position and insert the provided plastic cover onto the lock.



Screw shaft back 1-2 complete turns of 360° (10mm) to allow for any slack in the system when working and prevent shaft hitting end cap internal stop.

Place gate bracket onto the end of the shaft and position against the gate using "clamps" or a nail to support the gate bracket. Place the gear motor slightly inclined approximately 1° above the horizontal line to prevent water entering a possible worn shaft seal in the future and help provide firm pressure on the ground limit stop and not ride over it.









Test the full movement of the swinging gate from closed limiter to open limiter. Check there is no binding and the gear motor and gate is not less then 10 degrees at gate bracket.

When satisfied that the pivoting actions of gate and gear motor are suitable proceed to permanently mount brackets.

Install the gear motor on to the post bracket and fix it with the Pin and grub screw supplied. **High Importance:** Place the waterproof cover plugs in the un-locking keyhole to prevent water entering the motor system. Failure to do this will cause damage to the internal parts. Wire the motor to your control box using minimum 1.3mm 2 core cable with weather proof connectors or via an electrical j-box on the gate post. Always protect the cable from possible damage.

D1 Swing Gate Control Board Manual



Control Panel - Model D1

The Easysystems D1 control panel is specially design to match 12Vdc Arm Gate Motor(s).

The electronic panel requires no maintenance as long as the gate operates in proper order and is kept dry and insect free. Mount the Control box as close to the motor(s) (maximum 10m cable) as possible connected with minimum 1.5mm 2-core electrical cable to reduce any voltage drop which will affect the performance of the system. 2.5mm to 4mm house cable is commonly used.

- 1. Make sure all wiring works are correct and in good condition before supplying the mains power to the control panel.
- 2. Turn **OFF** the power when doing any maintenance.
- 3. Ensure the control panel box free from water leakage to avoid short circuiting.

4. Do not supply mains power directly to the motor.

Battery: Your system is supplied with a 12V 7AH Lead Acid Maintenance Free Battery and a Z-Shape steel mounting bracket with screw. With the battery terminals at the bottom facing the center, position battery in the right bottom of your control board. There are 2 plastic locating pegs molded into the control board box. You MUST mount battery upside down so as the steel mounting bracket, when installed does not contact between the battery power terminals.

230vac-18vac Transformer: Transformer can be relocated to around 100m from control box using a transformer kit (in a protective electrical box with mains lead and plug) or positioned inside the control box if mains power is available at the gate. In either option you **MUST** install transformer via a RCD to avoid injury from shock as per local government electrical requirements. Always switch off mains power when any works is being carried out on or around gate installation. We recommend a minimum 1.5mm x 2 core direct burial garden lighting cable up to 50m and a larger 2.5 to 4 mm cable is commonly used to around 100m. Connect mains power supply to the 2 x orange wires (230Vac) at the transformer. Connect 2 x white wires (16Vac) to control board block 1 (AC input). As the input is AC, the polarity of the cables need not be observed. Disregard the purple and black wires (if fitted) as these are for our 24VAC sliding gate control board D2 only. Protect the wire ends so as not to make contact with the transformer.

DIP SWITCH setting on the control board:

[1] ON = Delay Close motor A (MT A) for 2 seconds after MT B

- used in conjunction with solenoid lock

[1] OFF = Gate(s) open/close at same time

[2] ON = Small Reverse before opening used with 12V lock

[2] OFF = Gates open immediately without small reverse

movement

[3] OFF & [4] OFF = Light ON (gate open) & cut off 1 min. after gate closed

[5] ON = Single Gate Operation (MT A) for external Push

Switch

[6] OFF = Not in use

[7] OFF & [8] OFF = Disable Auto Close

[7] OFF & [8] ON = 030 sec. Auto Close (Pre-wired to External Switch)

[7] ON & [8] OFF = 060 sec. Auto Close [7] ON & [8] ON = 120 sec. Auto Close

Solar Power: The system can be solar powered via an optional solar systems voltage regulator connected directly to the battery. The 12Vdc 7Ah (amp-hour)

battery supplied may not be suitable for heavy gates or frequent use. Add another 7Ah battery (in Parallel) giving a total of 14Ah. You can install this in the lid of the control box using the locating pegs.

<u>DO NOT USE BOTH</u> solar and mains power at the same time. Solar panel must face north and best suited within 10m of battery. Have a minimum of 8 hours of direct sun exposure to be effective. Use a suitable 12V solar regulator installed inside your control box connected directly to your battery leads.

Remote Control: The 12Vdc remote transmitter contains two signal represented by button 1 and button 2 on your remotes. Confirm with owner which function they want for each of the button.

<u>Double gate setup</u> button #1 can be set as single gate operation while button #2 is set as double gate operation. You can change this so that either button will activate BOTH gates by moving the grey wire to join the brown wire at block 7 terminal 1

Single gate setup wire only the white to block 7 (centre terminal) and ½ (grey).

You can relocate the receiver black box to another <u>moisture-free</u> location to increase signal strength using cat.5 network cable.

Antenna: The green wire is the antenna with a tuned length. <u>DO NOT CUT</u>. You can increase the range by installing the Easysystems long range antenna.

Adding New Remotes:

Remove the back panel of remote (tiny Phillips screw) that is already working on your gate opener. Do the same to the new remote.

Each switch has 3 positions (top, middle and bottom) so care must be taken when setting each DIP switch. Match the new remote DIP settings to the working (current) remote DIP switch positions.

Check the signal transmission by pressing your new remote.

Changing Remote Codes: Positioned inside your gate opener control box is the remote Receiver box with 5 wires connecting to your control board. Open this up to view the code DIP switches which is adjustable to suit your remotes.

If you change these you must also change the remote DIP switch by removing the back panel of the remote (tiny Phillips screw) and matching the receiver DIP setting to match the remote DIP. Each switch has 3 positions (top, middle and bottom) so care must be taken when setting each DIP switch. After the receiver panel is connected to the control panel, check the signal transmission.

Solid Gate-Stops must be fitted in the center of driveway to give a solid pressure point between the stop and the end of each gate. Place a gate stop at the fully open position if desired. This will add strength to the system in the fully closed position and preventing damage to the arm internal parts.

Arm Condensation Drain Hole: Always mount arms with condensation drain holes facing down or water will enter motors and damage the electrics voiding

the warranty. This is indicated on your arm with the red "THIS SIDE DOWN" marking.

Wiring Double Gates: Connect your arms to block MT1 and MT2. We recommend 1.5mm wire or greater. Lighter cable **will** restrict the performance of the system. Use a suitable electrical junction box to protect cable joints from moisture damage.

Check Motor Rotation Direction: After power supply has been connected to the Control Panel, make sure the gate swings in the correct direction. The system will initiate an OPEN signal (green LED on board) the first time the remote is pressed. The second time the remote is pressed the system initiates a CLOSE function (red LED on board). Both gates should either OPEN or CLOSE in tandem.

This is important as wrong direction will cause the system work in the reverse manner.

<u>Hint:</u> Check the LED lights above Block 2. Green indicates an OPEN cycle and Red a CLOSING cycle. To reverse the direction of the motor, reverse the wire polarity at the Control Panel.

Setting the System:

Double Gate Operation

- Unplug AC power and Battery (or solar positive wire if fitted) and make sure the gate(s) are completely CLOSED.
- 2. After 30 seconds reconnect power to the system until short clicking from board can be heard.
- 3. Press remote transmitter for gate(s). Let the motor open (low speed) until gate(s) are fully opened. Check that the LED lights at block 2 are **green**. If red LED is observed, disconnect power then reverse arm wire in question and start setup again from step 1.
- 4. Both the motor will stop automatically when the gate is hard stopped. High current cut-off by the circuit board is automatically achieved.
- 5. Press remote transmitter again and let the motor close (high speed) until both gates are fully closed. LED lights at block 2 are **Red**. Both the motor will stop automatically when the gate is hard stopped. High current cut-off by the circuit board is automatically achieved.

The system has now stored the range between opening and closing time. The microprocessor will automatically adjust the low speed and high speed opening / closing of the system.

Setup is now complete.

6. Test each cycle a few times to make sure the microprocessor has stored the correct range.

Note that:

7. The gate will <u>auto reverse</u> when the system detects obstruction (high amp) during closing operation.

8. The gate will <u>stop</u> when the system detects obstruction (high amp) during opening operation.

To Reset:

9. To **RESET** the Memory, remove all power sources (Mains and Battery). Wait for 30 seconds. System will reset the open / close calibration. Repeat Step #1 – 5 to set the memory.

SINGLE Gate Operation:

- 1. **DIP** switch **5** set to **ON** position and connect motor wires to "MT A"
- Parallel the receiver output for 1 side and 2 side and wire into D1 block 7 terminal 3 (single open). Receiver Common is wired to block 7 terminal 2 (COM).

Note: Do NOT have connection on block 7 terminal 2 (dual open) as this will confuse the board and Motor B will not cut off.

- 3. Set the ARM in the CLOSE position and then power up the board.
- 4. Press the remote transmitter and observe GREEN Led indicating Opening cycle on D1 board. Gate is running on Slow Speed. If it is RED then switch OFF power and reverse the motor wire polarity to change the direction of the motor. Return to step 3.
- 5. Board auto cutoff when high amp. GREEN Led will go off.
- 6. Press transmitter again. Gate should close. Observe the RED Led indicating Closing cycle
- 7. In the 1 Arm operation, gate when fully closed (at high speed) the first time, may reopen. This is ok.
- 8. Press the Transmitter again. Observe the RED Led indicating closing cycle.
- 9. When the gate is stopped, the RED Led will go off.

12Vdc power only used: When the system is running on battery only (in the event of AC failure), the arms will open simultaneously but closes sequentially i.e. 1 x arm starts after the other finishes. This ensures that the battery will be loaded on only 1 arm at any one time. The cycle will be 20-30% slower then if powered with transformer.

External auto-close switch: The switch installed at the bottom of the control panel is hard wired as 30 sec Auto Close only. You must place 7 and 8 to OFF to use the switch. There are 3 x male connectors on the back of the switch under the control board. Line up the "0" on the switch to its adjacent male connector and connect the red female (black wire) tab from the control board. Use the middle male connector with the second red female tab.

"0" means the 30 sec auto close is OFF

Optional 12V devices: One number of 12Vdc Output (parallel to the Battery), protected with a 1 Amp in-line fuse has been pre-wired in your control panel.

[&]quot;1" means the 30 sec auto close is ON

Connect the Positive (+12V) of the optional device to the wire connector with the red cable and the (Com) to the connector with the black cable.

Keypad Output to Open the Gate: Connect keypad to block 7 on the control board with keypad signal to 1 (2 arrows) and keypad common to terminal 2 (2 arrows). This will activate both arms on double swing setup. If double gate setup and you want <u>only 1 gate</u> to open (pedestrian access) connect signal to terminal 3.

Exit Button or Intercom gate release: Connect common to block 7 terminal 2 (COM) and signal to terminal 1 (dual open) or terminal 2 (single open). This will activate both arms on double swing setup. If double setup and you want only 1 gate to open (pedestrian access) connect signal to terminal 3.

For exit buttons it does not matter which way you connect the wires at block 7 terminal 1 and 2.

Close Switch Port: Used where the user requires to "CLOSE" the gate only. It can either function as a single or double gate close operation. DIP switch 5 must be set to ON before single gate operation can be used.

Safety infrared beams: Connect beams 12V power to block 5, terminal 1 (+) and 2 (-). Connect beams common to terminal 3 (COM) and beams signal (normally closed or NC) to 4.

Note: You will need to remove the small loop / jumper wire that is positioned between terminal 3 and 4. Replace the loop / jumper wire when beams are not in use!

Lock: Used when a 12Vdc lock is used to keep gates from being forced open when fully closed. Connect to "lock" at block 3. DIP switch 2 is placed to ON to allow lock tongue to release freely a second before gate performs an open cycle.

Loop Detector / Free Exit Function: Connect the Loop Detector signal cables to Block 6.

In the Free-Exit-Mode, a command via the loop detector or underground motion sensor will cause the gate the open. If another command is made (i.e another car passes through) during the opening phase, it has no effect. The gate will continue the opening stroke.

When the gate has been fully opened and stopped, the auto-close timer begins. This is the Pause-Period.

If not further command is received, the gate will automatically close back at the end of the pause-period (auto-close time).

If another command is made during the Pause Period, the cycle for Auto-close timer will reset and gate auto closing will commence after the end of the new cycle.

If a command is made during the closing stroke (i.e. a car passes by the loop while the gate is closing), the gate will pause and reopens.

Important Note: Photobeams must be fitted as an additional safety device when using Free-Exit Function and / or Auto-Close function is used.

External Light connection:

D1 Arm gate Board has a 12Vdc output on the Lamp Relay Terminal. Left terminal is negative and right is positive. This output is to energize an EXTERNAL 12Vdc relay which in turn can be used to turn on /off a higher rating electrical item such as a Pillar Light.

Warning: All 240V wiring MUST be done by a qualified electrical person.

- 1. Set Dip Switch [3] and [4] to OFF Position. Active for 1min.
- 2. Connect a 12Vdc relay as is shown in Figure 1.

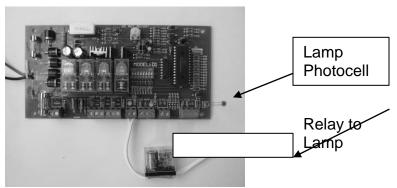


Figure 1: Connection of 12Vdc Relay for 240V lights

Note: D1 board is designed with a Lamp Photocell (bottom right side of D1 board), so that Lamp Relay will be activated only in a dark ambient environment.

In a bright ambient, the Lamp Relay is not activated in the Opening Cycle of the Arm (Green LED). This is due to the fact that the Lamp Photocell is exposed to significant lighting.

When connected to Pillar Lights, this design prevents the Pillar Light from turning ON during the Day.

If you wish that the Pillar Lights be turned on, irrespective of the ambient lighting, use a Dark Tape to cover the Lamp Photocell or turn the Photocell inwards when mounted in the Control Box.

Lamp Relay Activated when Lamp Photocell is covered (black-out).

Please note however, that due to the different lighting intensity, direction of lights, reflection etc in the Control Panel Box, it is possible that that Lamp Relay is activated even if the external ambient is significantly bright.

Point the lamp photocell to the side Gills of the supplied box for ambient light detection.

Other Settings of the DIP Switch 3 & 4

DIP 3 [ON] & 4 [ON] Lamp deactivated (for solar setup power saving).

DIP 3 [ON] & 4 [OFF] Lamp permanently ON. You can have your gatepillar lights stay ON at night then turn OFF when sun comes up.

Trouble-Shooting.

Problem: The system does not response when transmitter is pressed.

- Make sure the transmitter in good condition. Ensure that the battery is functioning and LED on the transmitter lights up when button is pressed.
 Replace transmitter if the LED does not light after new battery is replaced.
- Try any external push buttons or exit buttons. If they activate the gate but all transmitters do not activate the gate, check receiver wiring to board.
- Check remote DIP switches match the transmitter DIP Switches.
- Check the wiring of the receiver panel and make sure the power is connected in correct polarity. Check also the power to the control board with the red LED at block1 is ON and the battery has 12V. Ensure 12Vdc is supplied to the receiver box.
- Check arm(s) are working using power direct from the battery.
- Check wires are connected properly to the control board.

Problem: The gate will open but not close

 Check the wire loop is still in place on block 5 between terminal 3 and 4. If beams are fitted, check beam wiring/setup/ obstructions.

Problem: The gate does not fully open and close, or stops half way.

- Ensure there is no obstruction to the movement of the gate. This could also be high resistance such as poor gate installation or high winds activating the anti-obstruction sensing. This can be verified by releasing the gate to Emergency release mode. Manual push the gate open and close to detect any obstruction.
- Ensure that on the first setting setup, the gate is fully closed before the board is initialized. Short distance detection will result in error of count for the gate opening and closing angle.

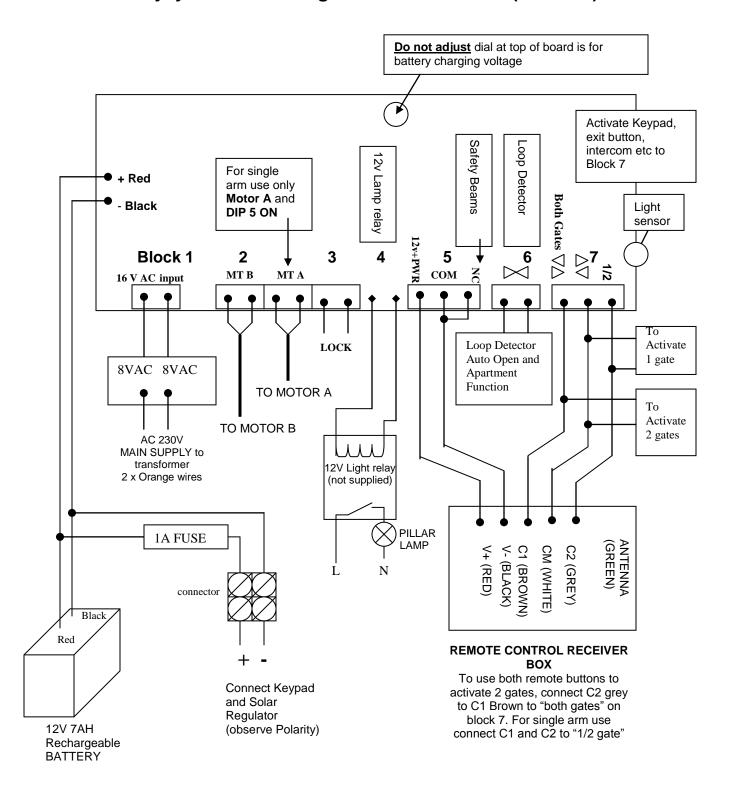
Problem: The gate does not travel smoothly when opening or closing.

- Ensure there is no obstruction to the movement of the gate such as hitting the ground. This can be verified by releasing the gate to Emergency release mode. Manually swing the gate open / close to detect any tight spots.
- Ensure that the gate is properly leveled and that the dimension guide for the installation of the Automatic gate is followed. Arm **must not be** parallel to the gate when fully open or fully closed.

Problem: On double setup one gate closes fully before the 2nd gate starts.

 System is running on battery only (eg. Solar setup) and transformer AC not connected. Check power with volt meter.

Easysystems D1 Swing Gate Control Board (ver 1.2.0)



Manufacturer 24 month Limited Warranty

Warranty: PrimeVal NZ Ltd Trading as Easysystems (NZ supplier) automation product motors and control boards are carefully controlled and tested and are guaranteed against manufacturing defects and workmanship for a period of 24 months, keypads and safety beams12 months, batteries 6 months and remotes 3 months from the date of sale on the invoice. This limit is bound by the correct product application and all recommended installation procedures have been followed. The maximum daily usage must not exceed and periodic maintenance of the product carried out.

In the case of product failure due to defective material or manufacturer workmanship within the 24 months warranty period, the product will be repaired or replaced at the manufacturer and Easysystems option, if returned freight prepaid to <u>Easysystems 111, Belk Road South RD3, Tauranga 3171</u>. Removal, transportation or reinstallation of the product is not included in this warranty.

Take note that the person that installs the products by assembling the different components has the same responsibility as the manufacturer and supplier of the product.

The manufacturer or PrimeVal NZ Ltd Trading as Easysystems will not be held responsible for any charges or damages incurred or resulting from the normal or miss use, or poor installation, or failure to follow the safety requirements in the product manual, or in the removal of the product for repair, or for the reinstallation of those products after repair. Easysystems shall not be liable for any special or consequential damages that result from the use of, or the inability to use, the materials on this site or the performance of the products, even if Easysystems has been advised of the possibility of such damages.

This warranty shall be considered void if damage to the product(s) was due to improper installation or use, connection to an improper power source, or if damage was caused by delivery, lightning, wind, fire, flood, water damage, insects or other natural agent. Easysystems may replace the parts with products that have been repaired or used products. If the product has been discontinued and/or replacement parts can not be obtained then a similar product may be supplied to the customer. Warning signs and safety detection devices are strongly recommended to prevent entrapment for the general public and those who use these products must be placed on the product at all times.

Indemnification: On purchasing this product **y**ou agree to indemnify, defend, and hold harmless GR Sistemi Automatici Di Apertura S.R.L (manufacturer of GR products) and PrimeVal NZ Ltd Trading as Easysystems (supplier), its officers, directors, employees, agents, licensors and suppliers (collectively the "Service Providers") from and against all losses, expenses, damages and costs, injury and death from those people that come in contact with the said product and its use in a public area.

Delivery: Easysystems is not liable for damage or loss of product while in transit to the consumer and claims must be submitted directly with the currier concerned within 7 days. The customer must examine the goods, or have them examined, when they are received. Any eventual claim regarding errors in deliver must also be brought to the attention of Easysystems within seven days of receiving or non-receiving of goods. In the event of complaints about the quality of the goods, the customer has to communicate them to Easysystems in writing or email sales@gateopener.co.nz within seven days of discovering the defect. A product packing check list is completed at the Easysystems warehouse for every order.

IMPORTANT: No goods will be replaced until deemed to be defective by Easysystems service staff at our Tauranga head office. The warranty becomes null and void when ever products, that are deemed to be defective by the customer but have not yet been examined by Easysystems staff, have been tampered with. E-mail Easysystems for a Return Goods Authorization before returning product to Easysystems. Products received at Easysystems without authorization will not be accepted. Replacement or repaired parts are covered by this warranty for the *remainder* of the one period or (24) months, whichever is greater. **NOTE:** Verification of the warranty period requires copies of receipts or other proof of purchase. Goods

MUST be transported in original packing boxes to protect them from transport damage. Please retain these records.

This warranty is in lieu of all other warranties, expressed or implied.

Imported by <u>www.gateopener.co.nz</u> PO Box 9215 Tauranga New Zealand sales@gateopener.co.nz