

Sliding Gate Operator

User's Manual



WARNING

**THIS PRODUCT MUST
BE INSTALLED BY A
QUALIFIED ELECTRICIAN**

BMG Imports

Sliding Gate Opener

MODEL No. LW550

Power rating: 220-240v AC 50Hz 550w

Duty Close: 0-120 adjustable Max. 30s open

Max. gate weight 1500kg

Motor rotational speed 1400rpm

Output rotational speed 46.6r/min

Approval No. SAA121472

45° C ~+ 55° C IP44 Made In China

Important Safety information

Sliding Gate Motor - Model 550 AC Sliding

This item must be installed by a qualified electrician

All safety instructions and installation methods should be read and completely understood by the installer and the owner prior to the installation of the gate opener system. This product is designed and manufactured for the use indicated in this document. Remember that all automatic gates are intended for vehicular gates only. A separate gate or entrance must be installed for pedestrian use. Any other use, not expressly indicated may damage the product or be a source of danger. Do not use it on large sized gates that have a steep incline. Wrong selection of motor will result in unreliable operation.

Owner should observe the following:

1. Do not cross the gate while it is operating
2. Keep children away from the gate and the remote control
3. Do not adjust the setting of the control panel unless you understand what you are doing
4. Learn the use of the emergency override key. This is crucial in the event that the system does not work.

Installer should observe the following:

1. Make sure the gate weight does not exceed the maximum weight specified
2. The gate design must be suitable for the installation of the gate opener system
3. Ensure that the gate is installed on flat, level ground and can move and slide freely in both directions along the entire gate length
4. Gate opener must be installed in the area where it is not easily damaged
5. Do not change with parts or components not supplied by the manufacturer
6. Make sure all wiring works are correct in accordance with electrical bylaws and in good condition before supplying the mains power to the control panel
7. **Turn OFF the power when doing any maintenance**
8. Ensure the control panel box is free from water leakage and insects to avoid short circuiting of the control panel and voiding warranty
9. Never supply mains power directly to the DC motor if cover is damaged
10. Do not install the operating system if in doubt. Contact the manufacturer or your local agent

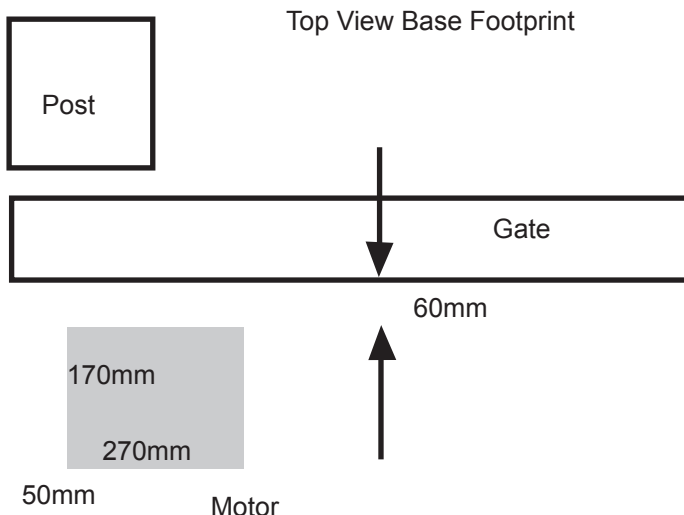
Install “Physical Gate Stops

Physical gate stops MUST be installed at each end of your gate. If the magnetic switch on the motor fails to stop the gate cycle, the gate stops will prevent the gate from falling off the guide rollers and causing possible injury or damage.

Installing Motor

Preparation of the concrete ground surface (base) for motor mounting

Make sure that the ground surface for the motor installation is solid and level. A good base is paramount to the proper operation of the gate opener system. If installing cables, place these 300mm from your wall/post and approx. 220mm in from the corner of the wall/post. The motor mounting plate is 170mm deep x 270mm wide. Position the motor mounting plate (side nearest to the gate) approx. 150-160mm from the wall/post and approx. 50mm in from the post driveway corner point.



Cables from the control panel to the motor can be per-embedded in the base should concealed wiring be preferred. Check with your electrician. You may have to space the bottom of the base plate with spacers to gain some height to run wires and cables. Again check with your electrician.

Prepare for motor cable. Optional devices such as wired keypad, photo beams etc. use telecom cable, cat-5 or cat-6

NOTE: You may need to raise the motor to allow the gear rack to fasten properly to your gate bottom rail, so check this first by placing a piece of gear rack on top of the motors cog alongside the gate.
Open/close the gate to ensure no fasteners are obstructing the rack.

There are 3 typical ways to fasten the motor to your concrete.

Option 1: If your gate is manufactured with 100 x 50mm rectangular bottom rail such as the BMGI low profile model and sits about 40mm off the ground with the wheels, you can bolt the motor directly to the concrete.

Hint: Option 2 and 3 are good for raising the motor to allow cables to be installed freely under the motor so you do not need to be too accurate with your cable location.

Option 2: If your gate is fitted with the standard wheel that raises the gate to approx. 50mm from the ground you can use high mounting blocks to lift the motor. Position these spacers under the left and right sides of the motor and fasten to concrete.

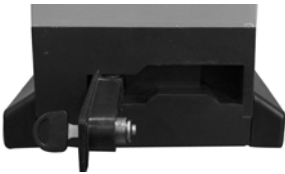
Option 3: new concrete pad. If your gate is above 50mm off the ground you can use the mounting plate supplied with the motor and the 4 threaded rods, 1 in each corner to act as pylons. The rods can be pressed into your concrete pad. You can now line up the mounting plate. Once the concrete pad has dried, you can now assemble, starting with the motor, washers and fasten together with 4 more nuts.

Installing the gear rack to the gate:

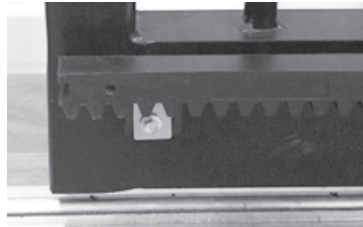
For your gate to function smoothly you will need to install the gear rack correctly. The outcome is to have a 2mm gap between your gear wheel and the valley of the gear rack throughout the length of the gate. Temporarily raise the motor by another 2mm using bolt-washer spacers under the motor mounting bolts.

Release the auto gate to emergency release so that the gear wheel rotates freely for the alignment and installation of the gear-rack. (see picture below)

Starting with your gate in the open position, align your first section of racking to sit flush with the start of your gate. (See picture below)



Emergency Release

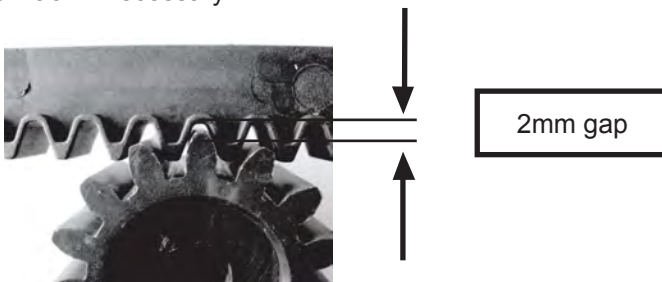


Rack installation start

Rest the first gear-rack on the gear wheel, ensure that the gear rack is level and secure the gear-rack onto the gate using the fastenings provided. Move the gate 1m and repeat as above until all gear-rack has been installed. Do not fasten where wheels may be contacted as this will increase gate moving resistance dramatically.

We strongly recommend you leave your gear rack over hanging (approx. 100mm) until after you have fitted your “magnet brackets” and only then cut off any extra with a steel hacksaw. The gear rack has a steel rod inserted in the nylon casting for strength.

Remove the washer/spacer from the motor and the gap of 2mm between the gear wheel and the gear-rack is automatically achieved. Check to ensure consistent meshing between the gear-rack with the gear wheel over the entire length of the gate. Loosen the screw on the gear-rack to adjust the position of the gear rack if necessary.

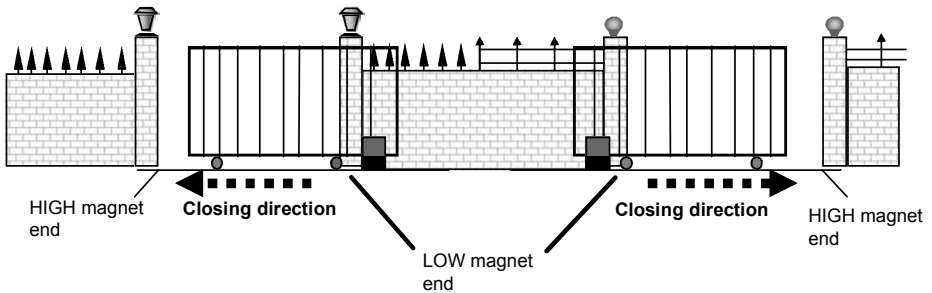


Important Note: Gear wheel and gear rackings life depends almost entirely on their correct meshing

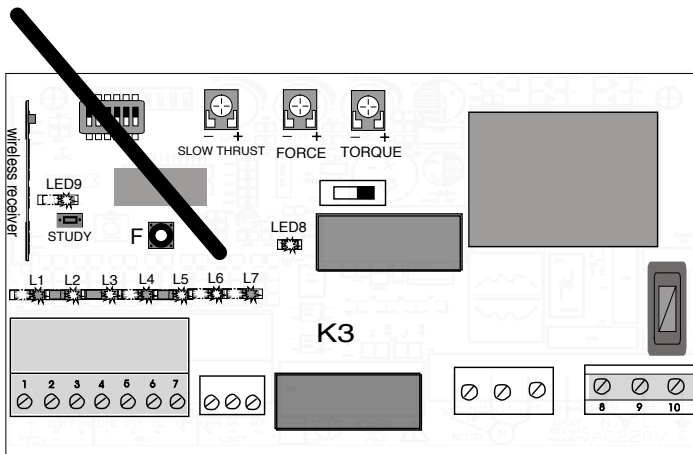
Install “Magnetic Brackets”

One magnet bracket **MUST** be installed at each end of your gate, attached to your rack. Supplied is a high bracket and a low bracket, when installed they are designed to trigger the internal magnetic limit switch. This will stop the gate cycle **BEFORE** making contact with the physical gate stops.

The best way to install the ‘magnetic brackets’ is to close the gate to hit the stop, slide back open 50mm, now slide the **LOW** magnet bracket along the racking until you see ‘**L6**’ light up on the main control board, then adjust magnet on bracket and secure. To install **HIGH** magnet, open gate full and pull back 50mm, now slide the **HIGH** magnet bracket along the racking till you see ‘**L7**’ light up on the main control board, then adjust magnet on bracket and secure.



L6 & L7 LEDs

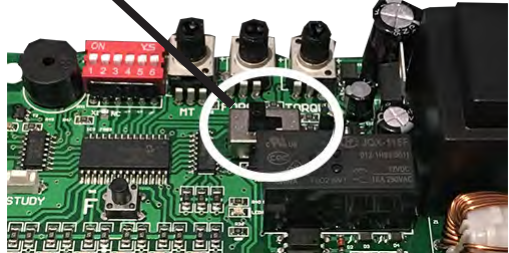


Check that both fully open and fully closed ‘magnetic brackets’ are in place on the gear rack and are functioning correctly. Check both fully open and fully closed physical stops are securely in place.

Program Gate 'Opening Direction'

When setting the motor direction switch, standing at the motor, if your gate opens to the left 'direction switch' should be over to the left and if the gate opens to the right then the 'direction switch' should be over to the right. To make sure this is correct, open gate half way and lock clutch in, press remote button and the gate should open fully.

Motor direction switch



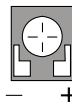
To learn the gate slow down

Have the gate in the closed position and lock in clutch (give the gate a push to make sure the clutch is locked). Push dip switches 4 and 6 on/up on the control board. Press and hold **F** button on the control board for 5 seconds, then let go. The gate will now open fully and hit the gate stop, then within a couple of seconds will automatically close. Once the gate has closed, push dip switch 6 off/down. Slow down now completed

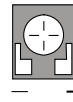
Test the gate opener is working correctly

If the gate loads up on your physical stops this will affect the reliability of the gate operation. If this happens, you may need to adjust the magnet brackets.

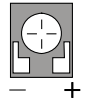
Adjust Torque



SLOW THRUST



FORCE



TORQUE

- SLOW THRUST: Adjust motor's thrust after the gate is installed.
- FORCE: Rebound resistance function, Turn clockwise to increase force to desired setting
- TORQUE: Adjust motor's power (clockwise is bigger)

Tuning remotes (remotes may already be tuned in - test first)

Press the Study button (left hand side of the board) for 2 seconds until the red LED light goes solid and release. On your remote press the top left hand button twice. You will hear a beep and the red light on the control board will go off to confirm tuning of remote. Now do the remaining remotes. Be careful not to hold the Study button down too long as this will erase/wipe all remotes tuned.

Note: only 30 remotes will tune into the on board receiver

Erase all remotes

Hold the Study button down for 5 seconds, now all remotes will be erased



Tuning remotes



Remote



Control board

To learn auto close

On the control board, push dip switch 3 & 6 on/up (see figure 1), all others down. You will be required to press the F button to set the auto close time. Each time you press the F button you will hear a beep. Each beep will equal 1 second. Leave dip switch 3 up/on for auto close and put dip switch 6 down. Put 1 & 4 dip switches on/up (see figure 2).



Figure 1

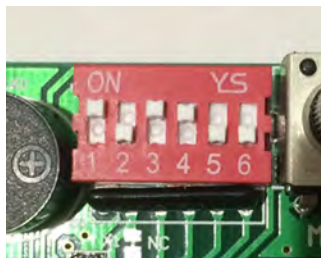


Figure 2

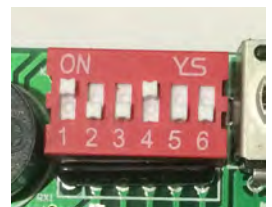


Figure 3

Cancel auto close

Push dip switch 3 off/down (see figure 3).

Additional Devices

First insert your wires in the correct location as per the labels. Check the running of the gate each time you install a new device. This is so you do not burn out the system accidentally.

Connecting Exit Push Button:

Using speaker wire

Terminals 2 and 4 to activate open/stop/close

Connecting Keypad:

Using telecom wire

Keypad COM direct to gate open board terminal COM (#2)

Keypad NO direct to gate opener board terminal ONE (#4)

Keypad +12v direct to gate opener board +15v (#1)

Keypad -GND direct to gate opener board COM (#2)

Connecting the IR beams:

Using telecom wire

Important Note: Terminals for eye beams are found in the bottom left corner of the main control board. To install IR beams you will need power to both IR beams. Connect one IR beam to the other IR beam -1 to -1 and +2 to +2.

Now connect the other IR beam direct to the main control board.

Connect -1 to -2 COM, +2 to +1 15v, 4 to 2 COM and 5 to 3 FSW

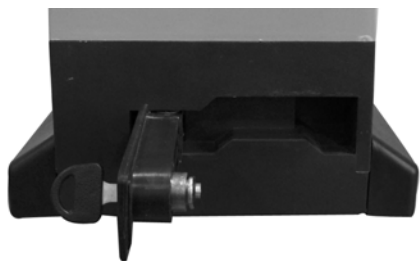
Make sure to remove the loop wire

Drive release mechanism:

The motor is equipped with a lockable release mechanism to enable the gate to be operated manually due to a power cut. The release mechanism is shown below with the clutch disengaging the link between the cog wheel and rack. Insert your key into the lock and pull the clutch outwards.



Drive release mechanism and key



Clutch disengaged

Troubleshooting

Number	Trouble	Cause	Method
1	Motor can't work	<ul style="list-style-type: none"> *No power supply *Blown fuse *Capacitor decay *Surpass load *Effected by the thermal protection 	<ul style="list-style-type: none"> *Check power supply *Change fuse *Check if any debris on track. *Restart after 20min.
2	Can open (close) But can't close (open)	<ul style="list-style-type: none"> *Position of the magnet isn't correct *Magnet is damaged *Eye beams if fitted 	<ul style="list-style-type: none"> *Adjust the position *Change the magnet *Re adjust magnetic steel position *Check eyebeams are functioning if fitted
3	Can't locate accurately	<ul style="list-style-type: none"> *Distance of the magnetic bracket *Internal Magnet is damaged 	<ul style="list-style-type: none"> *Adjust position of magnet bracket *Change internal magnet
4	Clutch can't work	<ul style="list-style-type: none"> *Operating handle is broken *Clutch is jammed 	<ul style="list-style-type: none"> *Change handle *Manually push the gate to lock in
5	Remote/s will not work	<ul style="list-style-type: none"> *No signal 	<ul style="list-style-type: none"> *Check there is an LED light on the remote when the button is pressed. If not replace battery *Re tune remote
6	Motor can turn but can't work	<ul style="list-style-type: none"> *Compression spring off clutch is bad. *Clutch is released 	<ul style="list-style-type: none"> *Change the spring *Close the clutch *Adjust racking
7	Motor is humming but gate does not go	<ul style="list-style-type: none"> *Capacitor damaged 	<ul style="list-style-type: none"> * Replace Capacitor

Servicing Your Gate and Motor

Your gate and gate motor are both very important pieces of equipment. This equipment is like a vehicle, which requires preventative maintenance especially on the coast where corrosion is a big factor.

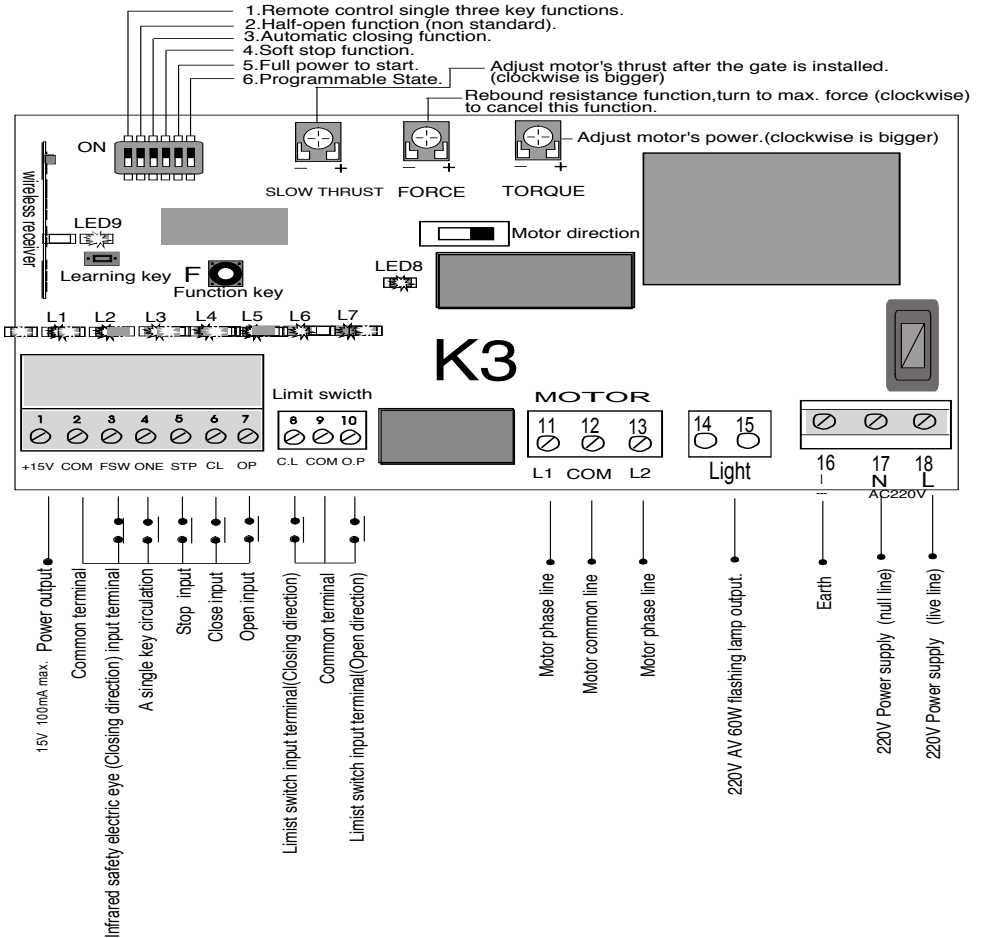
The following **MUST** be done at regular intervals: (3-4 months)

1. Check for insects, snakes and geckos in and around the PC Board.
2. The gate must be lifted and the wheels that run on the rail must be checked to see that they spin freely and that the bearings haven't collapsed, this is very important to ensure the life span of your gate motor.
3. The gate guide wheels must be checked to see that they spin freely and ensure that they are not worn and the lock nuts are tight.
4. Over time the gate wheels tend to bed themselves in, as a result the gate's gear rack now rides directly on the motor's main drive pinion gear. There should ordinarily be a 2 mm gap between the gear rack and the pinion gear. Another indication of this "binding" situation is when the motor vibrates excessively while the gate is running. This fault causes unnecessary wear and tear and will reduce the life of the operator and it must be rectified without delay. The rack can also become too loose and the gap becomes too big, which causes the pinion gear to skip the teeth on the gear rack causing a malfunction.
5. If safety beams are fitted, check for any insects and ensure that there are no loose or broken wires inside the beams.
6. Remove any plants, trees or branches that may cause an obstruction to the wheels and a blockage to the beams.
7. Check that the operator's foundation plate bolts are still secure.
8. Check that the ends stops are still secure.

Warranty

1. 12 months warranty from date of purchase, warranty does not cover incorrect installation or damage by fusion and other insects.
2. Warranty replacement and repairs are back to base.
3. You can view our full terms of conditions at www.bmgi.com.au
4. Must be installed with a surge protector to protect the main control board from power surges. Warranty will be voided as power surges are not covered under warranty.

Wiring diagram



IMPORTANT

240 Volt power supply must be safely secured inside the motor housing to prevent the power supply from being disconnected from the main board. If not secured correctly this may cause the LW550 to become an electrical hazard.