USER'S MANUAL

SLIDING GATE OPENER
SLIDE400/DC12V SERIES

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INTRODUCTION & RECOMMENDATIONS

We strongly recommended using the services of an experienced gate installer to install your gate operator but if you intend installing the operator yourself, the manual must be read carefully before any installation begins.

While you have taken all reasonable steps to ensure that your gate operator is safe to install and use, it must be noted that your gate is a heavy moving piece of equipment and can cause serious damage or injury if it strikes an object or person. Your gate operator has a built in electronic collision sensing which will make the gate stop and reopen if it strikes an object. This does mean however, that the gate will actually strike the object before it stops. It is because of this that we strongly recommended that 'Safety Beams' are installed to reduce the risk of the gate striking an object. The installation of beams does not guarantee that the moving gate will not strike an object in it's path.

Check the following items before installing the operator:

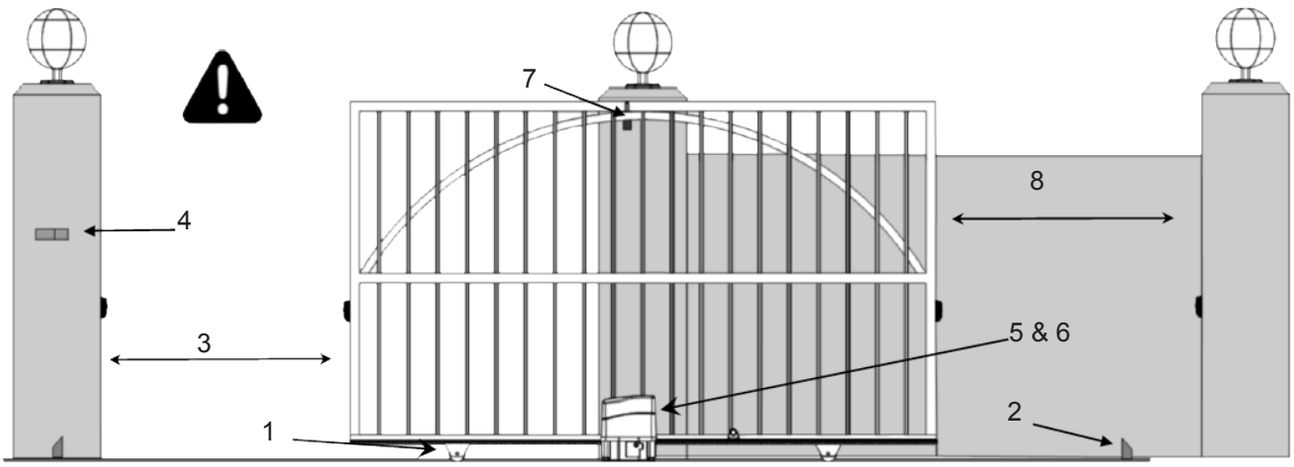
• That the rail is level – the gate must not move on its own at any stage.
• That the wheels are turning freely and are not jammed.
• That the gate is not bent or bowed in any way.
• That the rail has sufficient end stops so that the gate can never run of the end of the rail.
• That the gate setup is constructed in such a way that the gate can not fall over.
• That the top rollers are turning freely and are not jammed.
• That the gate does not jam in the catch bracket when closing or opening.
• The gate must not exceed the maximum number of operations stated in the specifications.
• Extreme care should be taken when automating a gate that is fully cladded, as wind resistance can cause the gate to not close properly.

Only when all the above points are satisfactory should you go ahead with installing the gate operator. Remember, if a gate causes damage or injury the installer of the equipment may be held liable.

DO NOT CONNECT MAINS VOLTAGE DIRECTLY TO THE CONTROLLER
DO NOT CUT THE PLUG OF THE TRANSFORMER AND HARDWIRE
EITHER OF THESE MAY CAUSE YOU TO VOID YOUR WARRANTY

• Electrical shock can occur while installing this equipment
• Injury or death by electrocution may lead to law suits against the installer/homeowner.
• All wiring should be run in conduit.
• Do not open, tamper or modify any of the electronic components of this equipment in any way.
• Do not attempt to repair the equipment, this should only be done by a qualified technician.
• We will not be held liable for any accident / incident resulting in damage, injury or death ensuing from the incorrect installation of the automatic gate operator.
• Although these operators have built-in collision sensing, substaintial damage can still occur. For this reason 'Safety Beams' should be used on all installations.
• Do not allow children to play near or with any gate, gate operator or remote control.
• It is the responsibility of the installer to ensure that the gate is in good working condition before automating the gate.
• We cannot be held responsible for a gate bumping either of the ends stops if it runs on a slope.
• Do not operate the gate unless within direct sight of the gate.
• A gate is a heavy piece of equipment and injury, even death, may occur due to incorrect installation or operation of the equipment. There are a number of areas that may cause entrapment which could lead to injury.

AREAS WHERE INJURY OR ENTRAPMENT CAN OCCUR

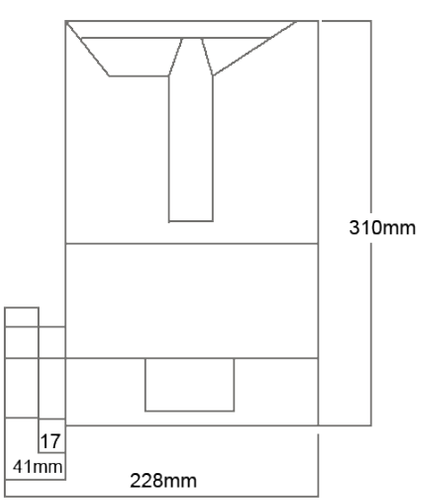


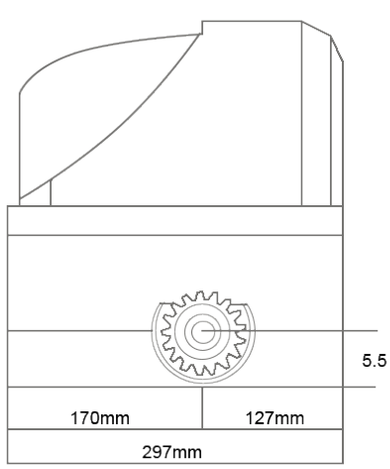
1. Gate Wheels (Pets at risk when lying at the gate)
2. Between the gate & the end stop
3. The gate, during the closing cycle
4. Between the gate & the catch bracket
5. Pinion Gear
6. Between the gate operator & the gate
7. Gate Rollers
8. The gate during opening cycle

TECHNICAL SPECIFICATIONS

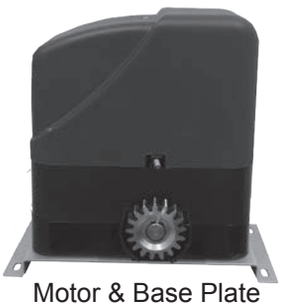
Power	110 or 230 VAC
Transformer	15VAC
Electrical motor	12VDC
Frequency	50-60 Hz
Absorbed rated current	1.7 A
Absorbed power	80 W
Nominal speed	2000 rpm
Reduction ratio	1/30
Manoeuvre speed	14m/min
Operating temperature	-20degC - 70degC
Max gate weight	400kgs

* These technical data are simply indicative





KIT INCLUSIONS



Motor & Base Plate

4 x racking

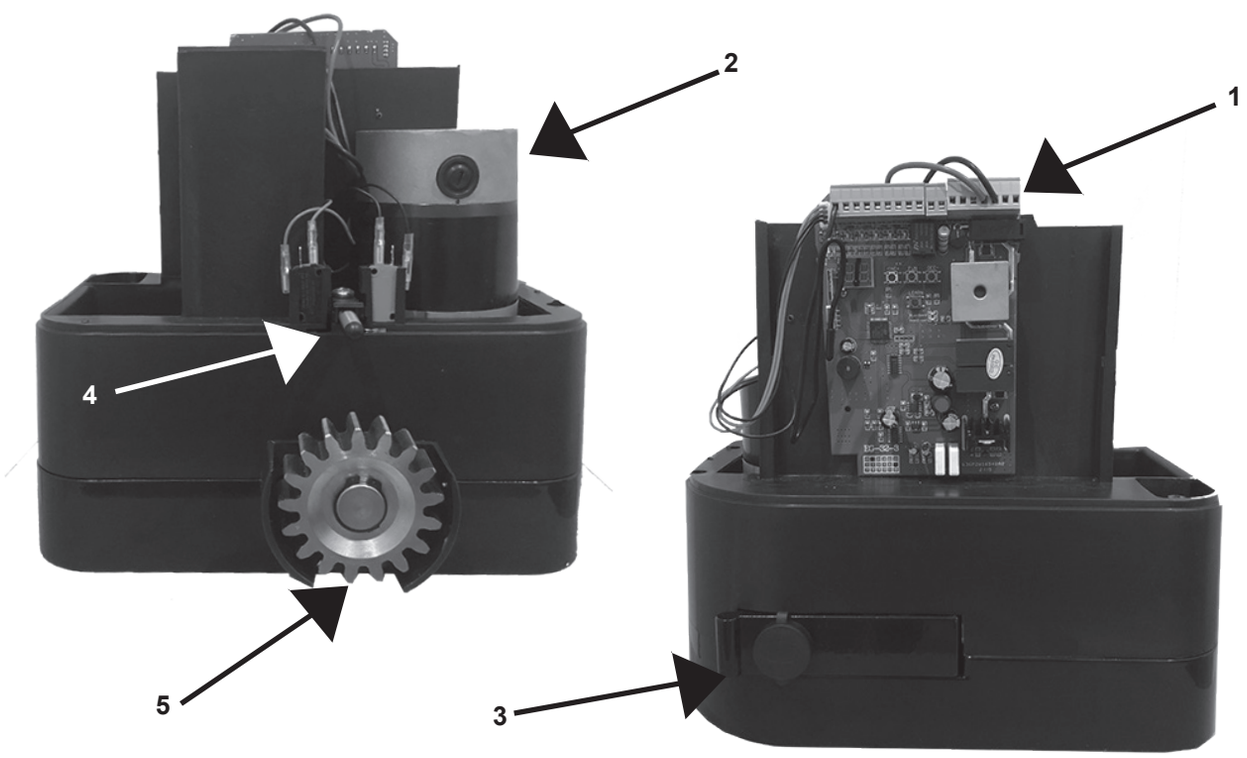
Transformer

2 x Release keys

2 x Remotes
(design may differ)

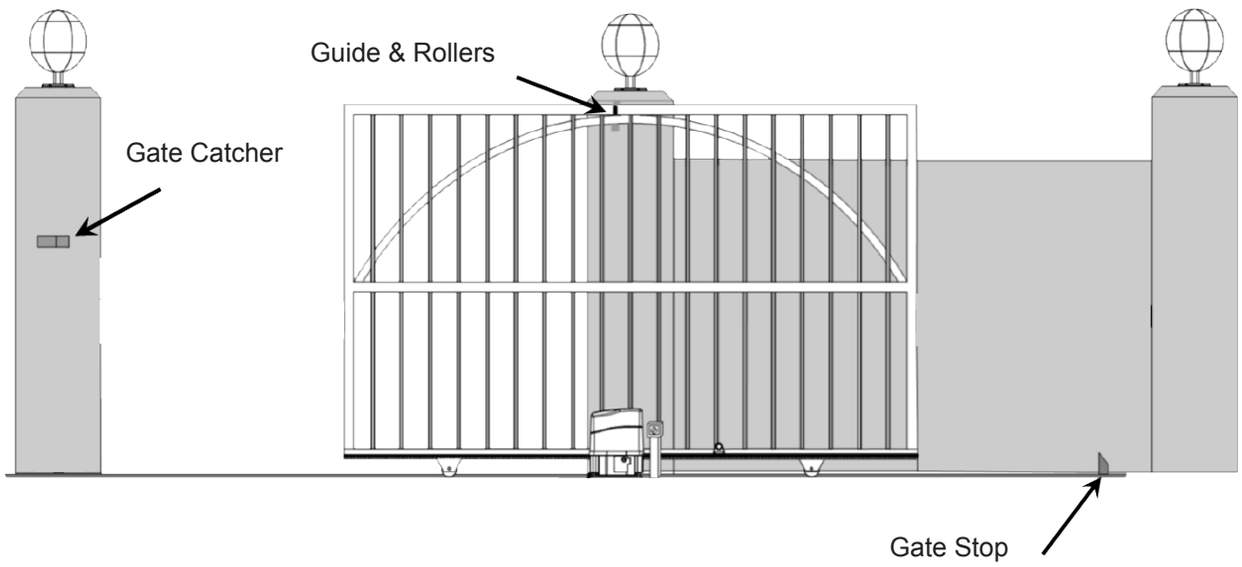
2 x limit brackets

OPERATOR PARTS INDENTIFICATION



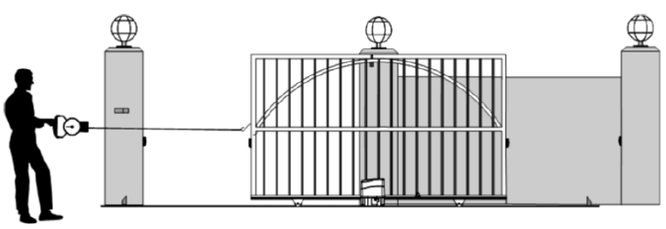
1. Main Control Board
2. 12 Volt DC Motor
3. Manual Release Door
4. Limit Switch
5. Cog

SITE SETUP



GATE PULL AND RUNNING FORCES

The gate Pull and Running Forces must be measured before installing the operator. Should the measured forces exceed those in the table below, then the operator must not be installed. It may be possible to reduce these forces by carrying out maintenance on the gate & rail but if not, then the operator must not be installed. These forces can be measured using a fishing or luggage scale (see figure alongside).



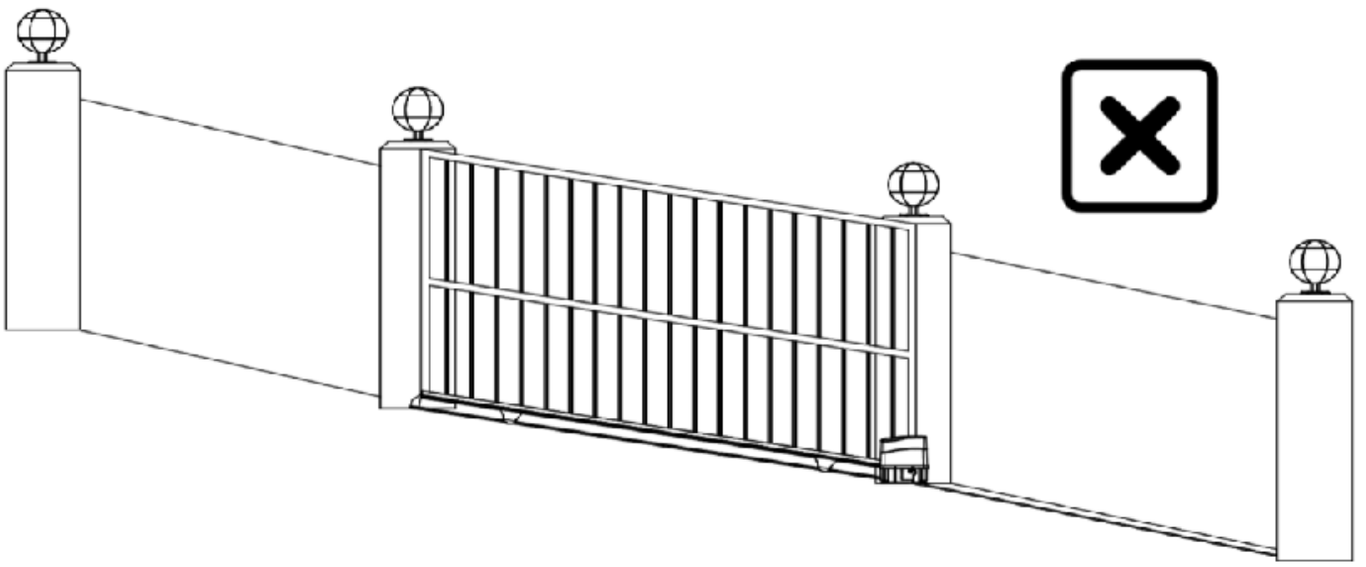
Pull Force: place the gate in the fully open/closed position and pull on the scale until the gate starts moving. The value showing on the scale at the point that the gate starts moving is the Pull Force kgf.

Running Force: this is the maximum value read while the gate is moving before coming to the fully open position.

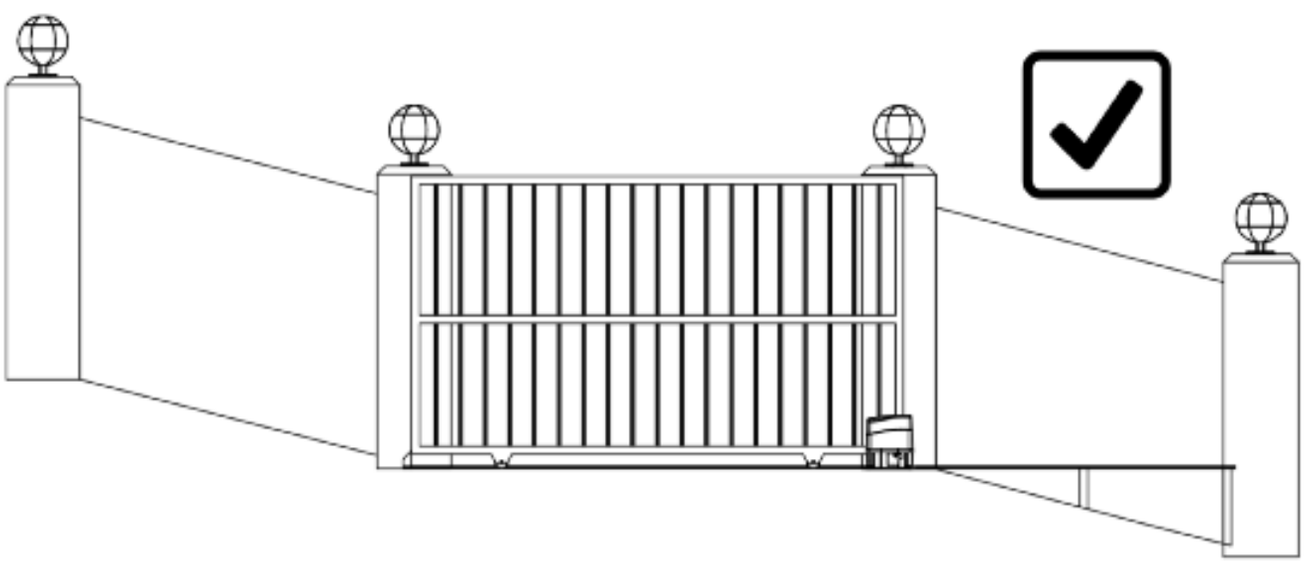
Maximum Gate Mass	400kg
Maximum Pull Force	16kgf
Maximum Running Force	10kgf

AUTOMATING UNLEVEL GATE

We do not recommend automating a gate which is not level. Failure to level the gate will put undue stress on the operator and the gate may bump the end stops. Futhermore, if the operator is in manual override mode, the gate may run freely down the slope and present a safety risk.

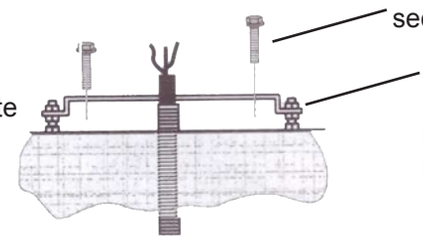


The gate should always be level. This can be achieved by leveling the track using supports or spacers.

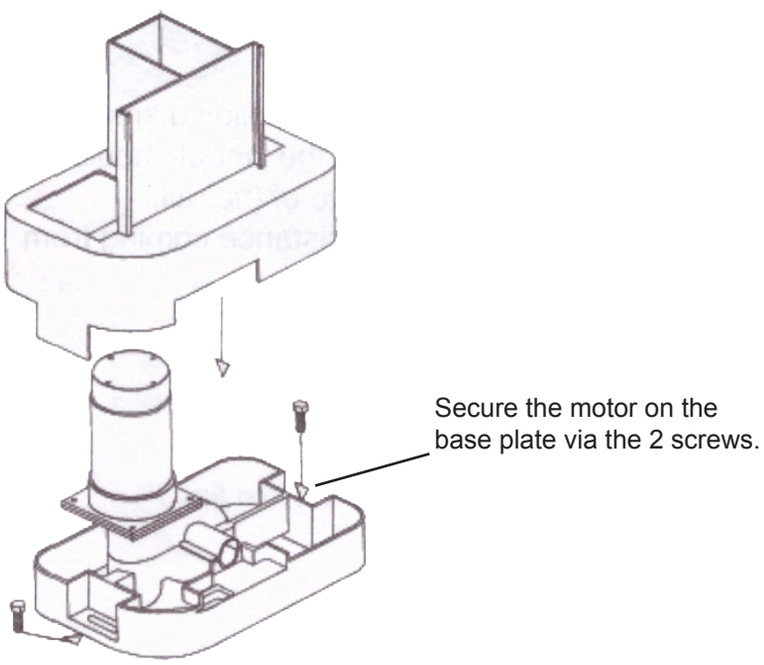


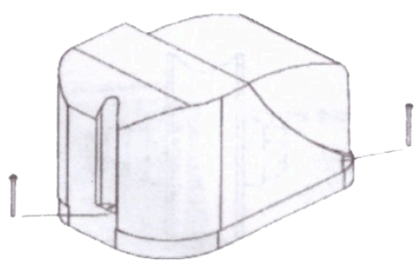
ANCHORING THE BASE PLATE

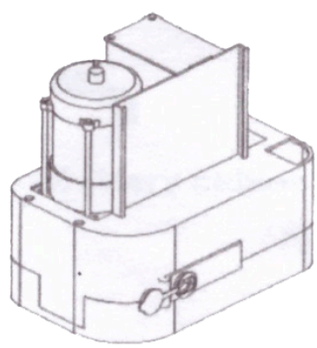
1. Lay a concrete slab 400mm x 400mm x 200mm
   Dig a hole and place the conduit in the correct position.
   Fill the hole with concrete and allow to set.
2. Place the base plate on the concrete slab and feed the conduit through the cable inlet.
3. Keep a 70mm distance between the edge of the base plate and the gate.
4. Attach the base plate to the slab, adjust the screws and nuts to level the plate.



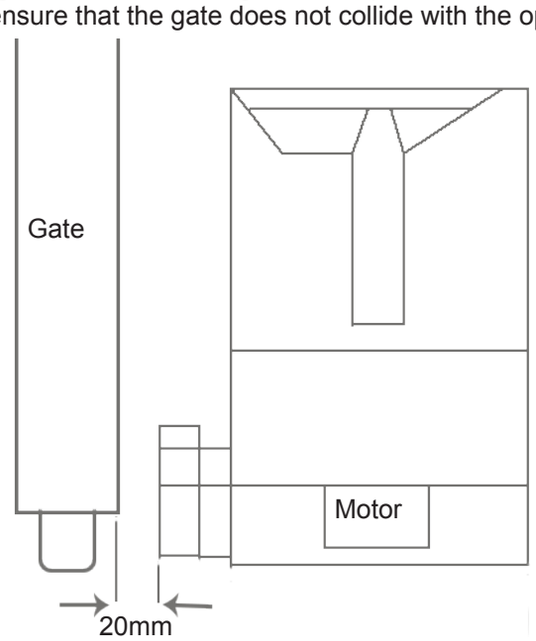
SECURE THE MOTOR TO THE BASE PLATE





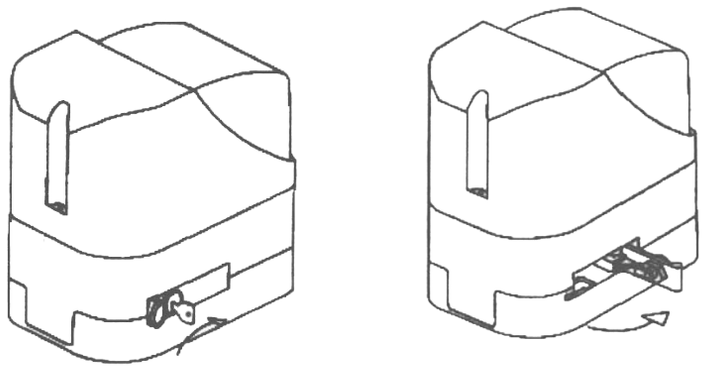


1. Position the motor to allow a 20mm gap between the face of the cog and the face of the gate and then bolt down.
2. Place a Spirit Level on top of the operator base while fastening the screws ensuring that the operator is level.
3. Manually move the gate fully open and closed very slowly to ensure that the gate does not collide with the operator in any way.
4. Be sure to remove any cement/debris around the pinion gear.



PLACING THE MOTOR IN MANUAL OVERRIDE

When power has failed or you need to manually slide the gate open, turn the key clockwise and pull the lever to release the clutch, the gate can be operated manually now. To lock the gate, push the lever door shut then turn the key anti clockwise to lock it again.



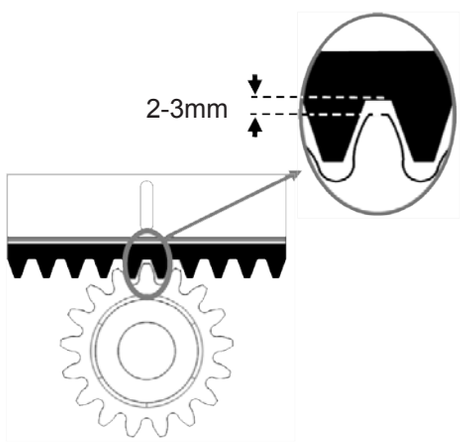
MOUNTING THE RACK ON THE GATE

There must be a 2-3mm clearance between the mounted rack and the cog

1. Start with the gate in the open position, place the first piece of rack on the cog making sure you have the 2-3mm gap between the rack and cog.
2. Fasten the rack to the gate with the self drilling TEK screws through the slots in the rack.
3. To attach additional rack, slide the gate along and repeat with the above procedure until all the rracking hs been installed.

The racking must run the full l ength of the bottom gate rail including the tail.

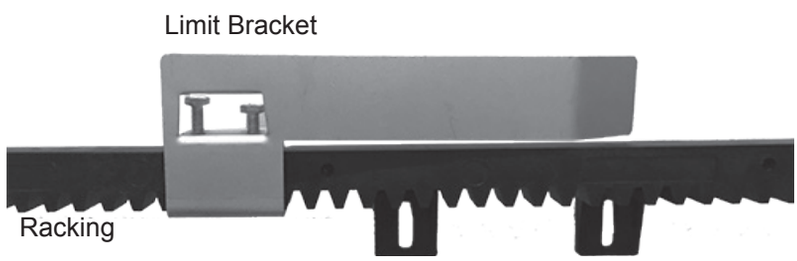
Now slide the gate back and forth making sure the gate isn't catching or binding on anything



MOUNTING THE LIMIT BRACKETS

Make sure your motor is in manual mode.
Open the gate until it hits the ground stop, now pull the gate back 60mm and install the limit bracket onto the racking, slide the gate bracket along until it just hits the spring, now screw it to the racking.
Slide the gate into the closed position till it hits the catcher stop, pull the gate back 60mm and install the limit bracket onto the racking, slide the bracket along until it just hits the spring and screw it to the rack.
Lock up the clutch.

Note: limits may require small adjustments after the gate has performed its learn function



CONTROL BOARD LAYOUT

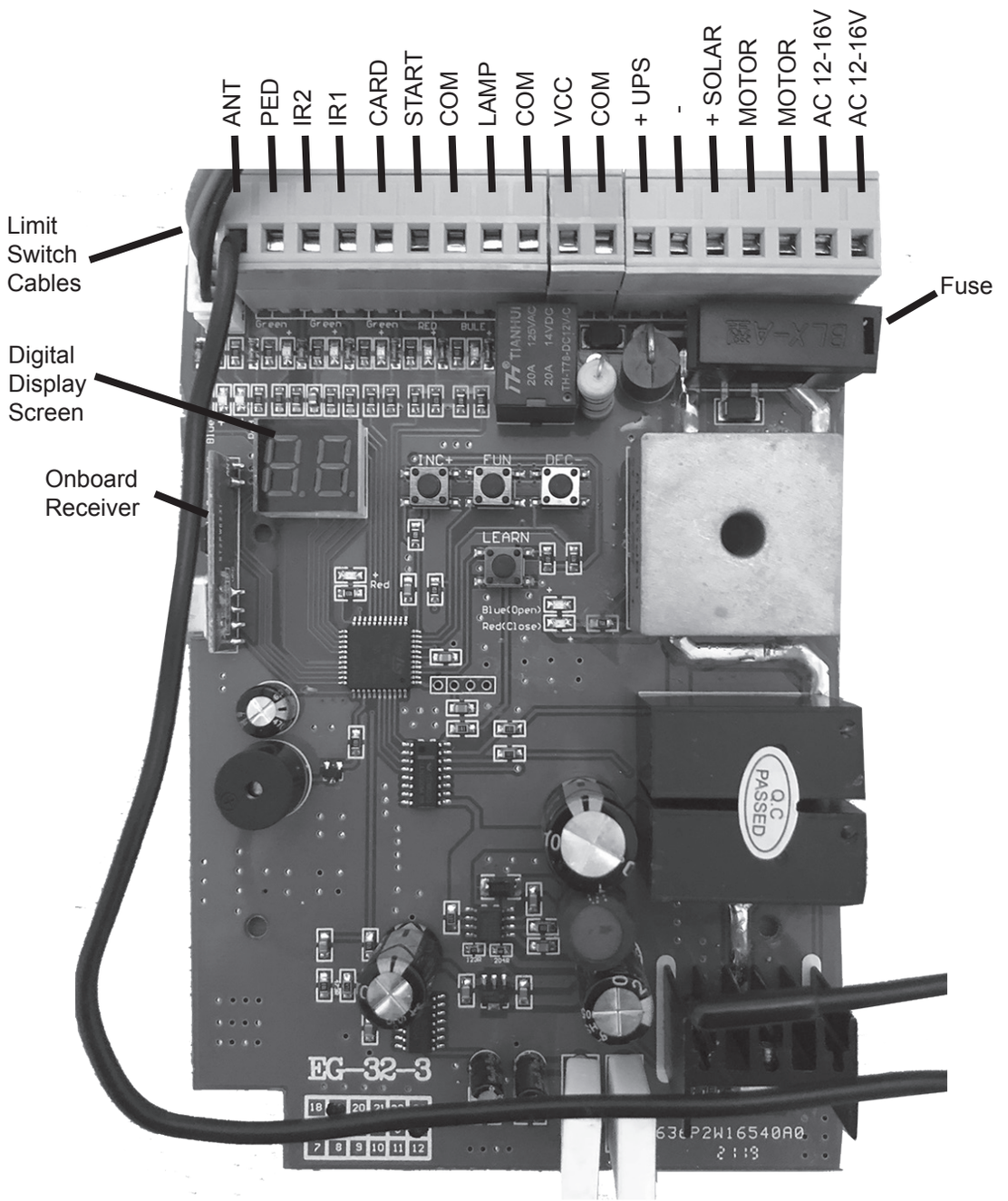
1. Board power supply: AC 12-16V, could connect 12V back up battery, 12V output for external device

2. Use for DC sliding gate motor

3. Remote: 433MHz rolling code HCS301, support maximum 120 remotes

4. 12V DC motor

5. Feature: digital display; limit switch cables; resistance sensitivity adjustable; motor slow down adjustable; auto learning of gate opening; motor protection time 60s; adjustable auto close timer; board single button control mode; infrared (photocells) safety beam inputs; pedestrian mode; alarm lamp output; swipe card (exit only)



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Card	Used for connecting swipe card system (low voltage) eg:wired Keypad or loop detector for exit only device
ANT	Antenna connection
PED	Used for connect external device control opening pedestrian mode. The gate will open partially.
IR1	Used for connecting photocell. When gate closing, if meet resistance gate would stop and re-open, 2 seconds later the gate will try to close again.
IR2	NOT USED
START	Terminal: Single button control mode switch, used for controlling gate “open-close-stop-open-close” functions. Connect push button, keypad or external receiver
COM	Used for connecting COM terminal or GND or Negative power
VCC	+ 12V power supply , used for supply power for external devices e.g. Photocells, keypad, external receiver.
UPS+/-	Used for connecting back up battery, which could be charged by electric supply power. Charge current is 20-50mA. The battery would supply the power automatically when mains power supply fails.
Motor	Used for connecting 12VDC motor
AC 12-16V	Used for connection transformer AC 12-16V
LAMP	Use for connect flashing light. Lamp light on when gate running. Output voltage is 1.4* AC power supply

FUNCTION TESTING

Status Indicator LED	After control panel power on, the status indicator LED lit up.
Motor open-close instruction	Blue indicator LED lit up when motor runs means gate is opening. Red indicator LED lit up when motor runs means gate is closing.
Remotes	Encoding format: 433MHz HCS301. Maximum memory capacity of control panel: 120PCS
Learning Remotes	Press learn button for 1 second and then release, the red LED indicator under the learn button will go out, now press button A on the remote control, if LED indicator blinks 4 times and buzzer sounds, the remote successfully learnt to the control board. If the control board does not receive any signal from remote within 5s, the LED indicator will come back on red and the control board is no longer in remote learn mode.
Erasing Remotes	Press and hold down learn button for at least 5 seconds (the LED indicator below the learn button goes out during this process), the LED indicator will light up to indicate remotes have been removed successfully.

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Pedestrian mode	Remote button D will automatically be set as pedestrian mode once remote has been learnt to the control board. If a device is connected to PED, activating this device will have the gate open to pedestrian mode. Through digital the display P7 setting controls the pedestrian run time, “0-20s” option, “0” means no PED mode.
Exit only mode	Connect with external device such as loop detector, keypad or swipe card to open gate, then through digital display P4 you can set auto-close. Auto-close time can be adjusted from 0~99s, “0” means auto-close mode off, by default, the automatic door closing time is turned on for 10 seconds. When the door is automatically closed, the indicator light is blinking for 1 second.
MOTOR Intelligent speed change system (self-learning of gate opening)	Motor has high speed and soft stop (slow down). High speed running time could be adjusted through digital display. P3 set to 1: activate Hi-speed function, motor runs with full high speed. For best results this is NOT RECOMMENDED. A soft stop setting is preferred. P3 set to 0: The system will auto assign the high speed running time after customer set PA and PB soft stop time and auto travel learning. PA and PB are set to 2 seconds. Soft start running time 0-1s adjustable.
Open and close limits and Obstruction detection.	Limits: during the motor operation, the motor will stop running after the limit brackets activate slide motors limit spring at either open or close limit. Obstruction detection: If your motor detects an obstacle when opening the gate, the gate will stop. If motor detects an obstacle when closing the gate, the gate will stop before retracting back; obstruction sensitivity can be adjusted through digital display P1 and P2.
Auto close	Auto-close function only activated after the gate has opened. Auto close time adjustable through digital display from 0-99s. There are three kinds of auto close : 1.Auto close after gate opener under normal remote control 2.Auto close after swipe card 3.Auto close after gate open under PED mode. When the auto-closing timer starts counting down, the indicator blinks every 1 second to indicate.
INFRARED mode 1 Obstruction/Photocells	When gate is closing, motor senses photocells have detected an obstruction, then gate should stop running at once and retract back open. After the gate stays open for 2s, the gate would auto close. This auto close feature is not controlled by the auto close timer. When gate is opening, the photocells are not active.
INFRARED model 2	NOT USED
Lamp output	Through digital display to control the lamp output method, factory set 0. 0 means when gate is closed, 30s later the lamp will turn off. 1 means lamp on when gate is running , lamp turns off when gate closing

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Lamp pre-flash function	Lamp will pre-flash when motor is activated, lamp will pre-flash for 3s before motor starts. Lamp pre-flash function can be chosen by digital display PC , 0 means close pre-flash function , 1 means open the pre-flash function
Motor protection	Motor will stop running after 60s of continuous running without turning off.

DIGITAL DISPLAY SCREEN SETTINGS

Note: Only when the gate has stopped in the closed position or has stopped in the open position (without auto close activated) can you enter the digital display or learn a new remote.

To enter the digital menu settings, press and hold the [FUN] button about 5s until the digital display shows PO.
To select the menu option you require, press INC+ or DEC- until you see the number on the digital display you require. Then press FUN button to enter setting. Using INC+ or DEC- to adjust your range setting, once you have your setting, press FUN button to exit back to the main menu, you will hear the sound of the buzzer to say it has been stored successfully. If you have finished adjusting your settings, press LRN button to exit digital display.

Number		**Range**	**Factory Set**	**Board Sign**
P0	Soft start time	0~1s	1s	0:soft start disable
P1	Lower speed meet resistance	0-20 level	8 level	Motor low over load
P2	High speed meet resistance	0~20 level	10 level	Motor high over load
P3	High speed running time	0~1 level	0(close)	1:Hi-speed mode activate, PA, PB setting disable if P3 set value 1
P4	Auto close time after swipe card to open gate	0~99s	10s	Card-close Auto close
P5	PED mode gate auto close time	0~99s	10s	
P6	Auto close	0~99s	0(close)	Auto close
P7	PED mode gate open time	0~20s	5s	PED
P8	Single button mode (key 4)	0~1	0(close)	One key
P9	Alarm lamp output control	0~1	0(close)	Alarm
PA	Slow speed time during gate opening	0~5s	2s	
PB	Slow speed time during gate closing	0~5s	2s	
PC	Alarm lamp pre-flash mode	0~1	0(close)	
PD	RESET			RESET

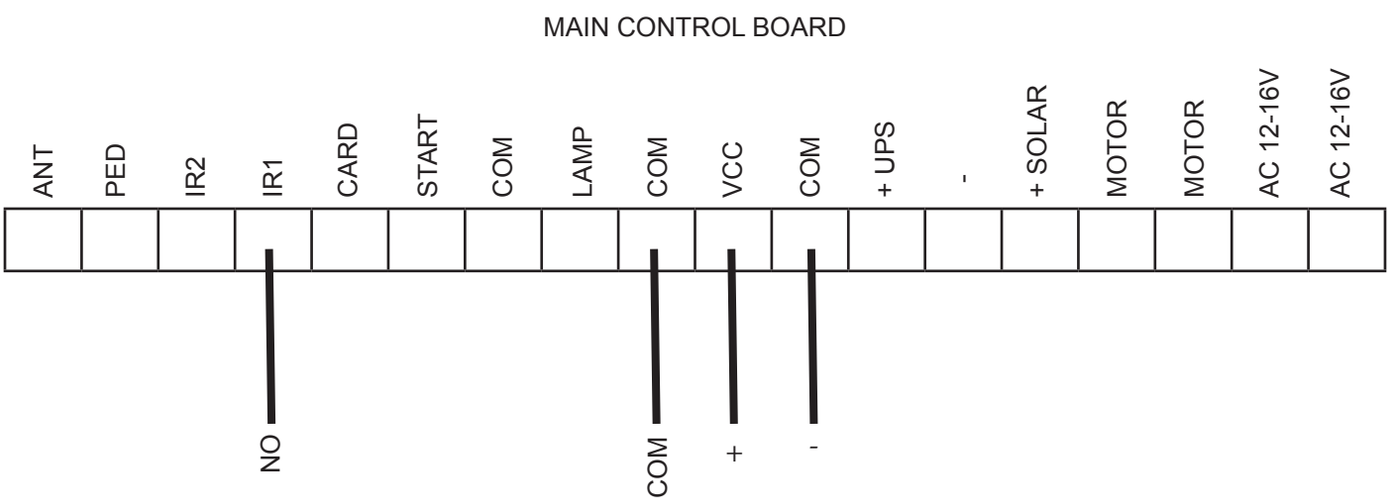
PROGRAM THE LIMITS & OBSTACLE SENSING

Note: Before learning your gates travel distance (gate opening), ensure you have a physical gate stop in the full close position and full open position as the motor will use these to learn your opening, the gate must always be in close limit position (Blue LED on, top left corner). If any interruption happens during the auto travel learning process it will cause the auto travel learn to fail and you will need to start it again.

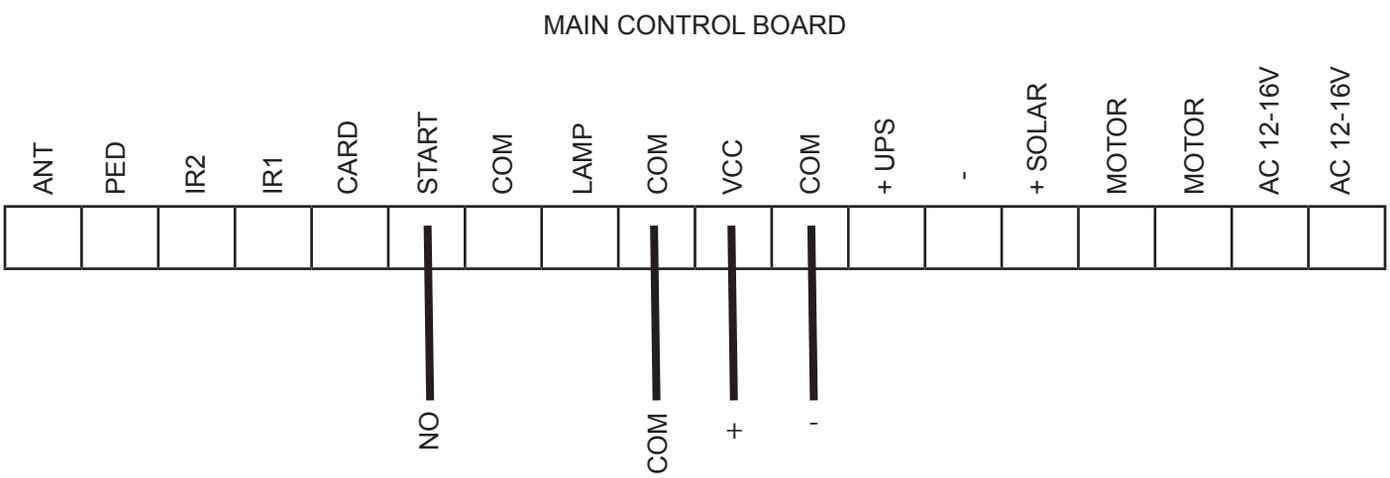
Steps: Move the gate to the closed limit position, press the “FUN” and “LEARN” buttons at the same time for approximatley 7 seconds, the gate will then open fully and 2 seconds later will close fully. The motor will perform a complete open and close cycle. During the auto travel learning process, the digital display will show the working time of the complete working cycle, after the gate moves to the close position, and the digital display turns off. If your gate opening and close time differs more than 3 seconds, your slow down speeds may be affected. This may be an issue with the gate setup, not the automation. Please check that your gate is running smoothly, level and free from any obstructions and then repeat the above learning step again.

Note: correct motor function condition should be: when gate is opening, blue indicator LED lit up; when gate closing, red indicator LED lit up. Gate direction is important to allow obstruction sensing to work, auto close, safety beams, pedestrian mode etc.

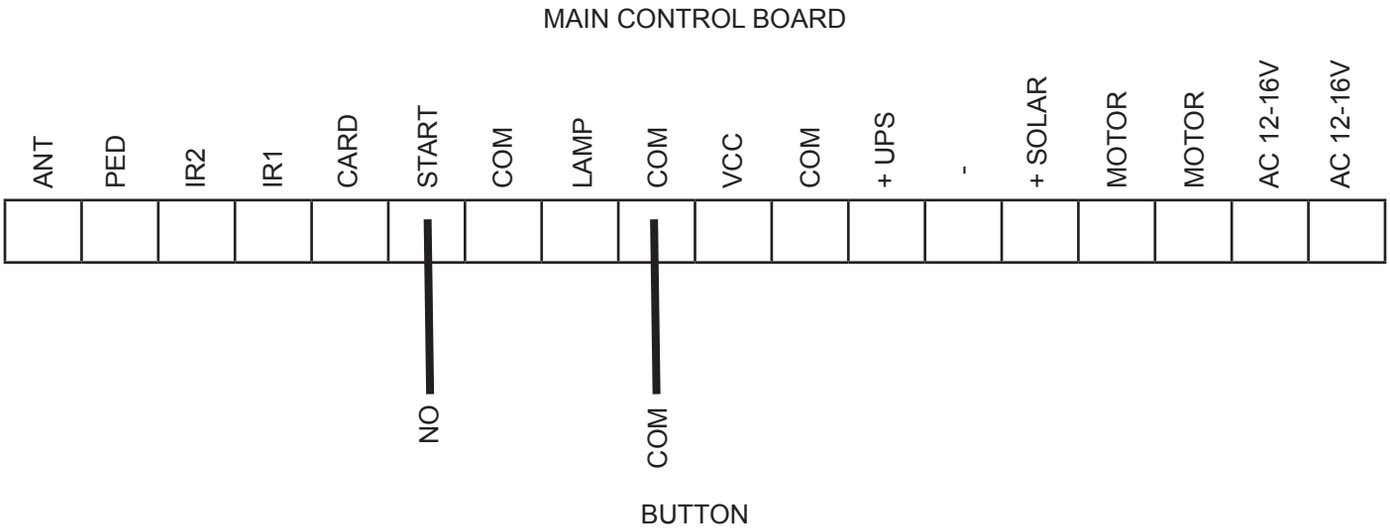
SAFETY BEAMS WIRING



KEYPAD WIRING



PUSH BUTTON WIRING



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