

LockMasterTM

Sliding Gate Operator User's Manual

Lockmaster DKC400UY

Lockmaster DKC400U

Aleko AR1400

www.Openers4less.com

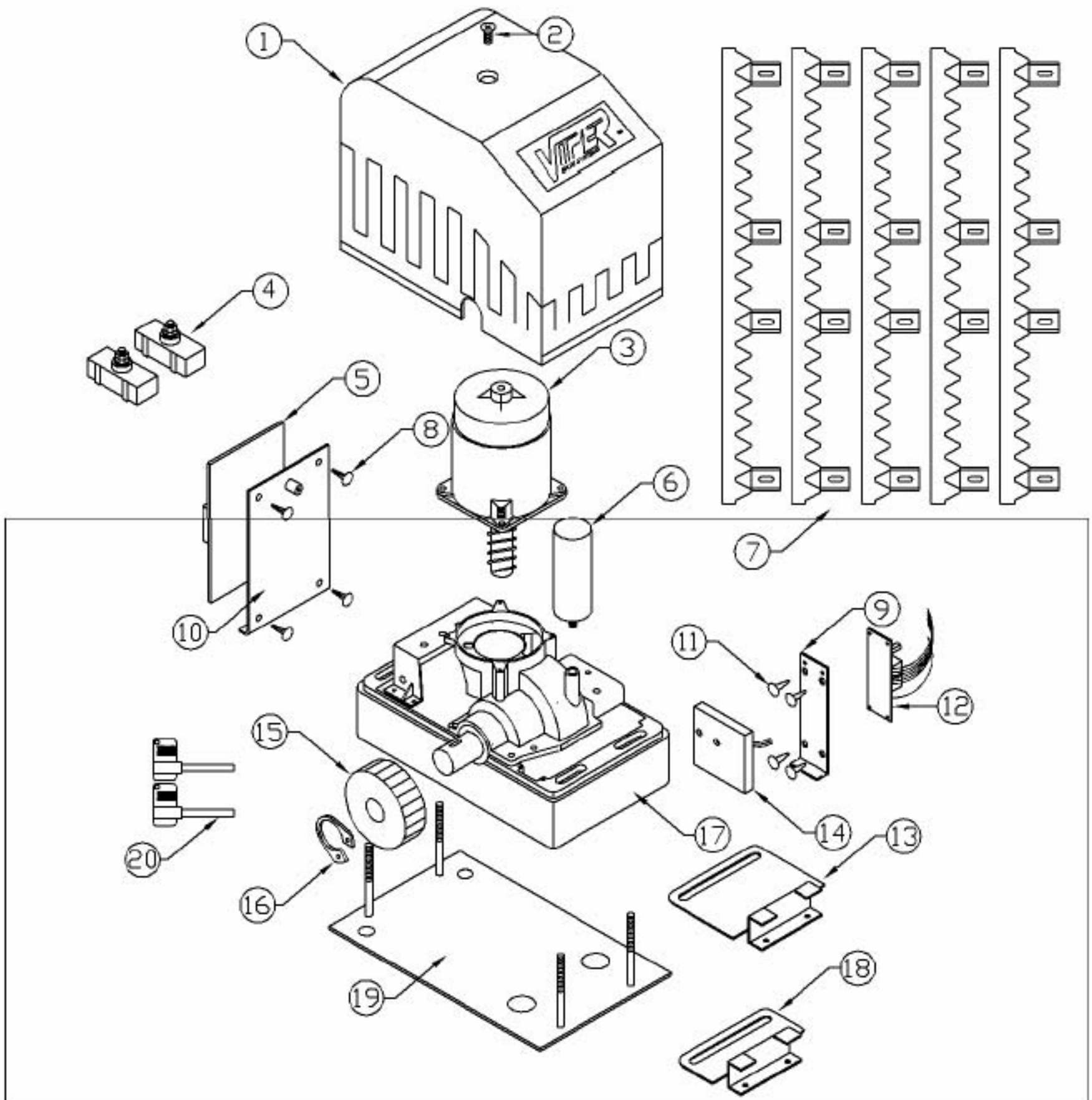
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OUTLINE

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DKC400UY



MODEL: DKC400UY				
	COMPONENT DESCRIPTION	COMPONENT MANUFACTURER	MFR'S PART NO.	QUANTITY
1	Cover	LockMaster	tr3cov1	1
2	Set Phillips screw	LockMaster	tr3sps2	1
3	½ h.p. Motor	LockMaster	tr3mot3	1
4	Limit magnets	LockMaster	tr3lm4	2
5	Control board	LockMaster	tr3c/b5	1
6	Capacitor	LockMaster	tr3cap6	1
7	Gear racks 2.3 ft.	LockMaster	tr3gr7	5
8	Plastic clip	LockMaster	tr3pc8	4
9	Base plate for receiver/ limit switch sensor	LockMaster	tr3bp9	1
10	Base plate for control board	LockMaster	tr3bp10	1
11	Plastic clip	LockMaster	tr3pc11	4
12	Receiver	LockMaster	tr3rec12	1
13	Large bracket for magnet (open limit)	LockMaster	tr3lbol13	1
14	Limit switch sensor	LockMaster	tr3ls14	1
15	19 tooth Sprocket	LockMaster	tr319spr15	1
16	C-Clamp	LockMaster	tr3ccl16	1
17	Motor housing	LockMaster	tr3mh17	1
18	Small bracket for magnet (close limit)	LockMaster	tr3sbc118	1
19	Mounting base	LockMaster	tr3mb19	1
20	Manual release keys	LockMaster	tr3keys20	2

Residential Sliding Gate Operator

Tools you will need

During assembly and installation of your opener, the instructions will call for the use of various tools shown below. Other tools may be required as needed for the installation of the concrete pad and electrical connection.

Table 3 Required Tools for Installation



1. Important safety information

Carefully read and follow all safety precaution and warnings before attempting to install and use this operator, incorrect installation can lead to severe injury.

- The gate operator should be installed by a qualified technician; otherwise, serious personal injury or property damage may occur.
- The auto-reverse function must be checked during installation to ensure that the gate can auto-reverse in the event of obstruction.
- This auto-reverse function should be regularly inspected and adjusted, if necessary.
- When opening or closing the gate, do not attempt to walk or drive through the gate.
- Children should not be allowed to play near or operate automatic gates.
- The automatic gate operator must be grounded.
- Install the gate operator on the inside of the property, DO NOT install it on the outside of the property where the public has access to it.
- Be careful when in close proximity to moving parts where hands or fingers could be pinched.
- Do not allow control devices to be placed so that a person can access them by reaching through the gate.
- In the event of power failure, an emergency release key allows you to operate the gate manually.
- The operator should be switched off before repairing it or opening its cover.
- Please erase and reprogram the code after installing the operator.

2. Main features

- The device is used to drive sliding gate.
- For your safety, the DKC400 (U) Y will stop and reverse if it was obstructed on closing and stop when it was obstructed on opening.
- Supports up to 100 remote controls.
- User programmable and user erasable remote codes.
- Infrared terminal (N.C) is supplied to use.
- Auto-close feature is available for this operator.
- Pedestrian mode.
- Manual key release design for emergency purposes.

3. Main technical parameters

Type	DKC400Y	DKC400UY
Power supply:	AC 220V, 50Hz	AC110V, 60Hz
Motor speed	1400 r/min	1680 r/min
Gate moving speed	14m/min (24 teeth)	17 m/min (24 teeth)
	11m/min (19 teeth)	13m/min (19 teeth)
Output torque	14N • m	

Limit switch	Magnetic limit switch
Remote control operating range	30m
Frequency	433.92mHz
Remote control mode	Single-button
Auto-close time	0-44 sec.
Working time	90 sec.
Noise	≤62dB
Environmental temperature	-10° C~+55° C

4. Working principle and main structure

The device is composed of a single-phase motor, worm and worm gear. The main shaft of the motor rotates the worm with the clutch engaged, the worm rotates the worm gear and output gear, which pushes the rack attached to the sliding gate, thus moving the gate.

The device is installed with a thermal protector, the thermal protector will switch off the motor automatically in case of the temperature is higher than 120°C and switch on the motor automatically when the temperature is lower than 85°C±5°C.

5. Installation and adjustment

The DKC400(U)Y rack-driven gate operator operates by forcing a drive rack past a drive gear. The entire configuration is shown in Fig.1. The gate operator must be installed on the inside of the gate.

Gate preparation

Be sure the gate is properly installed and slides smoothly before installing the DKC400(U)Y sliding gate operator. The gate must be plumb, level, and move freely.

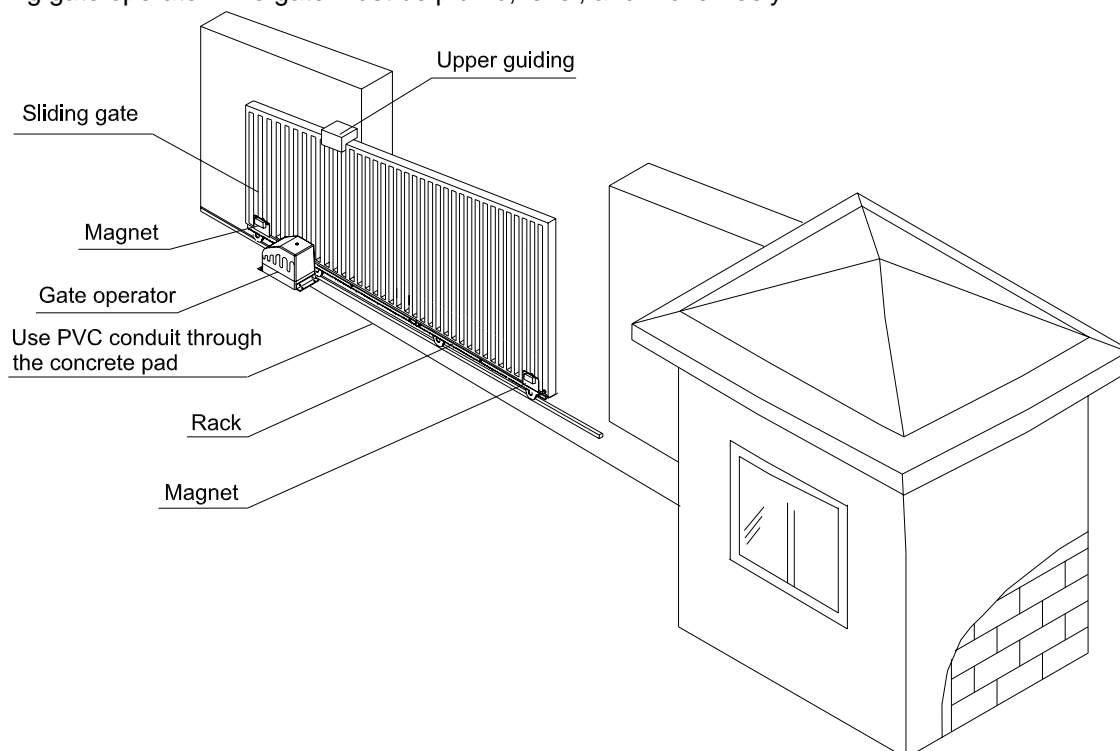


Fig.1

Conduit

In order to protect the wires, use PVC conduit for control wires, conduit must be set into the concrete when it is poured. Wires within the conduit shall be located or protected so that no damage can result from contact with any rough or sharp part.

Concrete pad

The base unit of the gate operator requires a concrete pad in order to maintain proper stability. The concrete pad should be approximately 300mm x 200mm x 200mm deep in order to provide for adequate operation.

Anchors

You can use the anchors, bolts, washers and nuts that are provided with the operator. These anchors must be set into the concrete when it is poured, or you can use wedge anchors.

Operator

In locations where ground freeze is possible, mount the gate operator on installation pad as shown in Fig.2. Check the operator and make sure it is lined up with the gate.

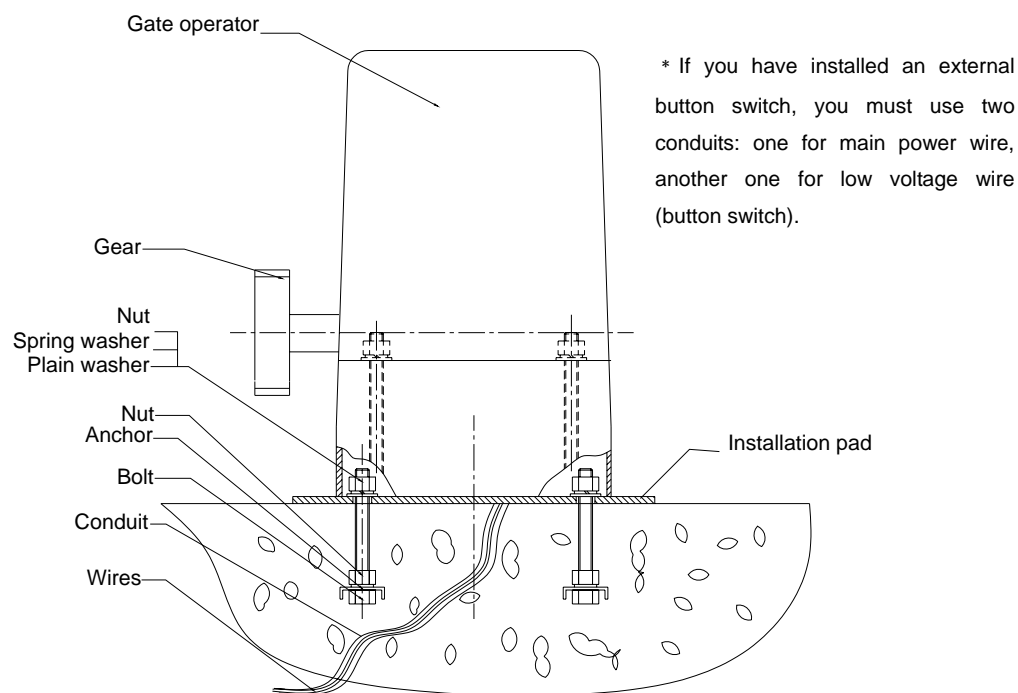


Fig.2

Installation of rack (see Fig.3)

- Fix the three nuts (in the same package with rack) on the rack element.
- Lay the first piece of rack on the gear and weld the first nut on the gate.
- Move the gate manually, checking if the rack is resting on the gear, and weld the second and third nut.
- Bring another rack element near to the previous one. Move the gate manually and weld the three nuts as the first rack, thus proceeding until the gate is fully covered.
- When the rack has been installed, to ensure it meshes correctly with the gear.
- The space between rack and gear is about 1mm.

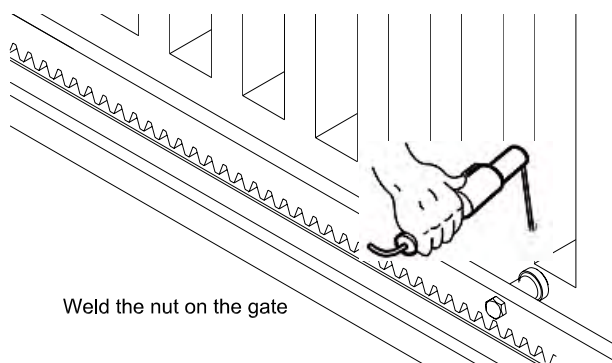


Fig.3

Magnets for limit switch

To ensure safety, it is recommended to install limit devices at both ends of the gate to prevent the gate from sliding out of the rails. The rails must be installed horizontally.

Install the magnet as shown in Fig.4 and Fig.5. The magnet and limit switch are used to control the position of the gate.

Release the gear clutch and push the sliding gate manually to pre-determine the position.

Solder the magnet bracket to the rack and then tighten the gear clutch. The lower bracket is for open position and higher bracket is for close position. Fix the magnet to the bracket. Adjust the position of gate operator, the magnet should be 10~15mm away from the magnetic limit switch, if too far away, the switch will fail to work. Moving the gate electrically, adjust the magnet to the proper position until the position of the opening and closing meet the requirement.

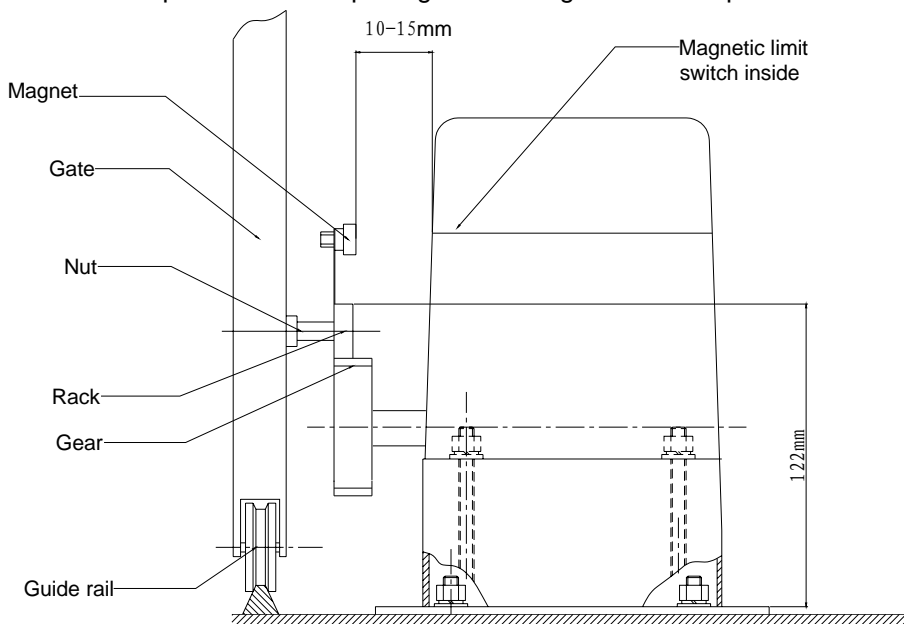


Fig.4

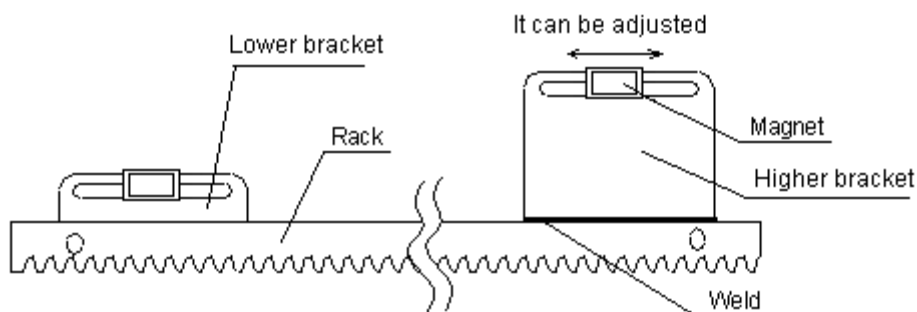


Fig.5

Step #1

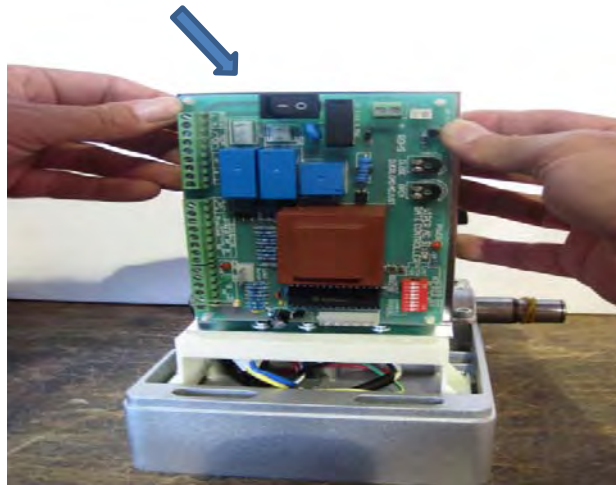
Unscrew the Blue Cover from the Motor and set it aside.



Open the small white box & make sure that the contents include:
(1) - Receiver and (1) - Control Board

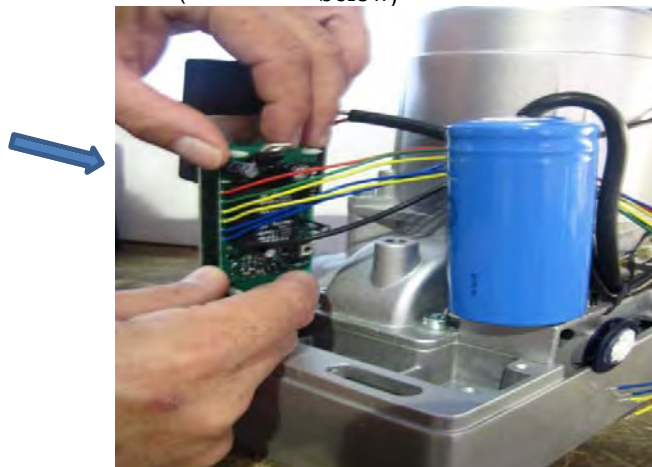
Step #2

Install the Control Board onto the Motor by mounting it on the small white clips that are on the large Mounting Plate.
(as shown below)



Step #3

Install the Receiver onto the Motor by mounting it on the small white clips that are on the small Mounting Plate.
(as shown below)



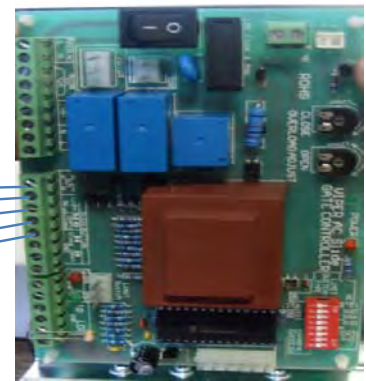
MAKING THE CONNECTION

Step #4

Now you will begin the installation by screwing the wires that are coming from the small Receiver Board onto the Terminals (see Pic 1, right) from the Control Board, in the following order:



- Terminal 10 - GREEN WIRE ←
- Terminal 11 - RED WIRE ←
- Terminal 12 - YELLOW WIRE (any) ←
- Terminal 13 - YELLOW & BLUE WIRE (any) ←
- Terminal 14 - BLUE WIRE (any) ←



Pic 1

Step #5

Next, take the set of wires coming from the motor and connect the red and black wires anywhere onto the plug.

(as shown on the pic, right)



Once you have connected those wires, you will then take that plug and connect it to the Control Board on the section labeled:

"MOTOR" ←

(as shown on the pic, right)



Step #6

Find the plug with the Blue & Yellow wires on it. Connect the plug on to the Control Board on the section labeled:

"CAPACITOR" ←
(as shown on the pic, right)



Step #7

Find the plug with the Red, White & Blue wires on it. Connect the plug on to the Control Board on the section labeled:

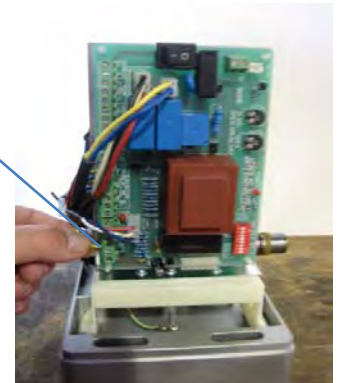
"LIMIT SWITCH" ←
(as shown on the pic, right)



Step #8

Find the wire coming from the bottom of the Motor that is GREEN & YELLOW. Screw the "Ground Wire" to Terminal #22 on the Control Board

(as shown on the pic, right)



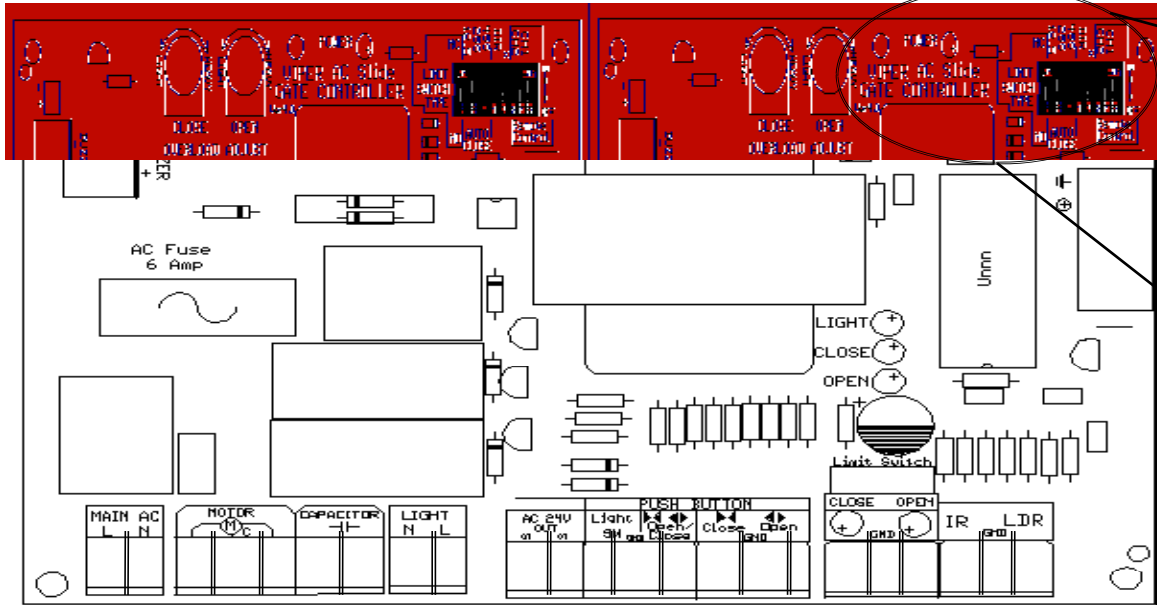
Step #9

You are now ready to connect you power wires to your Gate Opener!

Terminal #1 - POWER ←
Terminal #2 - NEUTRAL ←



AC SLIDE GATE CONTROLLER



FEATURE SELECTOR



Limit Switch Type
ON: Normally Close
OFF: Normally Open

Auto Close Feature
(1) 12.5 Seconds
(2) 25 Seconds
(3) 45 Seconds

Direction of Gate
ON: Gate Opening to the left
OFF: Gate Opening to the Right

NOT USED

Receiver
Channel One (not used at this time)
Channel Two (not used at this time)

When using auto close features only one dip switch should be **ON**. The other two dip switch should be in the **OFF** position for the auto close feature to work correctly.

Transmitter/Remote Control (shown in Figure 9)

1. Yellow Button Channel
2. Blue Button Channel
3. Indicator Light
4. Yellow Button Channel – exposed
5. DIP Switch
6. Battery
7. Blue Button Channel – exposed
8. Back side cover

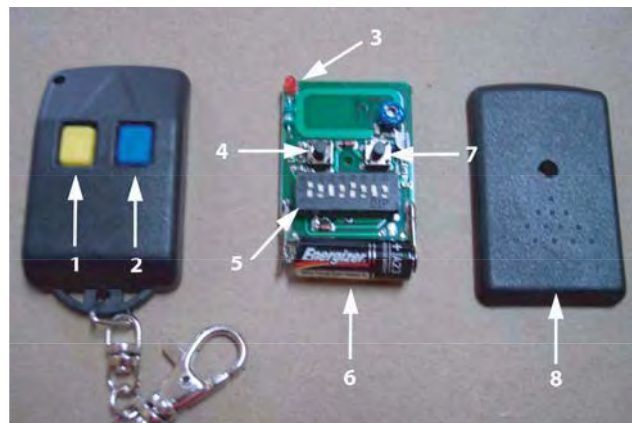


Figure 9

Receiver

1. Channel 1 DIP Switch (yellow button on remote control transmitter)
2. Channel 2 Dip Switch (Secondary, Multi-Code compatible, blue button on remote control transmitter)

The red and black wires are 24 volt power input. The two yellow are the channel 1, the two white are channel 2, and the black wire is the antenna wire

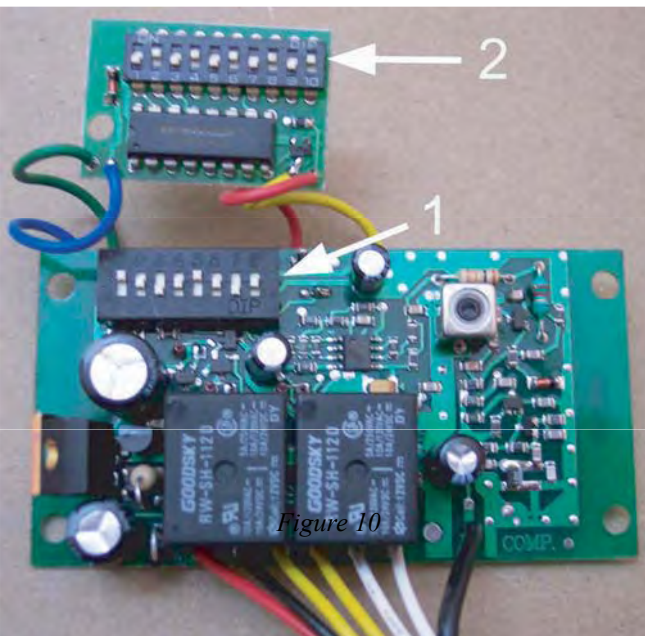


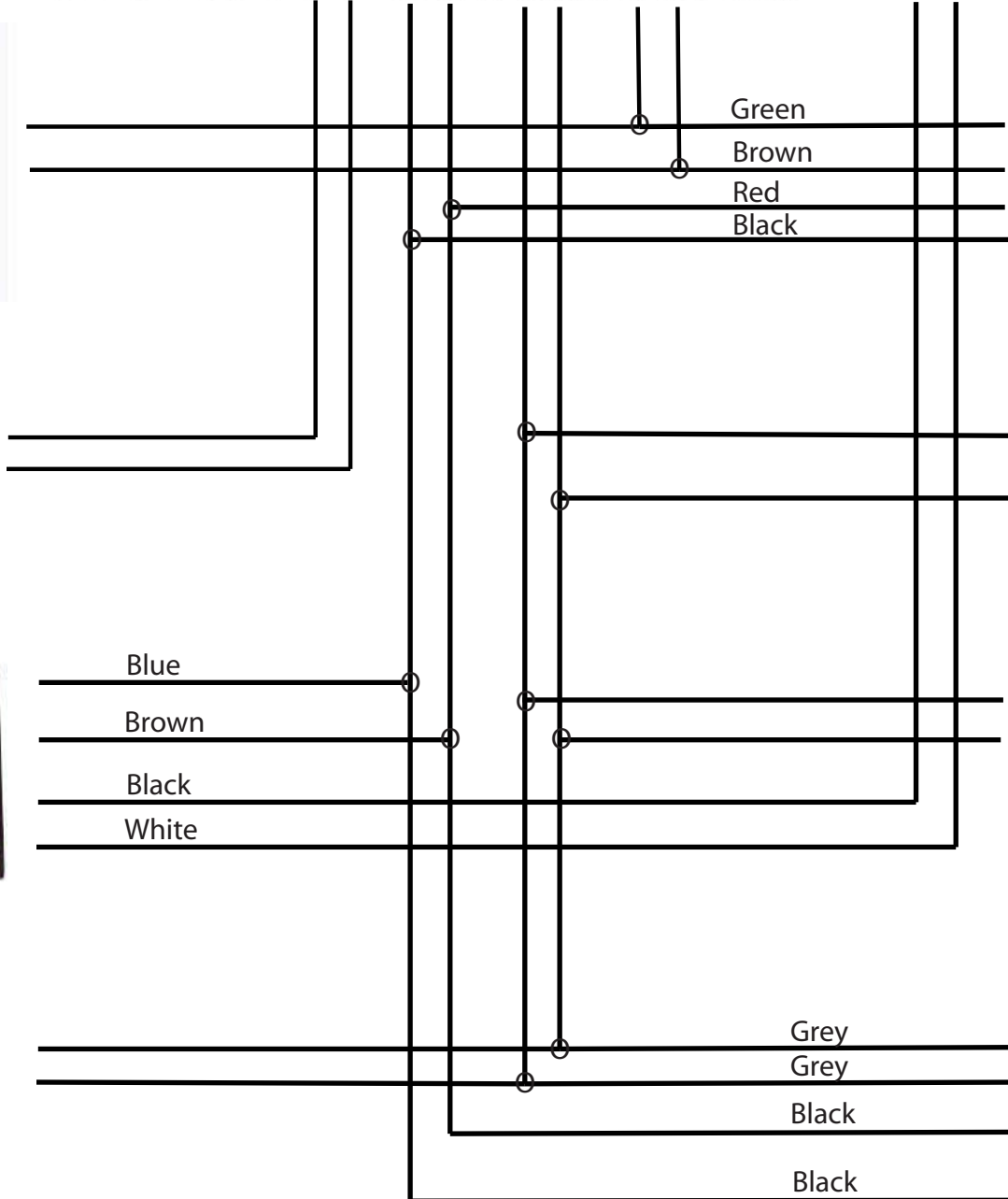
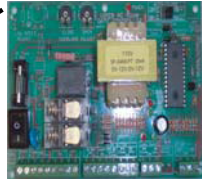
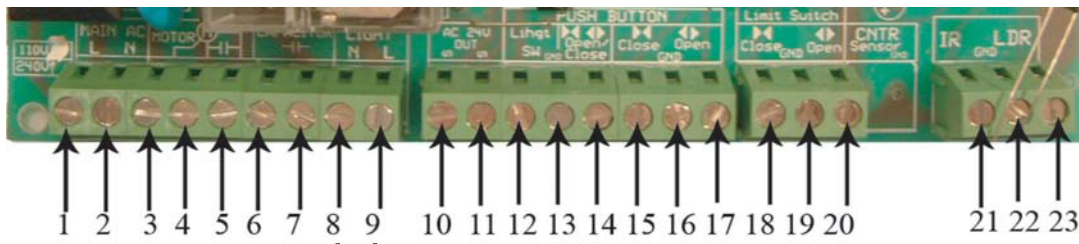
Figure 10

Setting the Transmitter DIP Switches:

There are a total of eight (8) transmitter DIP switches. Each one can be placed in three (3) different positions (+, 0, -). DO NOT set all of the switches to the same position, for example: all +, all 0 or all -. Once the DIP switches have been set to a personal code, replace and close the cover.

Residential Sliding Gate Operator

Optional Equipment Installation Procedures



10. Troubleshooting

Trouble	Possible causes	Solutions
Motor only runs in one direction.	The wire connector terminal block becomes loose.	Check wire connector terminal block make sure it is plugged in terminal block 10, X8.
	The limit switch wire connector terminal block becomes loose.	Check limit switch wire connector terminal block make sure it is plugged in terminal block 9, X9. Check the limit switch mode.
	The electric component on the control board such as Q2, Q91 or Q92 may be damaged.	Replace the electric component Q2, Q91 or Q92 (BTA16/600) or replace the board.
By pressing button 1(button 2 or button 3) which has been programmed to open the gate, press the same button again to stop the gate in required position, but the gate will auto-close immediately.	The auto-close time is too short.	Reset the auto-close time. See Set auto-close function section.
When you use button 4 of remote control to open the gate, gate travels too short.	The width of pedestrian mode is too narrow.	Reset the width of pedestrian mode. See Set width of pedestrian mode section.
When you use button 4 of remote control to open the gate, but the gate will auto-close immediately.	The auto-close time of pedestrian mode is too short.	Reset the auto-close time of pedestrian. See Set auto-close function of pedestrian mode section.
The gate will not open or close.	The limit switch wire connector terminal block becomes loose.	Check the limit switch mode (see table 1 DIP-switch).
	Connecting wires or terminal blocks are too loose.	Check the connecting wires and terminal blocks.
	The electric component on the control board such as Q2, Q91 or Q92 may be damaged.	Replace the electric component Q2, Q91 or Q92 (BTA16/600) or replace the board.
	Power switch is OFF	Make sure power switch is ON.
Remote control does not work	The indicator light of remote control does not light.	Check the batteries on your remote control
	Remote control is not suitable for receiver.	After making sure the codes are correct, erase remote controls and then re-program the codes in the device. See Adding extra remote controls (learning) section.
	Broken receive board	Replace receive board.
When you open the gate by using button 1(button 2 or button 3) which has been programmed, gate will stop in mid-travel or reverse before reaching the fully limit position.	The Force Adj. (VR1) is adjusted too small.	Check the Force Adj. (VR1). Adjust VR1 to increase force.
	Gate is obstructed.	Remove the obstruction.
The remote control operating distance is too short.	Signals are shielded by the gate.	Link a new antenna (1~1.2m BVR 0.75mm ²) to the old antenna. Then fix the antenna on the wall vertically, make sure the total height from the top of antenna to the ground is approx. 1.5m.



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