

# Swing Gate Opener Manual

## Warnings

Please read this instruction manual carefully before the installation of gate-automated system.

This manual is exclusively for qualified installation personnel. We are not responsible for improper installation and failure to comply with local electrical and building regulations.

\* Be aware of the hazards that may exist in the procedures of installation and operation of the gate-automated system. Besides, the installation must be carried out in conformity with local standards and regulations.

\* If the system is correctly installed and used following all the standards and regulations, it will ensure a high degree of safety.

\* Make sure that the gates work properly before installing the gate-automated system and confirm the gates are appropriate for the application.

\* Do not let children operate or play with the gate-automated system.

\* Do not cross the path of the gate-automated system when operating

\* Please keep all the control devices and any other pulse generator away from children to avoid the gate-automated system being activated accidentally.

\* Do not make any modifications to any components except that it is mentioned in this manual.

\* Do not try to manually open or close the gate before you release the gear motor.

\* If there is a failure that cannot be solved and is not mentioned in this manual, please contact qualified installation personnel.

\* Do not use the gate-automated system before all the procedures and instructions have been carried out and thoroughly read.

\* Test the gate-automated system weekly and have qualified installation personnel to check and maintain the system at least every 6 months.

\* Install warning signs (if necessary) on the both sides of the gate to warn the people in the area of potential hazards.

## 1. Technical Characteristics

Motor: 24VDC motor with mechanical release

Gear type: Worm gear

Max absorbed power: 144W

Peak thrust: 3500N

Nominal thrust: 3000N

Stroke length: 300mm

Power supply: 24VDC

Nominal input power: 2A

Maximum operating current: 5.5A for maximum 10 seconds

Maximum gate weight: 300kg per leaf

Maximum gate length: 3meters

Duty cycle: 20%

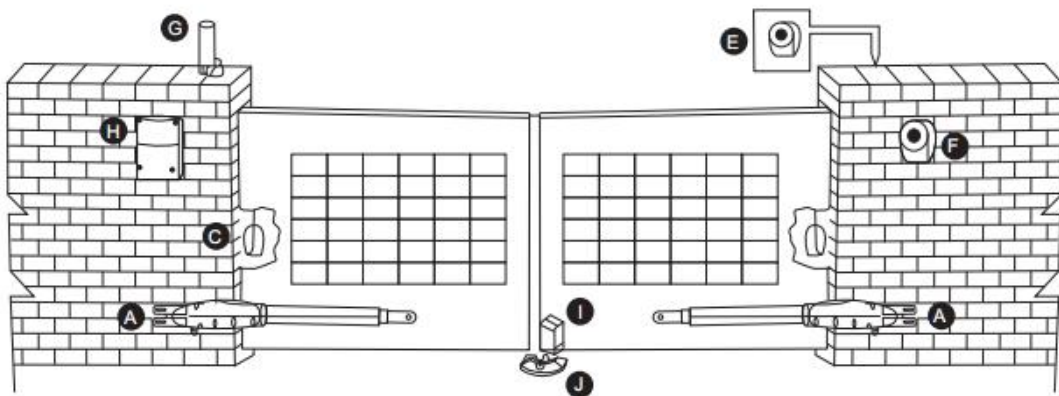
## 2. Product Description and Applications

### 2.1 Applications

This model is applied for residential automation of single or dual leaf gate. It has to be operated with electricity and it's forbidden to be operated by back-up batteries for normal use. Back up batteries are only allowed for emergent operation when there is a power failure, and the gear motors can be released by special keys to move the gate manually.

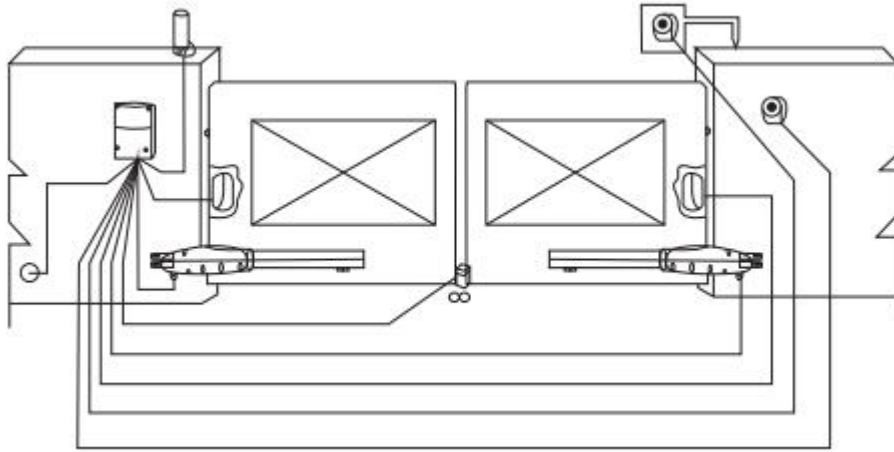
### 2.2 Description of the Automation

The following diagram of typical installation describes some terms and accessories of a gate automation system.



## 3. Motors, Components and Its Installation in Illustration

The installation procedure may be changed due to various accessories and quantities installed. The basic wiring diagram is shown in below photo.



### 3.1 Power connection

The swing is required to connect two cores wires, which requires very low voltage that no professionally trained personnel is required in installation; however, the users are advised to read the installation manual carefully before going for it. After getting to know all accessories and their positions, suggest starting from cable conduit arrangement to prevent the cables from being broken or damaged.

### 3.2 Notes for Power Connection

- A. The installation of power supply cable to the motor should be carried out by a qualified professional electrician.
- B. The power supply cable of the motor should be equipped with short circuit protection and leakage protection. Please make sure to shut off the power before going installation or maintenance.

## 4. Installation

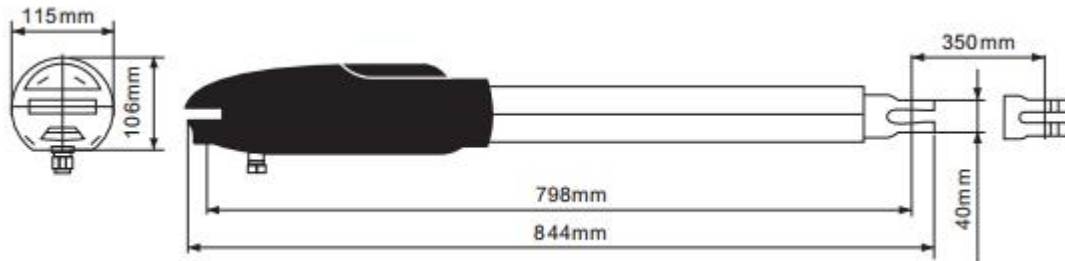
### 4.1 Preparation for Motor Installation

The gate motor is not applicable to a gate which is inefficient or unsafe, neither to solve the defects due to incorrect installation nor poor maintenance.

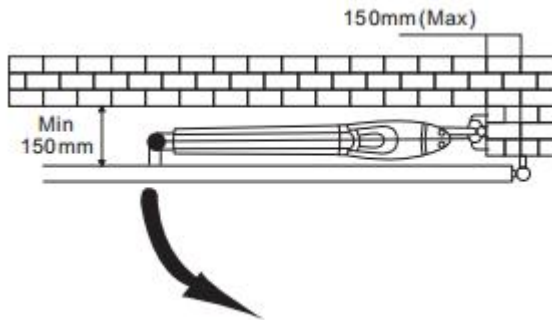
Check the following items before going for installation:

- 1) Make sure the weight and dimension of the gate conform to the operation range of the gate motor. Don't use the gate motor if the gate specifications do not meet the requirements.
- 2) Make sure the gate structure conform to the criteria of automatic operation and force regulations.
- 3) Make sure there is no serious friction existing in the opening or closing travel of the gate leaves.
- 4) Make sure the gate is at horizontal level that the gate will not move aside at any position.
- 5) Make sure the gate can bear the impact of the motor torque when it is installed on any hole of the bracket which the surface is sufficiently sturdy.

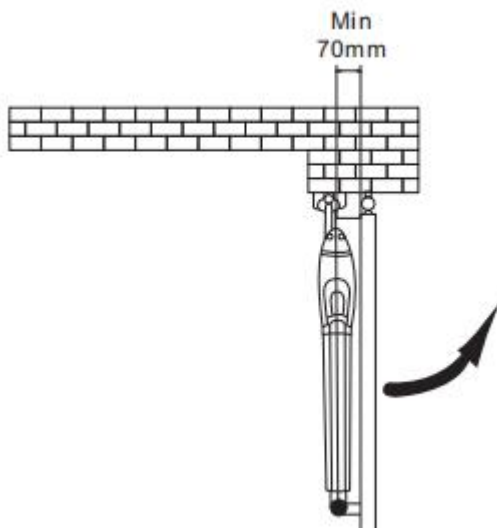
- 6) Make sure the photo sensors are installed on flat surfaces to ensure the two ends of receiving and transmitting corresponded to each other.
- 7) Check the dimensions of the motors as below:



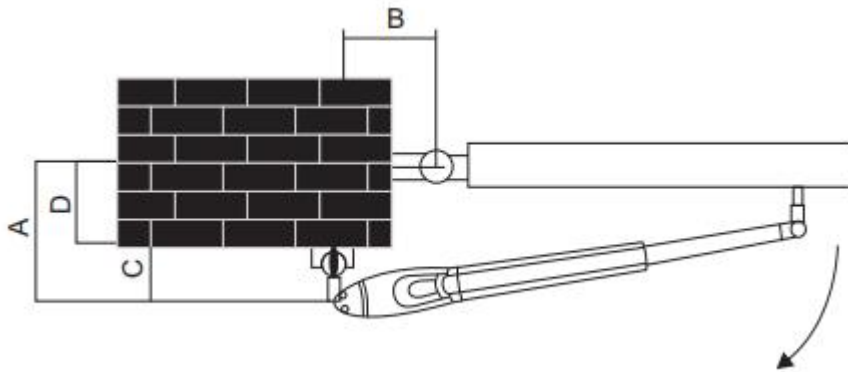
- 8) Make sure to leave enough space when the gate is opening.



**4.2 If the gate is OPENED OUTWARD, please leave at least 70mm between the post brackets and the gate.**



**4.3 Using the leaf-opening angle as criteria to make sure all criteria in Figure 17 can be met**



B(mm) \ A(mm)	120	130	140	150	160	170	180	190
120								
130					110-120°			
140			>120°			100-110°		
150							90-100°	
160								
170								
180								
190								

**FIGURE 17**

- 1) "C" value is 139mm
- 2) "D" can be measured from the gate easily
- 3) "A" = "C" + "D"
- 4) The value of "B" can be calculated from the value of "A" and the leaves opening angle. Ex. If "A" = 160mm with the leaves opening angle of 100 degrees, then the value of "B" is approximate 190mm

NOTE: Please make sure "B" and "A" are similar or the same in value that the leaves can be operated smoothly . Also to reduce the burden of the motor.

#### 4.4 Installation of the Gear Motors

- 1) Choose the correct dimensions of the motors and position to be installed.
- 2) Check if the mounting surface the brackets to be installed is smooth, vertical and rigid.
- 3) Arrange the cable conduit for power supply cable of the motors.
- 4) In order to obtain the optimal supporting from the rear plate, please assemble two post brackets and one rear metal plate according to below photo
- 5) Loosen the two screws and remove the back cover of the motor as shown in photo
- 6) Place the leaves in the closed position.

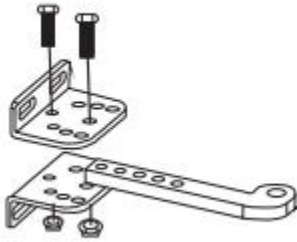


Figure 18

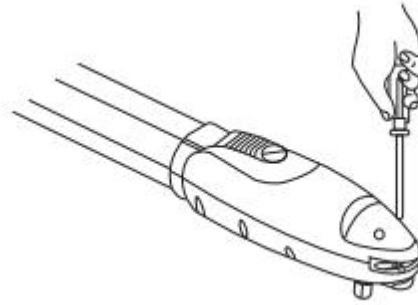


Figure 19

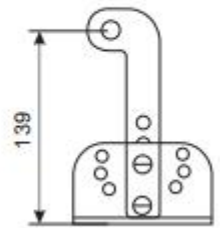


Figure 20

- 7) Refer to the distance of “B” in figure 17, place the rear plate in the correct position on the mounting surface. Inspect if the distance is proper as shown in Figure 23 i.e. the position the front plate of the motor to be installed.
- 8) Place two post brackets on the surface to be installed and mark the drilling points, then drill minimum diameter of 8mm holes by four on the mounting surface to be installed and fasten up the brackets with screws and washers
- 9) Please make sure the front plate is completely installed horizontally.

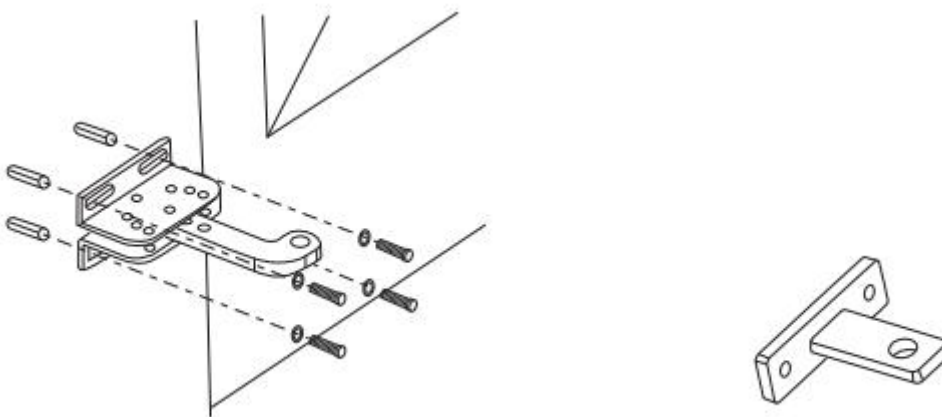
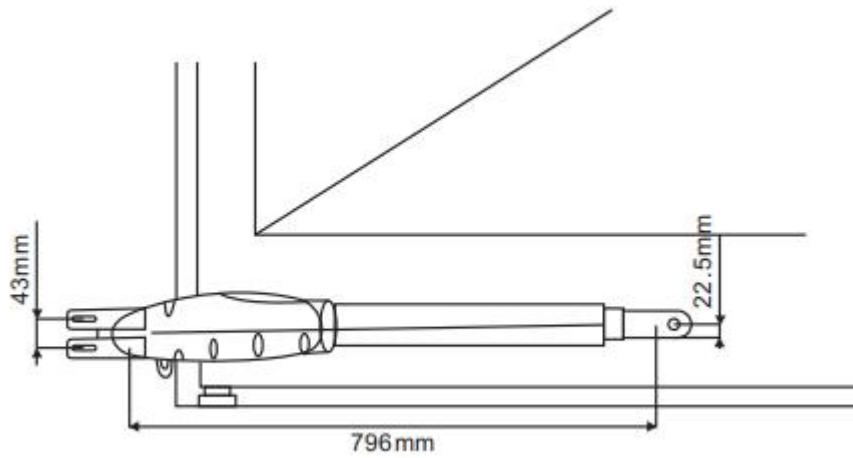
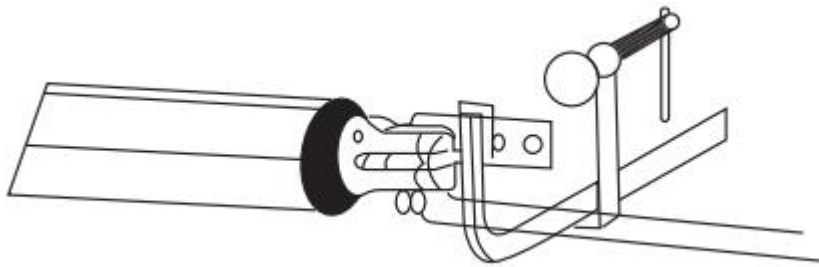


Figure 21

10) Refer to Figure 23, the distance between front plate of the motor and rear plated is 798mm, the difference in height is 22.5mm



11) Clamp and fix the motor front plate on the door temporarily



12) Lift up the motor and insert the screws into the front plate.

13) Open the gear motor cover and release the screws, then take out the bolt as below Figure 25. Lift the motor overhead and push the gate to the end until the screw holes of the motor end matches the holes on the rear plate as shown in Figure 25.1 and fasten the motor to the rear plate with bolt and screw as shown in Figure 25.2

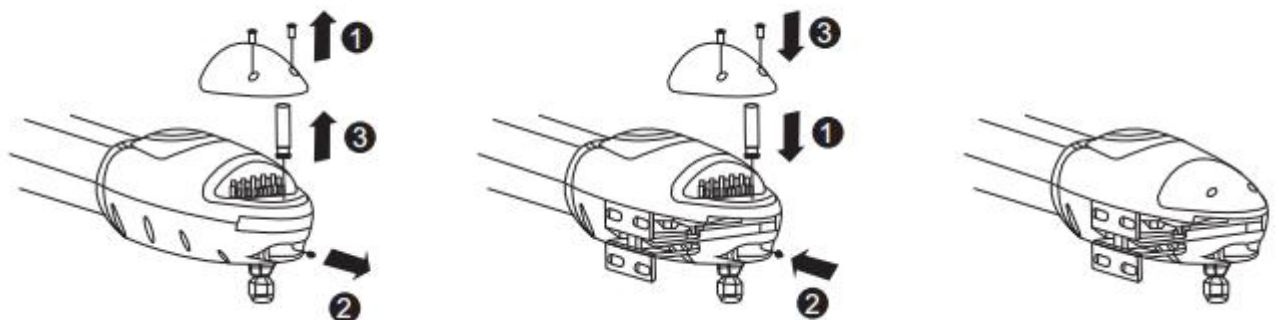
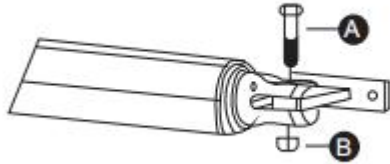


Figure 25

Figure 25.1

Figure 25.2

- 14) Fasten the nut tightly and loosen it for half round for motor supporting in rotating
- 15) Fasten the motor front end to the front plate with the bolt (A) and nut (B) tightly. Fully tighten the screw.



- 16) Connect the motor power cable as shown in Figure 27
- 17) Close the gear motor cover by tightening the two screws as shown in Figure 28

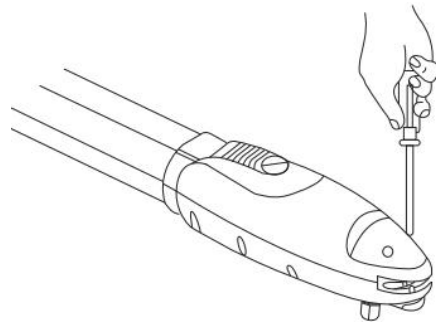
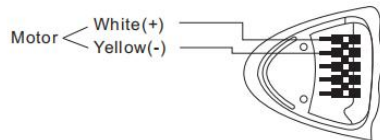
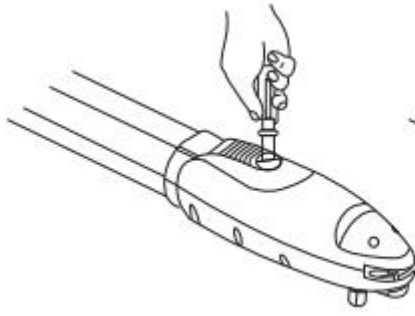


Figure 27

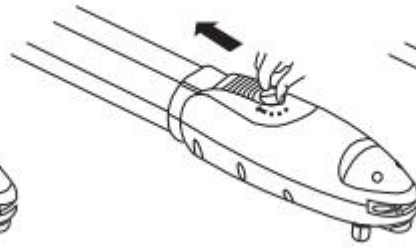
Figure 28

- 18) Gear Motor Release
  - A. Turn the round plate on the release part to "OPEN" position, See Figure 29
  - B. Push out the release part to the end. See Figure 30
  - C. Use the release key to turn the pin anti-clockwise to the end. See Figure 31

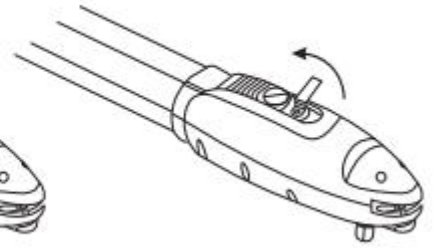




**Figure29**



**Figure30**



**Figure31**

**Gear motor release (fork series)**