

Sliding Gate Opener

MANUAL



DYNAMIC

600 - 800 - 1000 - 1500 - 2000 - 2500

Safety Protection and Precautions

THIS SERIES OF DOOR OPENERS MUST BE INSTALLED BY PROFESSIONALS.

1. **ATTENTION!** Please operate the machine carefully in strict compliance with instructions of this Manual. It is very important to personal safety . Incorrect installation or improper use of the machine may cause serious damage to the person and/or property.
2. Read this Manual carefully before installation.
3. The installation must comply with relevant national codes and specifications and the mechanical parts used must meet with national standards.
4. The power supply should have a voltage meeting the requirements of the machine, be reliably grounded, and have both leakage protection and short circuit protection.
5. Before system overhaul, cut off the power and check if the grounding system is correct and reliable.
6. The machine must be equipped with safety devices (such as infrared intrusion protector) (optional) and should be inspected on a frequent basis for normal operation.
7. We will accept no responsibility for any consequences resulting from inappropriate use of the machine or from use beyond the specified purposes.
8. We will accept no responsibility for any problem incurred due to neglect of the process requirements of precision components or due to deformation of such components during the installation.
9. The product was designed and manufactured in strict compliance with the operating instructions given in this Manual. Any use or operation against these instructions may damage the product or bring a hazard.
10. We will accept no responsibility for any safety problem or operation failure caused by the use of any component not produced by us.
11. Don't make any change to the components of the system.
12. The installer must explain in detail to the user the operating rules of the machine and relevant regulations in case of an emergency, and provide the user with the Manual.
13. Keep children and other unauthorized persons away from the installation site and make sure there is no risk factor existing in the vicinity of the installation site.
14. Clean off any obstacle from the motion route of the door before the electric control system is put into operation, and stop the flow of vehicles and pedestrians when the door is in motion.
15. The main control box should be installed in such a position and to such a height that should be appropriate, ventilated, and properly protected from rain, sunshine, playing kids, and the operation of remote control and control panel switch by mistake.
16. An external housing may be added if necessary. In doing so, the shielding effect of the external housing (usually made of metal) against the receiving of remote control signals should be taken into account since it may affect the product's functionality and bring inconvenience to the user.
17. Keep the remote control out of the reach of children. Failure to do so may incur accident to children.
18. Don't try to repair or adjust the system by yourself. Contact professionals instead.
19. Keep the Manual properly for future use.

Sliding Gate Opener

MANUAL

Main Technical Specifications:

MODEL	DYNAMIC 600	DYNAMIC 800	DYNAMIC 1000
Supply Voltage(V)	AC230/120V	AC230/120V	AC230/120V
Motor Power(W)	280W	370W	550W
Torque	20Nm	20Nm	20Nm
Maximum Weight Of Gate	600kg	800kg	1000kg
Motor Rotation Speed(Rated)	1400r/min	1400r/min	1400r/min
Gate Speed	12M/Minute	12M/Minute	12M/Minute
Limit Switch	Spring switch/magnetic switch	Spring switch/magnetic switch	Spring switch/magnetic switch
Noise	≤56dB	≤56dB	≤56dB
Operating Environment Temperature	-45°C - 65°C	-45°C - 65°C	-45°C - 65°C
Certificates	CCC, CE	CCC, CE	CCC, CE

MODEL	DYNAMIC 1500	DYNAMIC 2000	DYNAMIC 2500
Supply Voltage(V)	AC230/120V	AC230/120V	AC230/120V
Motor Power(W)	750W	1200W	1500W
Torque	20Nm	20Nm	20Nm
Maximum Weight Of Gate	1500kg	2000kg	2500kg
Motor Rotation Speed(Rated)	1400r/min	1400r/min	1400r/min
Gate Speed	12M/Minute	12M/Minute	12M/Minute
Limit Switch	Spring switch/magnetic switch	Spring switch/magnetic switch	Spring switch/magnetic switch
Noise	≤56dB	≤56dB	≤56dB
Operating Environment Temperature	-45°C - 65°C	-45°C - 65°C	-45°C - 65°C
Certificates	CCC, CE	CCC, CE	CCC, CE

Working Principle and Main Components and Functions

The door opener mainly consists of a high-strength aluminum alloy box, a high-quality single-phase motor, a frictional overrun clutch, a worm-gear reducer, a gear clutch and an output gear. During the operation, the motor spindle drives both the reducer and output gear by means of the frictional overrun clutch, and the output gear then push racks mounted on the sliding door to move the door horizontally so that the door can be opened and closed in the energized state.

When the special key is turned clockwise, the gear clutch is engaged and the motor power transmitted by the worm gear drives the output gear to rotate via the gear clutch so as to drive the rack mounted on the door, pushing the door to move (or to open and close) horizontally. Meanwhile because of the reverse self-locking feature of the worm gear mechanism, the door is locked as well, keeping closed against an external force.

When the special key is turned counterclockwise, the left and right parts of the gear clutch are disengaged from each other and the output gear is freed from the influence of the motor, allowing the door to be opened and closed manually.

Install the Metal Base

The door opener should be mounted on a metal base with bolts. As for how to install the metal base, see Fig. 1.

Sliding Gate Opener

MANUAL

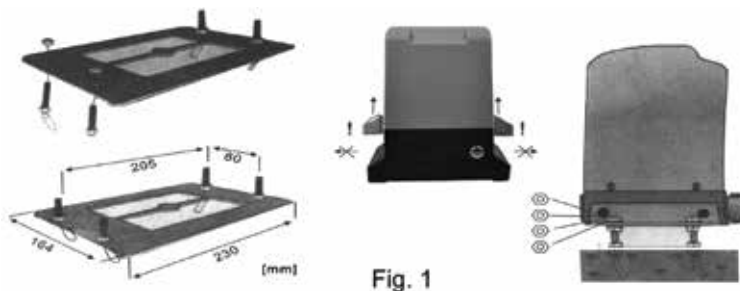


Fig. 1

Mount the Rack

The easiest way to install a rack is to place it on the gear teeth of the door opener first, disengage the door opener, and then push the door slowly to move the rack bit by bit to the desired position. In this way, you can make sure that the teeth of the rack are perfectly engaged with the teeth of the gear. When doing so, don't forget to mark each mounting point. (See Fig. 2.) Be noted not to lay the entire weight of the door onto the gear.



Fig. 2

Door Opener Release Device (Open the door manually)

The door opener is designed with a lockable release device which enables you to open the door manually in case of blackout. For the release device and its operations, see Fig.3 and Fig. 4.



Fig. 3 (New Version)

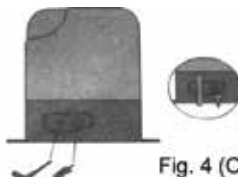


Fig. 4 (Old Version)

Install the Limit Switch

Install the switch bracket onto the rack by reckoning the final travel position. (See Fig. 5). For a spring switch, adjust until to an inclination that the spring comes into contact with the switch flapper. For a magnetic switch, the magnet should point to the motor and be located according to the position of the magnetic limit switch inside the housing.

Sliding Gate Opener

MANUAL

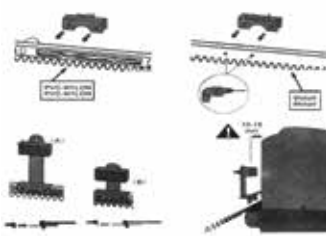


Fig. 5 Magnetic Limit Switch

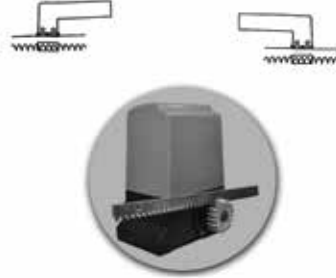


Fig. 5 Spring Limit Switch

For wiring, see Fig. 6

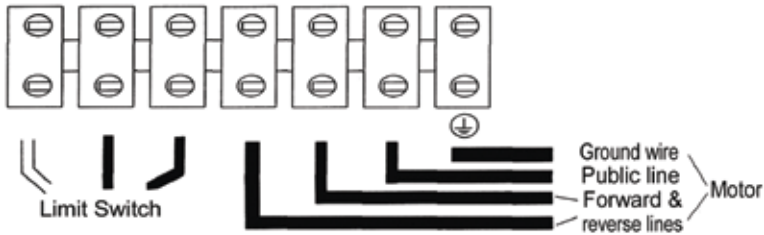


Fig. 6

For control panel wiring, see Control Panel Manual.

Energizing & Trial Run

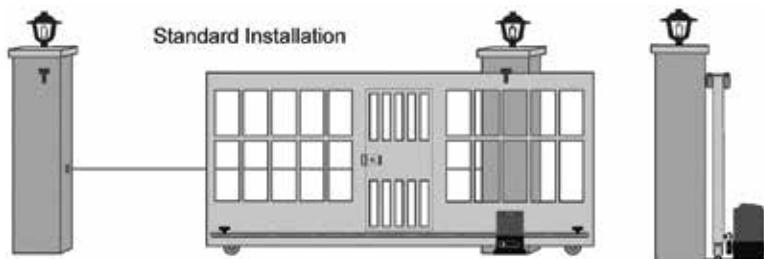
1. Before use, check the power supply voltage, frequency and other data carefully and make sure they are in line with the requirements, and check if the ground wire is in good condition and the electrical wiring is correct.
2. A special key is provided along with the shipment of the door opener. Turn the key counterclockwise (to disengage the clutch), push the sliding door and let the door opener to operate without load. If the door opener works properly, then turn the key clockwise (to engage the clutch).
3. Turn on the power, start the door opener, and observe the sliding operation of the sliding door.
4. Adjust the magnet's position until the door is able to open and close in positions to your satisfaction.

Care and Maintenance

1. Apply some antirust grease to the end of the worm gear spindle located inside the hole of the special key.
2. Check frequently if the electrical grounding is in good condition.
3. Check frequently if all parts and components are in good condition.
4. The device uses advanced lubricant that requires no replacement or replenishment.

Sliding Gate Opener

MANUAL



Possible Faults and Trouble shooting

No.	Fault	Possible Causes	Troubleshooting
1	Motor cannot be started.	No power supply. Fuse is blown. Capacitor breaks down. Overloaded. Thermal protector is activated. Sensor switch is damaged. Cable becomes broken, loose or detached.	Check the power supply. Replace the fuse. Replace the capacitor. Check for any obstruction on the door rail. Restart in 20 minutes Replace the sensor switch. Connect up the cable.
2	The door can be opened (closed) but cannot be closed (opened)	Sensor switch is damaged. A/COM/C line is incorrectly wired. Check controller and motor	Replace the sensor switch. Connect the line as per the wiring diagram. Check if the line is open.
3	Limit operation fails.	Sensor switch is far apart. Sensor switch is incorrectly located. Magnetic steel become detached and incorrectly located. Sensor switch is damaged W, V, or COM line is incorrectly wired	Adjust the position Replace the sensor switch. Connect the line as per the wiring diagram
4	Manual clutch fails.	Clutch lever is damaged. Rotation direction is wrong. Clutch gets stuck.	Replace the clutch lever. Rotate in the direction as indicated. Turn left and right to output

Sliding Gate Opener

MANUAL

			the gear.
5	Press "OPEN" button but "CLOSE" operation is activated.	W and V lines are incorrectly wired.	Connect the line as per the wiring diagram.
6	Motor rotates but the device doesn't work.	<p>Clutch compression spring fails or lacks of elasticity.</p> <p>Clutch is in the disengaged position.</p> <p>The compression spring of the friction clutch fails or becomes loose.</p>	<p>Check, adjust or replace</p> <p>Engage the clutch correctly.</p> <p>Replace or adjust the spring pressure.</p>

Sliding Gate Opener

MANUAL



www.merc-automations.gr
Tel. 0030 210 9948 300
Delfon 13, TK. 17342, Athens, Greece