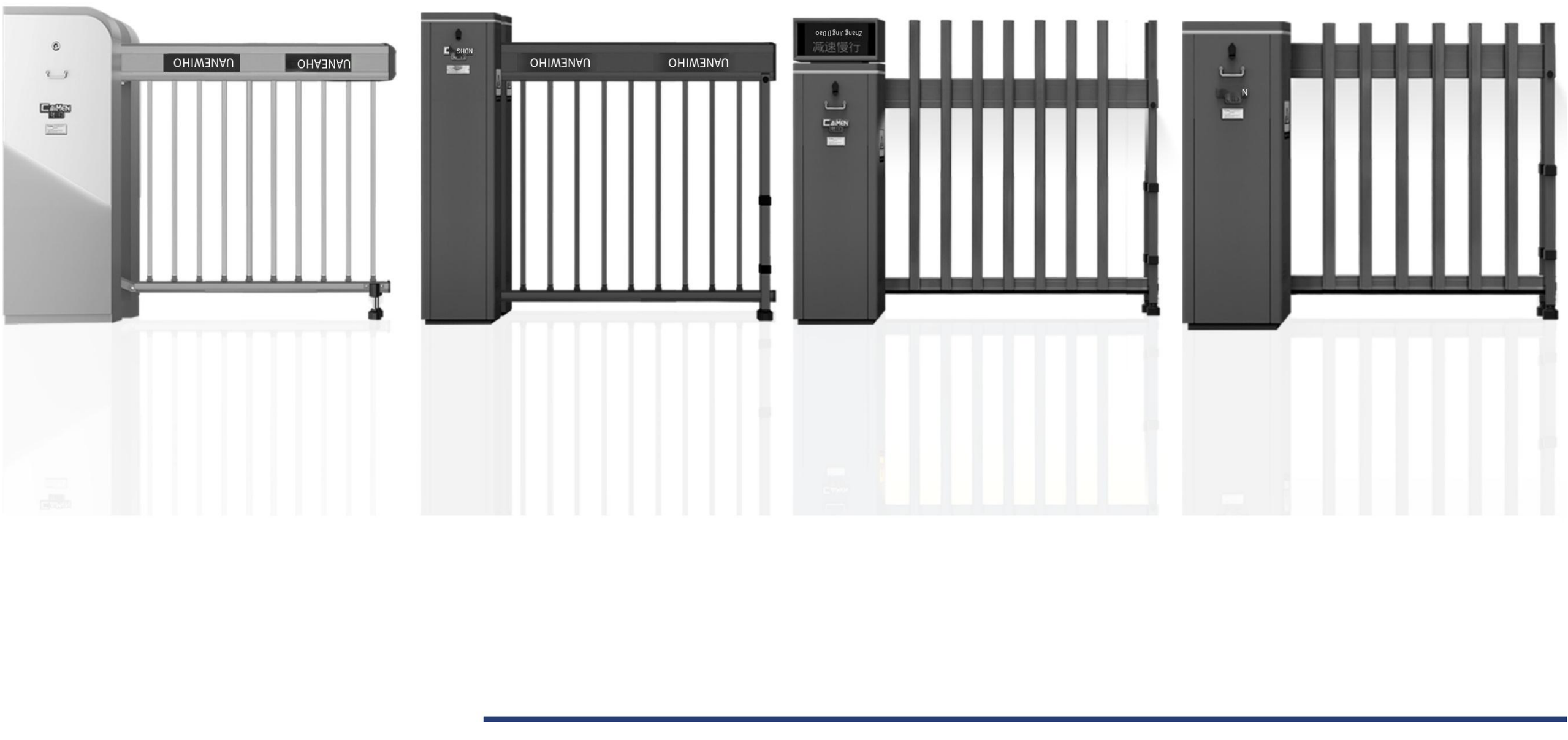
Vertical Pivot Gate User Manual



- The barrier gate is fully raised
- The fence folds up and is hidden in the upper
- crossbar. Elegant and simple design
- Extra-high power, stable and reliable

Contents

Preface

1. 1. Please read the instructions carefully before installation.

2. Installation must be carried out strictly in accordance with the instructions. Incorrect installation and operation may cause personal injury or property damage.

3. All operations during installation must comply with the instructions manual and relevant national safety regulations.

4. The application functions specified in the product manual have been carefully designed and manufactured. Any application beyond the specified functions may cause damage or pose other risks.

5. The company shall not be held responsible for any damage caused by improper use of this product.

6. This product must not be installed in places where flammable or explosive materials are present.

7. Before installing, inspecting or repairing this product, the power supply must be cut off first.

8. This product must be equipped with an independent switch and a 6A circuit breaker for protection.

9. Check whether the grounding system of the product is normal.

10. The safety devices of the electrical system must safeguard the safe operation of the moving mechanical system and prevent it from being crushed or cut.

11. If a safety protection switch other than our company's is used in the product (such as infrared protector, ground sensor, radar, etc.), our company is not responsible for the safety and normal operation of the product.

12. Please use the parts provided by our company during maintenance.

13. For any problems that occur in the operation of the enclosed power components due to disassembly or assembly without following the correct procedures, our company will be responsible.

14. Children or non-staff members are not allowed in the vicinity when the product is being installed and debugged.

15. 15. The installer must inform the user of the method for manual operation in case of an emergency.

16. 16. Inform users that they must not repair or adjust the system without authorization. Please contact the relevant personnel when necessary.

17. After installation and commissioning are completed, please hand over this manual to the user for safekeeping, for reference during future maintenance.

Product Features

Simple, fashionable and intelligent guidance, with an exquisite and elegant appearance.
The box body is produced in a standardized modular way using aluminum alloy. The cabinet adopts
The special process of double baking and double roasting of fluorocarbon powder, along with the waterproof, anti-aging and anti-corrosion technology, enhances the

product's anti-corrosion and weather resistance.

Advanced technology with multiple protections

The external controller has been newly and optimally designed. It supports digital stroke protection function, ground sensor and digital anti-crushing vehicle function, as well as barrier opening priority function. The anti-crushing technology comprehensively safeguards the safety of people and vehicles.

Safe, stable and reliable performance.

The integrated mechanism design features over a hundred technical invention patents. The product operates stably with core components that are highly wear-resistant. It can run for 3 million times without replacement. It supports the connection of various anti-crushing technologies such as infrared, ground sensing, and radar. During operation, it adopts contactless monitoring and control technology, ensuring smooth and jitter-free operation.

The screen adopts high-brightness surface-mount dual-color LED light-emitting devices, and the visible distance of numbers and characters is greater than 30 meters. Four 16x16 dot matrix displays show Chinese characters in the standard Song typeface. It includes the secondary standard Chinese character library with a total of 16,384 characters. When the number of characters exceeds 8, the screen will automatically scroll left.

Intelligent parachute fence gate

※ The material structure is stable and solid, making it durable and long-lasting.

※ The fence automatically bounces back when it encounters an obstacle, ensuring safe passage.

※ Multiple control access methods

※ Ultra-high power, stable and reliable

Product Features

1. Support rubber strips, ground sensing infrared (optional) opening priority protection, and obstacle protection to ensure the safety of the passing target. Contactless monitoring during the operation and maintenance of the gate, high-precision linear dynamic encoding control, make the control more precise, realize the control of the whole process of movement, and run more smoothly.

2. In-place position locking control technology and initial position reset detection technology to avoid cumulative errors in movement, small impact and jitter in place.

3. High-precision integrated movement transmission overcomes the wear of motors and gears caused by the jitter of the gate machine in movement, and has high reliability.

4. Wireless remote control to control the lifting, lowering and stopping of the rod. Support the handwheel lifting of the bottom of the hand-cranked motor during power failure.

5. Stepless speed regulation function: The running speed of the gate rod can be customized according to different customer needs to meet the needs of different scenarios.

6. Support multi-parameter full-dimensional adjustable and settable to achieve stronger compatibility

7. Adopt vector frequency conversion technology, stepless speed regulation to make the gate rod rise and fall smoothly at high speed.

8. Adopt encoder feedback angle, gate angle and controller full closed-loop control.

9. Adopting S-shaped and linear acceleration and deceleration start and stop, no matter long poles, fences, airborne gates, or other heavy loads, it can achieve high-speed and stable take-off and landing without impact on the reducer. The deceleration angle can be adjusted.

10. Add delayed gate closing function, which is applied to automatic gate closing in places without ground sensing.

11. Supports convoy mode (after the starting limit light comes on, press and hold the "Stop" button on the console or the "Stop" button on the remote control for 3 seconds to enter the convoy mode, and press the "Close" button on the console or the "Close" button on the remote control to release the convoy mode).

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Product specification parameters

Item	K800	K600	KJM003	KJM005
Input Voltage	AC220V±10%, 50Hz	AC220V±10%, 50Hz	AC220V±10%, 50Hz	AC220V±10%, 50Hz
Operating Ambient Temperature	-30~+80℃	-30~+80℃	-30~+80℃	-30~+80℃
Remote Control Distance/ Frequency	<30m/418MHz/315MHz	<30m/418MHz/315MHz	<30m/418MHz/315MHz	<30m/418MHz/315MHz
Motor Power	250W	250W	250W	250W
Input Interface Signal	Switching Value Signal	Switching Value Signal	Switching Value Signal	Switching Value Signal
Operating Speed	4-10s(adjustable according to pole length)	4-12 s(adjustable according to pole length)	4-10 s(adjustable according to pole length)	4-10 s(adjustable according to pole length)
Maximum Barrier Arm Length	6m	7.5m	6m	6m

Tools required for installation

Tape measure

Screwdriver

Power drill

Wrench

Grinder

Hammer drill

Allen wrench

Spirit level

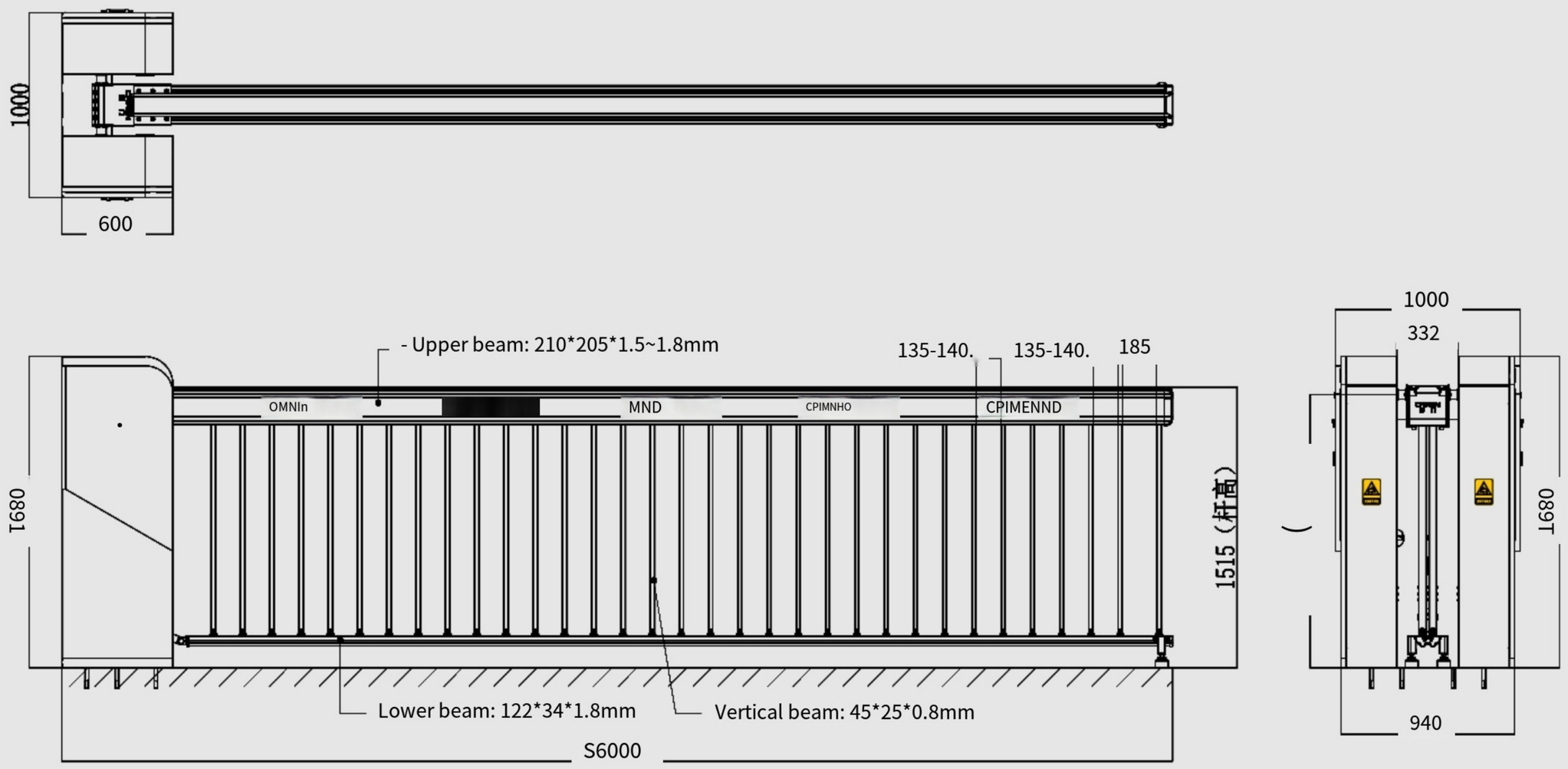
Hammer

Ink line

Marker

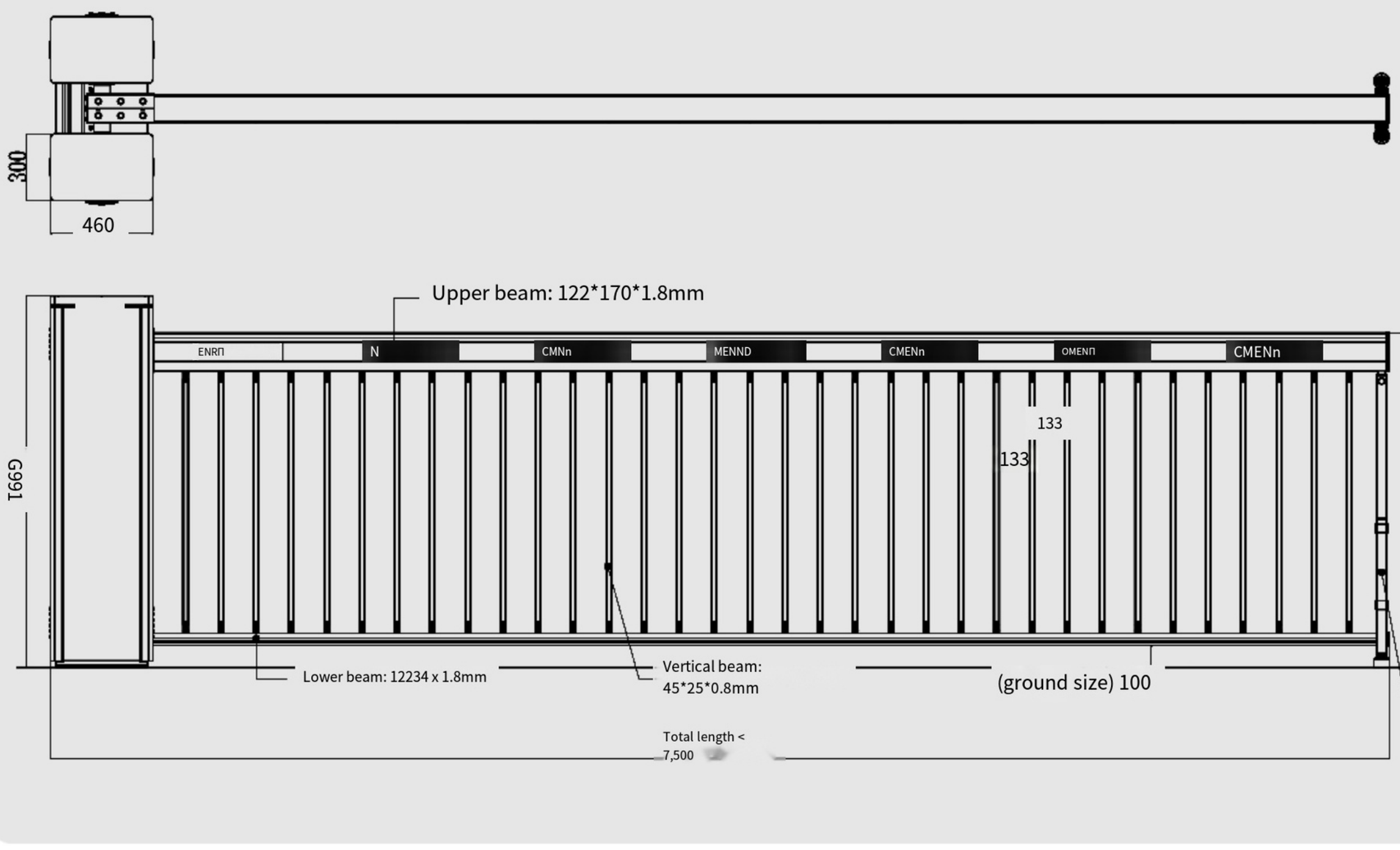
Product Diagram of Vertical Pivot Gate-KJM001

Product size diagram



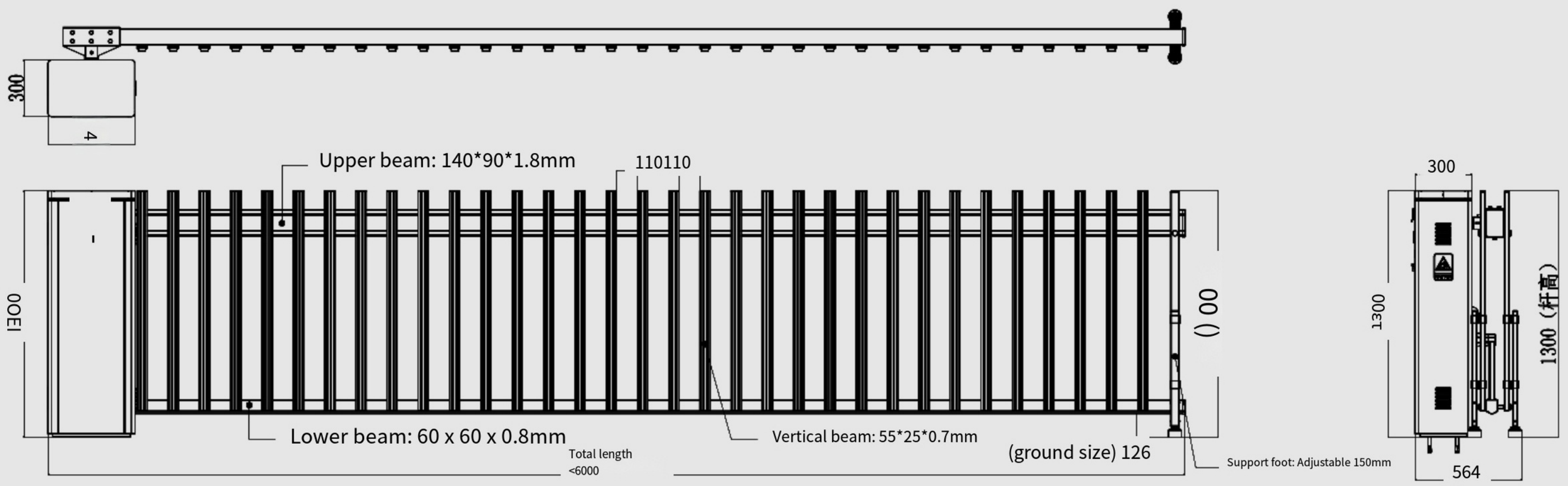
Product Diagram of Vertical Pivot Gate-KJM002

Product size diagram



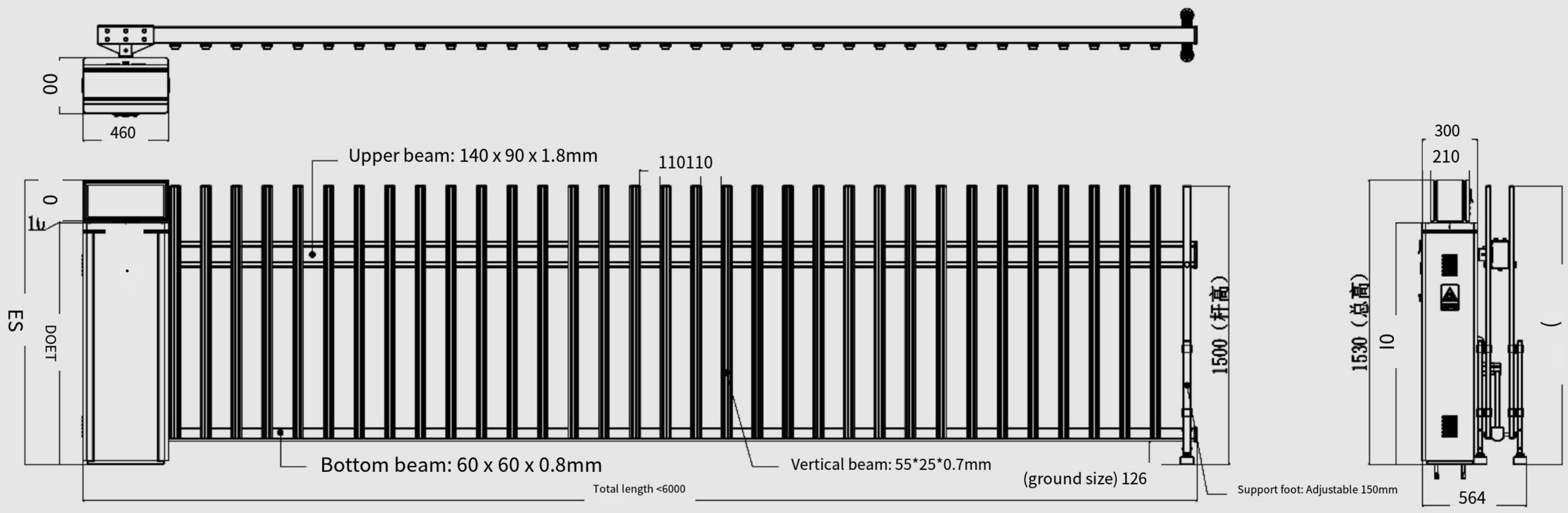
Product Diagram of Vertical Pivot Gate-KJM003

Product size diagram



Product Diagram of Vertical Pivot Gate-KJM005

Product size diagram



Installation steps for the Vertical Pivot Gate

1. Cable pre-buried

Pre-buried or excavated cable trenches between the fixed positions of the cabinet (such as the control room or sentry box), buried the wire tube to insert the power line and control line used by the equipment, and then backfilled with concrete after confirming that everything is correct.

2. Fixing the cabinet

Put the cabinet in place, open the cabinet door, loosen the fixing cap and butterfly nut, and carefully place it to avoid scratching the surface. Mark the center of the screw hole on the cabinet bottom plate and the edge of the cabinet base, remove the gate, and use a drill bit to drill vertically on the marked screw hole (the drill bit size must match the expansion bolts provided with the equipment), and the depth must meet the requirements of the expansion screw length. Move the cabinet to the original position, insert the expansion screws and tighten them firmly.

3. Gate rod installation

After the airborne cabinet is firmly fixed, tighten the installation rod handle position with the provided screws and determine the gate rod tilt to install the door row, and debug the vertical and horizontal state.

4. Peripheral equipment installation

After the gate is firmly installed and debugged, connect the cabinet according to the gate control board wiring diagram according to customer needs.

5. Embedded position of the grounding coil

Generally, the length and width of the coil are 2 meters and 1 meter. The position of the coil is determined by the installation position of the on-site gate. Taking the vertical end of the gate rod as the starting point, the grounding coil in the exit direction accounts for 2/3, and the grounding coil in the entrance direction is 2/3. For example, the ground induction coil with a width of 1 meter is 66.6 cm away from the gate rod exit coil in the vertical direction and 33.3 cm away from the entrance coil.

6. Cement floor cutting of airborne parking equipment

Ensure the depth is about 3cm, bevel the four corners, fill them with national standard 0.75mm Tekron wire, and then roll them into a round shape. It is recommended to reinforce with waste wire skin to prevent the line from being exposed to the ground.

Remote Control Settings

Learning Remote Codes:

In the stop state, press the "Learn" button on the controller while pressing the "Stop" button on the remote. When the controller beeps and displays "000X," release the buttons. The remote code learning is complete.

Note: "000X" indicates the number of codes learned. For example, "0008" means 8 codes have been learned.

Deleting Remote Codes:

In the stop state, press the "Learn" and "Stop" buttons on the controller simultaneously. When a beep is heard and the digital tube displays "CLER" and flashes, release the buttons. The remote codes are deleted.

Variable Frequency Gate Controller Parameter Settings

In the standby state of the controller, press and hold the "Set" button. When "1-XX" is displayed, press the "Learn" button to enter the function parameter settings. Use the "Raise" or "Lower" buttons to adjust the parameter values. If no adjustment is needed, press the "Set" button to move to the next parameter or press the "Stop" button to exit and save the adjusted parameters.

菜单 (Menu)	功能 (Function)	设定范围 (Setting Range)	说明 (Description)
1-10	起杆速度 Opening Rod Speed	1~25	数值越大起杆速度越快 The larger the value, the faster the opening rod speed.
2-10	落杆速度 Closing Rod Speed	1~25	数值越大落杆速度越快 The larger the value, the faster the closing rod speed.
3-10	起杆降速角度 Opening Rod Deceleration Angle	1~25	数值越大起杆降速角度越长 The larger the value, the longer the opening rod deceleration angle.
4-10	落杆降速角度 Closing Rod Deceleration Angle	1~25	数值越大落杆降速角度越长 The larger the value, the longer the closing rod deceleration angle.
5-5	力度补偿 Torque Compensation	0~9	转矩程序自动识别，正常情况无需设置 Automatically identified by torque program; no need to set under normal circumstances.
6-00	运行方向 Operation Direction	0~1	电机正反转切换 Switch between motor forward and reverse rotation.
7-00	预留项 Reserved Item	预留项 Reserved Item	预留项 Reserved Item
8-05	预留项 Reserved Item	预留项 Reserved Item	预留项 Reserved Item
9-05	预留项 Reserved Item	预留项 Reserved Item	预留项 Reserved Item
A-00	电机锁闸功能 Motor Brake Function	0~10	危险！慎用！0: 关闭 1-10 数值越大功率越大 DANGER! Use with caution! 0: Off; 1-10: The larger the value, the greater the power.
b-10	预留项 Reserved Item	预留项 Reserved Item	预留项 Reserved Item
C-05	降速后功率 Power After Deceleration	1~20	道闸电机降速后的功率，数值越大功率越大 Power of the barrier gate motor after deceleration; the larger the value, the greater the power.
d-10	落转起缓冲时间 Buffer Time Between Closing and Opening	5~30	数值越大，缓冲时间越长 The larger the value, the longer the buffer time.
E-03	起杆最小速度运行角度 Minimum Opening Speed Operation Angle	0~15	数值越大，角度越大，0 为关闭 The larger the value, the larger the angle; 0 means off.
F-03	落杆最小速度运行角度 Minimum Closing Speed Operation Angle	0~15	数值越大，角度越大，0 为关闭 The larger the value, the larger the angle; 0 means off.

Advanced parameter settings:

When the controller is in standby mode, hold down the "Settings" button until "1-XX" is displayed. Then, press the "Learn" button briefly to enter the function parameter setting mode, where "10XX" is shown. Use the "Up" button to increase or the "Down" button to decrease the parameter value. If no adjustment is needed, press the "Settings" button to move to the next parameter for adjustment, or press the "Stop" button briefly to exit and save the adjusted parameter values.

Menu	Function (中文)	Function (English)	Setting Range	Description (中文)	Description (English)
1o00	遇阻灵敏度	Obstacle Detection Sensitivity	0~17	0: 关闭遇阻 1—17 灵敏度由高到低	0: Obstacle detection disabled; 1－17: Sensitivity decreases from high to low
2o00	延时落杆	Delayed Closing	1~250	0: 起限后不延时落杆 1-250 为起限后延时落杆时间 单位：秒	0: No delay after gate fully opens; 1－250: Delayed closing time after gate fully opens (Unit: second)
3o10	运行保护时间	Operation Protection Time	1~250	0: 自动检测保护时间 1—250 为运行保护时间 单位：秒	0: Auto-detect protection time; 1－250: Operation protection time (Unit : second)
Co00	降速后关闭遇阻	Disable Obstacle Detection After Deceleration	0~1	0: 落杆全程响应遇阻 1: 落杆降速后遇阻无效	0: Obstacle detection active during entire closing process; 1: Obstacle detection disabled after closing deceleration
do00	降速后关闭地感	Disable Loop Detector After Deceleration	0~1	0: 落杆全程响应地感 1: 落杆降速后地感无效	0: Loop detector active during entire closing process; 1: Loop detector disabled after closing deceleration
Eo00	地感信号断开后延时落时间	Delayed Closing After Loop Signal Off	0~30	0: 地感信号断开后立即落杆 1-30: 地感信号断开后延时落杆时间 单位：秒	0: Close immediately after loop detector signal is lost; 1－30: Delayed closing time after loop detector signal is lost (Unit: second)

Absolute value encoder settings

Press and hold the "Stop" button. When both the upper limit and lower limit indicator lights are on, the limit setting mode is entered.

Briefly press the "Stop" button. The "Up Limit" light will turn on and the "Down Limit" light will turn off, indicating that the system has entered the up limit angle setting mode.

Press and hold the "Raise Bar" or "Lower Bar" button to adjust to the appropriate starting limit position (vertical position). Press the "Stop" button briefly. The "Starting Limit" light goes off and the "Lowering Limit" light comes on, indicating that the system has entered the lowering limit angle setting mode.

Press and hold the "Lower Limit" or "Upper Limit" button to adjust to the appropriate position (horizontal position). Press the "Stop" button briefly. The buzzer will sound, and the "Upper Limit" and "Lower Limit" indicator lights will turn on simultaneously, indicating that the limit setting is complete.

Methods for Fault Analysis and Elimination

No.	Fault Phenomenon	Fault Causes	Troubleshooting
1	Power indicator is off, and buttons have no response.	1. Power supply is not connected or damaged.	1. Connect the power supply or replace it.
		2. Power supply polarity is reversed.	2. Swap the power supply wiring order.
2	Controller buttons work normally, but remote control has no response or short operating distance.	1. Incorrect remote control coding.	1. Re-learn the remote control coding.
		2. Faulty receiving module.	2. Replace the remote control receiver.
		3. Same-frequency interference exists.	3. Replace another frequency or high-power remote handle.
		4. Low battery in the remote handle.	4. Replace the battery.
		5. Damaged remote handle.	5. Replace the remote handle.
		6. Receiver is placed inside the cabinet.	6. Place the receiver outside the cabinet.
		7. Mismatch between remote receiving antenna and remote control frequency.	7. Replace the remote control or receiving antenna with matching frequency.
3	Power indicator is on, opening/closing indicators work normally, but the motor does not run.	1. Open circuit or wrong connection of motor wires.	1. Connect the motor wires properly.
		2. Motor failure or damage.	2. Replace the motor.
4	Gate runs in the opposite direction when the open/close button is pressed.	1. Incorrect direction setting.	1. Adjust parameter "6-00" in section 8.1 to set the correct direction.
5	Gate automatically rebounds during closing.	1. Excessively high obstacle detection sensitivity.	1. Adjust parameter "1o05" in section 8.2.
		2. Abnormal anti-crushing signal.	2. Check the anti-crushing related equipment.
		3. Abnormal loop detector signal.	3. Check the loop detector related equipment or adjust parameter "8o00".
6	Excessive vibration when the gate is fully open.	1. Excessively high power after deceleration.	1. Adjust parameter "C-05" in section 8.1.
		2. Insufficient opening deceleration angle.	2. Adjust parameter "3-10" in section 8.1.
7	Excessive vibration when the gate is fully closed.	1. Excessively high power after deceleration.	1. Adjust parameter "C-05" in section 8.1.
		2. Insufficient closing deceleration angle.	2. Adjust parameter "4-10" in section 8.1.
8	Gate arm is not horizontal after fully closing.	1. Excessive axis offset of the gate arm.	1. Adjust the mechanical structure to align the axis properly.
		2. Incorrect horizontal position setting of the controller.	2. Adjust the encoder position.
9	Gate arm is not vertical after fully opening.	1. Excessive axis offset of the gate arm.	1. Adjust the mechanical structure to align the axis properly.
		2. Incorrect vertical position setting of the controller.	2. Adjust the encoder position.

Methods for Fault Analysis and Elimination

No.	Fault Phenomenon	Fault Causes	Troubleshooting
10	Digital display shows "E-01" code	Under-voltage fault	1. Check if the output voltage of the switching power supply is too low.
11	Digital display shows "E-02" code	Over-voltage fault	1. Check if the output voltage of the switching power supply is too high.
12	Digital display shows "E-03" code	Over-current fault	1. Excessive load caused by mechanical structure. 2. Motor failure. 3. Controller failure.
13	Digital display shows "E-04" code	Heatsink overheating fault	1. Excessive load caused by mechanical structure. 2. Abnormal ambient temperature. 3. Controller failure.
14	Digital display shows "E-05" code	Obstacle detection fault	1. Abnormal mechanical structure. 2. Mismatched or overly tight spring. 3. Disable the obstacle detection function.
15	Digital display shows "E-06" code	Operation timeout fault	1. Adjust parameter "3o10". 2. Check for mechanical jamming and whether the spring is properly matched.

Product Warranty Card

Product model: _____

Customer Name: _____

Contact Number: _____

Shipping address: _____

Purchase date: _____

Terms and Conditions of This Card Service

I. This product is covered by a one-year warranty, starting from the date of purchase. Free warranty service is provided during the warranty period.

II. The following situations are not covered by the warranty:

1. Quality problems caused by failure to install or use the product in accordance with the product manual or similar factors.
2. Damages caused by unstable power supply, voltage exceeding the product's specified range, or non-compliance with national safety electricity standards.
3. Damages caused by irresistible factors such as natural disasters.
4. Damages caused by users' random disassembly, repair or modification.
5. Beyond the warranty period.

When the product is under warranty, this card or the invoice should be presented for after-sales service.

The interpretation right of the terms and conditions of this card service belongs to Shenzhen Caimen Intelligent Technology Co., Ltd.

Product warranty record

Maintenance date	Repair content	Whether it is under warranty	Repairman

Shenzhen Caimen Intelligent Technology Co., Ltd. Support@caimenint.com

Product Inspection Certificate of Conformity

Dear User,

Thank you for choosing the Caimen Technology brand and for your support and trust in our company. We adhere to the service tenet of "customer first" and will always be ready to listen to your valuable opinions.

Product model: _____

Product Specifications: _____

Production number _____

Fixed direction: Left fixed, ☐ Right fixed ☐

Packer: _____

Inspector: _____