

User Manual

BGM500 Series Barrier Gate

Date: April 2026

Doc Version: 1.2

English

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.



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If there is any issue related to the product, please contact us.

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About the Company

ZKTeco is one of the world's largest manufacturer of RFID and Biometric (Fingerprint, Facial, Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face-reader Door Locks. Our security solutions are multi-lingual and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

About the Manual

This manual introduces the operations of **BGM500 Series Barrier Gate**.

All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual products.

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1 Overview

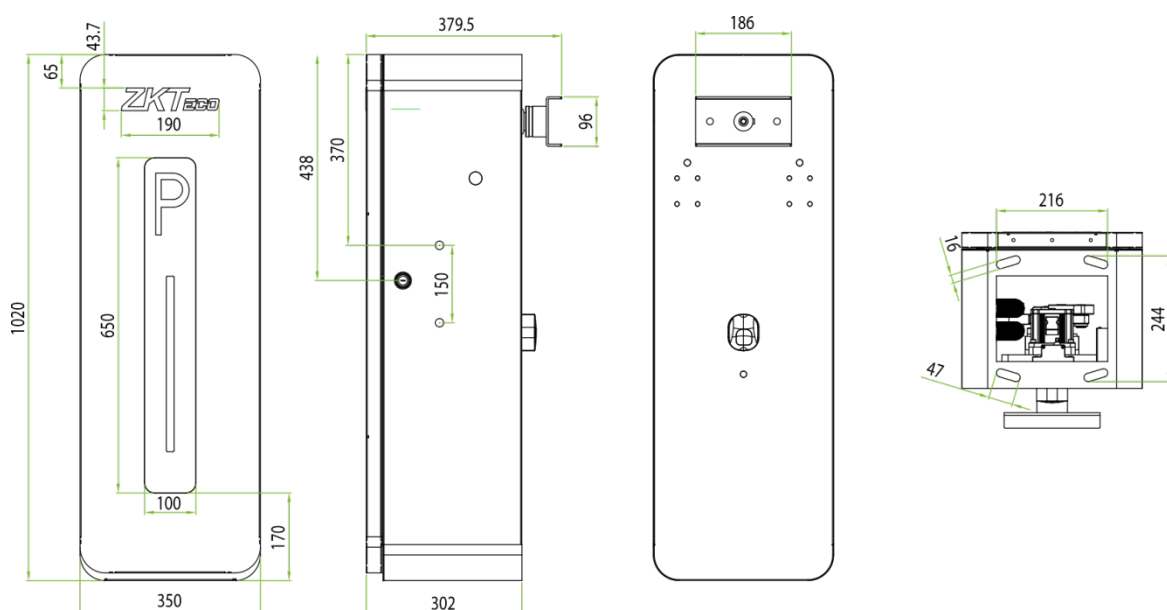
BGM500 series parking barrier adopts streamlined appearance style design, built-in LED indicator; Integrated brushless DC motor gear box all-in-one transmission mechanism and intelligent ZKBarrier mainboard, MCBF can reach 3 million maintenance free.

Apply to schools, communities, factories, office buildings and so on.

2 Features and Functionalities

- Highly energy-efficient because of the DC brushless motor.
- Digital control mainboard with diverse configuration possibilities.
- The barrier arm will rebound when an obstacle detected.
- Reversible boom direction.
- Chassis with LED indicator.
- Manual rise and fall in case of absence of power.
- Support the boom breakaway design.
- Various barrier arm.

3 Appearance and Dimensions



4 Specifications

Model	BGM530 L/R	BGM545 L/R	BGM560 L/R	BGM545 L/R-LED	BGM545 L/R-90	BGM545 L/R-F
Operating Speed	1.5s	2.5s	5s	2.5s	3s	2.5s
Boom Length	3m	4.5m	6m	4.5m	4.5m	4.5m
Boom Type	Straight boom	Telescopic boom		Straight boom with LED	Folding boom	Fence boom
Motor Type	DC 24V brushless motor					
Output Power	160W					
Output Current	10A					
Operating Voltages	DC 24V					
Power Supply	AC 220V/110V, 50Hz to 60Hz					
MCBF	3 million times					
Remote Control Distance	≥30m					
Operating Temperature	-30°C to 75°C					
Protection Level	IP54					
Chassis Dimensions (mm)	350*302*1020 (mm)					
Net Weight (excluding the barrier arm)	43 kg					

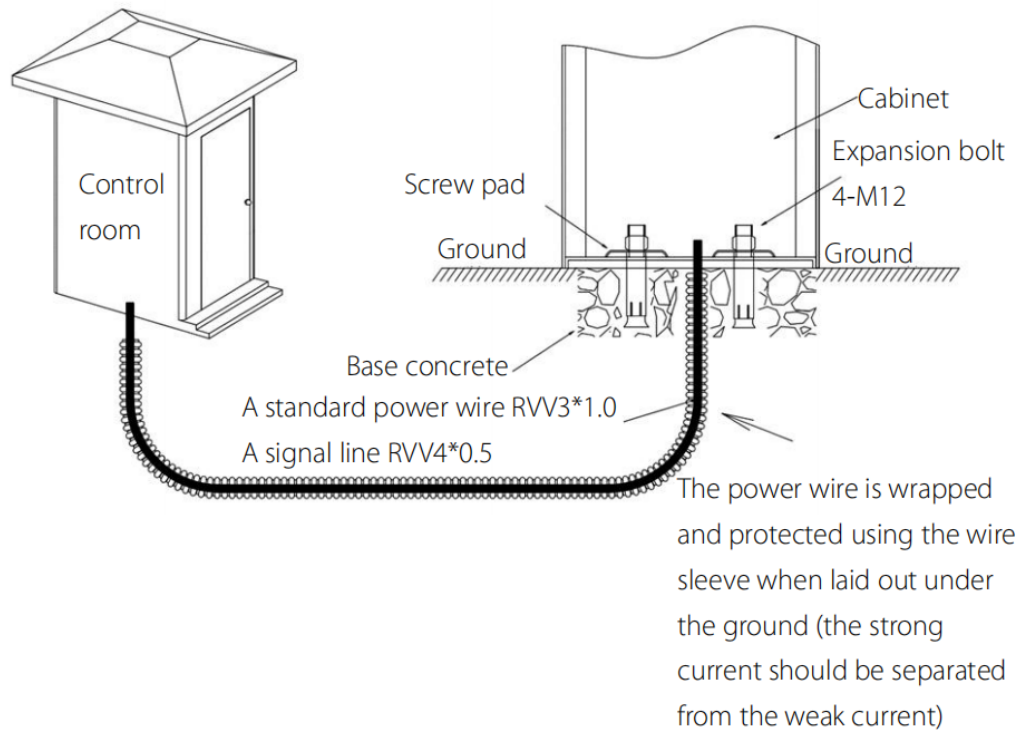
5 Installation Procedure

5.1 Installation Precautions

1. Install the parking barrier on a level ground. If the ground is not firm and level, a cement base is needed before the installation.
2. The length of the boom can be cut but cannot be increased. To establish new balance after cutting the boom length, the spring balance must be reset. The bottom of the spring has two plastic nuts for adjusting the new balance.
3. When the power is on, do not make any changes to the wire connections inside.
4. The GND should be connected to the cabinet for secure protection.

5.2 Cable Embedding

1. Prepare for a total of $\Phi 25$ protective sleeve and cable in advance.
2. Connect the route cables through the protective sleeves.
3. Use a tool to open a cable tray on the ground.



5.3 Boom Installation

5.3.1 Boom Installation Procedure

1. Pull the vice boom out from the main boom and install them with the two screws, as shown in Figure 1.
2. Install the boom to the chassis, as shown in Figure 2.

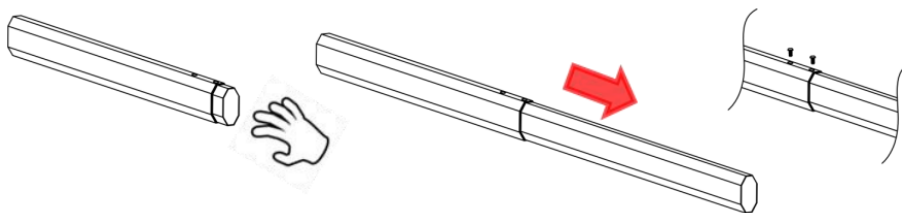


Figure 1 Connect the main boom with the vice together by 2 screws

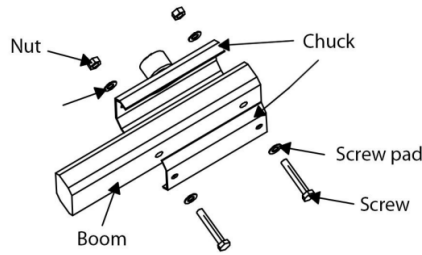
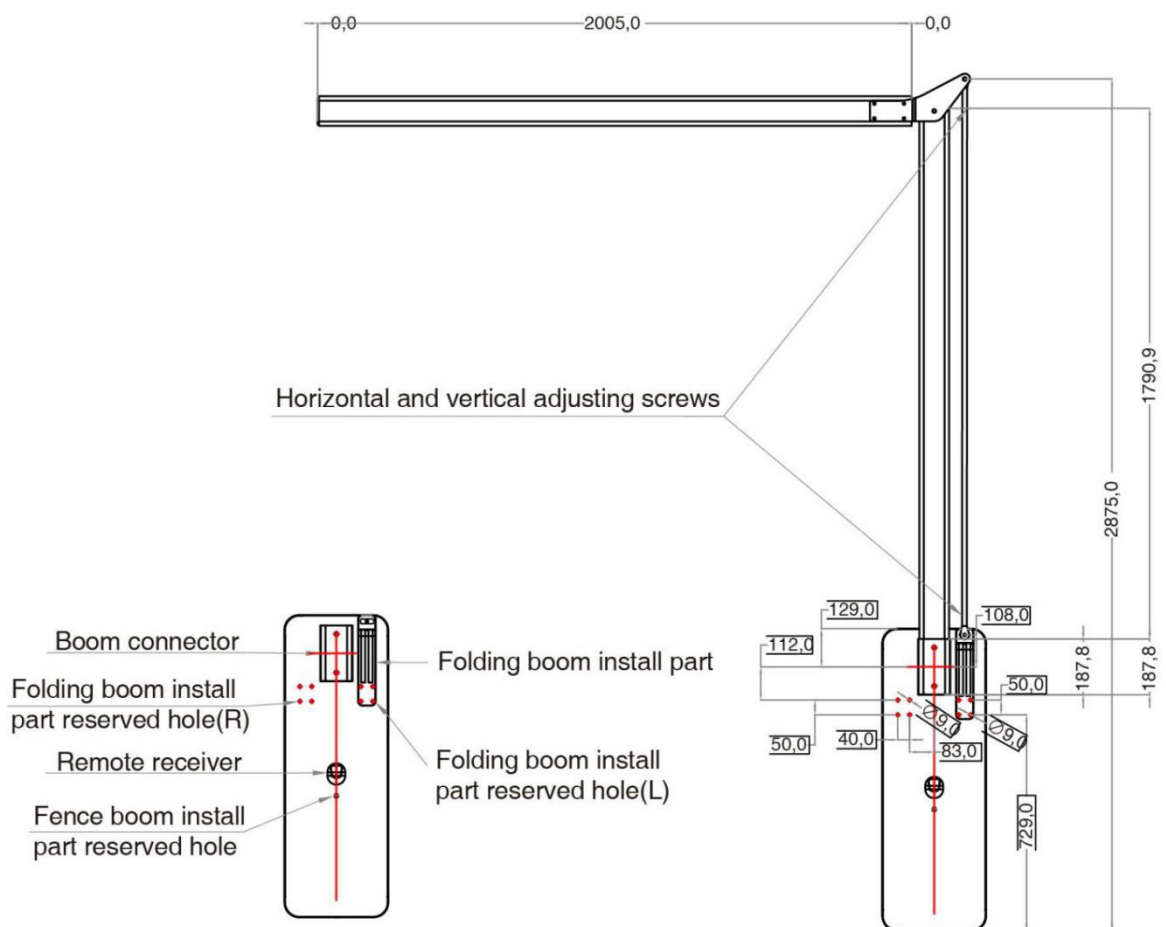


Figure 2 Installing the Boom to the Chassis

5.3.2 Installation of the Folding Boom



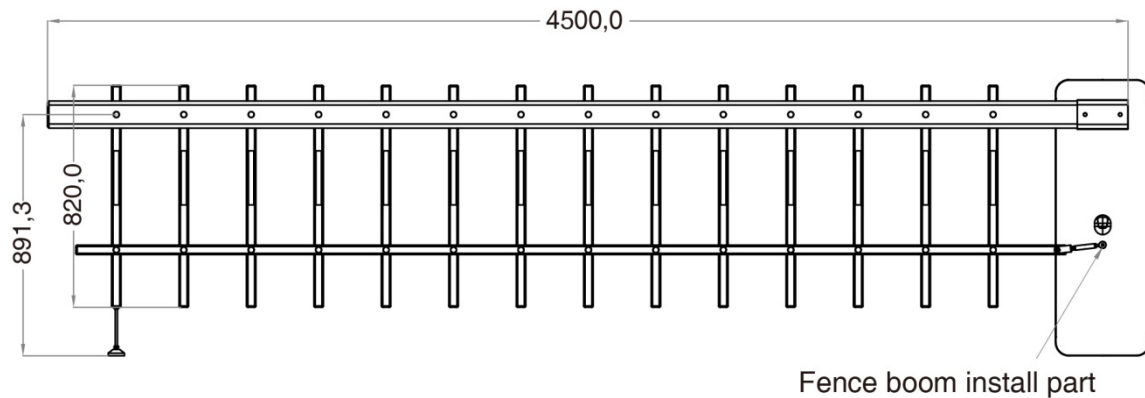
1. Install the folding boom assembly element after disconnecting the machine's power.
2. Fix the folding boom.
3. Adjust the vertical and horizontal position of the boom arm.
4. Start the power supply and observe the running state of the machine. If the boom arm open shaking, it is then necessary to loosen the spring and slow down the speed

appropriately. It is also necessary to tighten the spring and slow down the speed accordingly if the boom arm closes shaking.

Note:

Default total height: $H \leq 2.8\text{m}$, Default total length: $L \leq 4.5\text{m}$ (Support customization, specify total height and total length in the order remarks)

5.3.3 Installation of the Fence Boom Arm



1. Install the fence boom install part after disconnecting the machine's power.
2. Fix the fence boom.
3. Adjust the vertical and horizontal position of the boom arm.
4. Start the power supply and observe the running state of the machine. If the boom arm open shaking, it is then necessary to loosen the spring and slow down the speed appropriately. It is also necessary to tighten the spring and slow down the speed accordingly if the boom arm closes shaking.

Notes:

- 1) Before the machine is energized to run the test, please make sure to install the barrier boom of the corresponding length for the test. If the barrier boom is not installed, please adjust, and remove the spring under the guidance of a professional person.
- 2) If the length of the barrier boom is cut and adjusted, the tightness of the spring and the position of the hanging hole must to adjusted accordingly in order to avoid the abnormal condition of the machine that cannot drop the boom.

6 Definition of Left and Right Directions

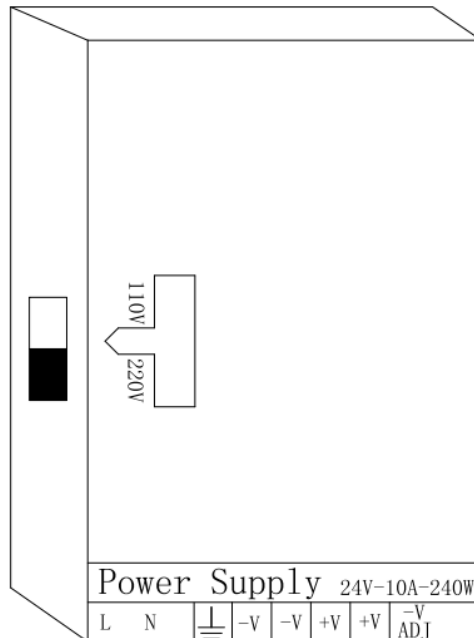


**L: The chassis on the left,
the boom on the right.**

**R: The chassis on the right,
the boom on the left.**

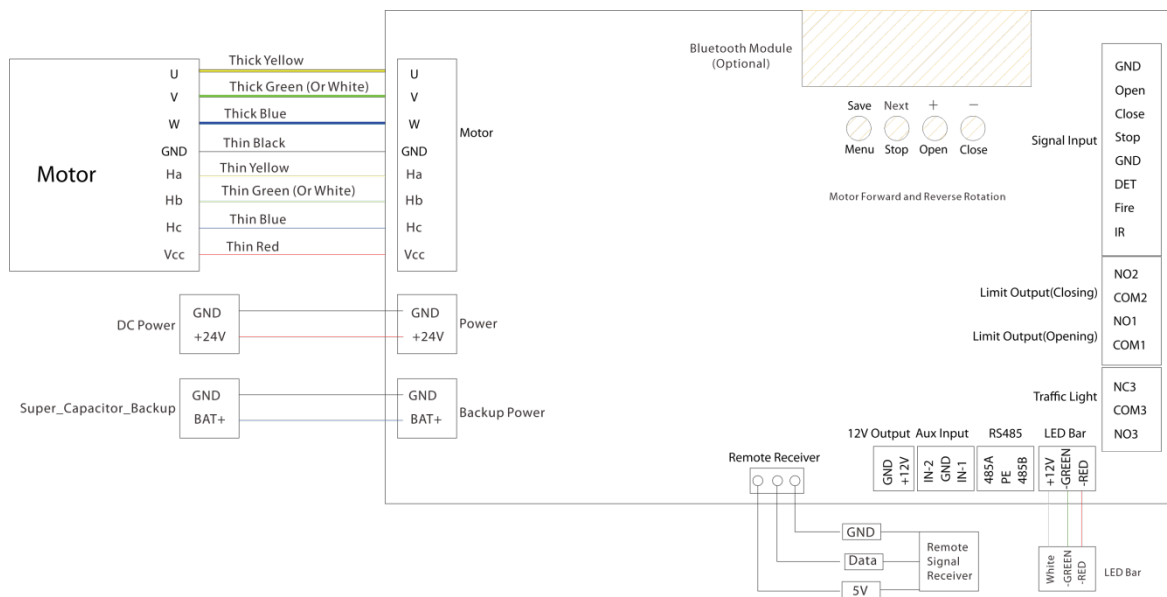
7 Mainboard Wiring Instructions

1. Please disconnect the power supply before wiring.
2. Please note that to switch the input voltage to 110V, you must set the DIP switch on the power supply to the following:

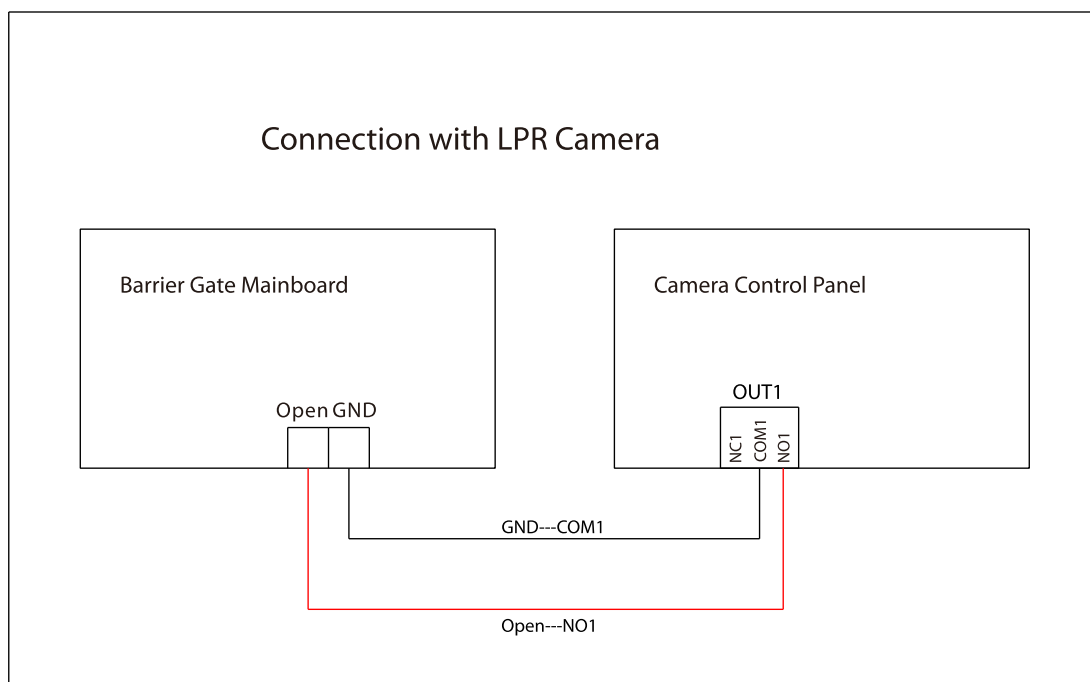


3. Make sure the terminals are securely fastened and the wiring is secure.
4. The wiring diagram of the control panel is explained as follows:

BGM500 Wiring Diagram of Mainboard

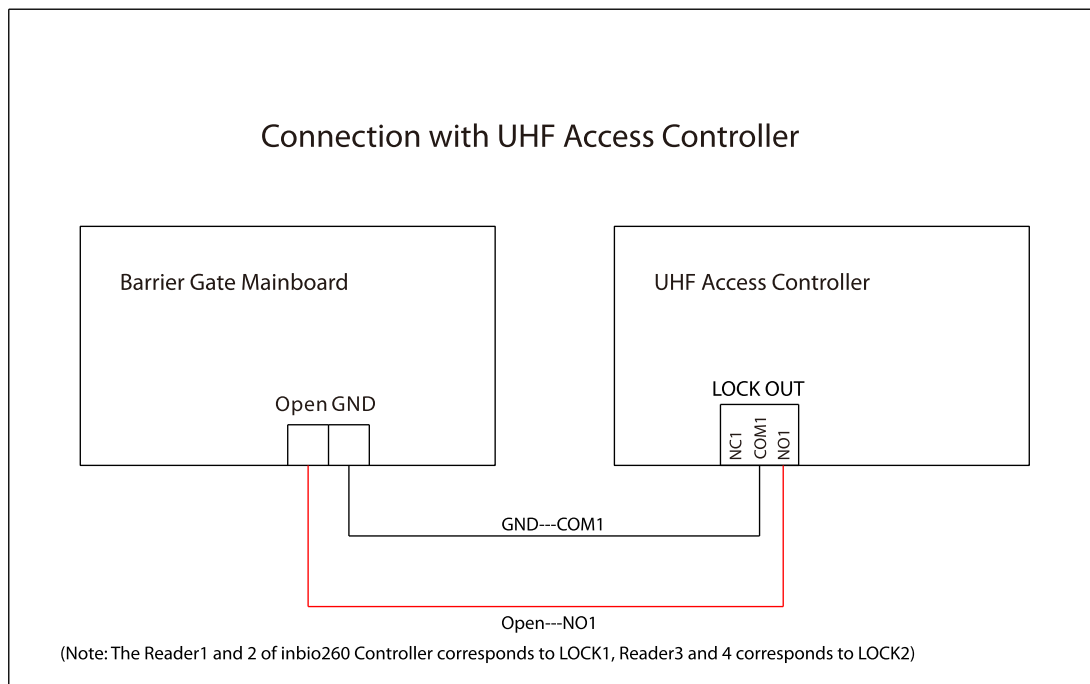


7.1 Connection with LPR Camera



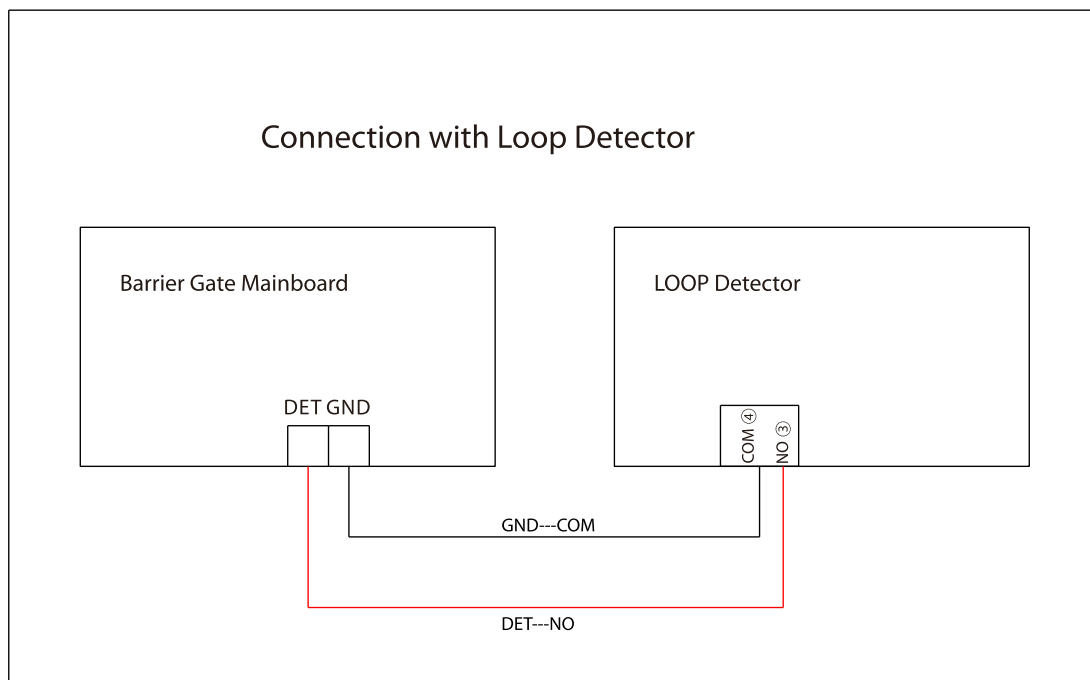
7.2 Connection with UHF Controller

(Note: The reader 1 and 2 of Inbio260 Controller corresponds to LOCK1, Reader 3 and 4 corresponds to LOCK2)



7.3 Connection with Loop Detector

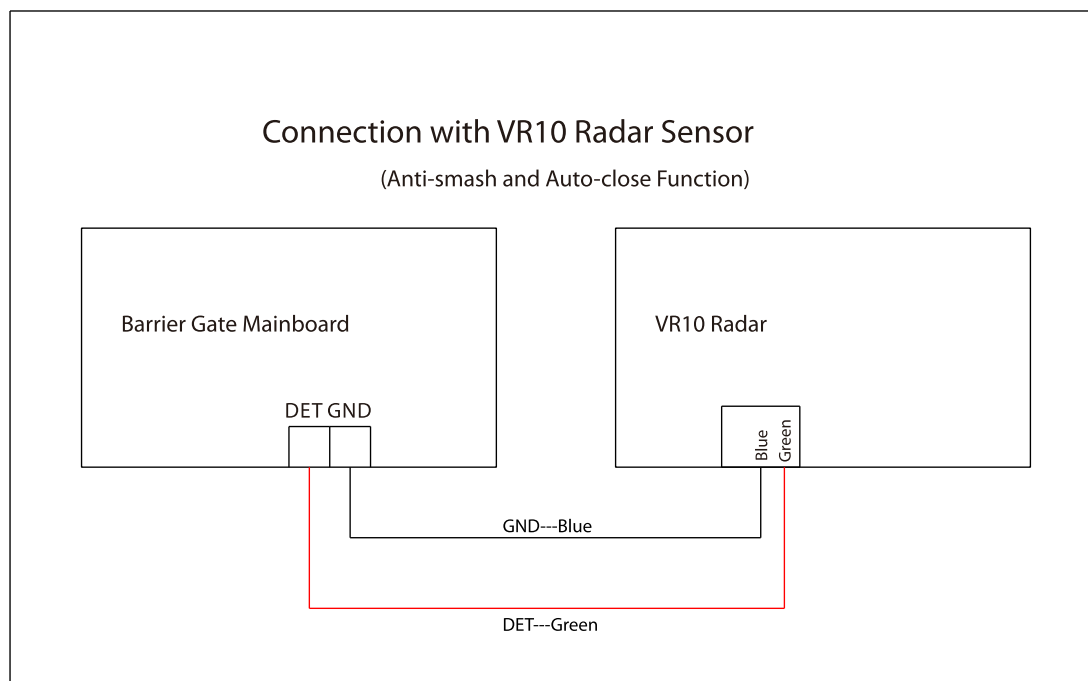
Anti-smash and Auto-close function:



Coil Circumference	Coil Number
3m	Based on requirements, ensure that the inductance is between 100μH to 200μH
3m to 6m	5 to 6 turns
6m to 10m	4 to 5 turns
10m to 25m	3 turns
25m	2 turns

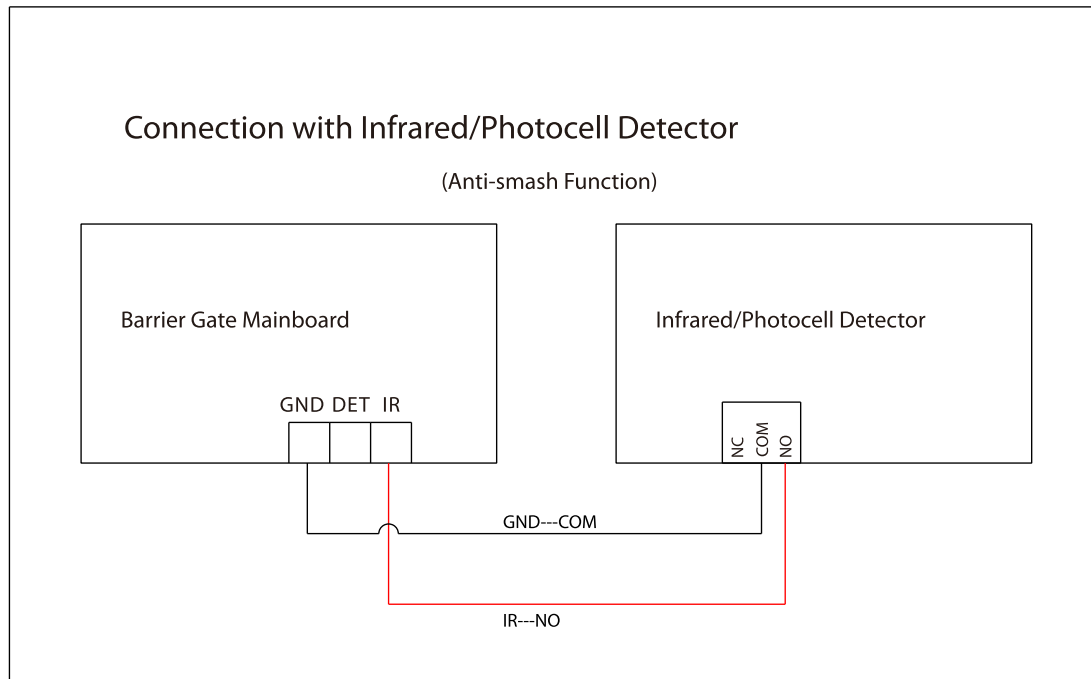
7.4 Connection with VR10 Radar Sensor

Anti-smash and Auto-close function

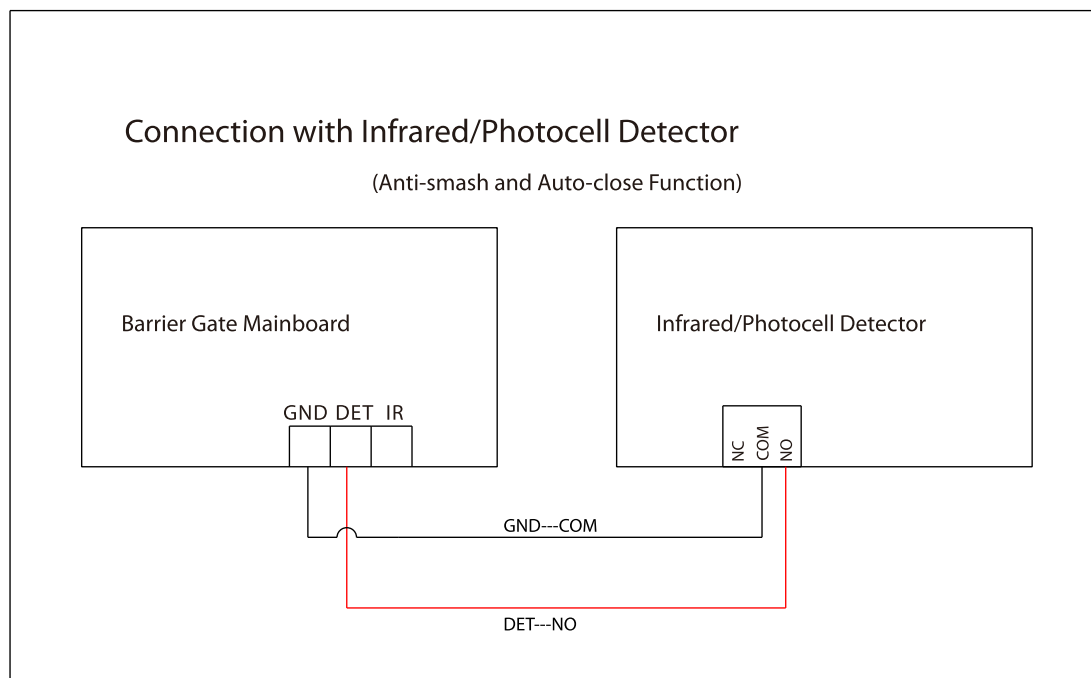


7.5 Connection with Infrared/Photocell Detector

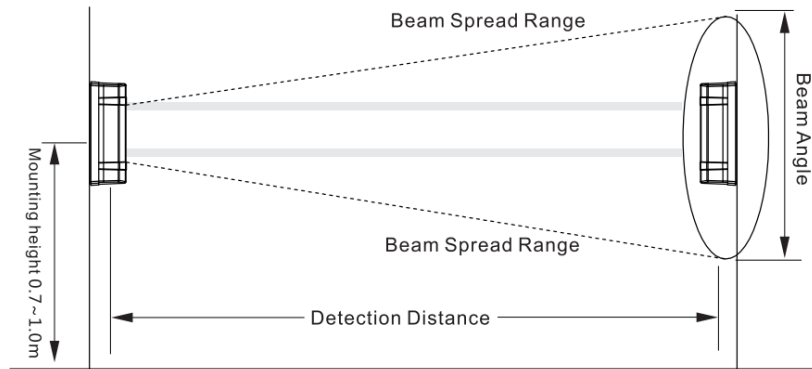
Anti-smash function



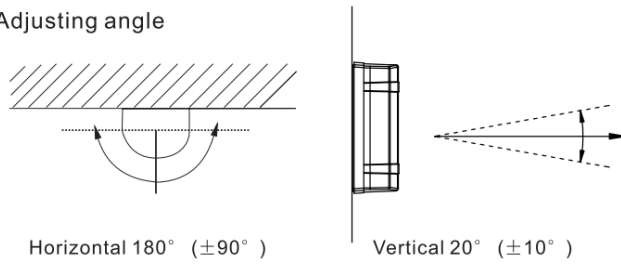
Anti-smash and Auto-close function



◆ Mounting height



◆ Adjusting angle

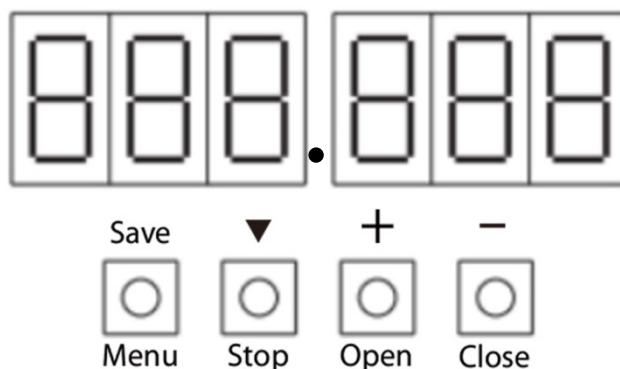


Notice: For best testing results,
please avoid testing in 45°

8 Functional Parameter Settings

After the initial installation, and first power-on, you must use the "**Open**" and "**Close**" buttons on the mainboard to complete the self-check process and learn the description of the menu.

8.1 Mainboard Parameter Settings



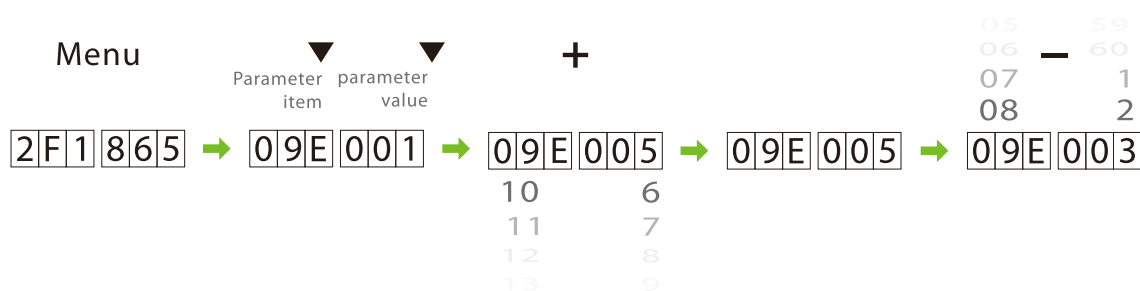
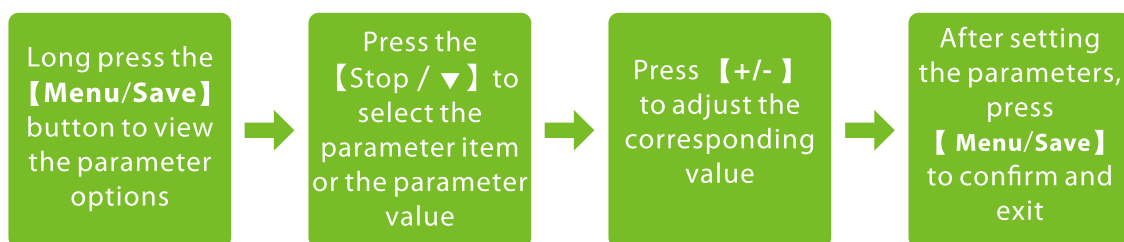
Menu/Save: Menu options/Confirm and Save

Stop/▼: Stop the boom arm /button to switch the menu item and the value item

Open/+: Increase parameter/value

Close/-: Decrease parameter/value

8.1.1 Operating Procedure



8.2 Parameter Settings Description

Items	Description	Default
01E.***	<u>Display Mode</u> 01E.000: Displays the status of the boom arm and the encoder value 1F0.***: Opening position 2F0.***: Closing position 5F0.***: Opening 6F0.***: Closing 4F0.***: In the pause 0F0.***: Not self-tested 7F0.***: Not stop at the open/close limit 01E.001: Displays the status of the boom arm and the current input signal (displays the status as "*F*.***") 01E.002: Test mode 01E.003: Number of boom openings 01E.004: Version Information 01E.005: Displays the hidden menus (The menus after item 13 are hidden)	01E.001
02E.***	<u>Boom Arm Opening Speed</u> Set the Boom Arm Opening Speed to open the gate. The larger the number is set, the faster the speed. The Boom Arm Opening Speed value can be set between 10 to 30 and the default value is 16.	02E.016
03E.***	<u>Boom Arm Closing Speed</u> Set the Boom Arm Closing Speed to close the gate. The larger the number is set, the faster the speed. The Boom Arm Closing Speed value can be set between 10 to 30 and the default value is 16.	03E.016

04E.***	<u>Open Limit Adjustment</u> Long press (1 to open the gate, 2 to close the gate) Excessive rotation beyond the limit position can cause the boom arm to fail to lock and become easily movable.	04E.004
05E.***	<u>Close Limit Adjustment</u> Long press (1 to open the gate, 2 to close the gate) Excessive rotation beyond the limit position can cause the boom arm to fail to lock and become easily movable.	05E.004
06E.***	<u>No-vehicle Automatic Closing Time</u> Set the time to automatically close the boom arm after successful verification but no vehicle passes, the larger the number, the longer it takes to close the boom arm. If the "Boom Arm Opening Memory" function is turned on, the gate will not be closed even after the no-vehicle automatic closing time. The Boom Arm Opening Memory function takes priority. It can be set between 5s and 60s, the default value is 0. When set to "0", this function is turned off.	06E.000
07E.***	<u>Boom Arm Opening Memory</u> ● 07E.000: Close ● 07E.001: Open When more than two legal access signals are given at the same time (including the same direction and the opposite direction), the system will remember all pass requests and complete each pass in turn. Memory opening is only available for use with gate opening signal port and ground-sensing radar.	07E.000

08E.***	<u>Motor Rotation Direction</u> ● 08E.000: Forward ● 08E.001: Reverse Set the rotation direction of the left and right mechanism boom arm. When restoring the factory settings, this parameter will not be restored to the default value. Modifying this parameter will trigger a restart.	08E.000
09E.***	<u>Reset</u> ● 09E.000: -Normal ● 09E.001: Reset ● 09E.002: Restore Bluetooth initial password: 12345678 Select [09E.001] will restore the default factory setting.	09E.000
10*.***	<u>Remote Control Pairing</u> ● 100.***: Normal ● 101.***: Add (pair by pressing any remote control button) ● 102.***: Clear Currently, it supports a maximum of 500 remote controls. Note: The third digit is adjusted by pressing [+/-] to add or clear remote control. In normal mode, the last three digits shows the number of remotes that have been paired with the current device. When restoring the factory settings, the remote control will not be cleared if remote control type has not changed.	100.000
11E.***	<u>Sensitivity of the Boom Arm Bouncing</u> Sets the bounce sensitivity of the boom arm when it encounters an obstacle. The higher the value, the lower the sensitivity, and the longer it will take to bounce. When set to 100, this function will be turned off and the boom arm will not bounce when it encounters an obstacle. It can be set between 20 and 100, the default value is 50.	11E.050

12E.***	<u>Boom Arm Type</u> ● 12E.001: Foam boom ● 12E.002: Straight boom ● 12E.003: Telescopic boom ● 12E.004: Grille boom ● 12E.005: Folding boom ● 12E.006: Advertising boom ● 12E.007: Test boom/No boom	12E.000
13E.***	<u>Boom Arm Length</u> 1~6m	13E.000
14E.***	<u>Boom Arm Opening Brake Stroke</u> The larger the number, the greater the deceleration stroke. The deceleration stroke is too large, which may cause the boom arm to not open up to the limit. The Boom Arm Opening Brake Stroke can be set between 0 to 100 and the default value is 40.	14E.040
15E.***	<u>Boom Arm Opening Brake Speed</u> The smaller the number, the more pronounced the deceleration effect. If the deceleration speed is too small, it may cause the boom arm to not open up to limit, and the digital display will show: E*0.032. The Boom Arm Opening Brake Speed can be set between 0 to 100 and the default value is 20.	15E.020

16E.***	<u>Boom Arm Closing Brake Stroke</u> The larger the number, the greater the deceleration stroke. The deceleration stroke is too large, which may cause the boom arm to not close down to limit. The Boom Arm Closing Brake Stroke can be set between 0 to 100 and the default value is 40.	16E.040
17E.***	<u>Boom Arm Closing Brake Speed</u> The smaller the number, the more pronounced the deceleration effect. If the deceleration speed is too small, it may cause the boom arm to not close down to limit. If the boom doesn't close to limit, it will automatically bounce back to the open state (similar to rebounding when encountering resistance). If the radar ground-sensing signal is triggered at this time, the barrier gate will continuously open and close. The Boom Arm Closing Brake Speed can be set between 0 to 100 and the default value is 20.	17E.020
18E.***	<u>Power-off Open Mode</u> ● 18E.000: Disable ● 18E.001: Enable A dedicated power storage capacitor module needs to be installed, which triggers the opening of the gate when the power supply is below 21V.	18E.000
19E.***	<u>Open/Close Limit LED State</u> ● 19E.000: Open limit green light breathing, Close limit red light breathing ● 19E.001: Open limit green light always on, Close limit red light always on ● 19E.002: Open limit green light flashes, Close limit red light breathing	19E.000

20E.***	<u>Open/Close LED State</u> ● 20E.000: The red light flashes during the whole process of opening and closing the boom arm. ● 20E.001: The red light is always on during the whole process of opening and closing the boom arm.	20E.000
21E.***	<u>RS485 Address</u> The valid value is 0 to 250. The baud rate is 115200, used for reading status, sending parameters, and upgrading.	21E.000
22E.***	<u>Ground Sense/Radar Delay Time Setting</u> Set the delay time after triggering the radar ground sensor before lowering the boom arm, the larger the number set, the longer the delay time, the valid value is 0 to 251.	22E.000
23E.***	<u>Self-test Mode</u> ● 23E.000: Automatic self-test (After power on, the device automatically performs self-test.) Note: It is necessary to install a radar ground sensor to prevent vehicle damage. During automatic self-checking, if a vehicle passes, the boom will automatically be raised for protection. ● 23E.001: Manual self-test (It requires manual opening and closing of the barrier gate for self check.)	23E.000
24E.***	<u>Buzzer Mode</u> ● 24E.000: Old mainboard ● 24E.001: New mainboard When the buzzer mode setting does not match the mainboard, the device will beep continuously under normal circumstances. When restoring the factory settings, this parameter will not be restored to the default value.	24E.001

25E.***	<u>Motor Type</u> ● 25E.000: Forward ● 25E.001: Reverse When the motor type is incorrect, the buzzer makes an sound alarm, and the digital display will show: E*0.001. Modifying this parameter will trigger a restart.	25E.000
26E.***	<u>Remote Control Frequency</u> ● 26E.000: 433MHz ● 26E.001: 430MHz When the remote control type changes, the remote control will be cleared. When restoring the factory settings, this parameter will not be restored to the default value. Modifying this parameter will trigger a restart.	26E.000
27E.***	<u>Gate Opening and Ground Sensing Interface Switch</u> ● 27E.000: Normal interface status ● 27E.001: Switch gate opening and ground sensing signal interfaces When this is set to "27E.001", the "IR / FIRE / DET / STOP / CLOSE / OPEN" interface is disabled, and the gate opening and ground sensing signal interfaces need to be connected to "IN2" and "IN1". When the old mainboard experiences signal interference and automatically opens or cannot close after opening, change this item to "27E.001".	27E.000

28E.***	<u>Bluetooth/Wi-Fi Mode</u> ● 28E.000: Bluetooth Mode (Enable) ● 28E.001: Bluetooth Mode (Disable) ● 28E.002: Wi-Fi Mode Switching Bluetooth mode and Wi-Fi mode will automatically restart the device. When restoring the factory settings, this parameter will not be restored to the default value.	28E.000
29E.***	<u>Remote Control Button Function Switching</u> ● 29E.000: Remote control center button (pause) ● 29E.001: Remote control center button (normally open)	29E.000

8.3 Error Code

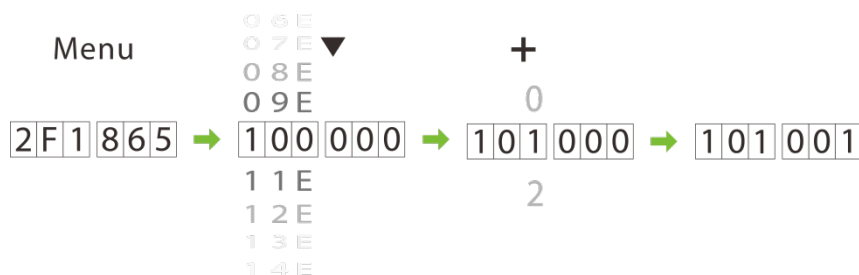
Error Code	Description	Solve
ER0.001	Hall limit detection error	Check the motor wiring or replace the mainboard. This error will also be reported if there is no motor connected when power is applied.
ER0.002	Power-on Self-test failure	1) Check if the boom is in a balanced state at 30 to 60 degrees; 2) Check the 25E parameter. Check whether the motor type is set incorrectly, whether the motor wiring has poor contact, and whether the motor is functioning properly.
ER0.003	Timeout - unable to reach limit position	The operation has timed out and the motor is turning very slowly. First, check whether the open/close limit positions are set appropriately. Then, increase the Boom Arm Opening/Closing Brake Speed. If the issue persists, replace the power supply, or adjust the switching power

		supply to 24V (the error may be caused by unstable 24V output voltage).
ER0.004	Electric Motor Shaft Lock Protection failure	1) Check if there are any objects blocking the opening and closing of the barrier gate; 2) Check if the boom is in a balanced state at 30 to 60 degrees; 3) Adjust the open/close limit position settings: In the APP, the value should be set above 4. When adjusting via the menu, make sure the limit position does not hit the mechanical stop — leave a sufficient distance away from it; 4) If error ERR04 occurs: Appropriately increase the Boom Arm Opening Brake Speed to 25. Recommended range: 15–35; 5) If error ERR04 occurs and the boom opens again just as it is about to reach the close limit: Appropriately increase the Boom Arm Closing Brake Speed to 25. Recommended range: 15–35; 6) Check and adjust the 11E parameter.
ER0.005	After closing to the limit, the boom was illegally lifted for a long time by human intervention	Release the boom lifting action and restart to open and close the barrier gate again until the device is in a normal state.
ER0.006	Tamper alarm	Release alarm signal.
ER0.007	NO	Reserved
ER0.008	Boom detachment detection	Release alarm signal.

8.4 Remote Control Pairing and Unpairing

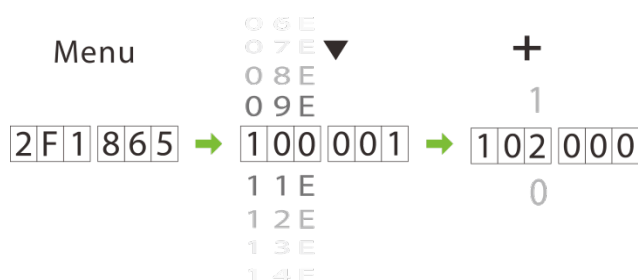
8.4.1 Pairing

Long press **[Menu/save]**, then press **[Stop/▼]** flip down to **[10*.***]**. Press **[+/-]** to set the parameter value to **"101.***"**, and then press any button on the remote control until you hear a beep sound from the Mainboard, it means the pairing is successful, and then press **[Menu/save]** exit the menu.



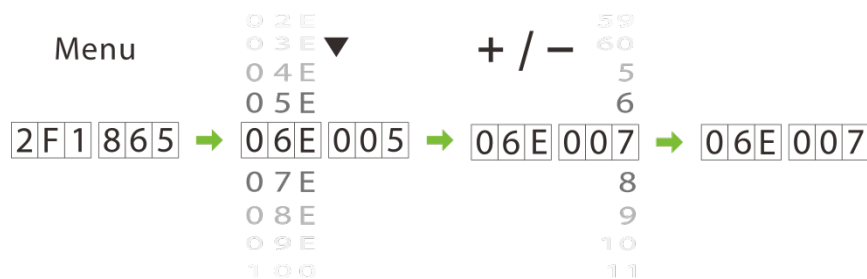
8.4.2 Unpairing

Long press [**Menu/save**], then press [**Stop/▼**] flip down to [**10*.*****]. Press [**+/-**] to set the parameter value to "**102.*****". Press [**Menu/save**] to save the setting and that all the remote controls have been deleted.



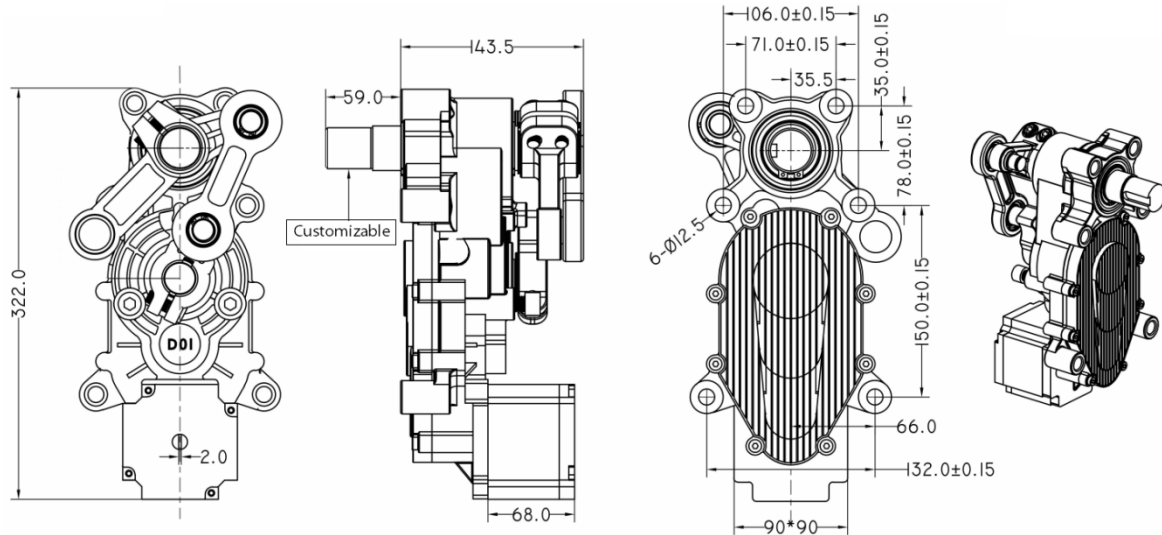
8.5 Set Delay for Automatic Closing after Opening the Boom Arm

Long press the [**Menu/save**] button, then press [**Stop/▼**] flip down to [**06E.*****] parameter, and then press the [**+/-**] to set the delay value as per the requirements. Finally, press [**Menu/save**] to exit the menu. For example, if it is set to "**06E.007**", the device will automatically close after 7 seconds after opening the barrier gate.



9 Boom Arm Adjustments

9.1 Dimensions

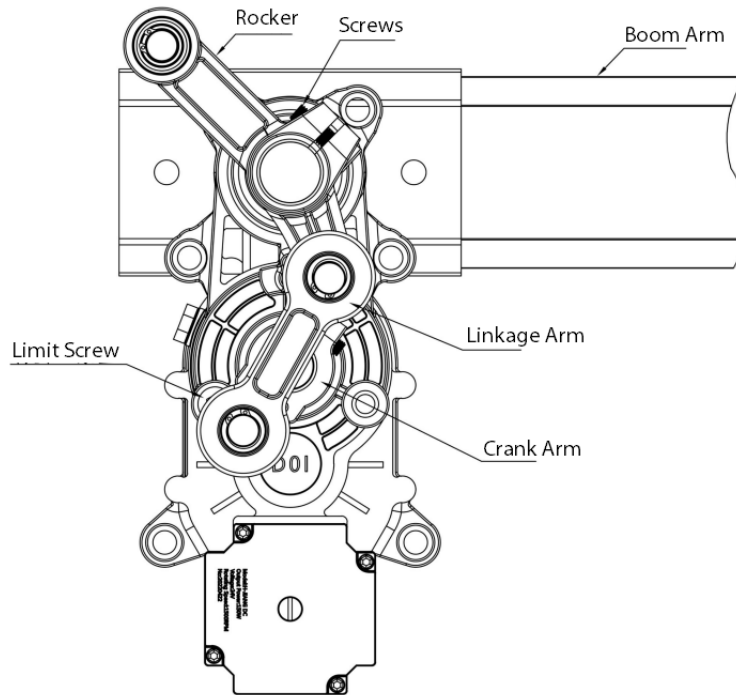


9.2 Horizontal and Vertical Angle Adjustment of Boom Arm (Mechanical Adjustment)

Note: The horizontal and vertical angles of the boom arm have been adjusted before leaving the factory. Please do not adjust them without the guidance of professionals to avoid mechanical damage.

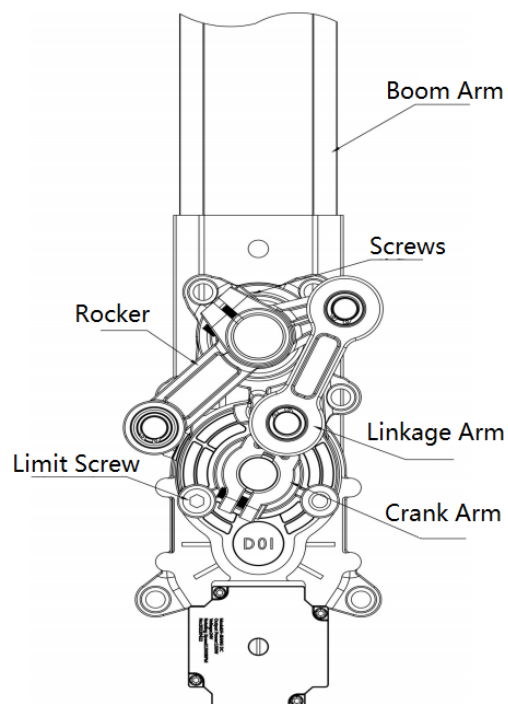
1. Adjust the horizontal position of the boom arm

The connecting boom crank will be an overlapping structure, with the connecting boom arm's two rotation points coincident with the reducer's output shaft at three points and a line. The boom arm is in this position horizontally. If the boom arm is not level or inclined at this time, unscrew the two rocker (rocker-arm) screws, turn the boom arm to the level, and tighten the screws.



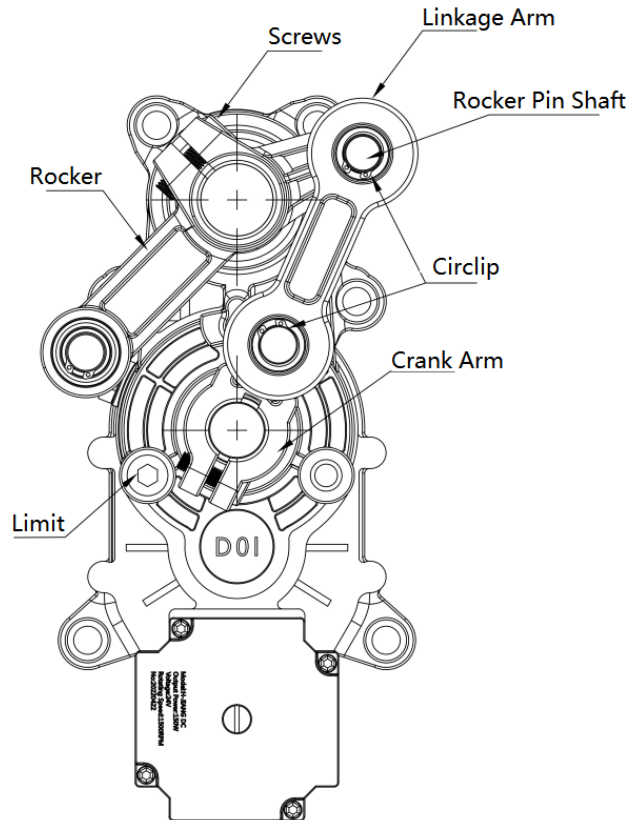
2. Adjust the vertical position of the boom arm (adjusted by mechanical structure)

The connecting boom arm crank is in an unfolded shape, and the connecting boom arm's two rotation points and the reducer's output shaft are in an unfolded 3-point line. This is the boom arm's vertical position. If the boom arm is not in the vertical position and is inclined, unscrew the two screws on the rocker (rocker-arm), rotate the boom arm to the vertical, and tighten the screws.



9.3 Direction Interchange of the Boom Arm

The operation steps are as follows:



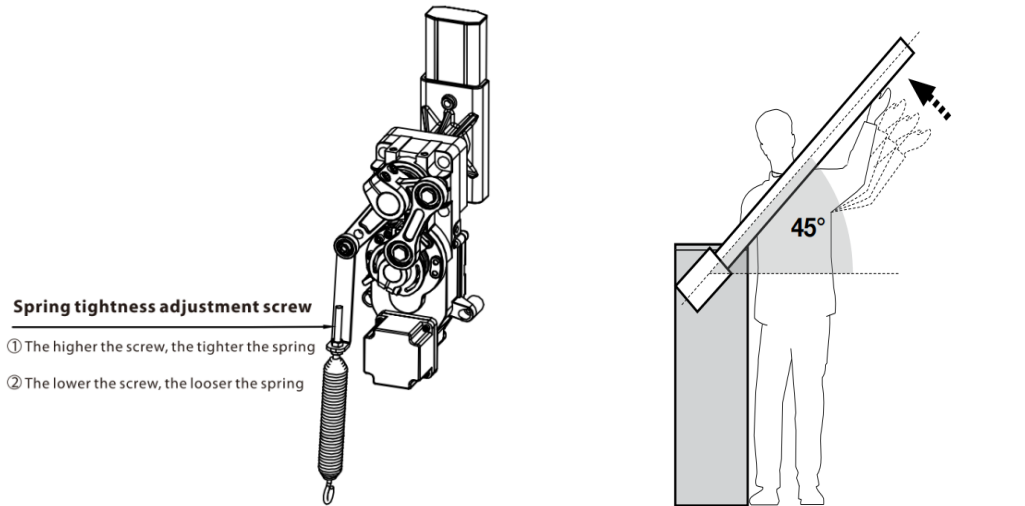
1. Before operation, please turn off the power. Remove the snap rings at both ends of the linkage arm with the external snap ring pliers and take out the linkage arm.
2. Loosen the two screws on the rocker, take out the rocker (the notch can be expanded with the help of the inclined iron to take out faster), take out the rocker pin shaft and change the direction.
3. Remove one screw on the limit, move it to the symmetrical position on the other side, and then lock it.
4. After installing the rocker pin shaft of the rocker, install the linkage arm and snap rings.
5. After adjusting the angle of the boom arm, lock the rocker screw.

Note: If it is difficult to remove the linkage arm, loosen the rocker and crank arm screw and remove them together, and then remove the linkage arm.

6. After the mechanical operation, you need to set the movement parameter 13E Core Component Position on the motherboard, such as changing from L to R, the value of this parameter should be set from 1 to 0, or set the direction of the movement on the app.

9.4 Spring Adjustment

If the boom arm shakes when it rises, then you can adjust the spring loosely, and if the boom arm shakes when it falls, you can adjust the spring tightly.



1. The best balance is when the barrier boom is at 45°.
2. The spring wire diameter is adapted to different boom lengths: 3m boom with $\phi 4.5\text{mm}$; 4.5m boom with $\phi 5.5\text{mm}$ and 6m boom with $\phi 6.5\text{mm}$. (If the boom is too short (less than 2m), do not install the spring).

10 Product Packing List

Material	Quantity
User manual	1
Chassis Explosion Screw M12X140	4
Key	2
Boom pressure plate	1
Chassis pressure plate	2
Wireless remote	2
Barrier boom hexagon bolt M10X70	2
Barrier boom	1
Machine	1

11 Troubleshooting

SN	Trouble Description	Cause	Solution
1	The Power Supply has a 24V output, but the mainboard power indicator does not light up.	1. 24V output wiring might be reversed 2. The mainboard might work abnormally 3. Loose wiring	1. Swap the DC output wiring 2. Replace the Mainboard 3. Tighten the wiring
2	The AC input is normal, but the power indicator is off.	1. The power fuse might be blown 2. Abnormal power supply 3. Loose wiring	1. Replace the fuse 2. Replace the power supply 3. Tighten the wiring
3	The power indicator is on, the landing boom indicator is normal, and the motor is not running.	1. The motor wiring might be wrongly connected, or the wiring is loose 2. The internal encoder of the motor may work abnormally 3. The motor stroke limit exceeds the position	1. Check the wiring according to the wiring diagram, and tighten the wiring if required 2. Reconnect the motor wire 3. Re-adjust the motor limit parameters
4	The remote-control buttons do not respond.	1. The remote control is not using ZKTeco brand, or it is from another model 2. The remote control does not match 3. The remote control or the receiver is damaged 4. The remote-control battery is completely discharged	1. Confirm to use ZKTeco brand and its applicable models for remote control 2. Rematch remote control 3. Replace the remote control or the receiver 4. Replace the remote-control battery
5	The boom cannot be closed normally after the machine is being powered on	1. The barrier gate is not installing the barrier boom, so the motor cannot be closed due to the strong pull of the spring 2. The length of the installed boom is too short, and the spring is too tight	1. Install the boom normally or remove all the spring 2. Adjust the spring according to the length of the boom
6	The loop detector signal is not working	1. Wrong signal wiring 2. Install loop coil with few or too many turns 3. Detector damage	1. Connect according to the wiring diagram 2. Calculate the circumference of the loop coil according to the width of the lane, and then confirm the number of turns install 3. Replace new loop detector

7	The radar detector signal is not working	1. Wrong signal wiring 2. Distance and environment learning is not correct 3. Detector damage	1. Connect according to the wiring diagram 2. Complete the installation test through the radar installation video or the user manual 3. Replace new radar detector
8	Abnormal shaking of the barrier boom occurred while opening and closing	Spring too tight or too loose and the running speed too fast	If the boom arm open shaking, it is necessary to loosen the spring and slow down the speed appropriately; If the boom arm close shaking, it is necessary to tighten the spring and slow down the speed appropriately.
9	The boom is not vertical and parallel after opening or closing	1. The spindle is not properly calibrated 2. Encoder travel limit error	1. Loosen the screw on the spindle connecting arm and then adjust and calibrate the spindle direction 2. Adjust travel limit parameters again
10	Abnormal sound is heard when the motor is running	1. Motor rotor bearing is being damaged 2. Operating handle broken	1. Replace new motor 2. Replace the new operating handle

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