

ID Speed Gate 8700

Date: Dezember 2025

Version: ID Speed Gate 8700



Please read and follow the installation instructions before operating the device and keep the instructions for future reference or for use after troubleshooting.

content

1. Product Instruction and Structure	3
1.1 Note.....	3
1.2 Functional features	3
1.3 Technical parameter.....	4
1.4 Electronic control system of Speed Gate	4
1.5 Operating principle of the system.....	5
2. Installation Instructions.....	5
2.1 Installation suggestion:	5
3. Setting the parameters.....	9
3.1 Button introduction	13
3.2 Menu setting.....	13
3.3 Parameter setting instruction	13
4. Product Maintenance.....	15
4.1 Maintenance.....	15
4.2 Tips and Troubleshooting	15
5. Safety Instructions	16
6. Support.....	16

1. Product Instruction and Structure

1.1 Note

- Before installation, operation or maintenance, please turn off the power.
- Please do not change the inside wiring, take a photo before any disconnection.
- Do not use the power supply inside the turnstile to connect another third-party device.
- The turnstile should not be operated during thunderstorms or lightning strikes, as this may damage the electrical parts of the turnstile.

1.2 Functional features

- Durable, high operational reliability and fast opening and closing speed of 0.2 seconds
- Single directional or Bi-directional
- Stainless-steel body
- Infrared sensors
- LED indicator (red means no entry; green means entry)
- Speed Gate with a standard open/close relay signal, which can be integrated with any type of third-party access control system. (e.g.: RFID, QR-Code and barcode reader).
- In case of an emergency, the turnstile will automatically open and allows for free passage.
- Alarm function, in case of illegal intrusion and reverse intrusion
- Anti-impact function: The gate will close automatically when the opening signal is not received
- Easy to install and maintain

1.3 Technical parameter

Item	Description
Frame	304 Stainless Steel + acrylic glass
Dimensions	1500mm x 120mm x 1020mm (L x W x H)
Weight	80kg/pcs (single core), 100kg/pcs (double core)
Pass Width	600mm, 900mm, 1200mm
Power supply	AC230V / 110V, 50/60Hz
Power consumption	90-100W
Emergency	Gate will open automatically
Working environment	Indoors or outdoors, IP65
Working temperature	-20°C – 75°C
Humidity	0 ~ 95% (no freeze)
Control interface	Dry contact / Relay signal
Opening time	0.2 seconds
Passing speed	55 persons / min

1.4 Electronic control system of Speed Gate

The electronic control system consists of a main control board, the infrared sensor, the direction indicator board, the alarm, the transformer and so on.

No.	Name	FUNCTION
1	Control board	The system's control, which receives the signals from the card reader, processes these signals and then issues execution commands to the flashing light, motor, counter, and alarm.
2	Infrared sensor	Detect the position of pedestrians and safety protection
3	Direction indicator	The directional indicator light shows the status of the passage sign and guides pedestrians through the passage
4	Alarm	When the system detects a pedestrian entering the passageway illegally, it provides an alarm.
5	Motor	Drive the mechanism
6	Power supply switch	Supply power for control board

1.5 Operating principle of the system

- a) After 3 seconds, the system will enter a working state if you turn on the power.
- b) When the card reader detects a valid card, it sends the data to a backend system for evaluation. If the card is approved, the backend system sends a signal back to the main controller.
- c) The main control receives the signals from the card reader. After thorough processing, it sends effective control signals to the direction indicator and motor, so that the direction indicator sign turns into the green arrow pass sign.
- d) After the pedestrian passes through the gate as per the directional indicator, the infrared sensor detects the entire process of the pedestrian's passage and continuously transmits signals to the main control panel until the pedestrian has completely traversed the gate.
- e) If a pedestrian forgets to read his card or reads an invalid card and enters the gate, the system will forbid the pedestrian to pass through. Rereading a valid card allows passage.

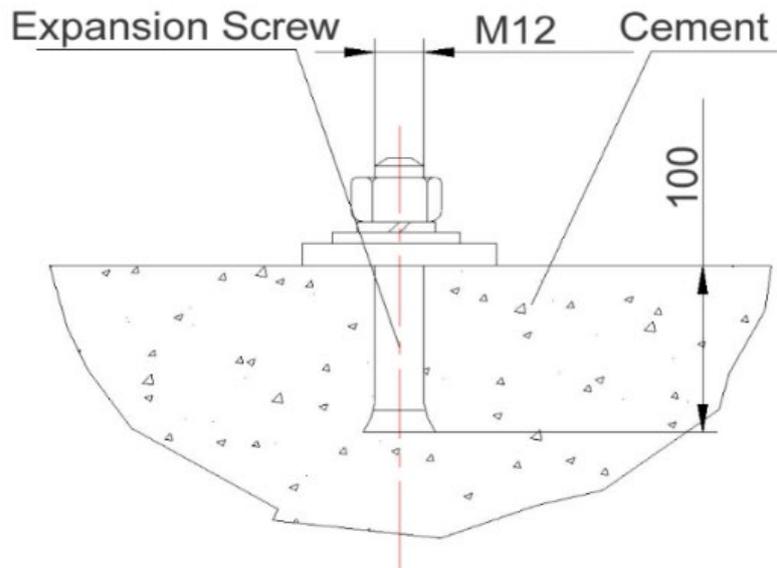
2. Installation Instructions

2.1 Installation suggestion:

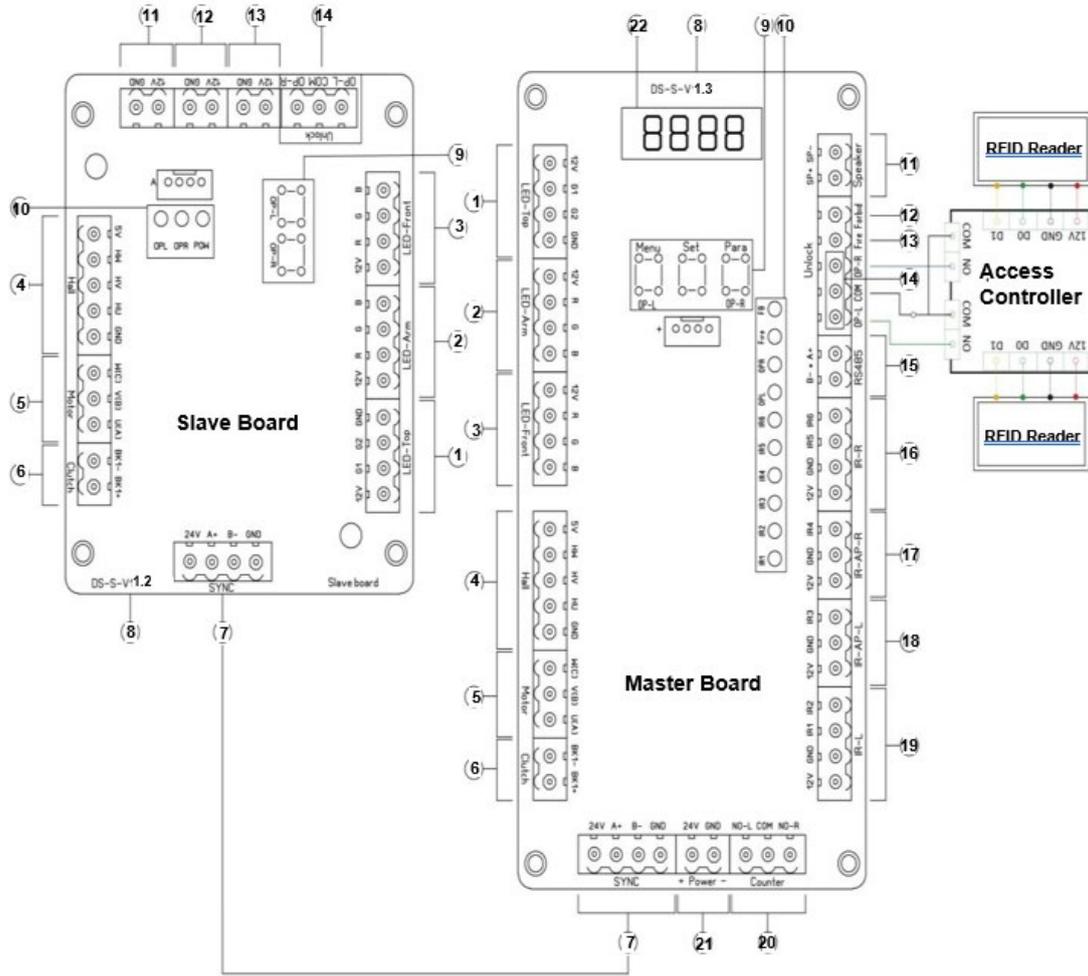
Note: During installation and construction, relevant circuits should be completely disconnected.

Please check all connections and correct installation before applying power.

- 1) It is recommended to lay the cables 60 mm deep, at least 50 mm, into the ground.
- 2) For outdoor installations of turnstiles, it is recommended to secure them using anchor bolts embedded in concrete, with a depth ranging from 100 to 200 mm.
- 3) All assembly operations should be carried out with the power off.
- 4) The Power cable and other signal cables are carried in a 3/4" PVC pipe and buried in cement in the appropriate place.
- 5) Set up the devices in the correct position.
- 6) After the hole's position has been determined, drill the holes, and insert the anchor bolt or expansion screw M12.
- 7) Open the casing, select one of the units as a reference (preferably the middle one), align the hole of the bottom screw with the corresponding anchor screw and pre-tighten the nut.
- 8) Connect the power line and the control line according to the wiring diagram and connect the ground cable to the system.
- 9) Check the main wiring according to the wiring diagram, check that the power wiring and other wiring of the entire unit are correct, and then adjust the power after confirmation.
- 10) After the installation is complete, check the connection condition of the earth wire, connector assembly for the connecting line and all moving parts with the device. Make sure the connection is firm in order to prevent failure caused by long time operation. If any screw or part is not tightened, please tighten.
- 11) After the check of the unit status has proceeded normally, the function can be tested



Optical Turnstile Gate Circuit Board Wiring Diagram



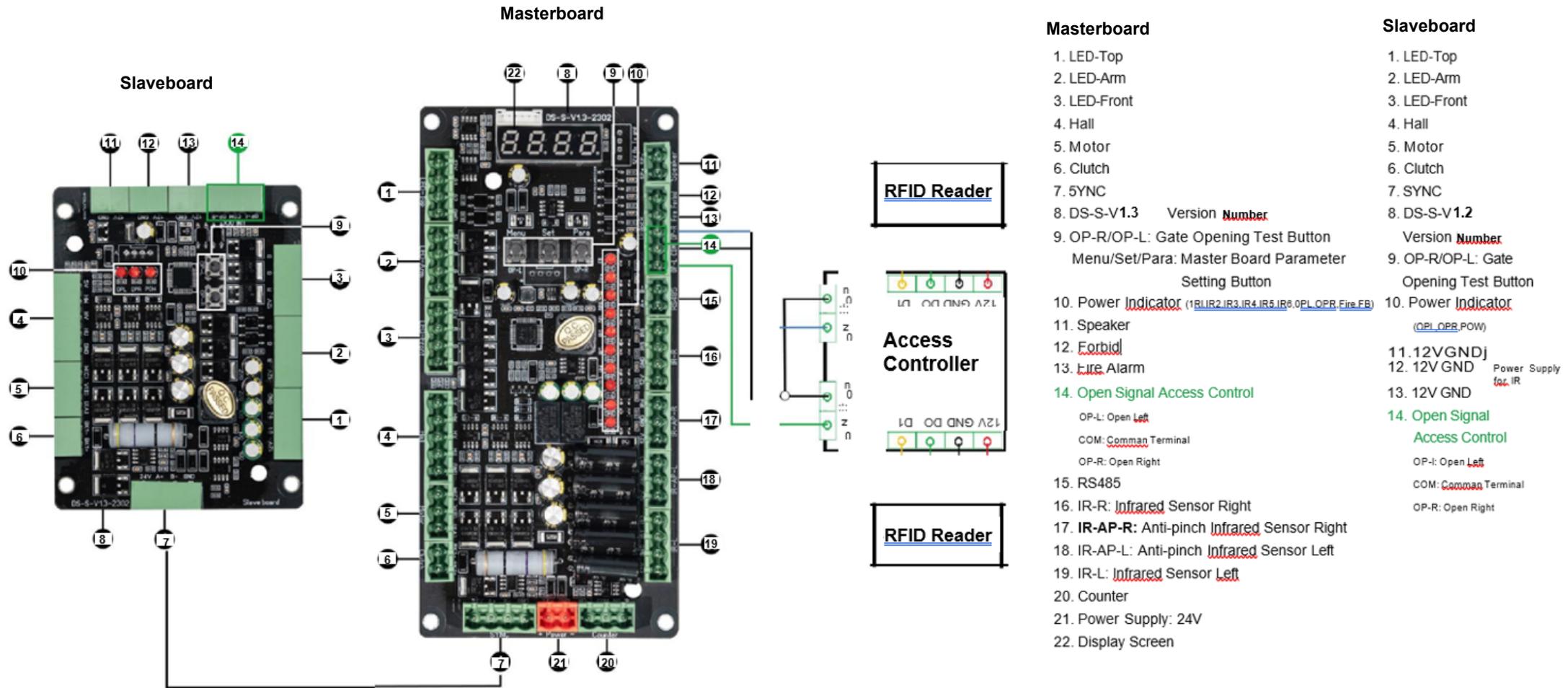
Master Board

1. LED-Top
2. LED-Arm
3. LED-Fron*
4. Hall
5. Motor
6. Clutch
7. SYNC
8. DS-S-V1.3 Version Number
9. OP-R/OP-L: Gate Opening Test Button
Menu/Set/Para: Master Board Parameter Setting Button
10. Power Indicator (IR1,IR2,IR3,IR4,IR5,IR6,OPL,OPR,Fire,FB)
11. Speaker
12. Forbid
13. Fire Alarm
14. Open Signal Access Control
OP-L: Open Left
COM: Comman Terminal
OP-R: Open Right
15. RS485
16. IR-R: Infrared Sensor Right
17. IR-AP-R: Anti-pinch Infrared Sensor Right
18. IR-AP-L: Anti-pinch Infrared Sensor Left
19. IR-L: Infrared Sensor Left
20. Counter
21. Power Supply: 24V
22. Display Screen

Slave Board

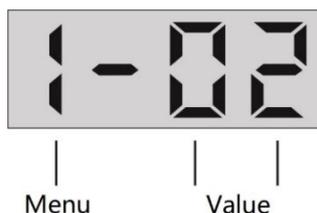
1. LED-Top
2. LED-Arm
3. LED-Front
4. Hall
5. Motor
6. Clutch
7. SYNC
8. DS-S-V1.2 Version Number
9. OP-R/OP-L: Gate Opening Test Button
10. Power Indicator (OPL,OPR,POW)
11. 12V GND
12. 12V GND Power Supply for IR
13. 12V GND
14. Open Signal Access Control
OP-L: Open Left
COM: Comman Terminal
OP-R: Open Right

Optical Turnstile Gate Circuit Board Wiring



3. Setting the parameters

1. Press and hold the INC button (middle button) until the digital display flashes to access parameter settings.
2. The first and second digit of the digital display indicate the menu, and the third and fourth digit indicate the value. Press the left button to adjust the menu and the right buttons to adjust the value.
3. Hold the button for about 2 seconds, then the digital display will stop blinking.



As shown in the figure, the current menu is "Gate Opening Mode," and parameter 02 corresponds to "Left Infrared Free Passage."

Nr.	Function	Area	Standard	Details
0	Machine Number	1 ~ 99	1	The 485 communication machine number.
1	Gate Opening Mode	1 ~ 4	1	1: Standard mode. 2: Left infrared free passage. 3: Right infrared free passage. 4: Left and right infrared free passage. When adjusting, the top light panel will move accordingly, and the infrared free passage direction can be referenced according to the direction of the arrows.
2	Gate Opening Wait Time	1 ~ 90	8	Time in seconds. For values below 20, press once to increase by 1. For values above 20, press once to increase by 10.
3	Left Gate Opening Voice	0 ~ 9	3	0: Thank you 1: Come in please 2: See you 3: Welcome 4: Goodbye 5: Have a nice day 6: Have a nice trip 7: Please put your safety helmet 8: Verify success 9: Mute
4	Right Gate Opening Voice	0 ~ 9	5	Voice settings same as left gate opening voice.
5	Voice Volume	0 ~ 15	12	The higher the value, the louder the volume.

6	Master Motor Speed	1 ~ 25	10	Adjust based on actual conditions to avoid speed overload.
7	Slave Motor Speed	1 ~ 25	10	Same as the master motor speed.
8	Debugging Mode	0 ~ 2	0	0: Normal mode. 1: Automatic aging mode. 2: Restore factory settings (Requires a restart to take effect).
9	Deceleration Range	1 ~ 20	10	The larger the value, the longer the deceleration distance. Adjust accordingly based on the smoothness of gate movement.
10	Self-test Speed	1 ~ 9	3	The higher the value, the faster the self-test speed.
11	Passage Mode	0 ~ 2	0	0: Smooth passage mode, gate closes with 1-second delay when detecting an electric scooter. 1: Memory mode, multiple cards for multiple people. 2: One card per person mode, without electric scooter detection function
12	Gate Closing Control	0 ~ 9	2	0: Close after people pass through the middle infrared. 1: Close after people triggers the last infrared. 2: Close after people pass through the last infrared with a delay. 3~9: Delay closing by (Value-2) seconds after passing the last infrared.
13	Single Motor Mode	0 ~ 1	0	0: Dual motor mode. (Dual door gate) 1: Single motor mode. (Standalone single door gate)
14	Language Selection	0 ~ 6	0	0: Chinese 1: English 2: French 3: Spanish 4: Russian 5: Swedish 6: Arabic
15	Encountering obstruction, the infrared anti-pinch rebound	0 ~ 1	1	0: No rebound on obstruction. 1: Rebound on obstruction.
16	Mechanical Anti-pinch Sensitivity	1 ~ 9	5	The higher the value, the more sensitive.
17	Reverse Entry Handling	0 ~ 1	1	0: Reverse triggering without gate closing, only alarm. 1: Reverse triggering with gate closing, pass invalid and the gate will not open again.
18	Turnstile Type	0 ~ 3	0	0: Standard swing gate, speed gate 1: Cylindrical swing gate. 2: Flap gate. 3: Single-direction swing gate mode.
19	Emergency Gate Opening Direction	0 ~ 2	2	0: Open to the left in case of power off. 1: Open to the right in case of power off. 2: The system will choose the direction automatically based on the current situation.

20	Motor Resistance	1 ~ 9	5	The larger the value, the greater the resistance. Excessive resistance may cause power restart, it's recommended to use the default value for 6.25A power supply.
21	Voice alarm for illegal intrusion	0 ~ 1	1	0: Close all alarm voices. 1: Prompt "Please do not break in" when illegal entry.
22	Effective Signal Delay for Left and Right Infrared	1 ~ 9	5	Time = parameter * 20 milliseconds (default 100ms).
23	Motor Running Direction	1 ~ 4	1	1: Master motor forward, slave motor reverse; 2: Master motor reverse, slave motor forward; 3: Both master and slave motors forward; 4: Both master and slave motors reverse.
24	Clutch Lock Function	0 ~ 3	0	0: Auto-detect presence of clutch; 1: No clutch mode; 2: Clutch mode; 3: Clutch locked mode.
25	Motor Hall Type	0 ~ 4	0	0: Auto-detect; 1: Master motor +120°, slave motor +120°; 2: Master motor -120°, slave motor -120°; 3: Master motor +120°, slave motor -120°; 4: Master motor +120°, slave motor -120°
26	Input Signal Filtering	1 ~ 9	3	Value * 10ms (default 30ms).
27	Card Swipe Allowed / Not Allowed Inside Passage	0 ~ 1	0	0: Allowed to swipe card inside the passage; 1: Not allowed to swipe card inside the passage.
28	Anti-tailgating Alarm	0 ~ 2	2	0: The gate will bounce open if tailgating is detected. 1: The gate will bounce open with an anti-tailgating alarm. 2: The gate will forcefully close with an anti-tailgating alarm.
29	Limit Position Deviation Alarm Threshold	1 ~ 9	3	The larger the value, the greater the allowed deviation.
30	Anti-pinch Infrared Free Passage Switch	0 ~ 1	1	0: Anti-pinch infrared does not trigger gate opening in free passage mode. 1: Anti-pinch infrared triggers gate opening in free passage mode for quick passage.
31	Free Passage Memory Function Switch	0 ~ 1	1	0: No memory function in free passage mode, only one person can pass through after multiple infrared triggers. 1: Memory function in free passage mode, multiple number of infrared triggers allows multiple people to pass.
32	Master Motor Sliding Compensation	0 ~ 9	0	ease sliding compensation if the gate does not return to limit position immediately after opening.
33	Slave Motor Sliding Compensation	0 ~ 9	0	Increase sliding compensation if the gate does not return to limit position immediately after opening.

34	Infrared Logic Mode	0 ~ 1	0	0: 4-group infrared logic mode, either A or B signal from left or right infrared is valid. 1: 6-group infrared logic mode, both A and B signals from left or right infrared are required.
35	Master Board Front Panel Light Strip	1 ~ 4	1	1: Linked with left open, blue light for power on, green for left open, red for right open; 2: Linked with right open, blue light for power on, red for left open, green for right open; 3: Constantly on green light, 4: Constantly on red light *The working principle of diagonal and swipe card on the right side
36	Slave Board Front Panel Light Strip	1 ~ 4	2	Same as master board front panel light strip mode.
37	Serial Communication Active Push	0 ~ 1	1	0: Passive query; 1: Active push of events such as passage, faults, and alarms.
38	Serial Communication Heartbeat Push	0 ~ 1	0	0: Heartbeat push off; 1: Heartbeat push on (default every 5 seconds/times). Note: Heartbeat push function requires the active push mode in setting 37 to be enabled.

Troubleshooting and Resolution

Digital Display	Troubleshooting	Reasons and Solutions
E010	Unable to detect master motor	Hall line or motor line connected incorrectly, motor Hall fault
E020	Unable to detect slave motor	Hall line or motor line connected incorrectly, motor Hall fault
E050	Abnormal self-test process	Hall line or motor line sequence connected incorrectly, motor fault, movement slipping or jamming
E090	Insufficient voltage	Check power input

3.1 Button introduction

The control board has three operation buttons: "MENU" menu key/confirm key, "INC" up/add key, and "DEC" down/subtract key.

"Menu" key:

1. In standby mode, it acts as a menu key. Long press this key to enter the menu.
2. In the menu interface, it acts as a confirm key. After selecting the corresponding menu, press this key to enter the menu parameter setting interface.
3. After the menu is set, press this key to save the parameters and return to the system menu interface. **"INC" key:** It increases the value by 1 when selecting the system menu and setting parameters. **"DEC" key:** It decreases the value by 1 when selecting the system menu and setting parameters.

Note: In the system menu and menu setting interface, if there is no button operation within 5 seconds, the system will automatically exit the menu to the standby interface.

3.2 Menu setting

For example, if you want to change the gate channel passage time:

Step 1: Long press the "MENU" key to enter the system menu, use the "INC" and "DEC" keys to select the "F 0 X" menu (menu explanation below).

Step 2: Press the "MENU" key to enter the channel time setting interface.

Step 3: Use the "INC" and "DEC" keys to increase or decrease the parameter value.

Step 4: After setting is complete, press the "MENU" key to save.

Step 5: Exit the menu: Select the "F 11" menu and press the "MENU" key to manually exit the menu or automatically exit the menu if there is no button operation within 5 seconds.

3.3 Parameter setting instruction

"F01" Set the passage time:

The time is automatically cleared to zero after the person passes through the gate within the set time. If no one passes through, the gate will automatically close when the time is up. (Default 5 seconds)

"F02": Constant open function setting.

- 1: Open the left electromagnet when it is always open.
- 2: Open the right electromagnet when it is always open.
- 3: Open both left and right electromagnets when it is always open. (Default value 3, open both electromagnets when it is always open)

"F03": Gate working mode.

0: Free passage (commonly used for turnstile); 1: Power-off drop bar (default 1 power-off drop bar)

"F04": Memory function.

Turn on or off the memory function of the opening signal input. Generally used for card swiping to open the gate. If there is one person swiping the card and has not passed through, whether to remember the card swiping of other people. "Prohibited" means that the second person's card swiping is effective only after the first person has passed through; "allowed" means that the number of people swiping the card is allowed to pass through continuously. (Default value 0, memory prohibited)

"F05": Repeatedly switch the gate test, mainly used to test the stability of the gate control board and aging test. Note: In the test mode, press the MENU key to exit the test.

"F06": Zero signal setting.

0: Close the gate immediately when the zero signal is detected (standard mode for three-roller gates, the main board is set to 0 by default);

1: Detect the zero signals, and then wait for the zero signals to disappear before closing the gate (commonly used for full-height gates) (default value 0)

"F07": Gate constant open setting the unit is seconds.

This parameter is used to detect continuous opening signals. When the duration of the continuous opening signal exceeds the parameter set, the system enters the constant open state (which electromagnet is always open is determined by the F02 parameter. The default value of F02 is that both electromagnets are always open). If the opening signal given to the gate is a continuous signal, the gate will remain open. After the continuous signal is disconnected, the gate will return to the standard mode. (Default parameter 0 seconds, constant open is closed)

"F08": Gate opening delay.

This parameter is effective only when the memory function is turned on. When there are too many people passing through continuously, this function can prevent the gate from opening again when the previous person has not passed through the channel. (default value 0, no delay)

"F09": Limit count setting.

Set how many times the limit signal needs to be detected during the gate opening process to close the gate. (default 1 time)

"F10": Restore factory settings.

All parameters of the main board are restored to the factory settings.

"F11": Exit the menu.

Or automatically exit if there is no button operation within 5 seconds.

Note: In free passage mode, whether to count depends on the F02 parameter. When the F02 parameter is 1, the left free passage is counted, when the F02 parameter is 2, the right free passage is counted, and when the parameter is 3, the free passage is not counted.

4. Product Maintenance

4.1 Maintenance

1. To avoid the risk of an electric shock, always turn off the device before inspecting its internal components.
2. We recommend inspecting/checking the gate regularly to ensure proper operation.
3. The material is made of stainless steel; please use appropriate cleaning agents.
4. Clean fingerprints or stubborn stains with soapy water or alcohol, rinse with cleanwater and wipe dry if necessary.

4.2 Tips and Troubleshooting

1. If the arm does not open after swiping the card, please double-check that all wires are properly connected and that the card is recognized as "valid" by our backend system.
2. If the display does not light up or shows an incorrect direction, please contact us to check for faulty wiring.
3. If the gate does not open automatically after turning off the power, the battery may be defective - please contact us for a replacement.

A) Tripod turnstile stays closed after a card has been swiped.

- a) Check whether the main board receives the opening signal.
- b) Check whether the opening signal lead or the solenoid valve lead is loose.
- c) Measure with a multimeter whether there is a voltage of 24 V on the solenoid valve terminal of the main board and assess whether the solenoid valve is damaged.

B) Tripod turnstile arms do not fall down in case of power failure.

- a) Check if the support of the electromagnet is loose, readjust it and fix it

C) When the arm is connected to the power supply, it cannot be lifted manually.

- a) Check if the pole drops support of the electromagnet is loose, test if the electromagnet is magnetic with a metal object.
- b) Use a multimeter to measure whether the main board has normal voltage output.

D) The main board is not supplied with power after switching on

- a) Check with a multimeter to check whether there is 24 voltage input at the input port.
- b) Check whether the fuse has blown.
- c) Check whether there is 24V at the output end and assess whether the power supply is damaged.

5. Safety Instructions

- 1) Turn off the power before installation, maintenance, or repair.
- 2) Do not alter the internal wiring without prior consultation.
- 3) For your own safety, have changes to the wiring or repairs to the electronic parts of the gate performed only by professionals.
- 4) Do not use the built-in power supply to connect external devices unless instructed to do so by an iDTRONIC employee.
- 5) Do not operate the gate during thunderstorms and lightning to avoid damage to the electrical components of the gate.

6. Support

iDTRONIC
Ludwig-Reichling-Straße 4
67059 Ludwigshafen am Rhein
helpdesk@idtronic.de