**Speed Gate 8700**
**User Manual**

# Table of Content

# 1    Product Instruction

## 1.1    Note

1. Turn off the power before installation, operation or maintenance.

2. Do not change the inside wiring, take a photo before any disconnection.

3. Do not use the power supply inside the turnstile to connect another third-party device.

4. Do not operate the turnstile during thunderstorms or lightning strikes, as this may damage the electrical parts of the turnstile.

## 1.2    Functional features

◆ fast open and close speed, stainless-steel body, compact design and different height glass doors

◆ Working way: Single directional or Bi-directional

◆ 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 gate 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 automaticallly when the opening signal is not received.

◆ Automatic reset function: the gate will close automatically within 5s (can be adjusted) if passengers enter too late

## 1.3   Structures and dimensions

The Speed Gate 8700 has a passing width of 600mm for normal passage and 1200mm wide passageway for wheelchair users and pedestrians with large luggage.
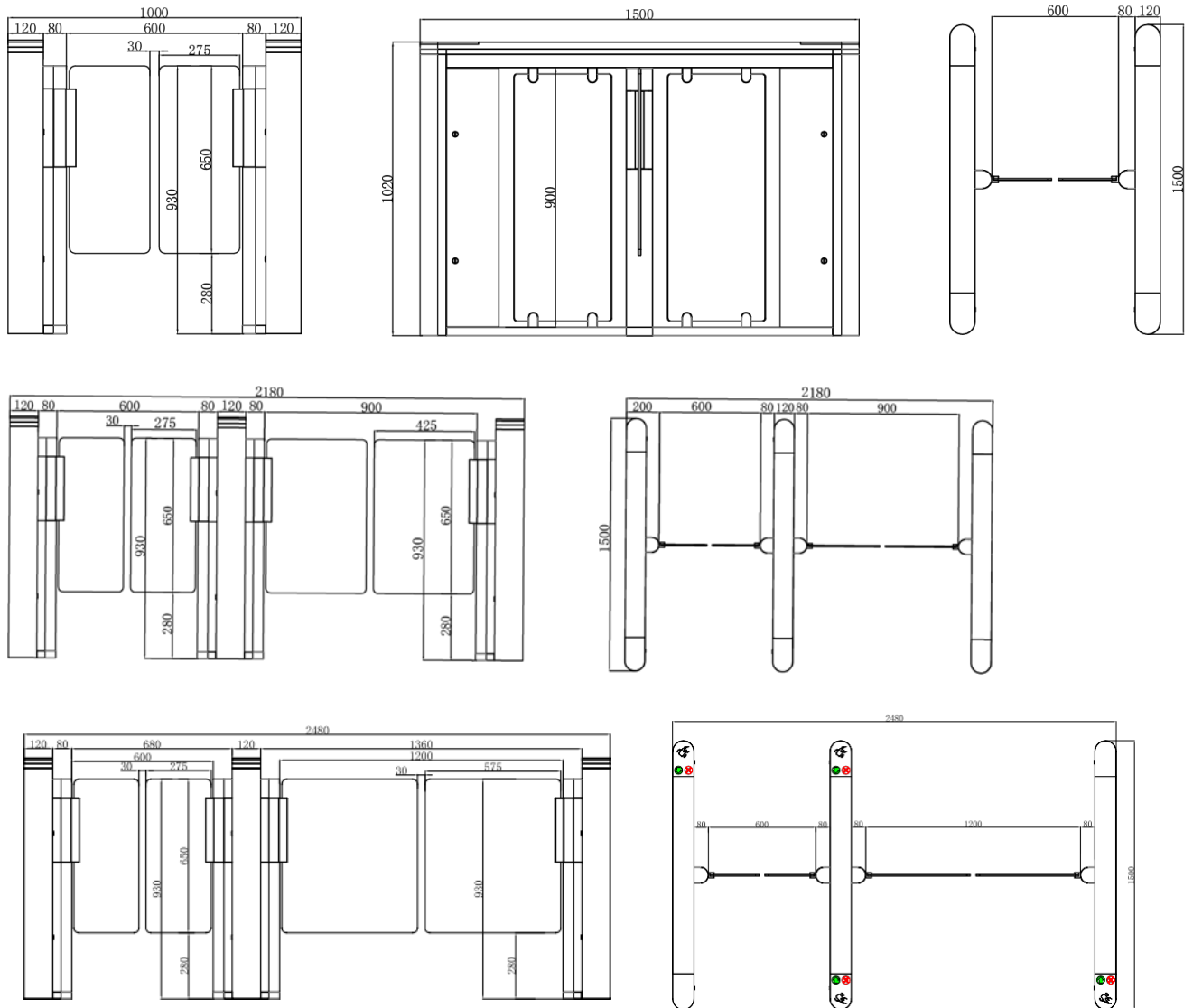
Appearance and dimensions are as shown in figure 1:

**Figure 1**

## 1.4  Technical parameter

| Item | Description |
|---|---|
| Frame | 304 Stainless steel+ Plexiglas glass arm |
| Dimension | 1500 *120* 1020mm |
| Weight | 80kg/pcs (single core),100kg/pcs (double core) |
| Pass Width | 600 mm, 900 mm, 1200 mm |
| Power supply | AC230V/110V, 50/60Hz |
| Working voltage | 24V DC |
| 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 |

# 2    Product Structure and Working Principle

## 2.1    Electronic control system of Speed Gate

The electronic control system consists of main control board, infrared sensor, direction indicator board, alarm, transformer, etc.

| Item No. | NAME | FUNCTION |
|---|---|---|
| 1 | Entrance access system | IC/ID card access control, 1/2D barcode reader, gate opening signal on the control board of gate machine, remote control, button to open the gate(optional) |
| 2 | Control board | The control center of the system, which receives signals from the card reader, makes logical judgment and processing of these signals, and then sends out execution commands to the direction indicator, motor, counter an alarm. |
| 3 | Infrared sensor | Detect the position of pedestrians and safety protection |
| 4 | Direction indicator | The directional indicator light shows the status of the passage sign and guides pedestrians through the passage |
| 5 | Alarm (speaker) | When the system detects a pedestrian entering the passageway illegally, it provides an alarm. |
| 6 | Motor | Drive the mechanism |
| 7 | Power Supply Switch | Supply power for control board |

## 2.2    Operating principle of the system

a)    Turn on the power and the system will enter working state after 3 seconds.

b)    When the card reader detects a valid card, the loudspeaker emits a sound indicating the card has been read successfully. Futhermore, it evaluates and processes the information read from the card and sends an approval signal to the main controller.

c)    The main control receives the signals from the card reader and infrared sensor. 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.
At the same time, the turnstile sends the setting voice, the main control board controls the motor operation, and the gate is opened to allow pedestrians to pass.

d) After the pedestrian passes through the gate according to the direction indicator, the infrared sensor senses the entire process of the pedestrian passing through the gate and continuously sends signals to the main control panel until the pedestrian has passed through the gate completely.

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.

# 3   Install Instruction

## 3.1   Installation notes & suggestion

**Note:**         During installation and construction, relevant circuits should be disconnected to ensure that all circuits are correct before power is applied.

## Installation Suggestion:

1) It is recommended to lay the cables 60mm deep, at least 50mm, into the ground.

2) If the turnstiles are installed outdoors, it is recommended that they be secured with 100-200 mm deep anchors in concrete.

3) All operations should be carried out with the power off.

4) Power cable and normal electric cable are carried in a 3/4" PVC pipe and buried in cement in the appropriate place.

5) After adjusting the foundation area, place the devices in the correct order.

6) After the position of the hole has been determined, drill the hole, and insert the anchor bolt or expansion screw M12.
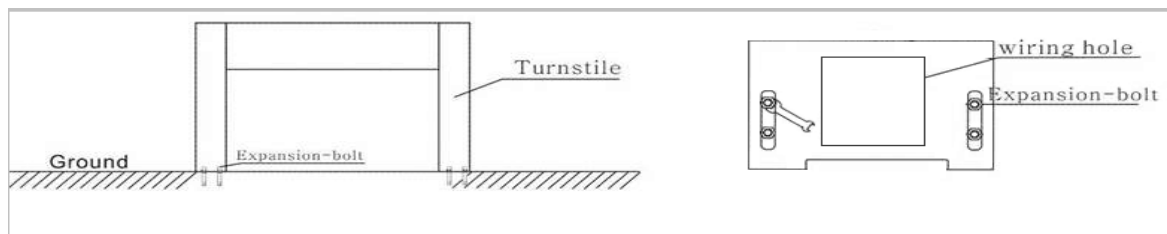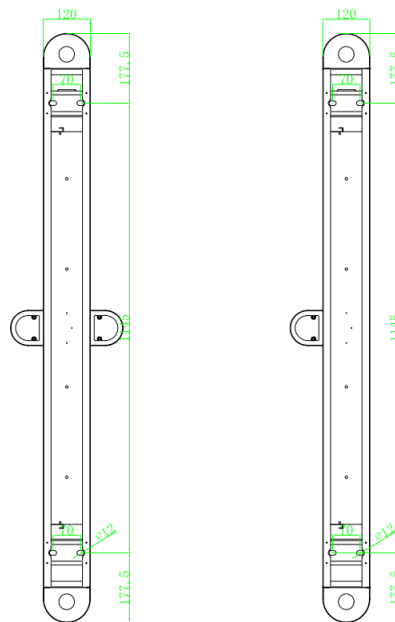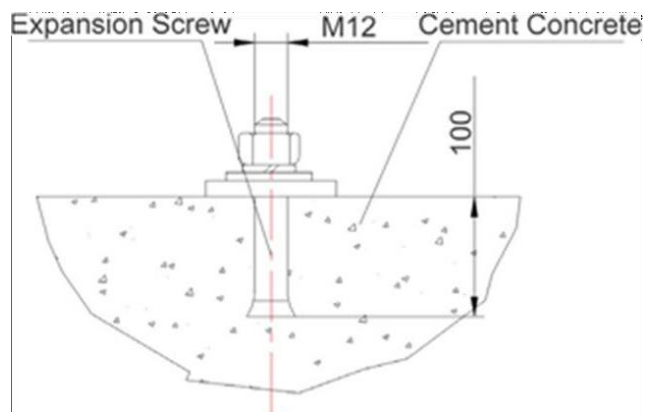


**Figure 2**

**Figure 3**

**Figure 4**

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.

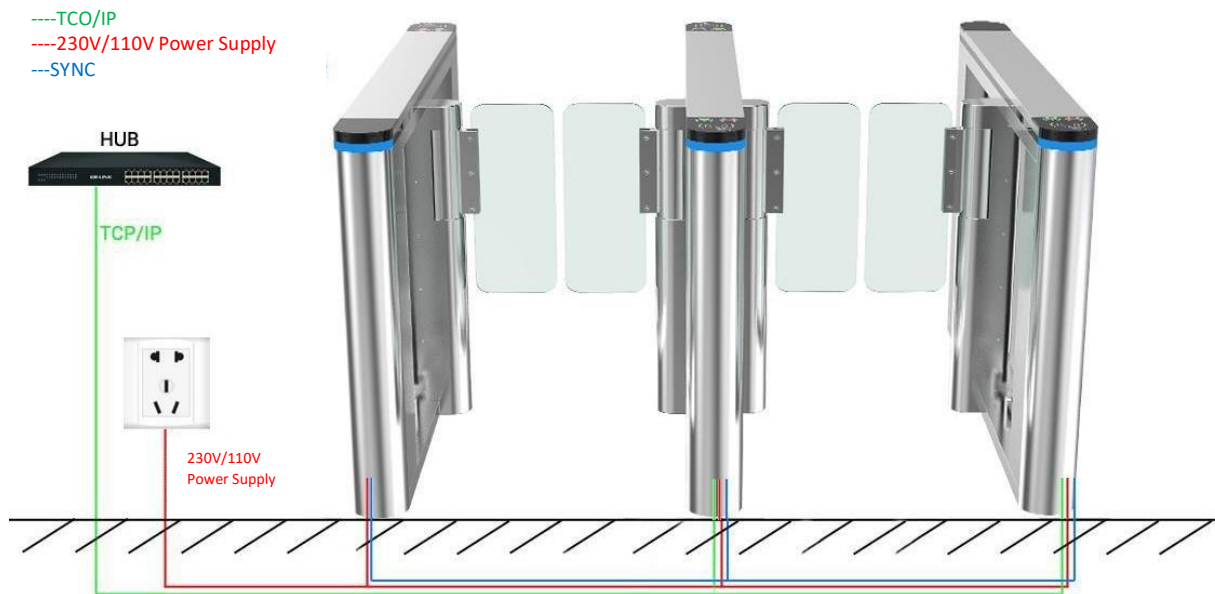## 3.2    Speed Gate cable drawing



**Figure 5**

### 3.3 Speed Gate board wiring

- Connect the gate to a 110V/230V power supply.
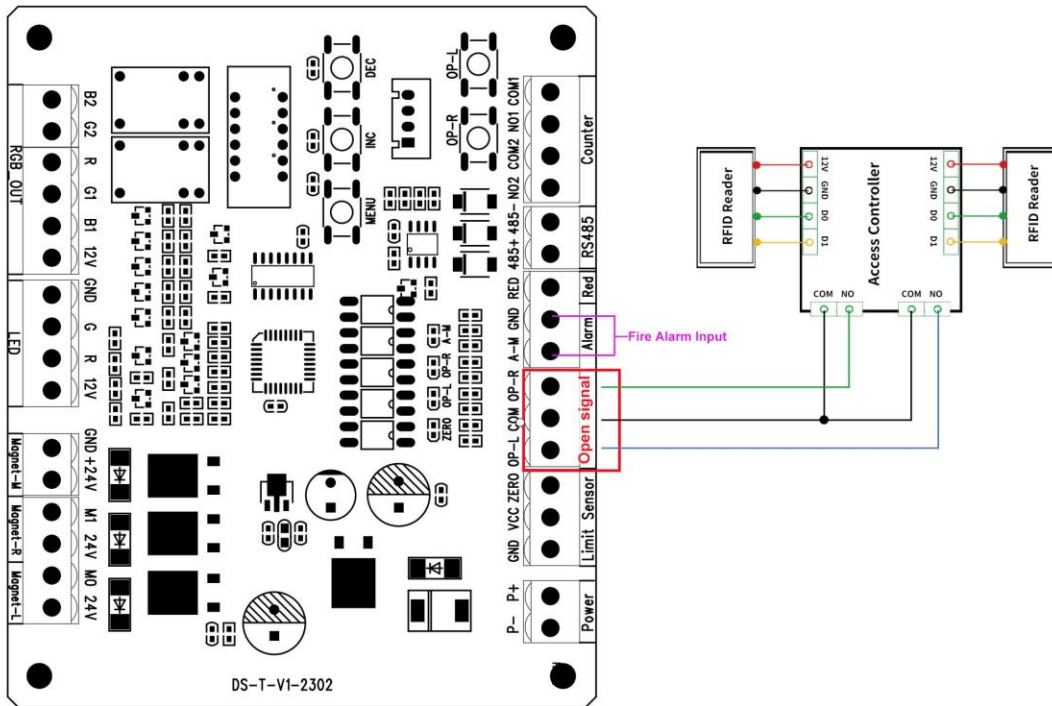- Any type of third-party access control device can be connected to the "NO1", "COM"and "NO2"terminals.

**Figure 6**

# 4   Equipment Function Debugging

## 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.

## 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.

## Parameter setting instruction

Control board connected to power, LED display shows <Run>

**"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.

# 5    Drawings
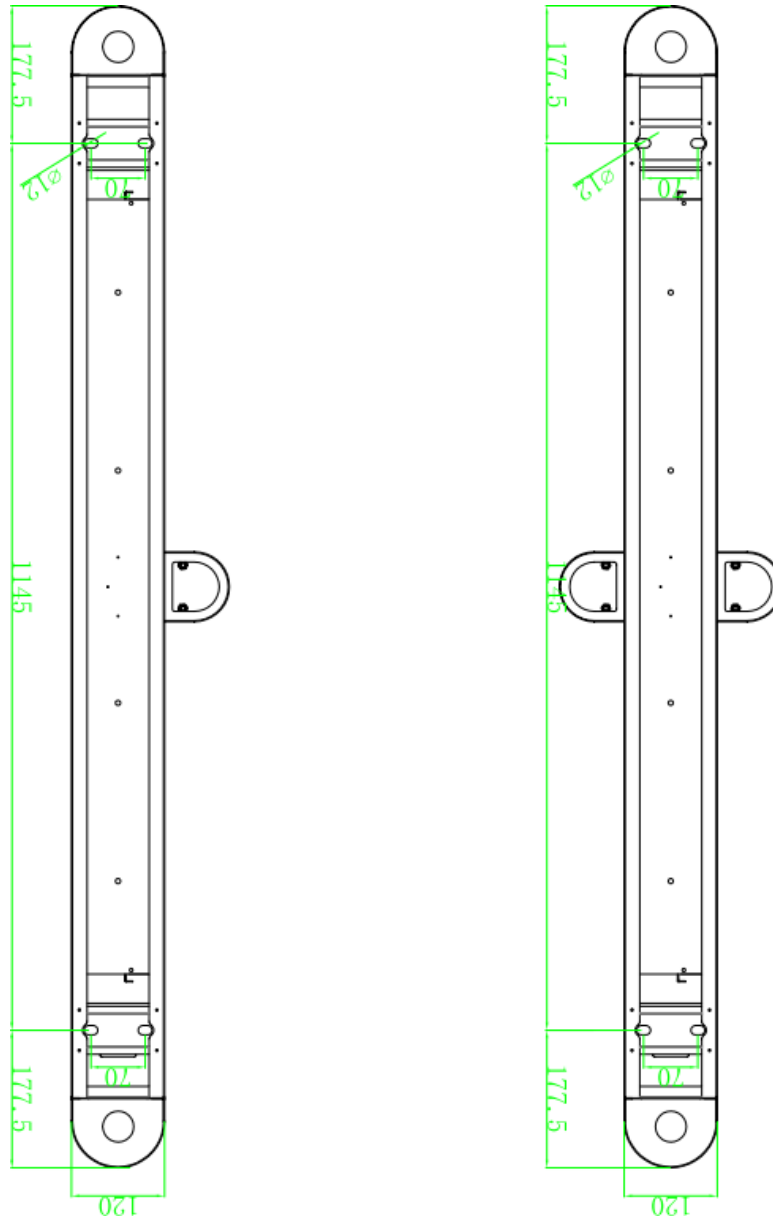
## 6   Support

# iDTRONIC

## Ludwig-Reichling-Straße 4
## 67059 Ludwigshafen am Rhein

## support@idtronic.zendesk.com