TIMEWATCH
Presence perfect

Manual

Semi-Automatic Turnstile Gate

TWLD-TS2704

Matters Needing Attention

- The internal wiring of this product has been completed when leaving the factory. Please do not change any wiring except what has been done in this manual Instructions. The company is not responsible for any damage caused by unexplained alterations.

- The casing must be grounded, and installed in the power supply end leakage protection switch.

- It is strictly forbidden to open the door and lid of the box when the pedestrian gate is working, so as to avoid accidental personal accidents.

Directory

1. Introduction of channel gate products

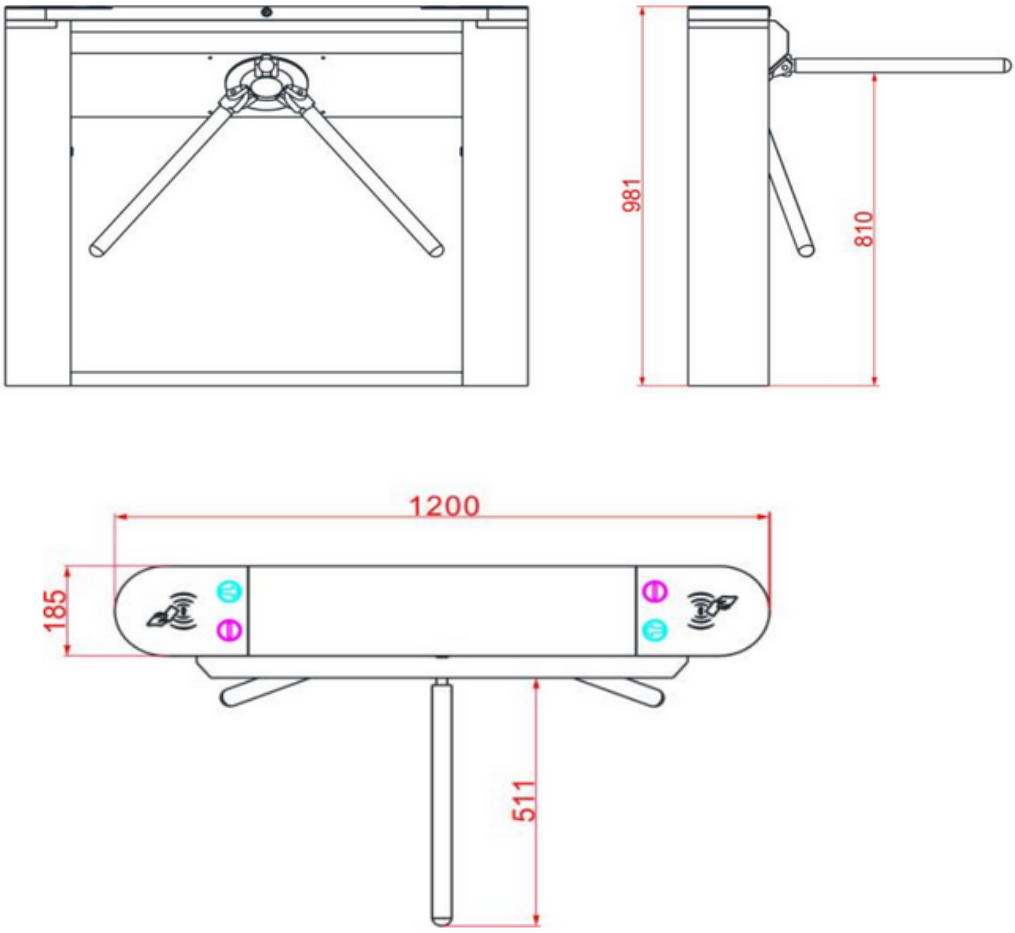
Channel gate is the intelligent channel management equipment developed and produced by our company for many years. The device integrates mechanical, electronic, microprocessor control, and various reading and writing technologies. The appearance of the equipment adopts stainless steel plate laser welding molding, beautiful appearance, rust-proof, durable, and external use of standard electrical interface, can easily bar code card, ID card, IC card, and other card readers integrated into the equipment, to provide a civilized, orderly way of passage for people in and out, but also put an end to illegal personnel in and out; In addition, the system also specially designed to meet the fire protection requirements of the function, in the event of an emergency, to ensure that the passage is unimpeded, convenient personnel timely evacuation;

2. Functional features of channel gate

1) Free passage, swipe card passage, and other ways of passage; 2) Anti-shock function, in the absence of receiving the opening signal, the rotating rod is locked; 3) Automatic reset function with a timeout. If the pedestrian does not pass through the system within the specified time after reading the valid card, the system will automatically cancel the pedestrian's permission to pass and turn the lever to lock;4) Unified standard external electrical interfaces, can be connected with a variety of card readers, and can achieve remote control and management through the management computer;

3. Technical parameters of channel gate

The body material	304 stainless steel	The input power	AC220 plus or minus 10% V, 50 hz;
Working voltage	24V DC	Relative humidity	Relative humidity ≤ 90%, no condensation
Working temperature	-30 ℃ -70 ℃	Traffic speed	25-35 people per minute
Open the signal	Relay dry contact signal	Use place	Indoor/Outdoor



4. Installation and debugging details

When the power is connected, press the pole in the direction of the arrow first. When you hear the sound of "da", means that the magnet has been drawn and you can lift the pole.

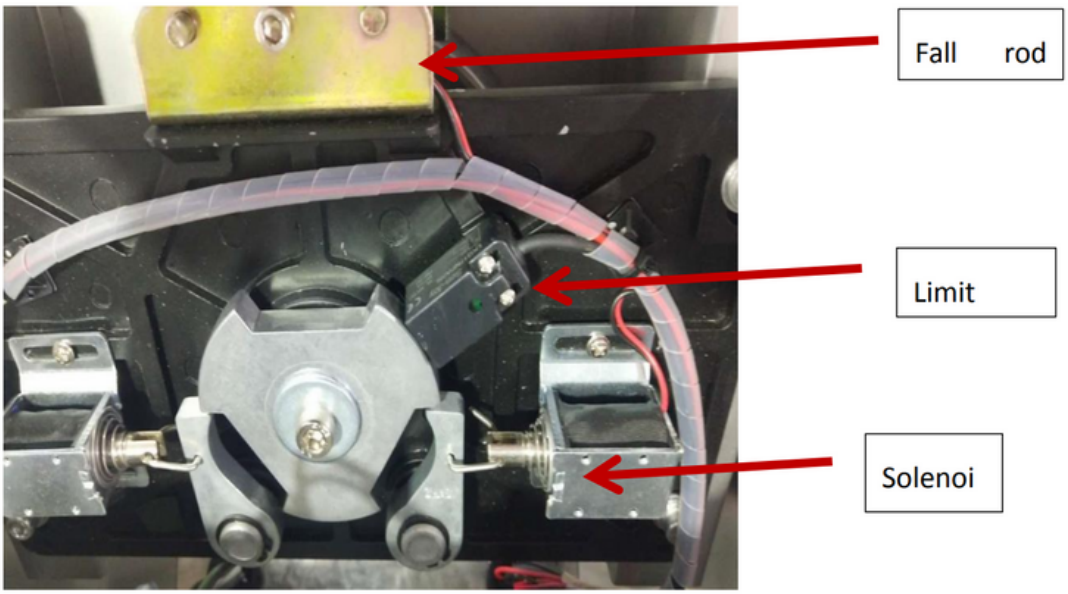
5. Composition and principle of channel gate equipment

5.1 composition of channel gate products

5.1.1 Channel gate mechanical system

Channel gate mechanical system is divided into chassis and movement of two parts. The chassis as a carrier, installed on the direction indicator light, read and write device, etc. The main components of the movement are the frame, drive shaft, rotating rod, and limit piece;

- The machine structure



5.1.2 Electronic control system of channel gate

Electronic control system is composed of card reader, main control board, limitinduction switch, direction indicator light, transformer, etc. Card reader: after reading the information on the card and judging the processing,send a signal to the main control board to apply for passage (switch signal)

◆ Main control board: the control center of the system, it receives the signal ofthe card reader and limit induction switch, and makes logical judgment and processingof these signals, and then issues execution commands to the direction indicator lightand alarm
◆ Direction indicator light: shows the current passage sign status, and guidepedestrians to pass safely and orderly

S.No.	The name of the	function
1	Entrance guard system	IC/ID card access control, fingerprint machine, face recognition, TWO-DIMENSIONAL code equipment
2	Control panel	The control center of the system, it receives the signal of card reader and infrared sensor, and makes logical judgment and processing to these signals, and then sends the execution command to the direction indicator
3	Direction indicator light	Display the current traffic status of the channel to guide pedestrians through the channel
4	Limit switch	Open and close the brake in place detection
5	Switching power supply	Control panel power supply

5.2. System working principle

◆ Turn on the power, 3 seconds after the system is into the working state

◆ When the card reader reads the effective card, the direction indicator light changes color, indicating the success of reading the card, but also judges and processes the information read from the card and sends a traffic authorization signal to the main control board

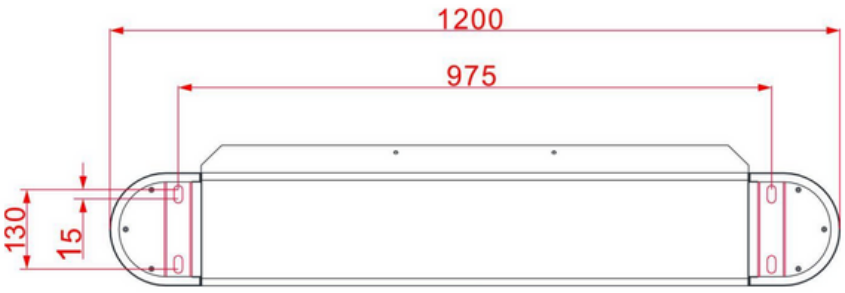
◆ The main control board receives the card reader and limit switch signal, and after comprehensive processing, to the direction indicator light and solenoid valve, send an effective control signal, so that the direction indicator light changes color, the main control board control solenoid valve to unlock, allow pedestrians

◆ If pedestrians forget to read cards or read invalid cards into the channel, the system will prohibit pedestrians, read valid card authorization before allowing passage. The alarm will not be lifted until the pedestrian exits the channel; Reread validate-square cleared for passage.

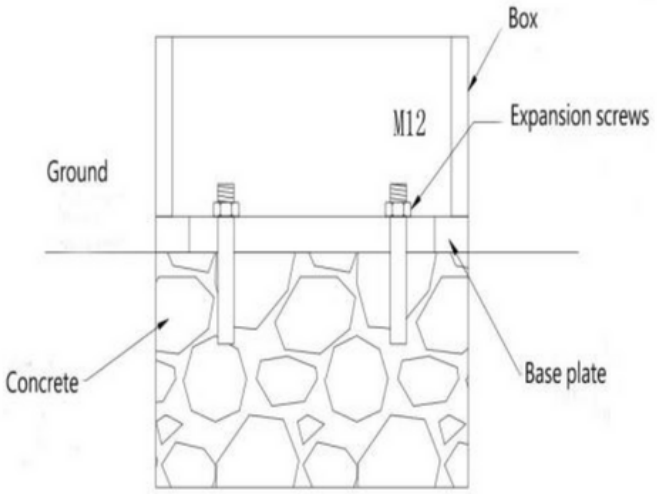
6. Installation and debugging of channel gate equipment

6.1. Installation of channel gate equipment

- Prepare tools for installing devices and check accessories according to the packing list.
- After completing the foundation surface of the installation equipment, arrange the equipment and make sure that the equipment is aligned horizontally.
- After locating the holes, drill the holes, and rebury the anchor bolts or expansion bolts of M12.
- Open a routing groove, put the strong electric cable through with a 3/4 "PVC pipe, and bury it in the corresponding position with cement.
- Put the device back to the installation position and secure the brake with the factory-configured layering and expansion bolts.
- Refer to the wiring diagram, connect the power cable, and connect the system grounding cable protection.
- The following functions can be debugged only when the device status is normal. Check the mains wiring according to the wiring diagram, check that the power supply wiring and another wiring of the whole equipment are correct, and power on the adjustment after confirmation Try.



Base mounting dimension



6. Installation and debugging of channel gate equipment

6.2. Functional debugging of channel gate equipment

(Note: The gate machine of our company has been adjusted normally in the workshop according to the order requirements before leaving the factory. Now it is installed according to the requirements without debugging. For fine-tuning, please refer to the following parameter description and contact after-sales guidance.)

6.2.1 Key Description

Control panel keys:

ENT menu key, INC up/add key, DEC down/subtract key

ENT key: used to enter the menu item setting items or current parameter modification confirm save

ESC key: used to return to the upper menu and exit the menu

6.2.2 Wake up from the Menu

Step 1: Press "ENT" for 3 seconds to enter the system menu, and use "INC" and"DEC" to scroll up and down respectively to select the "F 0 1" menu(see below for menu description).

Step 2: Press ENT to enter the interface for setting the channel duration.

Step 3: Use the "INC" and "DEC" keys to add or subtract parameter values, respectively.

Step 4: Press "ENT" to save the settings.

Step 5: Exit menu: Press the ESC key to exit the menu

6.2.3 Setting Function Parameters

After the control board is powered on, is displayed on the LED screen.

- **F 0 1** Set the traffic duration; Within this set period, if no one passes, the gate will automatically close. (5 seconds by default)
- **F 0 2** Allow and prohibit passage; Gate traffic mode.0: left free passage, right swipe card pass.1: left swipe card access, right free access.2: All free passage. 3: all card access (default).
- **F 0 3** Brake working mode; 0: full-height switch mode 1: three-roll switch mode (default three-roll switchmode)
- **F 0 4** (Continuous swipe function) Memory function, open or close the entrance to pass whether there is a memory function, generally used for card opening, in the case of a person, who has not passed the card, whether to remember other people's card."00 Prohibited" means that the second person can swipe the card only after the first person passes; "01 allow" is how many people swipe card, namely, allow continuous access to how many people. (Default: 00)
- **F 0 5** Repeated opening and the closing test are mainly used to test the stability and aging of the gate control board. Note: In test mode, press ESC to exit the test
- **F 0 6** Zero signal set; 0: Close the gate immediately upon detection of zero signal (three-roll gate standard mode, the default setting of the motherboard is 0)1: the zero signal is detected, and then wait for the zero signal to disappear before closing the gate (commonly used in full-height switching) 2: The gate is immediately closed when the zero signal is detected.
- **F 0 7** Gate normally open setting; This parameter is used to detect the continuous opening signal. When the continuous opening signal exceeds this parameter, the system enters the normally open state. If the opening signal for the gate is a continuous signal, the gate will remain open. After the continuous signal is disconnected, the gate will return to standard mode. (The default parameter is 6 seconds, that is, press the opening key"Left open or right open" for more than 6 seconds, and the gate is normally open, release the opening key, and the gate is restored)
- **F 0 8** Opening delay; This parameter takes effect only when the memory function is enabled. After the memory function is enabled, there is a delay in opening the gate when there are too many consecutive people. This function can prevent the gate from opening again when the previous person has not passed the channel.
- **F 0 9** Restore Factory Settings; All parameters of the mainboard are restored to factory settings.
- **F 1 0** Device address. The default address is 0.
- **F 1 1** Zero signal effective time setting.Default validity time.

- **F 1 2** Active Last pass information setting.0: no upload.1: Data upload does not differentiate between left and right traffic.2: Upload data. Traffic is left and right. (Default setting 0 does not upload) Normal traffic:
- F12=0: no data is uploaded
- F12=1: Upload data EB 00 6E 00 85 (address 0)
- F12=2: EB 00 6E 01 84 (address 0)
- F12=2: EB 00 6E 02 87 (address 0) Timeout:
- F12=0: no data is uploaded
- F12=1: Upload data EB 00 6E 80 05 (address 0)
- F12=2: EB 00 6E 81 04 (address 0)
- F12=2: EB 00 6E 82 07 (address 0)

- **F 1 3** Gate mode when fire input.0: left and right free communication,1:left and right all prohibited, 2: left and right prohibited, 3: left and right prohibited.

7. Troubleshoot common faults

7.1.Three roller brake does not open by swiping the card

1) Check whether the motherboard receives the opening signal
2) Check whether the opening signal line is loose and whether the solenoid valve line is loose;
3) After powering on the mainboard, manually press the button to see whether the limit chip can be unlocked normally
4) use a multimeter to measure whether there is 24V voltage output at the wiring port of the solenoid valve on the mainboard (left/right). If there is 24V voltage output, the electromagnet of the rod faller is not magnetic for the rod faller fault

7.2. Three-roll rod does not fall when power is cut off

1) Check whether the electromagnet drop rod support is loose, and the spring activity is flexible and free of lattices, and adjust and fix it again

7.3. Manual pole lifting is invalid when energized, and the pole does not stand

1) Whether the electromagnet drop rod support is loose, test whether the electromagnet is magnetic with metal objects
2) use a multimeter to measure whether there is 24V voltage output at the electromagnet wiring port of the rod faller on the motherboard, and judge whether there is normal voltage output loss on the motherboard

7.4. The mainboard does not power on after power-on

1) Use a multimeter to measure whether the output port of the switching power supply has a 24V voltage output

Appendix B

Three roll gate communication protocol

This agreement applies to three roller brake communication protocol communication signals: RS485, half duplex Communication baud rate:9600bps
Start bit: 1 pitstop bit: 1 bit
Data bit length: 8 data bits
Parity bit: None The frame agreement 1. The host computer sends frame format synchronization code+device address + command code + data + checksum code Synchronization code: 235 (decimal) Device address: send and receive in decimal numbers. Device address range: 0-255 (decimal) Command code :(all decimal numbers) the xor code is the value when the device address is 0

instruction	send		receive	
	The command code	data	The command code	data
Read the working status of the device	40H	00	C0H	The status value
Set the working status of the device	41H	0-3	C1H	Set the value
Read the working mode of the device	42H	00	C2H	Way to work
Set the working mode of the device	43H	0 to 4	C3H	Set the value
Read the left (out) count	44H	00	Left count is 8 bits lower	The left counter value is 8 bits higher
Read right (forward) count	44H	01	The rightward	The right - hand count is 8 bits higher

			count is 8 bits lower	
Clear left (out) count	45H	00	C5H	00
Clear the right (forward) count	45H	01	C5H	01
Read the maximum pass time	46H	00	C6H	The passage of time
Set the maximum pass time	47H	0-60	C7H	Set the value
Whether the reading device reads the card with memory	4AH	00	CAH	Card model
Set whether the device reader has memory	4BH	0-3	CBH	Set the value
Read the state of the gate	4EH	00	CEH	0-1
To breaking into	50H	00	D0H	00
Out to release	51H	00	D1H	01
derrick	52H	00	D2H	00
On the pole	53H	00	D3H	00
When the upper computer sends a signal to open the door, if the working mode instruction is returned, the corresponding direction is forbidden				
Example Query the status of unauthorized traffic intrusion	54H	00	6AH	1 to 2
Query the user pass status	55H	00	6BH	1 to 2
Emergency open	56H	00	6CH	00
Emergency shut	57H	00	6DH	00
The wrong instruction	The wrong instruction		67	00

The above data are all decimal numbers.

Parity code =(Synchronization code) XOR (device address) XOR (data 1)XOR(data 2)

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