SOUTHERN MACHINERY

Southern Machinery Sales and Service Co., Ltd.

Intelligent handling AGV operating instructions

SWZ-10H-A

Please read the instructions carefully before use

Content

1. Product Presentation

1. Product indication chart

2. Product specifications/parameters

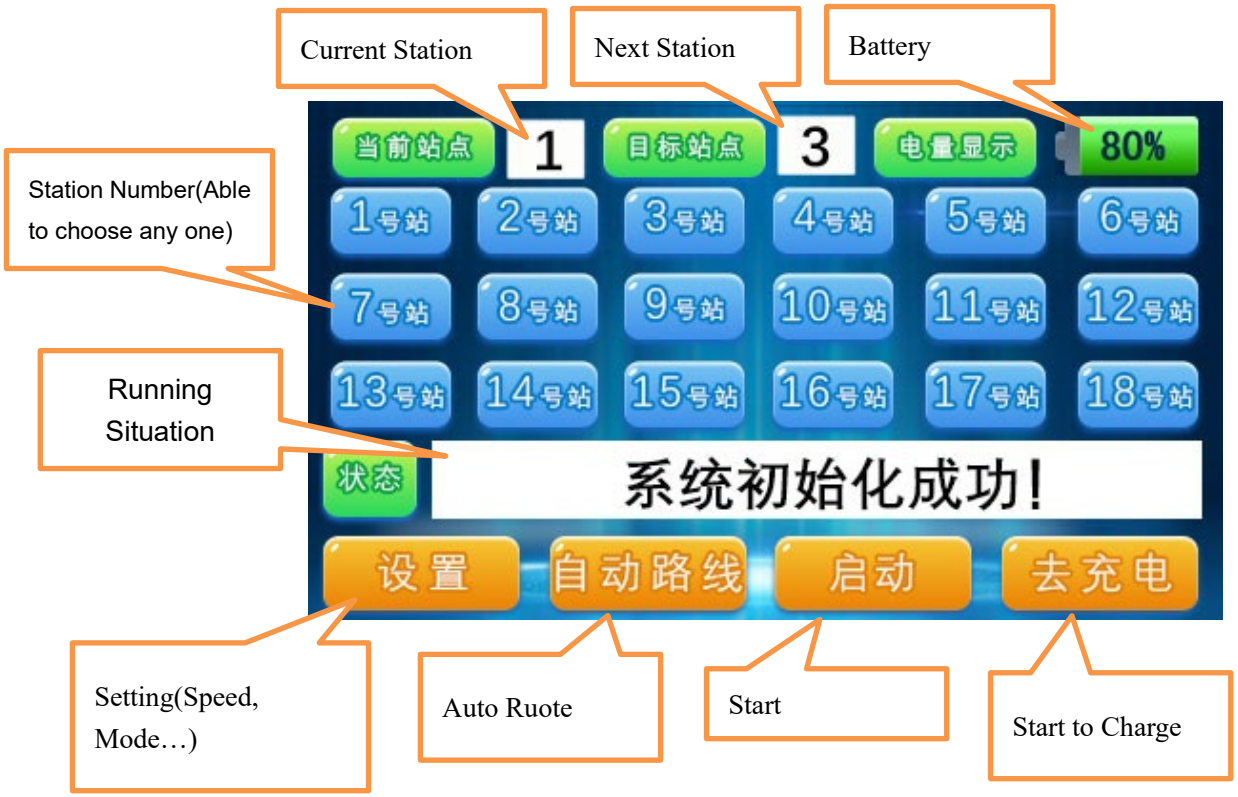
Product Name	AGV Trolley	
Product Model	SWZ-10H-A	
Product Dimensions (mm)	Trolley Size: 550X450X550 Loading Plate Size: 520X420X50	
Net Weight / Load Capacity	Net Weight: 35KG	Load Capacity: 60KG
Navigation Type	Magnetic Navigation, Bi-directional Travel	
Drive Mode	Brushless Motor, Differential Gear	
Travel Logic	RFID Site Identification, Site Selection	Docking at 20 Sites
Operation Modes	Single Line, Loop Line	Branch Lines Require Additional Configuration
Travel Speed	0~40m/min (Adjustable Speed)	
Ramp Climbing Ability	≤2 degrees	
Turning Radius	0.8 meters (or 90 degree in-place pivot turn)	90 degree turns require customization
Stopping Accuracy	±2cm	Customizable to ±5MM
Charging Time	4 hours	
Battery Type	Lithium Battery 25.2V20AH	
Endurance	⩾15h	
Battery Level Indication	Intelligent Low Battery Auto-alarm	
Charging Method	Manual Charging/Battery Replacement	Optional Automatic Charging Station
Start Method	Manual Start + Scheduled Start Remote Control Start	Configurable Auto-run
Obstacle Avoidance	Ultrasonic Radar (4 pcs front & rear)	Sensing Distance Adjustable
Bump Protection	Mechanical Bumper Switch Bars Front & Rear	Emergency Stop on Collision
Emergency Stop	Front & Rear E-stop Switches	
Travel Warning	Front & Rear LED Lights: Flashing Green When Running +	Optional Running Music Play

	Flashing Red When Obstacle Detected	
Human-Machine Interface	HD Touch Screen	

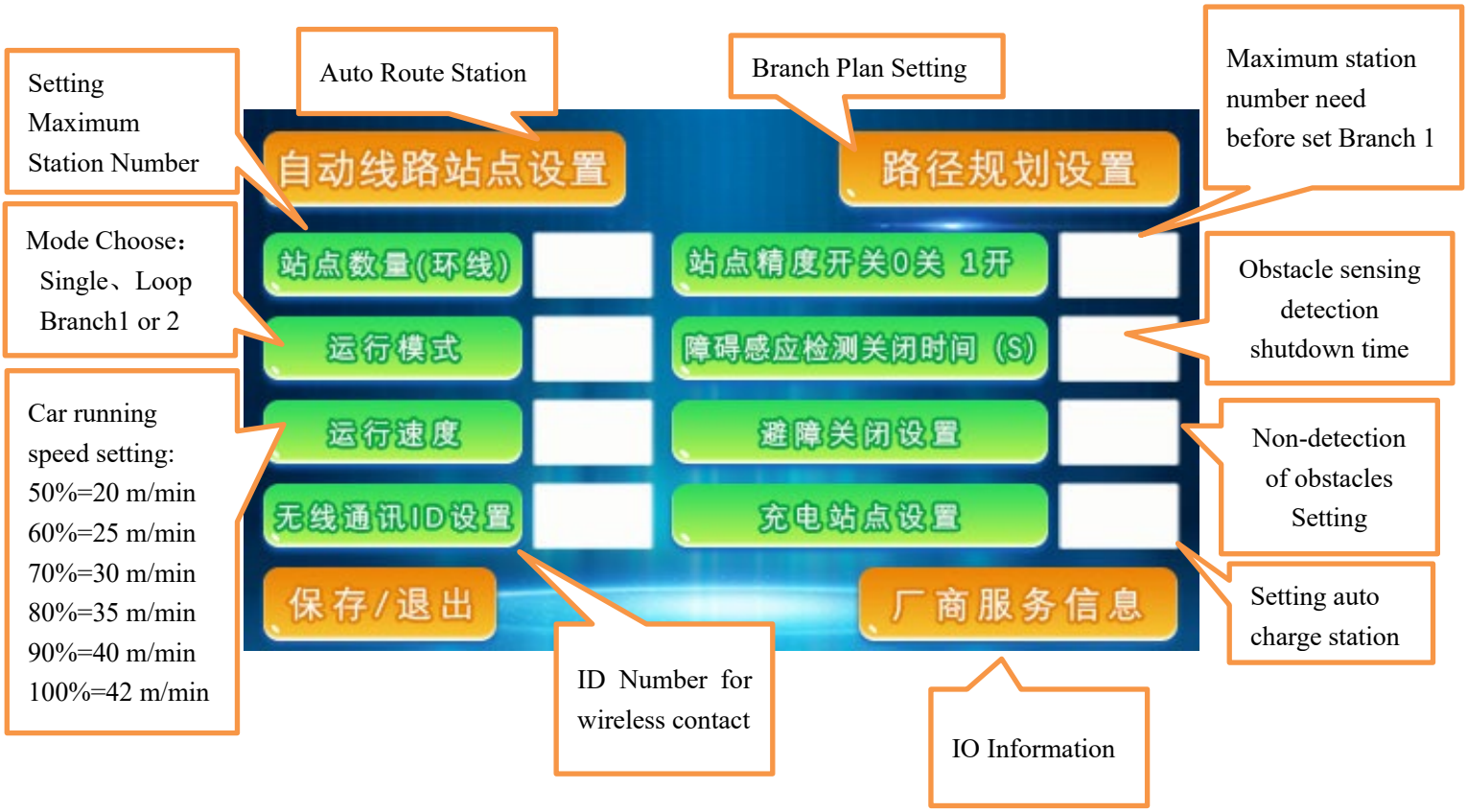
3. Instructions for using the touch display

Man-machine interface: 4.3-inch display with HD touch

3.1 Main screen display introduction:



3.2. Introduction to the Setting interface:



3.3、Automatic running line setting interface

Set the auto-run site to run sequentially

Set the stay time of the site. When the time is 0 seconds, press the start switch to start the next site

An output signal is required for the arrival of the station, which can be a relay pull

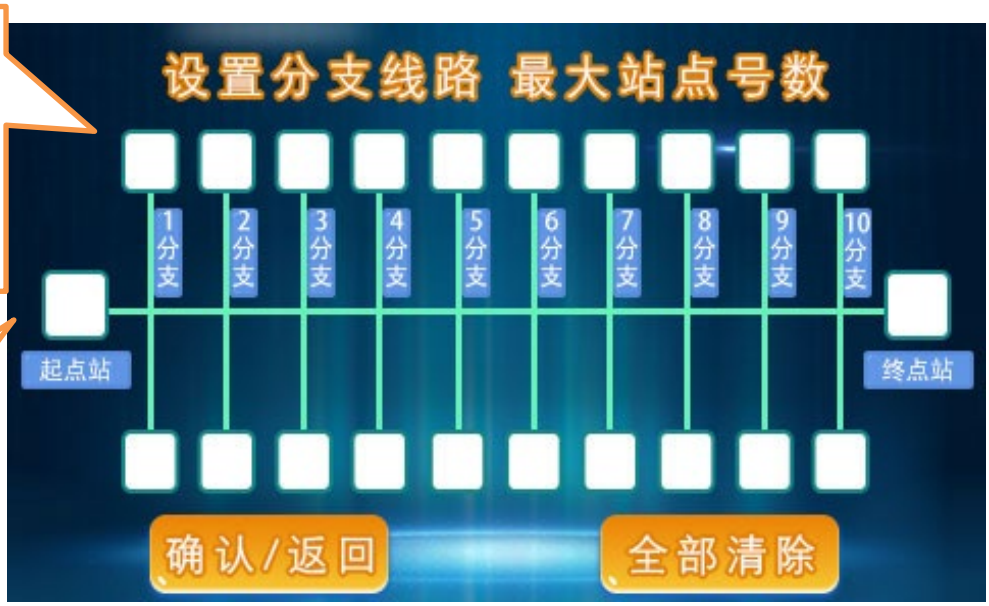
Automatic loading and unloading When arriving at the station, control the loading and unloading motor positive and negative rotation 1 or 0

Save and return

5 station/ page, total 4 page, 20 stations

Clear all data

Set the maximum site number of the branch line. For example, if there are 2, 3, or 4 sites in branch 1, enter 4

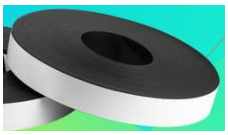


The start site is site 1

Spare parts:

AGV*1

Remote controller *2



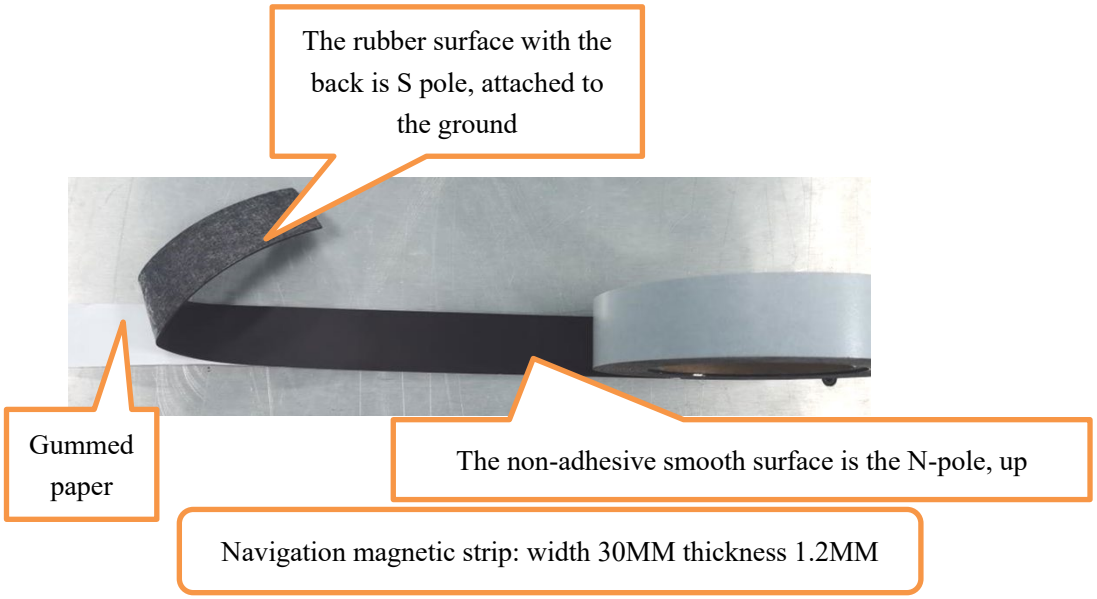
Navigation magnetic strip 20m

20 *RFID Card

4. Navigation magnetic strip description and installation use:

1、Introduction of navigation magnetic strip

2、The AGV car can automatically run back and forth on the ground because we have a magnetic strip on the floor to guide the car to run. The AGV car can automatically calibrate the running direction of the car by reading the signal of the magnetic strip. After the algorithm of the software, the AGV car can run stably on the magnetic strip.

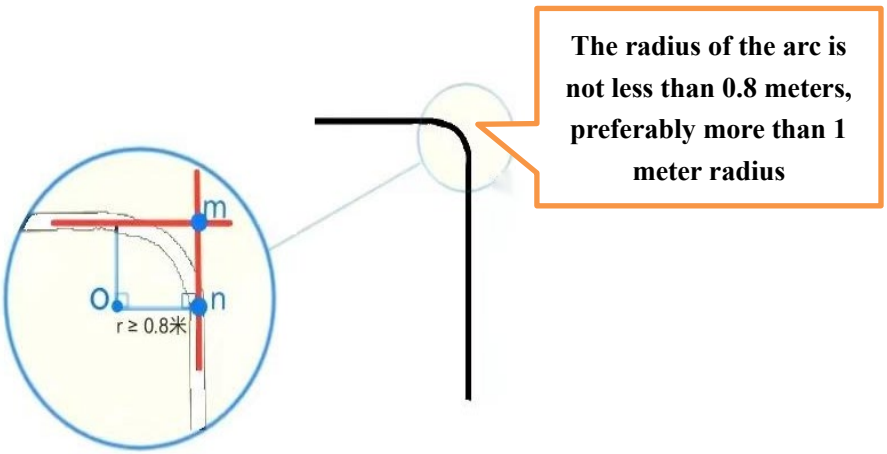


3、Install the navigation magnetic strip:

- Determine the cable to be installed and wipe the place where the magnetic strips are to be affixed with a dry cloth. Ensure that there is no oil or water on the ground; otherwise, the magnetic

strips will not stick.

- Remove the adhesive paper from the magnetic strip, S pole backed side to the ground, N pole smooth side up.
- Straight line pasting method: two people, first stick to one end, one person will force the magnetic strip straight, the other person will tear the adhesive paper, as far as possible to stick the magnetic strip straight.
- Circular arc navigation line paste method: you can first draw the circular arc on the ground with a pen (The radius can not be less than 0.8 meters, the larger the space, the larger the design arc), Then tear off the adhesive of the magnetic strip, and paste the adhesive paper according to the drawn arc。



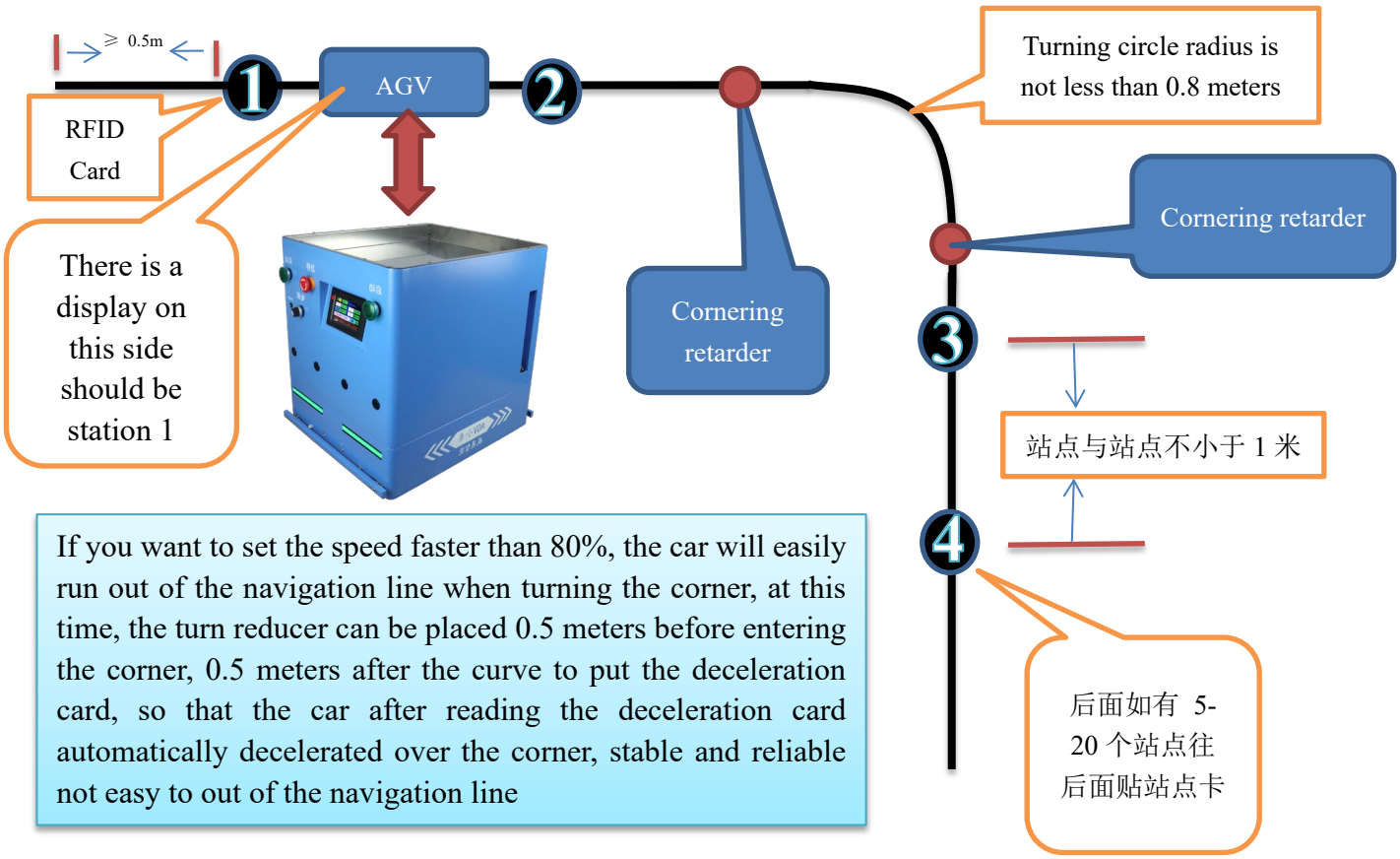
5. AGV Trolloy Route Installation And Use:

Know the direction of the car first:

Back **Front**

1. Single line mode-Station setup

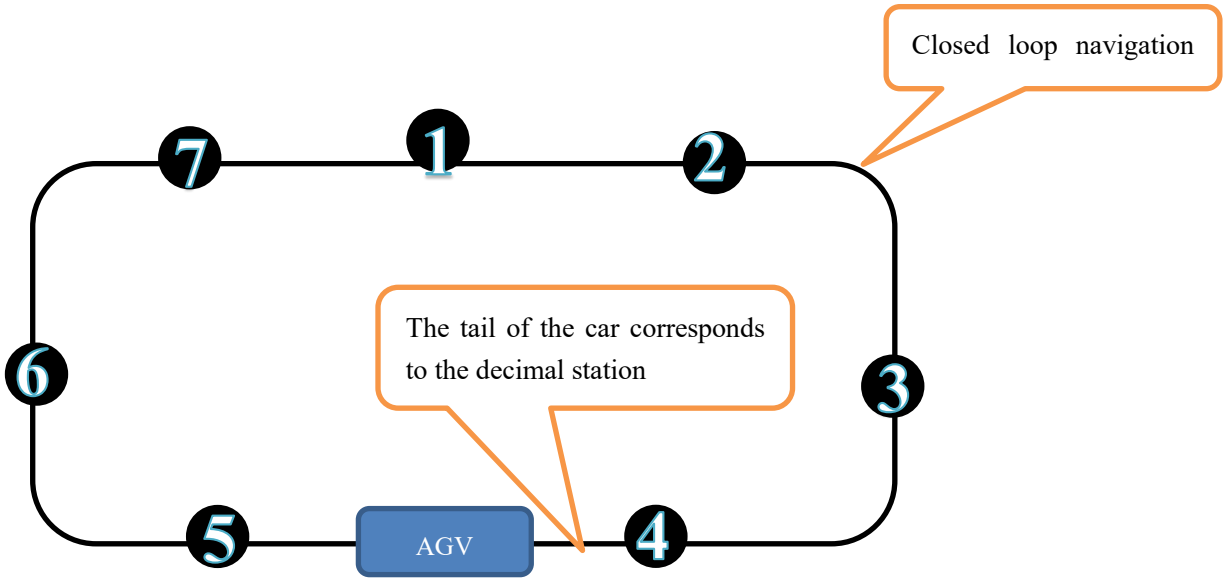
The RFID station card is placed on the installation navigation magnetic strip, the station card needs to be placed in the order from small to large, and the distance between the station and the site is not less than 1 meter



2. Loop Mode - Station setup

The magnetic strip is pasted into a closed-loop line, the car runs in the closed circuit, the RFID station card is

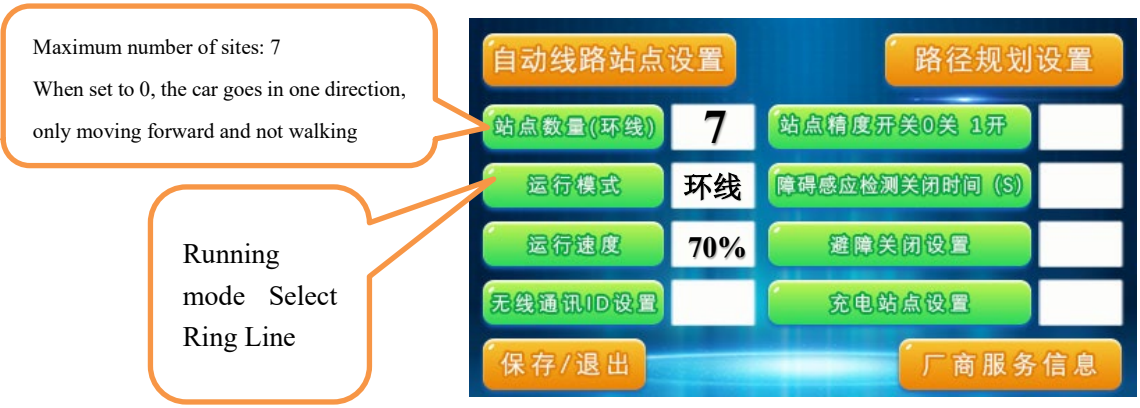
placed on the installation navigation magnetic strip, the station card needs to be placed in accordance with the order from small to large, and the distance between the site and the site is not less than 1 meter



In loop mode, the car automatically calculates the nearest running mode, automatically determines whether to go forward or backward,

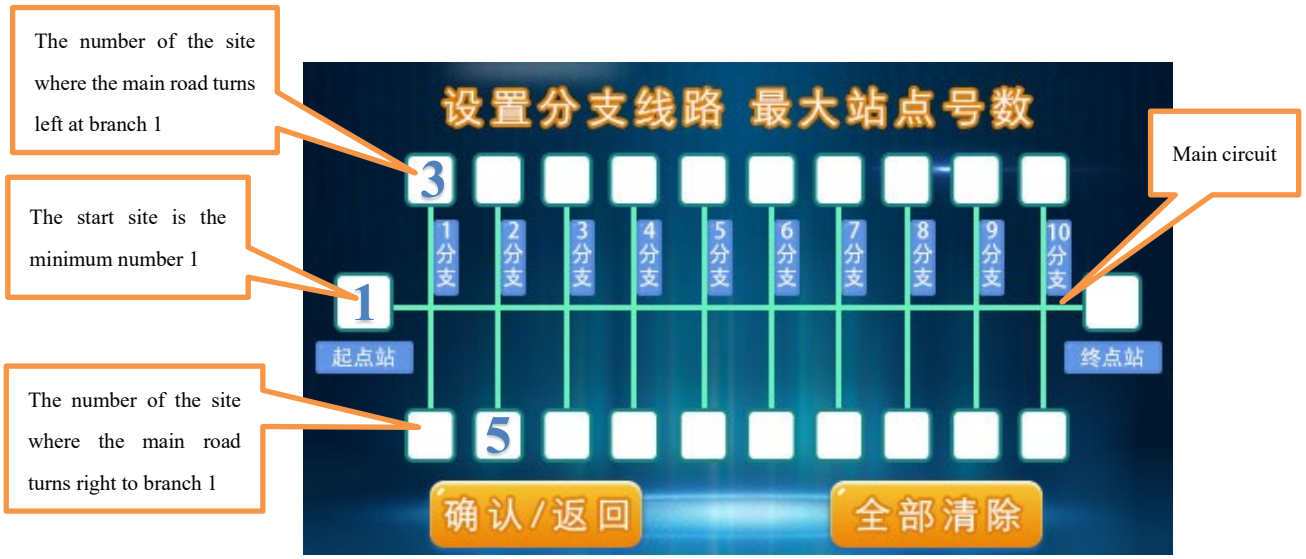
For example: 1, the current station of the car is at station 4, the target station is 2, the car will go back.

2、The current station of the car is at station 6, and the car will go forward when the target station is 1.



3. Bifurcated line --Path planning Settings

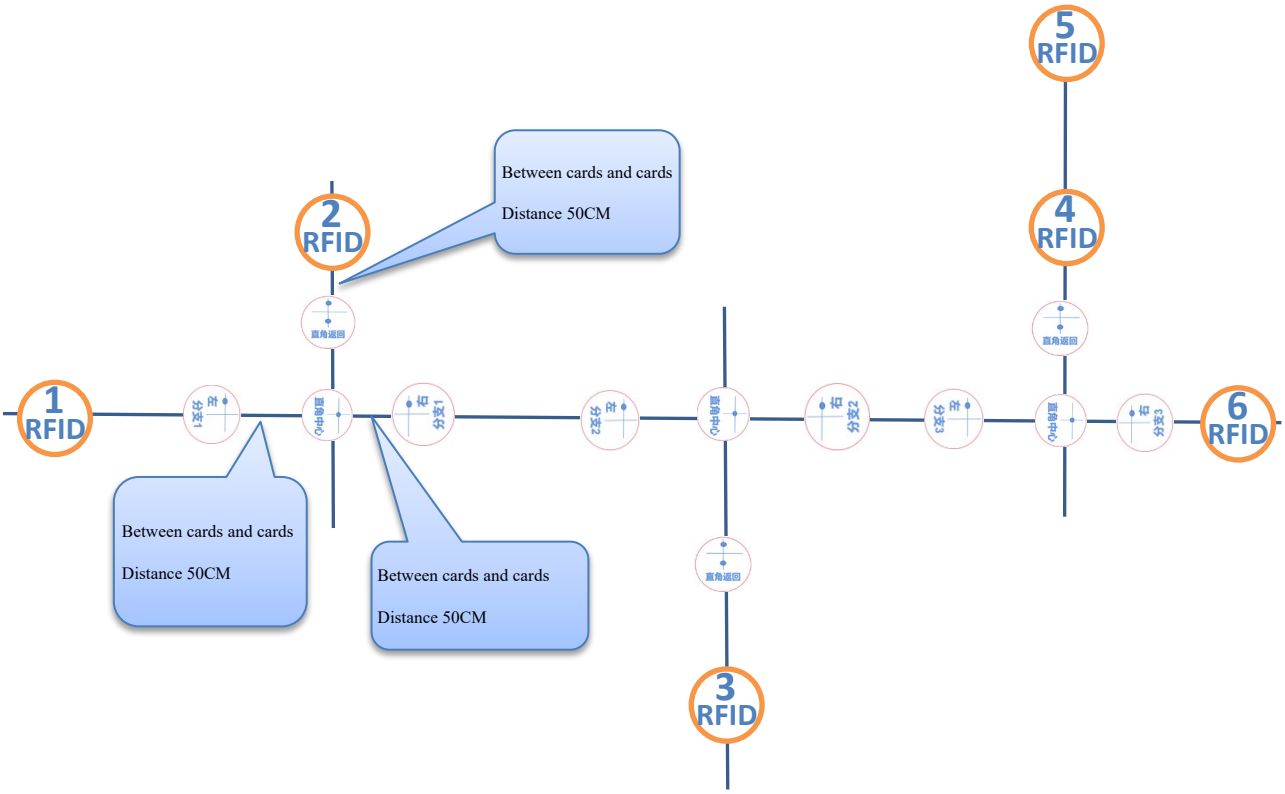
This section describes the Settings screen:



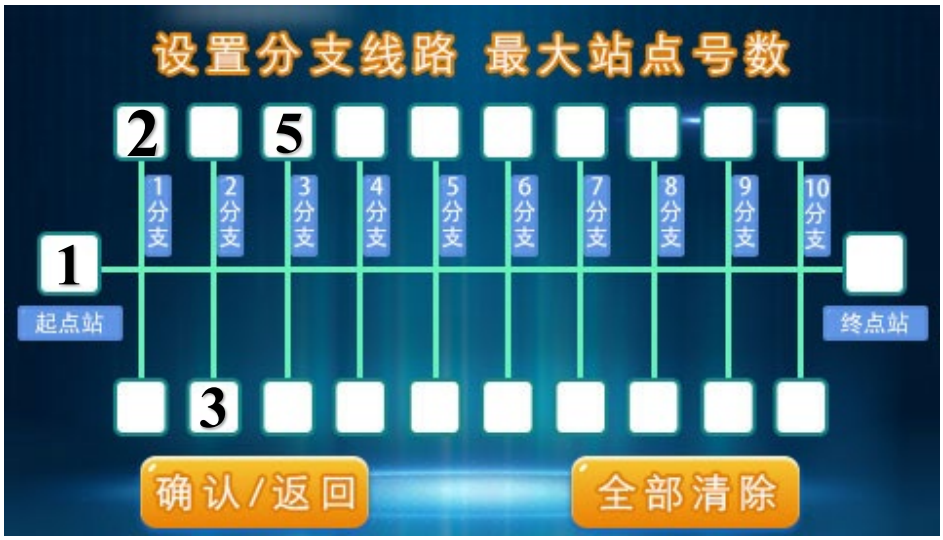
As shown in the preceding figure, the function is:

The starting point of the main line is station 1. The maximum number of left turning stations on the first branch line of the main line is 3, indicating that the left turning stations are stations 2-3. The maximum number of right-turn stations in each two branches of the main line is 5, indicating that the right-turn station is No. 4-5 station, and so on. The setting method of other station numbers is the same, and the car system will run according to the set line specifications after the setting。

5、Bifurcated line specification and RFID station card installation method:

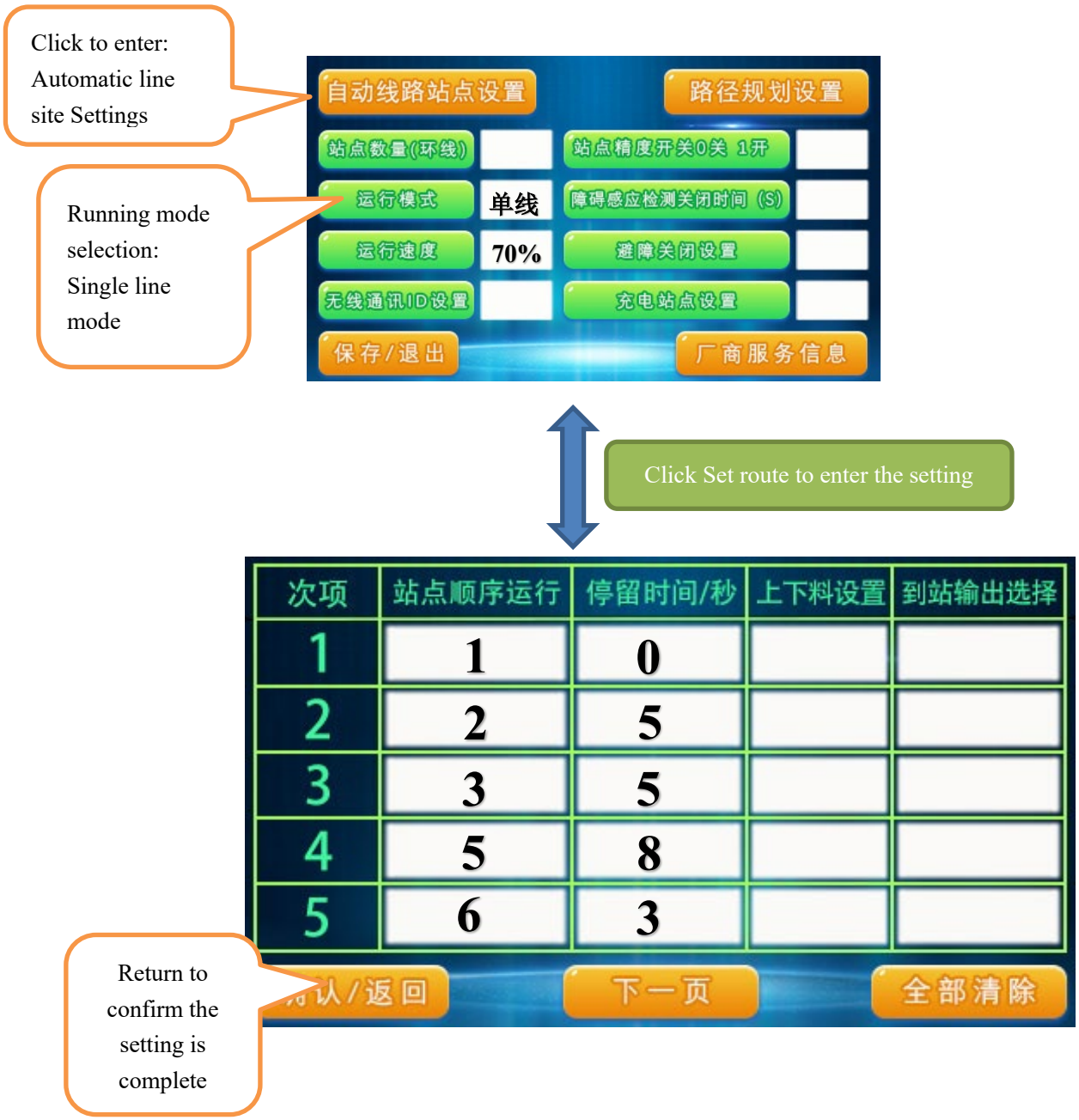


Set AGV car branch line according to the above running line



After the setup is complete, the car can run according to the line, and it can automatically go to the station.

Set the car to run automatically according to the above bifurcation line diagram



After the completion of the line specification and setting, the AGV car runs as follows:

The car is waiting for manual start at station 1 (when the residence time is set to 0, manually press the start switch for permanent stop).

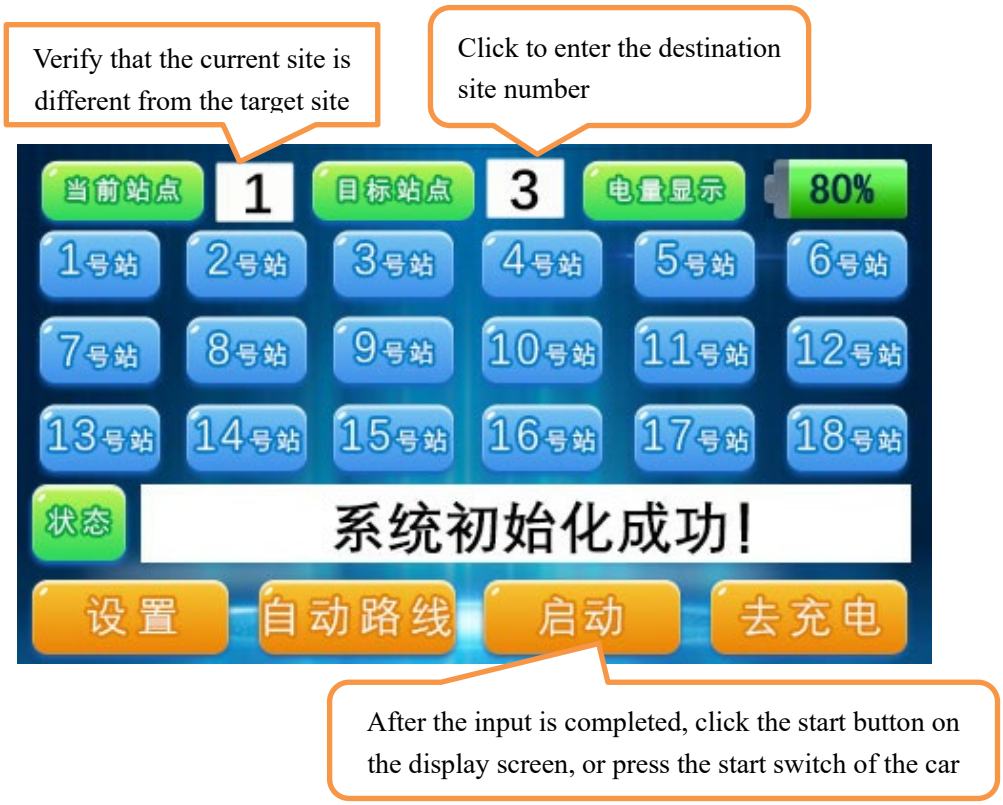
Exit from Station 1 -- turn 90 degrees left -- arrive at station 2 (stay for 5 seconds) ---- come out and turn 90 degrees left ---- go ahead -- turn 90 degrees right -- Arrive at station 3 (stay for 5 seconds) -- go ahead and turn 90 degrees right ---- go ahead and turn ---- turn 90 degrees left to arrive at station 5 (stay for 8 seconds) -- come out and turn 90 degrees

left -- -- Proceed to Station 6 (stay for 3 seconds) -- return directly to Station 1 (wait for manual start of the car)

6.Manual site selection run

Method of manually starting the trolley

1、touch screen input target site start.



2, click the site number on the display screen, you can select multiple target sites, the car will reach the target site in sequence, after reaching the target site, you need to manually press the start switch before the car will go to the next site.

As shown in the picture below: Click No. 5 -- No. 6 -- No. 7 -- No. 8 to select the station, the selected ion number changes from blue to orange, then press the start switch, and the car will run from the current station 1 to the station 5

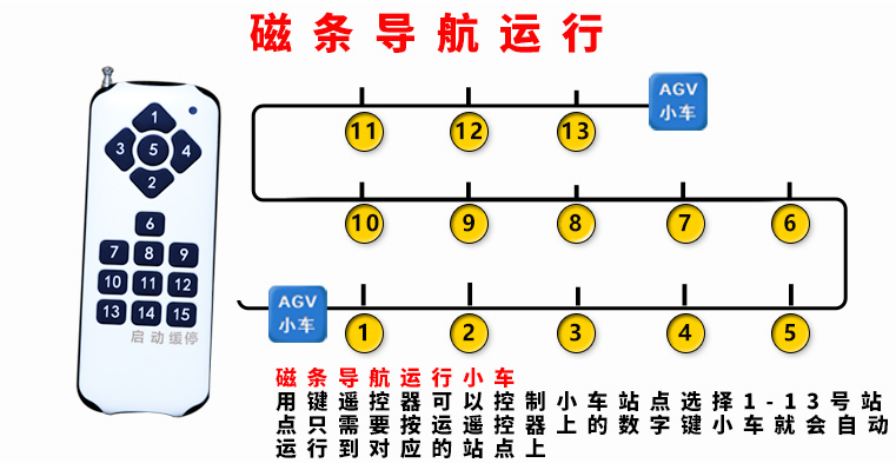
2、Press the start button of the touch screen or the physical start button of the car body, and the AGV can run to Site 5

7. Remote controller using method

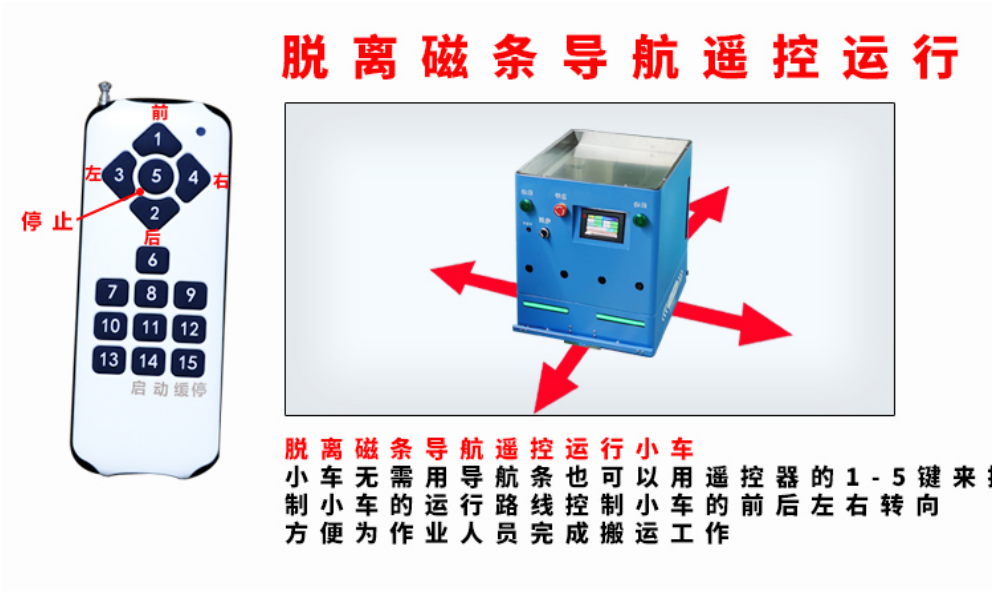
1. The car should run under magnetic stripe navigation:

The car in the manual state, with the 15-key remote control can control the car station to select 1-13 station, only need to press the number key on the remote control, the car will automatically run to the corresponding station, convenient for the activity of the operator to complete the handling work.

When the car is running in the automatic line, the start switch on the car can be replaced by the start button on the car, and the car can also press the slow stop button during the running process to stop the car。

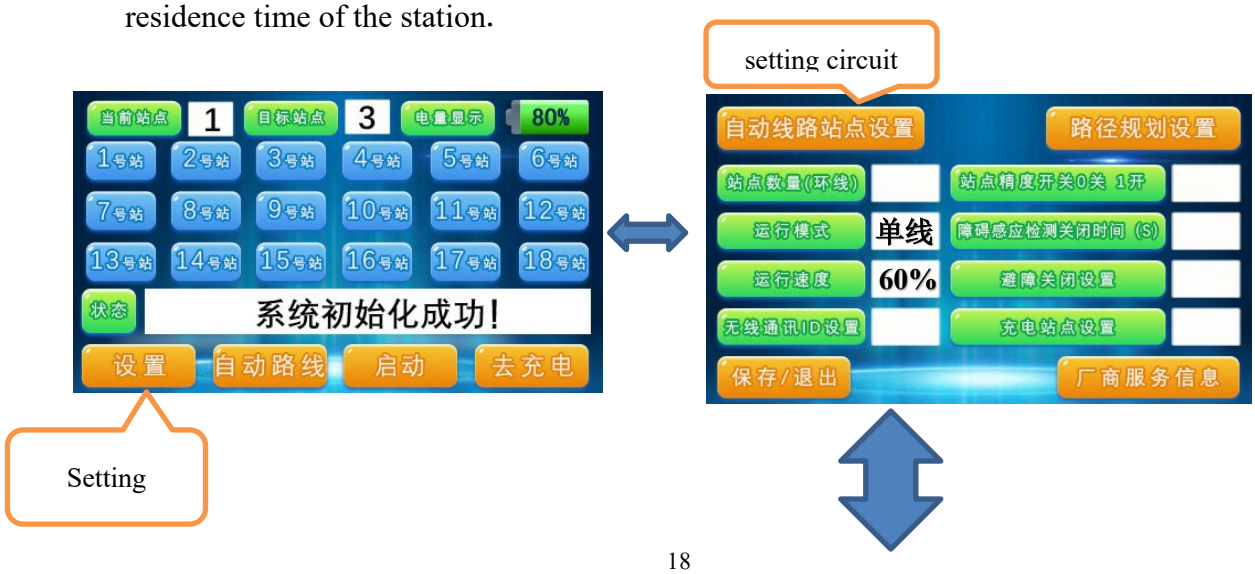


Derailment remote control, the car operation mode needs to be selected as: remote control save exit



8. Self-run line Settings

When the car needs to run according to the station set by us, the purpose of automatic operation can be achieved by setting the running order of the car and the residence time of the station.



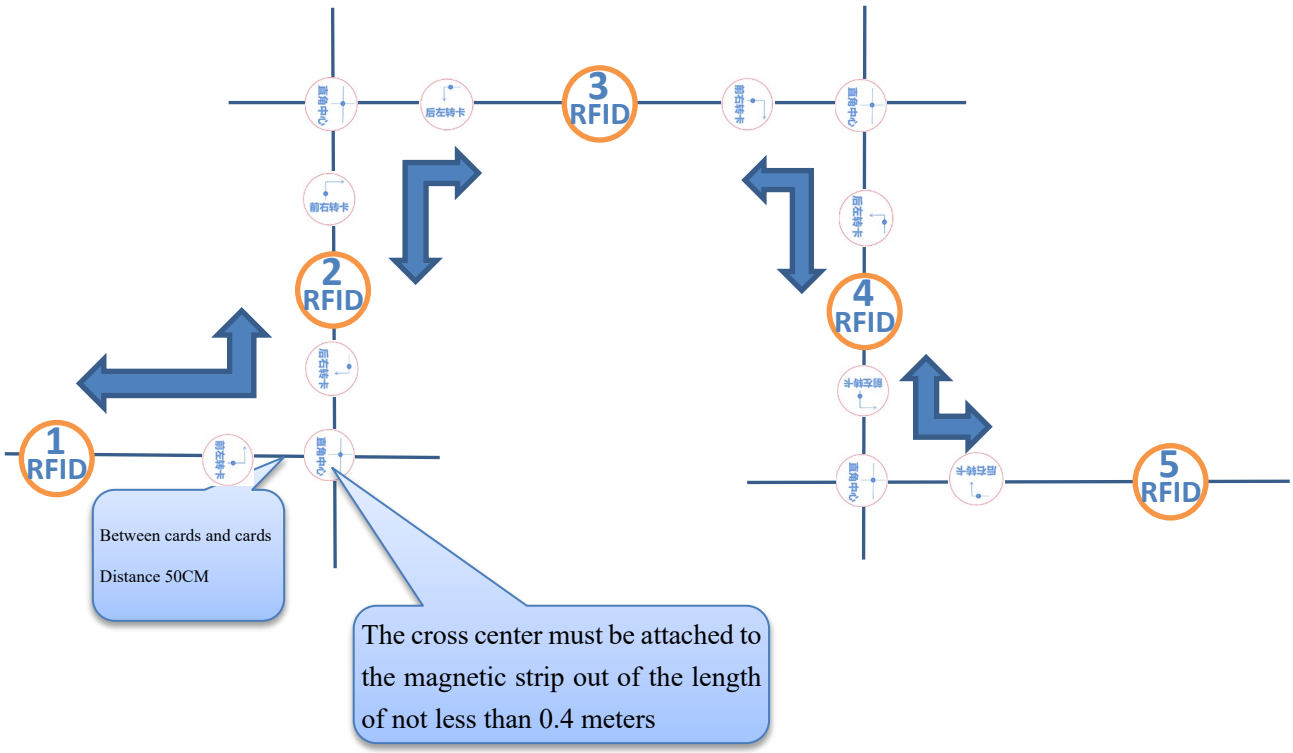
For example, in single-line mode, 1-5 sites must meet the following requirements

Site 1 wait for manual press the start switch "" Run to site 3 stay for 10 seconds" "Run to Site 5 stay for 5 seconds" "Run to site 2 wait for manual press the start switch" "Run to site 4 stay for 10 seconds" "Return to site 1 infinite cycle above process

The following figure shows the method:

When the residence time of the site is set to 0, wait until the start switch is manually pressed

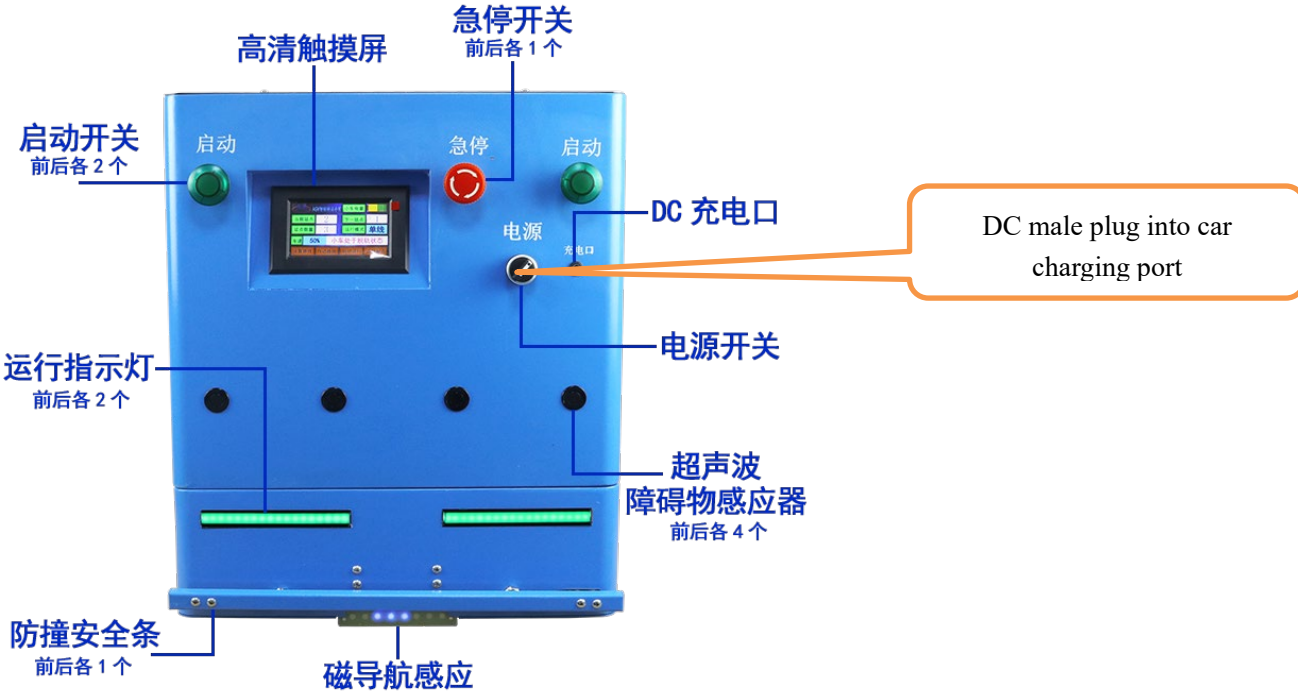
9. AGV car 90 degree Angle turning method

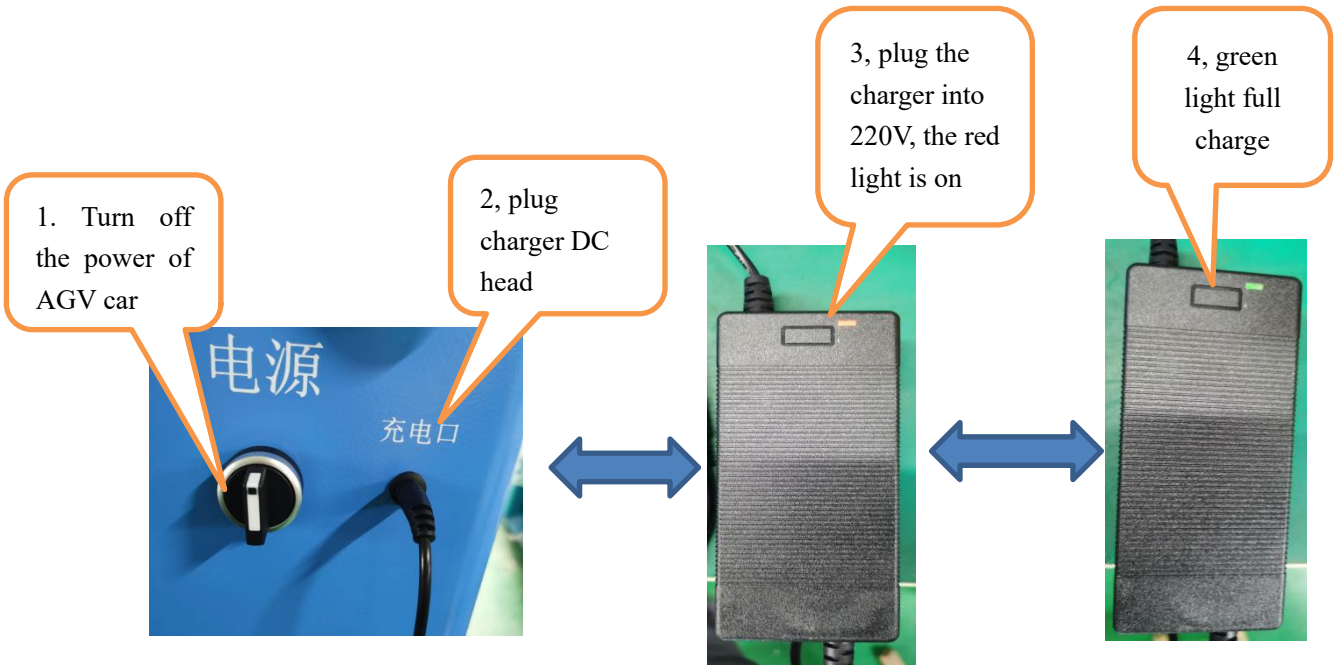


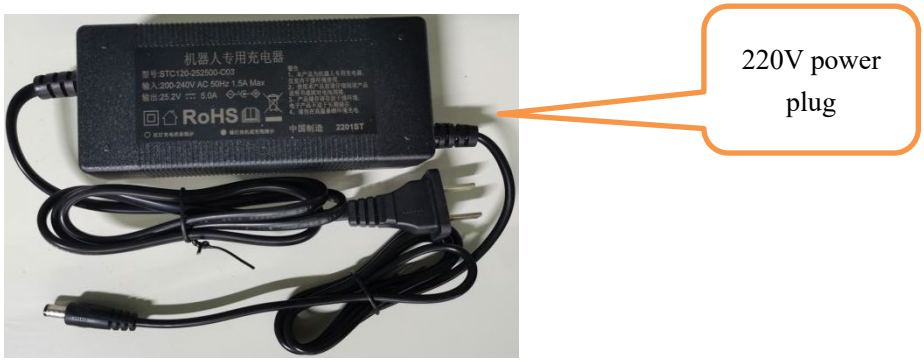
When the car turns 90 degrees, it first reads the RFID card to the left or to the right, and then automatically slows down to run, directly reads the right Angle center card, and automatically rotates 90 degrees in place, and then continues to run.

10. Charging method

The power display is from 10%-100%, when the power is less than 10%, the car display automatically jumps out of the dialog box, and there is an alarm sound to remind the staff to charge the car, it is recommended to charge the car when the car power is less than 20%.







When charging, it must be noted that the AGV car should be turned off (off) first, and then the DC head of the charger is

plugged into the car, and then the 220V power supply is plugged in after the DC head is plugged in.

There are LED lights on the charger,

Red: Charging is underway

Green: Charging is complete