

Specification of AISTEAM 101S



AISTEAM 101s is the fifth generation of educational robot developed by NASHENBOT, it is the artificial intelligence programming robot, which has the characteristics of "programming of everything" and "Internet of Everything", and it is a product line that combines artificial intelligence, robot and creator.

It includes 1 set of controller, 5 motors, 1 servo motor, 4 types of actuators, 3 types of sensors, 3 types of wheels and more than 500 building blocks, which can build Mecanum 4-wheel omnidirectional motion chassis or 2-wheel differential drive chassis robot. It can cooperate with sensors to realize various robot forms such as line patrol robot and obstacle avoidance robot. It can participate in the GAR competition .

- 1 Controller, using ARM Cortex-M3 architecture with a main frequency not lower than 72MHz, built-in 1 Micro:bit interface (compatible with v1.5, v2.0, supporting Makecode programming), 5 RJ11-I/O interfaces (4 & 1 channel I2C port, 1 channel serial port), 2 channels XH-2PIN open-loop motor interface, 1 channel XH-3PIN analog servo interface, 1 channel USB data interface, 3 groups of 4PIN pins (including G/V/S) support no less than 20 kinds of open source hardware, one RJ45-10PIN module expansion interface supports bus series connection, two PH-6PIN bus interfaces, one 5264-3PIN digital servo interface, and the shell is compatible with LASY and LEGO construction systems;
- 1 Motor Expansion Module: support bus series connection, a single module supports the expansion of 4 closed-loop motors;
- 1 Servo Motor:Rated speed: 200RPM±10%, working voltage 5V, no-load current 50mA;
- 1 Infrared remote control module, Infrared receiver: operating voltage 5v, receiving range 0~ 1000cm, interface type digital output; infrared remote control: working voltage 3v, remote control range 0 ~ 1000cm, red

The external carrier frequency is 38kHz, and the programmable key is not less than 15;

- 1 Infrared Sensor, working voltage 5v, detection range 5 ~ 20cm, detection accuracy ±2cm (white surface reflection), interface type analog output;
- 1 Single-line Follower Sensor, working voltage 5v, detection distance 1~2cm, interface type

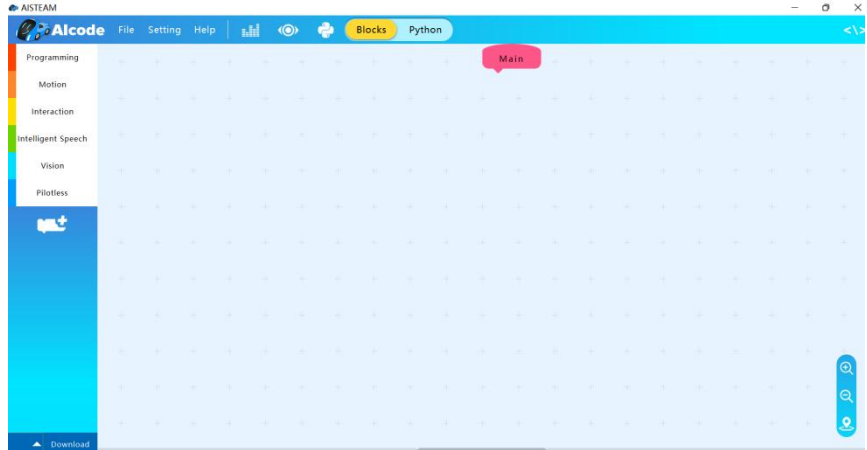
digital output;

- 1 Integrated 5-Grayscales Sensor: working voltage 5v, detection range of 0.8~1.6cm, interface type analog output; integrated 5 channels can return values independently; with 5 visible light sources to resist interference
- 1 Buzzer Module: Working voltage 5V , output sound pressure $\geq 83\text{dB}$, interface type digital/analog output.
- 1 Lithium battery module, discharge voltage 7.4V, discharge capacity 1100mAh, charging voltage 8.4V, charging current 1.0~2.0A, it supports series connection ;
- 1 Charger, output voltage 8.4V, output current 1.0A;
- 1 set of Mecanum wheels, 2 left wheels, 2 right wheels, diameter $5.8\text{cm} \pm 0.1\text{cm}$, 9 sub-wheels, mute wear-resistant environmental protection rubber;
- 2 driving wheels, diameter $5.6\text{cm} \pm 0.1\text{cm}$, soft wear-resistant and environmentally friendly rubber;

There are no less than 500 building blocks, compatible with LEGO construction and expansion.



Software:

Software name	Image
AICODE (windows version)	

Download Link: <https://www.nashenbot.com/software/>