



深圳市越疆科技有限公司
购买或了解更多信息, 请访问 cn.dobot.cc
电话: 400 800 7266

Shenzhen Yuejiang Technology Co., Ltd.
To purchase or find out more, please visit www.dobot.cc
Tel: 400 800 7266

DOBOT MAGICIAN Go

快速使用说明 Quick Start

全向智能移动平台, 专为AI+STEAM教育设计
Omnidirectional intelligent mobile platform,
designed for AI+STEAM education

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DISCLAIMERS

To the maximum extent permitted by applicable law, the product described in this manual (including the hardware, software, firmware, etc.) is provided “AS IS”. In the case of failure to use or store in accordance with the instructions in this manual, defects, errors, or malfunctions may occur. DOBOT makes no warranties, whether express or implied, including without limitation, merchantability, product satisfaction, fitness for a specific purpose, or non-infringement of a third party’s right; nor any compensation for special, collateral, incidental, or consequential damages resulting from the misuse of this manual or product.

When using our product, please read this user’s manual and relevant guideline for technical instructions issued on DOBOT official website (www.dobot.cc) carefully and make sure you have a proper understanding of the professional knowledge in robotics area. The operation rule or safety instruction of this manual shall not be regarded as the DOBOT product quality assurance or after-sales policy. Even if the user follows the manual instruction, there is still a risk of damage or loss while using DOBOT. DOBOT strongly advises that follow this manual under the guidance of professionals. Users are responsible for complying with the applicable laws and statutory regulations and making sure that there is no substantial risk when using Dobot Magician Go.

IMPORTANT SAFETY INSTRUCTIONS

- All processes need to be monitored while running. After processes have finished, please turn off the equipment promptly.
- Be careful when carrying or installing the Magician Go. Please follow the instructions on the packing box to put down the Magician Go gently and place it correctly in direction of arrow.
- DO NOT reach into the workspace of wheels of the Magician Go while the machine is in operation, in order to avoid bruising or pinching.
- Please turn off the Magician Go completely before connecting or disconnecting external equipment, otherwise it may damage your device.
- There are built-in battery boxes, DO NOT use or place the battery boxes at high temperature, DO NOT short circuit or disintegrate the battery boxes, DO NOT put the battery boxes into water.

SYMBOLS

 Note

Vocabulary explanation or referenced information.

 Attention

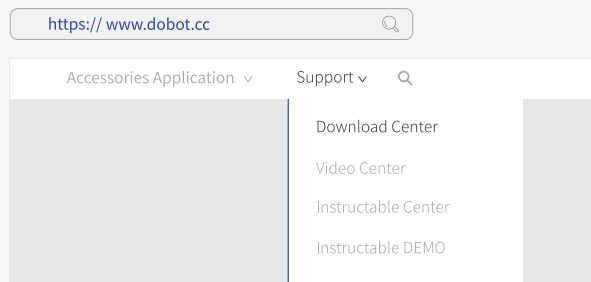
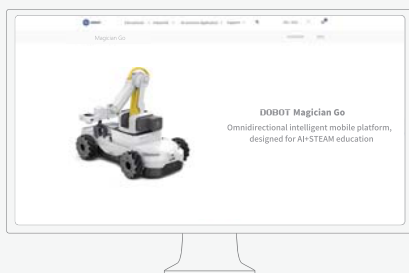
Injury or equipment damage may be caused if any of these attentions are neglected.

 Warning

Serious injury or death may be caused if any of these warnings are neglected.

1.Resource List

Resource Download (Please Visit www.dobot.cc>Support>Download Center>Dobot Magician Go to obtain user guide, second development demos, etc.)



Software

DobotLab: The integrated controlling software of Magician Go is a web operation, the website is <https://dobotlab.dobot.cc/>. It supports Blockly and Script programming, you can control Dobot hardware devices by programming.

DobotLink: The driver software of DobotLab, DobotLink must be installed and run before using DobotLab.



Note: When starting DobotLab, if DobotLink is not installed or started, the system will display the "DobotLink Not Started", please select "Download DobotLink" or "Start Now" according to the actual situation.

User Guide (www.dobot.cc>Support>Download Center>Dobot Magician Go>Product Manual)

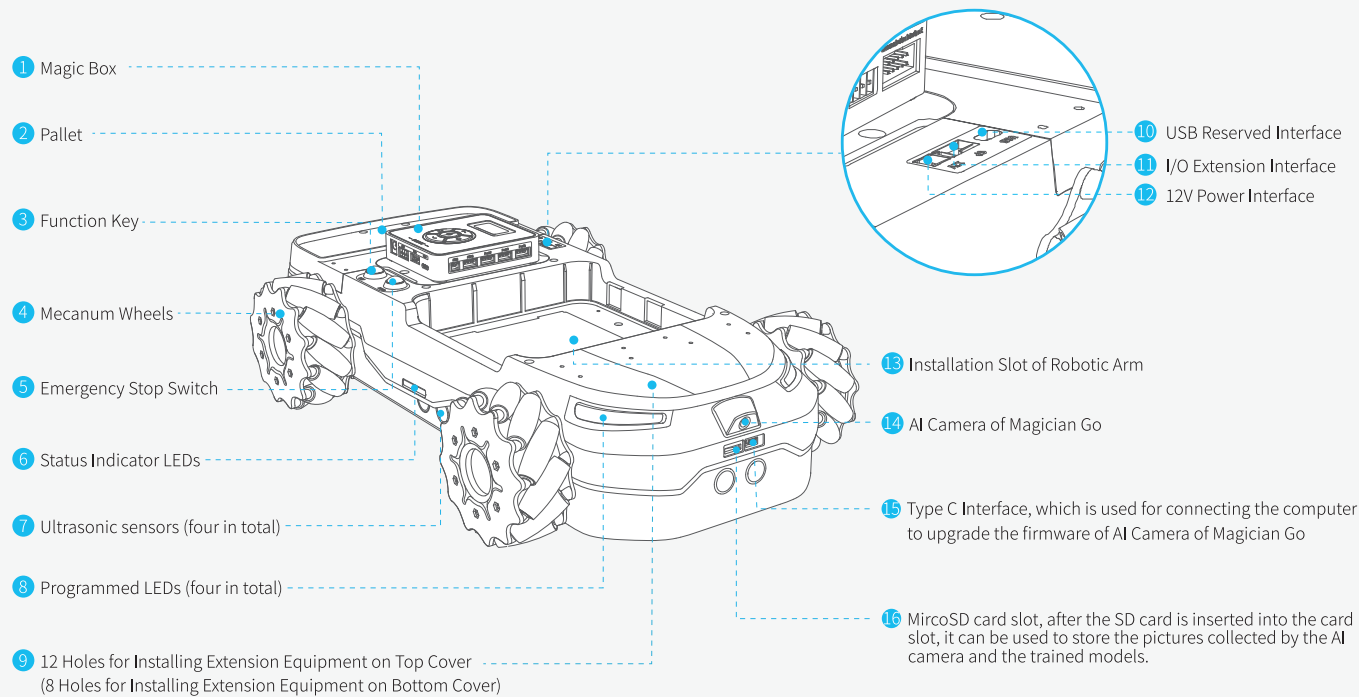
Dobot Magician Go User Guide: This document includes detailed instructions for specification, installation and maintenance, etc. It helps you understand and grasp operations of Magician Go.

Dobot Forum

Dobot Forum: You can meet like-minded friends, share your ideas, and express your doubts.

2.Product Description

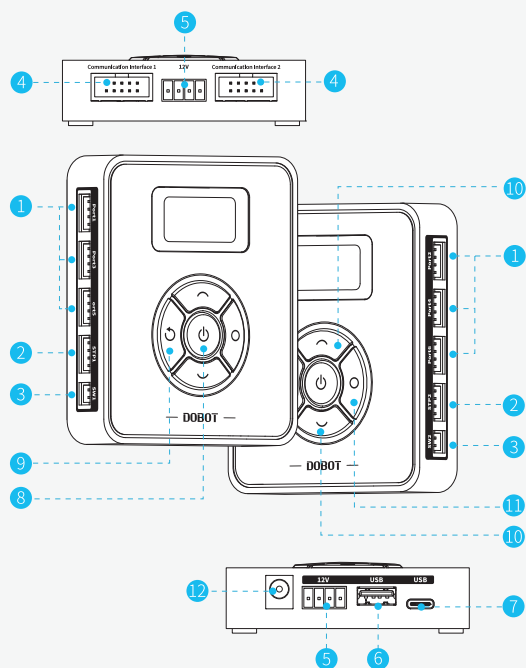
2.1 Appearance Description



2.2 Indicator Status Description

Green	Green on: Magician Go is in Wired Control Mode (with four beeps) Green Blink: Magician Go is charging	Yellow	Yellow on: Emergency stop switch is pressed and Magician Go is locked Yellow Blink: Magician Go detects obstructions or its motor is stalled (with two beeps)
Blue	Blue on: Magician Go is in Bluetooth Control Mode (with four beeps)	Pink	Pink On/Off: Ultrasonic sensors are on or off (with two beeps)
Purple	Purple On: Magician Go is in Remote Control Mode (with four beeps)	RED	RED on: Less than 5% of battery remaining power (with 10 seconds beeps continuously), and Magician Go stops moving RED Blink: Less than 10% of battery remaining power
White	White breath: Magician Go is in idle or Script Control Mode		

2.3 Magic Box Description



1	EIO Interface, IO input or output
2	DC Motor or Stepper Motor Interface
3	12V Output
4	Communication Interface, to communicate with Magician Lite or Magician Go
5	12V Power Interface, to provide power for Magician Lite or Magician Go
6	USB Interface, to connect with USB connector of joystick
7	Type-C Interface, to connect to PC
8	Power Button, to control the system on or off
9	Back Button or Reset Button
10	Function Button, up button or down button
11	OK Button or Delete Button (press more than 5s to delete file)
12	Power Adapter Interface

2.4 Technical Specifications

Weight	5 kg	Main Materials	ABS, PC, Aluminum alloy
Maximum Load	5 kg	Power Supply	100~240V AC, 50/60 Hz
Communication Mode	2.4GHz Remote Control, USB serial port, Bluetooth	Power In	12V DC, 5A
Control Software	DobotLab (Blockly and Python programming)	Working Temperature	0°C ~ 35°C

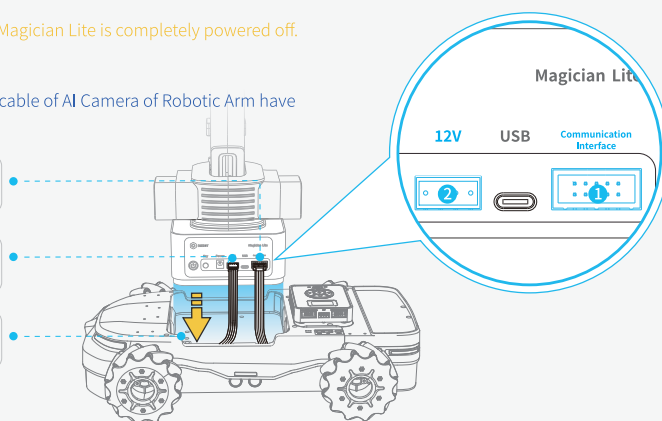
3. Assembly Instruction

3.1 Magician Lite安装

⚠ Attention: Please disconnect or connect the external equipment when Magician Lite is completely powered off.

Note: 1. Magician Lite shall be purchased separately.
2. The 10PIN communication cable, 4PIN power cable and data cable of AI Camera of Robotic Arm have been assembled into the Magician Go before leaving factory.

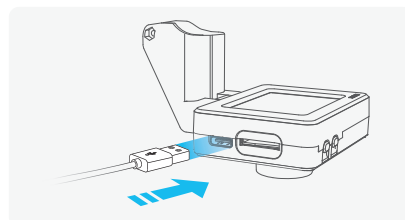
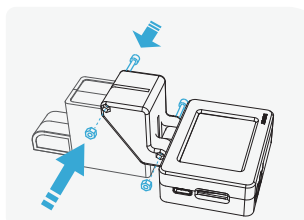
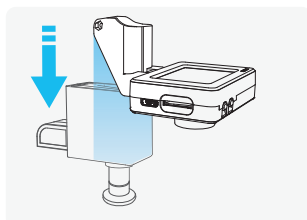
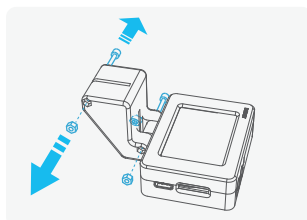
- ① Connect Magician Go to the Communication Interface of Magician Lite using 10Pin communication cable.
- ② Connect Magician Go to the 12V Power Interface of Magician Lite using 4Pin power cable.
- ③ Place Magician Lite in the installation slot of Magician Go as shown in the diagram.



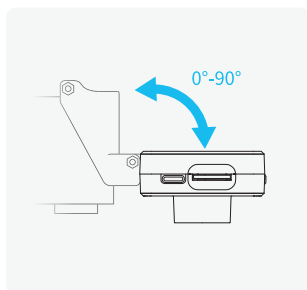
3.2 AI Camera of Robotic Arm Installation

⚠ Attention: Please be sure to calibrate the AI camera of Robotic Arm first before using it, otherwise the normal use will be affected.

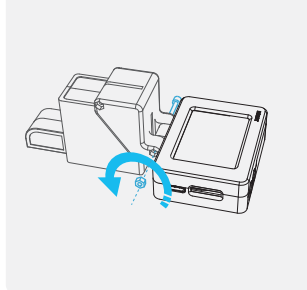
- ① Loosen the screws of the AI Camera.
- ② Mount the AI Camera on the servo.
- ③ Install the screws and fix the AI Camera to the servo.
- ④ Connect the Magician Go and AI Camera using the data cable of AI Camera of Robotic Arm.



- ⑤ Adjust the angle of AI Camera, the range is 0°-90°

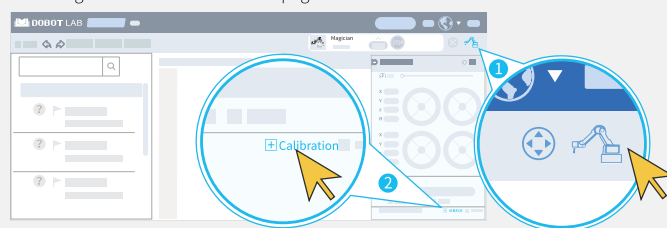


Note: loosen the screws before adjusting the angle of camera.



AI Camera of Robotic Arm calibration method:

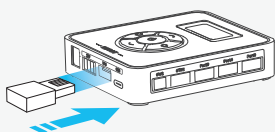
1. Enter **DobotLab** and select **Box+Lite+Go** for device connection. For details, please refer to **5. Software Description**.
2. Click the **Calibration** button on the control panel of robotic arm, calibrate the camera according to the instructions on the page.



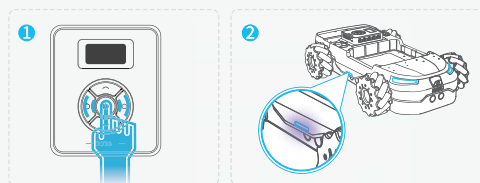
4. Control Mode Instruction

4.1 Remote Control Mode

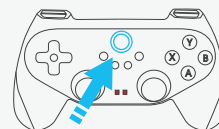
Step1: Connect the USB connector of joystick to the USB Interface of Magic Box.



Step2: Press the Power button to make Magic Box run. The indicator LEDs of Magician Go show purple with four beeps, that the USB connector has been correctly installed.



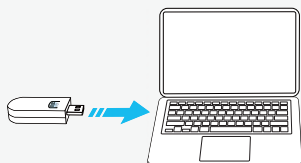
Step3: Press the Power button of joystick and the indicator of joystick turn to red, it means that the joystick and USB connector have been matched successfully. Now we can control Magician Go by 2.4G Remote Control Mode.



 Note: For details about using joystick, please refer to *Dobot Magician Go User Guide*.

4.2 Bluetooth Control Mode

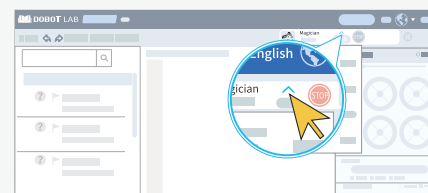
Step1: Connect Bluetooth Dongle to the USB Interface of computer. The indicator of Bluetooth Dongle blinks, and it will search for Magic Box automatically.



Step2: Press the Power button to make Magic Box run. The indicator of Bluetooth Dongle show blue when they are matched successfully. And the indicator LEDs of Magician Go flash blue with four beeps.



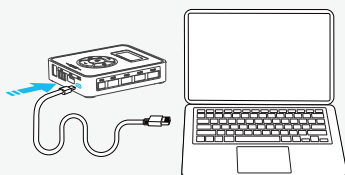
Step3: Enter DobotLab and select corresponding device for connection, the indicator LEDs of Magician Go show blue. Now we can control Magician Go by programming.



 Note: Click the Key button of Bluetooth Dongle, and the corresponding Magic Box will sound a beep to facilitate users to find the corresponding connected device; long press the Key button of Bluetooth Dongle, and the Bluetooth Dongle will research a Magic Box.

4.3 Wired Control Mode

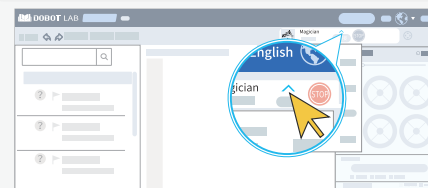
Step1: Connect Magic Box to the USB Interface of computer using USB cable.



Step2: Press the Power button to make Magic Box run.



Step3: Enter DobotLab and select corresponding device for connection, the indicator LEDs of Magician Go show green. Now we can control Magician Go by programming.

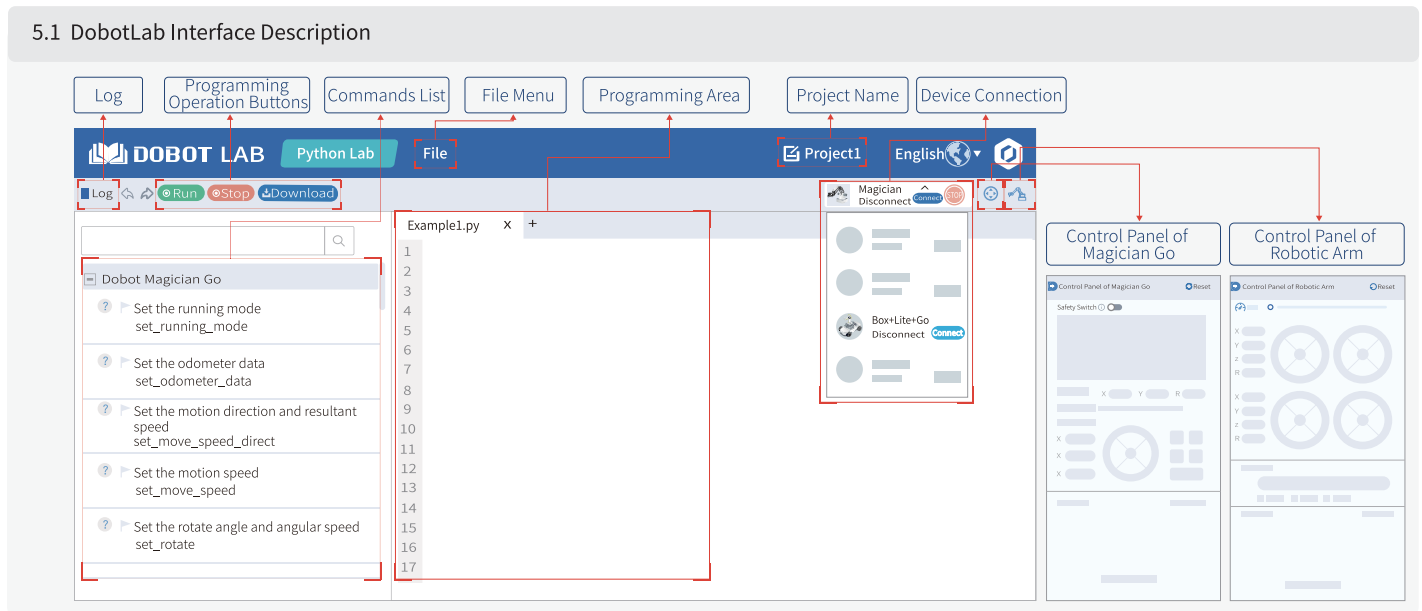


4.4 Script Control Mode

Program script demo in DobotLab via Bluetooth Control Mode or Wired Control Mode. Then download the script demo to “Script” folder of Magic Box. Now we can control Magician Go by running script demo in Magic Box without computer connection.

5. Software Description

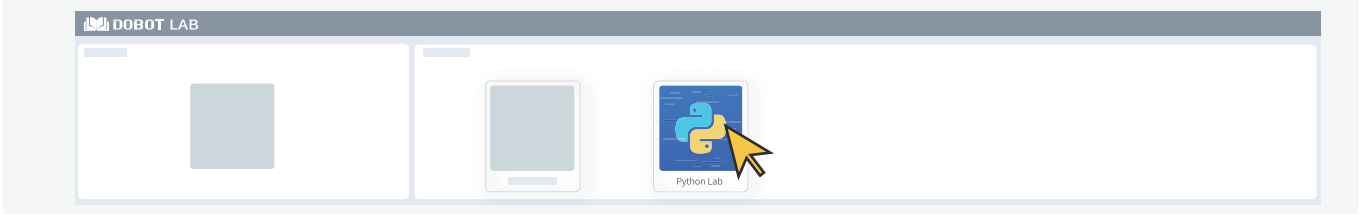
5.1 DobotLab Interface Description



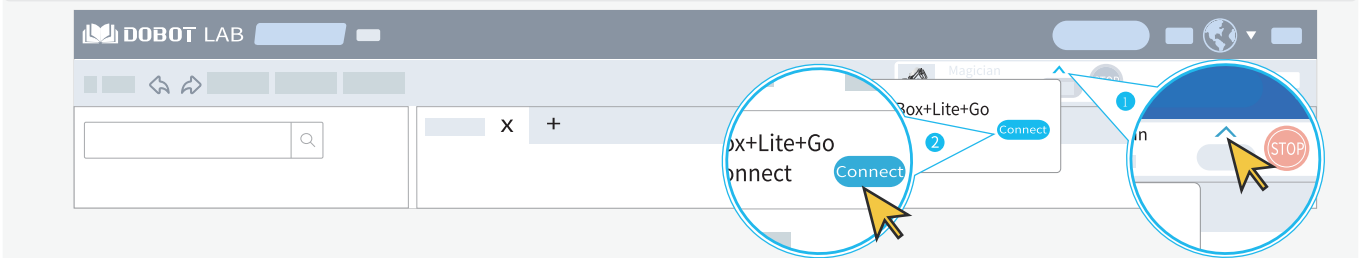
5.2 Programming Description

 Note: Script should be programmed in Bluetooth Control Mode or Wired Control Mode.

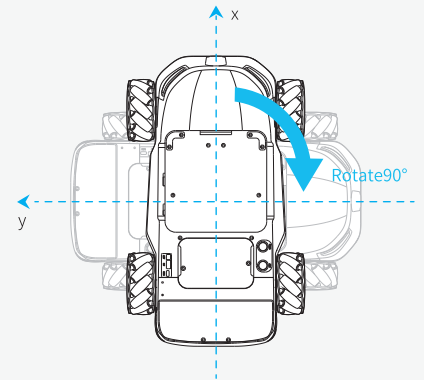
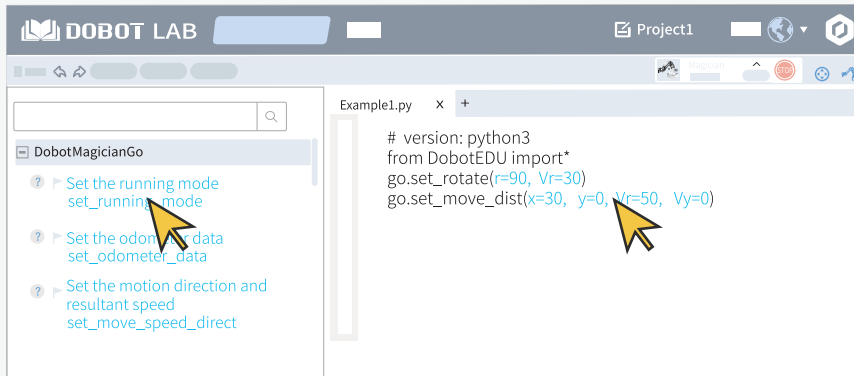
Step1: Type the address <https://dobotlab.dobot.cc/> on browser, and then enter DobotLab. Click  Python Lab icon to open the page of python programming.



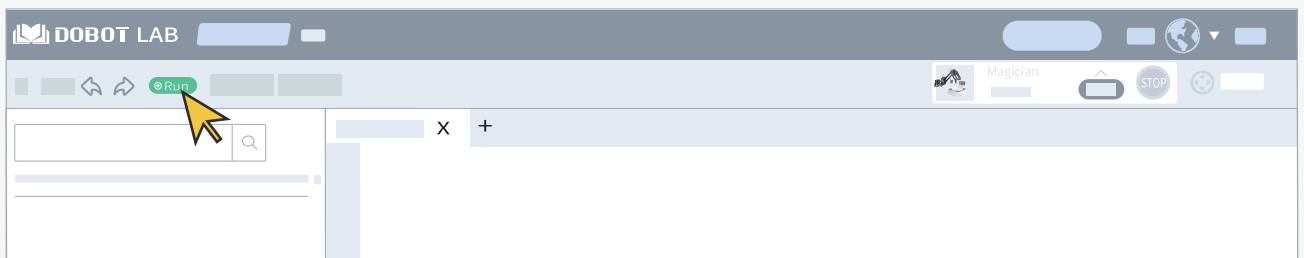
Step2: Click the drop-down menu of Device Connection, and select the corresponding device. Click **Connect** button to establish communication with the device.



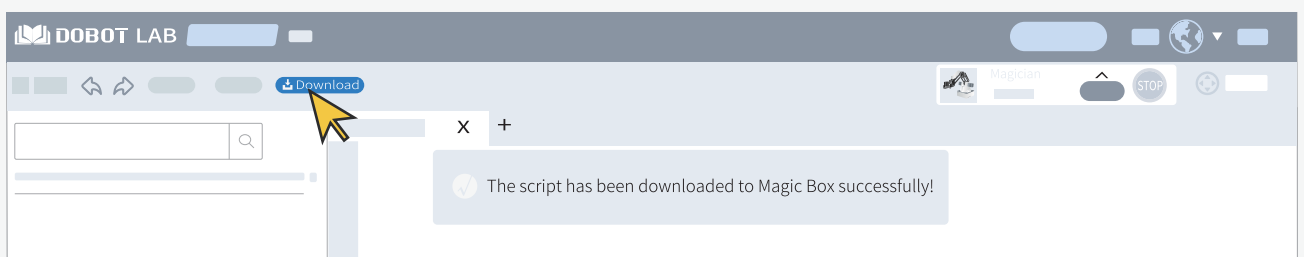
Step3: Double-click the corresponding command in Commands List, it will be displayed on Programming Area. Please modify the parameters of each command by the actual situation. Example: Control Magician Go to rotate 90° clockwise at the speed of 30°/s, and then run 30cm at the speed of 50cm/s along the direction of the head (the positive direction of X-axis).



Step4: Click **Run** to run the commands on Programming Area.



Step5: Click **Download** to download the script to Magic Box.



6. About Map

The topic of map is about the self-driving in future robot city. You can simulate various facilities and road signs of city on the map, and recognize roads and select route, sort and transport props by Magician Go.

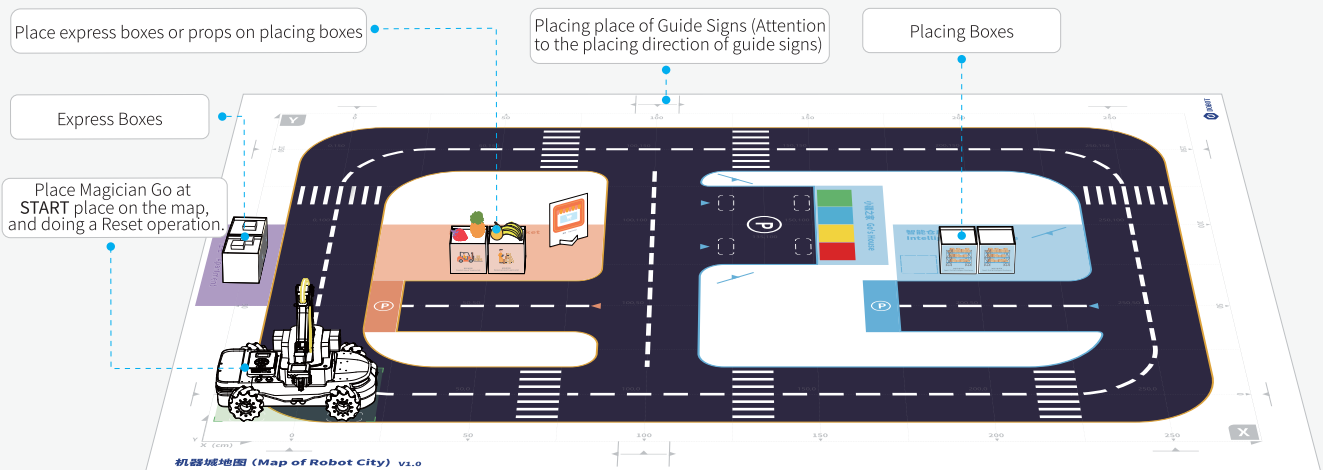
Demo Quick Start: Demos about controlling Magician Go on the map have been built into Magic Box.

Demo1: Picking Colorful Blocks (End-tool of Magician Lite is Suction Cup).

Demo2: Sorting and Transporting Props (End-tool of Magician Lite is Gripper).

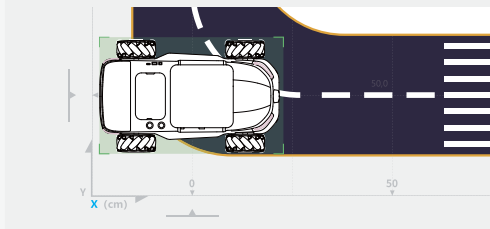
 Note: For details about using Demos, please refer to *Dobot Magician Go User Manual*.

 Note: ① Magician Go should be used with Magician Lite. ② The AI Camera of Robotic Arm has been installed on Magician Lite and it has been calibrated.
③ There should be the soft light with no obvious shadows or direct sunlight when using map.

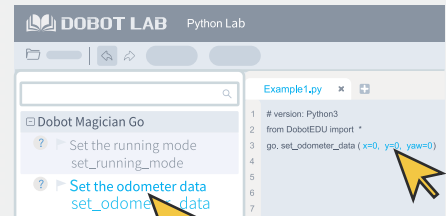
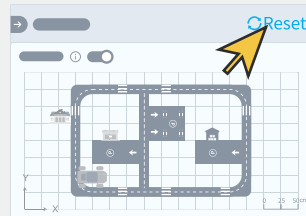


 Note: If Magician Go is used with map, please be sure to reset it first, and the steps are as follows:

Step 1: Place Magician Go on the map where marked with START, and its head towards X-axis positive direction. The four wheels of Magician Go should be aim at the four dotted boxes.



Step 2: Enter DobotLab, click the Reset button on the control panel of Magician Go or execute the Set odometer data command on Programming Area and set all parameters as 0 (go.set_odometer_data (x=0, y=0, yaw=0)).



7. After-sales Service Terms

WARRANTY REGULATIONS

- The warranty period of machine body of this product shall be 1 year as of the date of receipt of this product by the user. Please confirm the integrity of the package at the time of signing for acceptance of the goods. Our company shall not be responsible for the problems caused by transportation.
- After opening the box, please check the items according to the shipping list. If the goods are found to be damaged or incomplete, please immediately contact the local agent or call the customer service hotline (400-800-7266) or contact us via email (support@dobot.cc.)
- If a non-artificial performance failure occurs to the goods or accessories within 7 days (inclusive, calculated from the date of receipt of the goods) upon purchase of the goods, the user can contact the customer service personnel/department for confirmation. If the problem of the product cannot be solved, the user can apply for repair or replacement of the goods or accessories, and the seller shall bear the postage; any application for repair or replacement beyond this time limit shall be considered invalid
- Consumables such as Guide Signs, Express Boxes, Props and Placing Boxes shall not be covered by the warranty service.
- These rules shall not apply to imported products or accessories, which shall be covered by the original manufacturer' s warranty service.

 **Note:**The freight for any replacement or return that meets the above conditions shall be borne by the local agent (or by DOBOT officially for mainland region), while the tariff at the destination which is required to be paid due to its policy shall be borne by the customer.

 **FREE MAINTENANCE :** The free maintenance service shall be provided for the customer in the event of a non-artificial performance failure of the product that is during the warranty period and in compliance with the free maintenance clause.

To provide the free maintenance service, the following conditions shall be met:

- The product is normally operated within the specified warranty period and has shown a non-artificial performance failure.
- No failures caused by unauthorized maintenance, alteration, dismantling or installation, or other artificial reasons.
- The valid purchase certificate, receipt and the number thereof are provided.

The free product maintenance service shall not be provided under any of the following circumstances:

- Damage caused by unauthorized maintenance, alteration, disassembling, opening of the shell and other acts.
- Damage caused by improper installation, use and operation that are not in accordance with the official instructions.
- Damage caused by reliability and compatibility problems due to simultaneous use of third-party parts that are not certified by our company

PAID MAINTENANCE

- If any product failure is caused by the user or any other force majeure, the user may replace the accessory by himself or herself. We will make offers on accessories to the user as per the charge standards of DOBOT for after-sales maintenance. If the user accepts the offers, we will send the accessory to the user directly and give guidance on replacement after the user pays the related fees.
- When the product malfunctions and needs to be sent back to the local agent for maintenance, if the failure can be fixed according to judgment by the technician, the user shall be informed of the related maintenance fees in advance; if the user accepts the offer, after the user pays the related fees, the product will be sent back after properly fixed and tested, with the freights borne by the user.

The paid maintenance service shall be provided under any of the following circumstances :

- Failures or damages that occur beyond the valid warranty period of the product.
- Circumstances not covered by the free maintenance service (for details, see circumstances not covered by the free maintenance policy).

SPECIAL INSTRUCTIONS

- These warranty terms apply to customers in Chinese Mainland who purchase products through our official website only, while other warranties and supports are provided by the local agent.
- If there is a problem that cannot be solved, please timely contact the official after-sales service department. We will analyze and solve your problem without delay.
- If there are other problems, please visit www.dobot.cc or contact the local agent.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC ID: 2AHI4-DT-MB-CTR01