



Shake Hands With The Future
探 索 · 把 握 未 来

User Manual

使 用 说 明

Magician Lite Sensor Kit

Magician Lite 传感器套件

Shenzhen Yuejiang Technology Co.,Ltd.

Address: Floor 9-10, Building 2, Chongwen Garden, Nanshan IPark, Liuxian Blvd, Nanshan District, Shenzhen, Guangdong Province | China

Tel: 400 800 7266

Support: support@dobot.cc

Web: www.dobot.cc

深圳市越疆科技有限公司

地址: 深圳市南山区留仙大道南山智园崇文园区2号楼9-10层

官网产品客服: 400 800 7266

技术支持: support@dobot.cc

官网: cn.dobot.cc

Be sure to read the instructions carefully before using the products and use them correctly. Please keep the instructions properly for future reference.

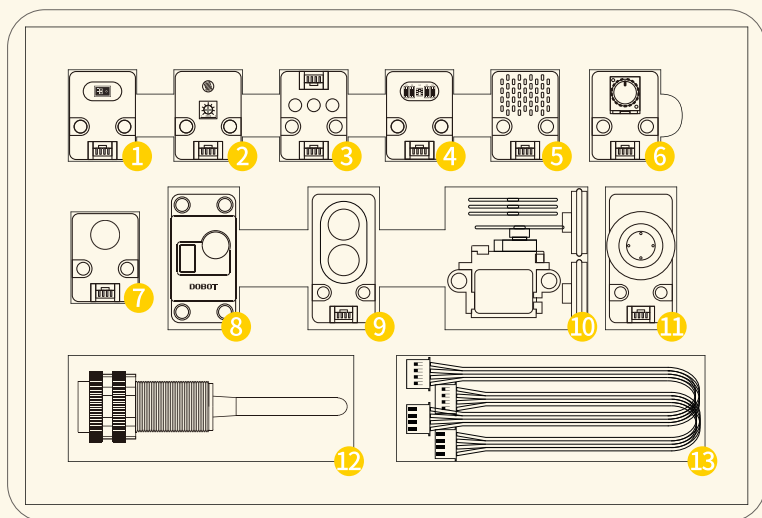
使用产品前务必仔细阅读相关指引并正确使用, 务必妥善保管好本说明, 以便日后随时查阅。

English-----01-13
中文-----14-26

Warning!

Do not put the sensors in water or fire for use and measurement. Do not place sensors close to high temperature fire source for a long time. Do not press them hard. Non-professionals do not open the shell of the electronic modules. Please keep them away from children under 3 years old to avoid any accidents.

Magician Lite Sensor Kit User Manual



Sensor kit diagram

Shipping List

01. Gesture Sensor*1	02. Light Sensor*1	03. LED Module*1	04. Color Sensor*1
05. Humidity Sensor*1	06. Knob Potentiometer*1	07. PIR Sensor*1	08. Sound Sensor*1
09. Dual Button *1	10. Micro Servo*1	11. Joystick*1	12. Photoelectric Switch (with bracket)*1
13. General Sensor Wire*6, General Sensor Extension Wire*2			14. User Manual*1

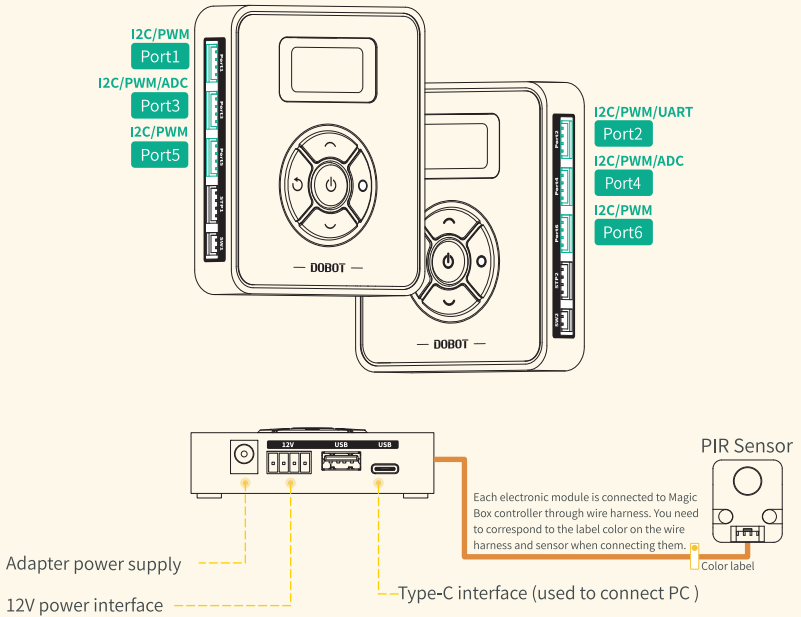
Instructions

- The kit contains 12 electronic modules, which can be widely used in various engineering practice, AI and IoT projects.
- The product cable connection is simple. The shell contains Lego holes compatible with LEGO bolt blocks, which can help to realize creative ideas.
- It supports easy-to-use blockly programming and professional Python programming.
- It is matched with powerful Magic Box controller to seamlessly connect Dobot ecology.

Wire connection

The wire harness is used to connect the electronic module to Magic Box controller. The wire harness has a name and color label on it, which can match the color label on the.

Sensor and Magic Box Interface



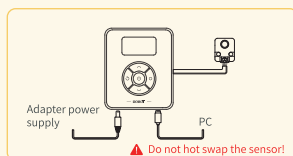
Connection diagram of sensor module and Magic Box

Types of interfaces are as follows:

No.	Module	Communication mode	Interface	Note
1	Light sensor Knob potentiometer Sound sensor	ADC	Port3/Port4	Analog input
2	Joystick Humiture sensor Gesture sensor Color sensor	I2C	Port1~ Port6	Digital input
3	Micro servo	PWM	Port3~ Port6	PWM input
4	LED module	Single-bus	Port1~ Port6	
5	PIR sensor Dual button Photoelectric switch	IO	Port1~ Port6	General IO

Connection and Programming

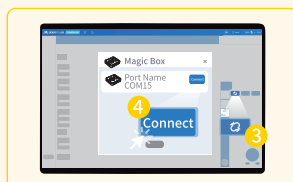
Step 1 Connect the sensor, **Magic Box**, data cable and computer before powering on.



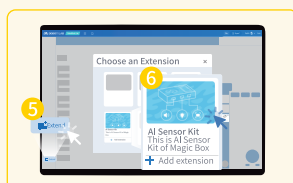
Step 2 Open DobotLab on your computer (Windows, Mac, etc.). Select **Magic Box**.



Step 3 Click To Connect Device. Select the corresponding COM port device and click **Connect**. Return to the editor when **Connected** is displayed.



Step 4 Click **Extend**. Choose **AI Sensor Kit**. Now you can start programming.



Parameters and Usage of Sensor Module

1. Joystick

Introduction

The working principle of the joystick is similar to that of general joystick gamepad. The X and Y axes correspond to two 10K potentiometers respectively. When the joystick moves, it generates corresponding analog signal and outputs the offset value. The Z-axis is a button application.

Connection mode: connect to any green port of Magic Box (Port1~Port6)

Communication mode: I2C

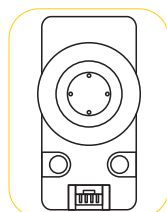
Wiring Cable: Universal Sensor Cable

X/Y output value: 10~250

Z output value: 0: release; 1: press

Voltage: 5V

Current: 50mA



Instructions

- Connect the sensor to Magic Box correctly.
- Select corresponding blocks in DobotLab. You can obtain real-time data for grabbing objects by joystick-controlled arm.
- Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

2. Dual Button

Introduction

The dual-button module provides two physical keys in different colors for operation. The module determines the status of keys by detecting the high/low level of input pins of different keys.

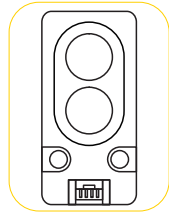
Connection mode: connect to any green port of Magic Box (Port1~Port6)

Communication mode: IO

Wiring Cable: Universal Sensor Cable

Voltage: 5V

Current: 50mA



Instructions

- Connect the sensor to the Magic Box correctly.
- Select corresponding blocks in DobotLab. You can obtain real-time data for switch control, etc.
- Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

3. PIR Sensor

Introduction

PIR sensor is a body infrared sensor. It belongs to passive pyroelectric infrared detector. It works by detecting the infrared radiation emitted or reflected by the human body or objects. When detecting infrared, it outputs high level and carries out a time delay (during which the high level is maintained and repeated triggering is allowed) until the triggering signal disappears (restoring low level).

Note: There is a two-second delay after detection is triggered.

Connection mode: connect to any green port of Magic Box (Port1~Port6)

Communication mode: IO

Wiring Cable: Universal Sensor Cable

Detection distance: 150cm

Delay period: 2s

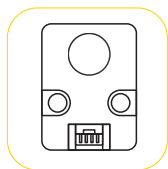
Induction range: < 100°

Static current: < 60uA

Operating temperature: -20 ~ 80°C

Voltage: 5V

Current: 50mA



Instructions

- Connect the sensor to Magic Box correctly.
- Select corresponding blocks in DobotLab, which can be used in the automatic induction and interaction between the robot arm and human.
- Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

4. Gesture Sensor

Introduction

Gesture sensor is a 3D gesture recognition sensor using I2C communication interface. It supports eight types of gesture recognition by default, and the maximum gesture update frequency can reach 240Hz. It has certain anti-ambient light interference ability. With strong stability, fast recognition speed, high accuracy and low power consumption (working current: 2.2mA), it is suitable for a variety of applications, including non-contact remote control, robot interaction, human-machine interaction games, and gesture lighting control.

Connection mode: connect to any green port of Magic Box (Port1~Port6)

Communication mode: I2C

Wiring Cable: Universal Sensor Cable

Support gestures: up, down, left, right, forward, backward, clockwise, counterclockwise

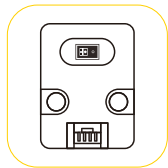
Effective recognition distance: 5cm~15cm

Voltage: 5V

Current: 50mA

Instructions

- Select corresponding blocks in DobotLab, which can be used for non-contact arm



control and lighting interaction, etc.

- ◉ Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

5. Photoelectric Sensor

Introduction

The photoelectric sensor is also called the photoelectric proximity switch. It detects the presence of the object through the connected circuit if there is an object shielding or reflecting the beam. The photoelectric sensor converts the input current into an optical signal on the transmitter, and the receiver detects the target object according to the intensity or presence of the received light. The L-shaped bracket made of aluminum alloy is used for fixing the photoelectric sensor so that the probe of the photoelectric sensor can be placed parallel to the table top.

Connection mode: connect to any green port of Magic Box (Port1~Port6)

Communication mode: IO

Wiring Cable: Already attached

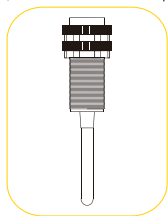
Value range: 0 (no shield), 1 (with shield)

Standard detection environment: sunlight less than 10000LX, incandescent lamp less than 3000LX

Object to be detected: transparent or opaque object

Operating temperature: -25°C ~ 55°C

Response time: <2ms



Instructions

- ◉ The package contains an optical sensor, including wires and an L-shaped bracket, which can be tightened using a black positioning ring for fine-tuning.
- ◉ The metal point behind the sensor is a regulator. You can use it to adjust the detection distance by rotating clockwise to increase the distance and counterclockwise to decrease the distance.

6. Sound Sensor

Introduction

The sound sensor is used to detect the sound intensity of the surroundings. The greater the sound intensity it receives, the stronger the output signal and the greater the return value is.

Connection mode: connect to any green port of Magic Box (Port3 or Port4)

Communication mode: ADC

Wiring Cable: Universal Sensor Cable

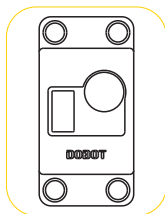
Value range: 0~1023

Sensitivity: (48dB~52dB) @1kHz

Microphone impedance: 2.2k ohms

Microphone frequency: 16-20 kHz

SNR S/N: 54dB



Instructions

- Connect the sensor to Magic Box correctly.
- Select the corresponding blocks in DobotLab. Obtain the return value of external sound intensity output through the probe.
- Select the corresponding blocks in DobotLab. Obtain the return value of external sound intensity output through the probe.

Note: The played music will be interrupted when you set the volume. Do not press microphone hard.

7.Humiture Sensor

Introduction

The humiture sensor is used to detect temperature and humidity of current environment.

Connection mode: connect to any green port of Magic Box (Port1~Port6)

Communication mode: I2C

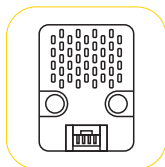
Wiring Cable: Universal Sensor Cable

Temperature range: 0~60°C/±1°C

Humidity range: 10~90% RH ± 5% RH

Voltage: 5V

Current: 50mA



Instructions

- Connect the sensor to Magic Box correctly.
- Select corresponding blocks in DobotLab. You can obtain real-time data collected by the sensor.
- Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

8.Color Sensor

Introduction

The color sensor module is used to identify the color of the object and return a set of RGB values or color detection results.

Connection mode: connect to any green port of Magic Box (Port1~Port6)

Communication mode: I2C

Wiring Cable: Universal Sensor Cable

Color detection result: 0: no color; 1: red; 2: green; 3: blue; 4: yellow; 5: black; 6: white

Color value RGB: 0~200 (a larger value indicates a darker color)

Voltage: 5V

Current: 50mA



Instructions

- Connect the sensor to Magic Box correctly.
- Select corresponding blocks in DobotLab. You can obtain real-time data and detection results.
- Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

9.LED Module

Introduction

LED module contains three RGB LED lights, which can be controlled independently.

Connection mode: connect to any green port of Magic Box (Port1~Port6)

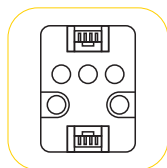
Communication mode: monobus

Wiring Cable: Universal Sensor Cable

RGB range: 0~255

Brightness range: 0~100%

Voltage: 5V



Instructions

- Connect the sensor to Magic Box. Select the correct port.
- Select corresponding blocks in DobotLab. You can control color and effect in real time.

10.Light Sensor

Introduction

The Light sensor contains photosensitive resistance. The resistance value decreases with the increase of the incident light intensity. Based on this, the change of its voltage is detected and the light intensity data is obtained through AD conversion.

Connection mode: connect to Magic Box green port (Port3 or Port4)

Communication mode: I2C

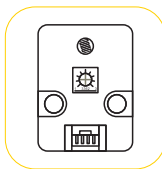
Wiring Cable: Universal Sensor Cable

Color detection result: 0: no color; 1: red; 2: green; 3: blue; 4: yellow; 5: black; 6: white

Color value RGB: 0~200 (a larger value indicates a darker color)

Voltage: 5V

Current: 50mA



Instructions

- The exposed position of components can collect external light intensity. It can be used in small projects related to light detection.
- Connect the sensor to Magic Box correctly.
- Select corresponding blocks in DobotLab, which can be used for acquiring data in real time.
- Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

11.Knob potentiometer

Introduction

Knob potentiometer is a resistance element with a maximum resistance of 10K and the resistance value can be adjusted by the knob rotation, It has three leads.

Output voltage: 0~2500mV

Connection mode: connect to Magic Box green port (Port3 or Port4)

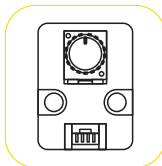
Communication mode: ADC

Wiring Cable: Universal Sensor Cable

Brightness return value: 0-407 (extreme fluctuation is normal)

Voltage: 5V

Current: 50mA



Instructions

- Connect the sensor to the Magic Box correctly.
- Use the knob to adjust the output variable. It can be used to adjust the brightness of the light or speed of the motor.

- Select corresponding blocks in DobotLab, which can be used for acquiring data in real time.
- Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

12. Micro servo

Introduction

For micro servo, yellow refers to signal cable, brown refers to ground cable, and red refers to 5V, The servo can control 180° rotation of micro servo. When using the micro servo, pay attention to the supply current and voltage to prevent the servo from being burnt.

Connection mode: connect to Magic Box green port (Port3~Port6)

Communication mode: PWM

Wiring Cable: Universal Sensor Cable

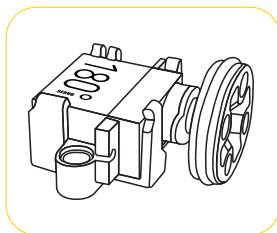
Servo speed: 0.1sec/60°/4.8V; 0.09sec/60°/6.0V

Torque: 1.6kg•cm/4.8V; 1.8kg•cm/6.0V

PWM frequency: 50Hz/0.5~2.5MS

Voltage: 4.8-6.0V

Non-load Current: 60mA



Instructions

- Micro servo contains supporting cross axle connector *4, servo disc *2.
- Select corresponding blocks in DobotLab to control the rotation angle of servo.
- Complete Blockly programming. You can debug online or upload scripts to Magic Box for offline operation.

13. Electronic module wiring cable

Introduction

The wiring cable should be paired and connected according to the color of the sticker. The green terminal of the wiring cable should be connected to the green port of Magic Box controller, and the other end should be connected to the sensor.

Wire instructions

- Type 1: universal sensor cable. Its sticker is yellow. It is suitable for short-distance application scenarios.
- Type 2: universal extension cable. Its sticker is yellow. It is suitable for long-distance application scenarios and convenient to expand application range.

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 Cables 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.
- ▲ NOTICE: 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. installation, or other artificial reasons.

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 being 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).

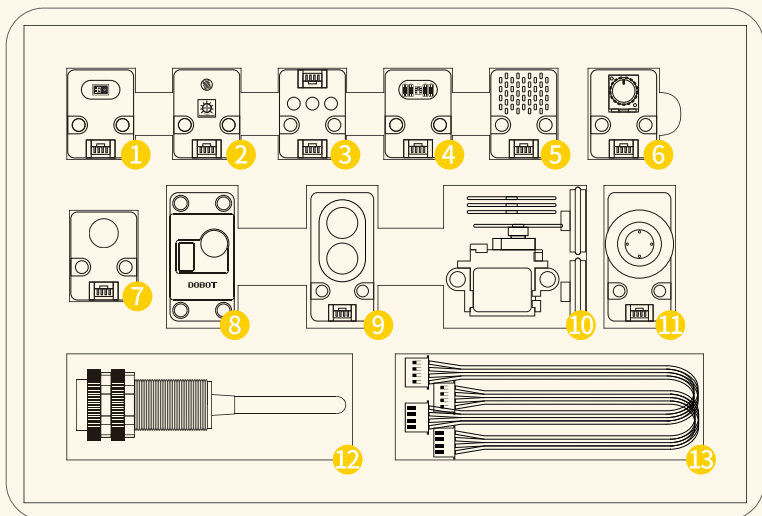
Special instructions

- 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.

警告

不可将传感器置于水中或火中进行使用及测量,不可长时间靠近高温火源;不可进行大力地按压;非专业人员请勿拆开电子模块外壳;防止三岁以下儿童接触,防止意外吞食。

Magician Lite传感器套件说明书



图一 传感器套件示意图

发货清单

01. 手势传感器*1	02. 光线传感器*1	03. LED灯模块*1	04. 颜色传感器*1
05. 温湿度传感器*1	06. 旋钮电位器*1	07. 人体传感器*1	08. 声音传感器*1
09. 双按钮模块*1	10. 微型舵机*1	11. 摇杆模块*1	12. 光电传感器(含支架)*1
13. 通用传感器线*6、通用传感器延长线*2	14. 使用说明书*1		

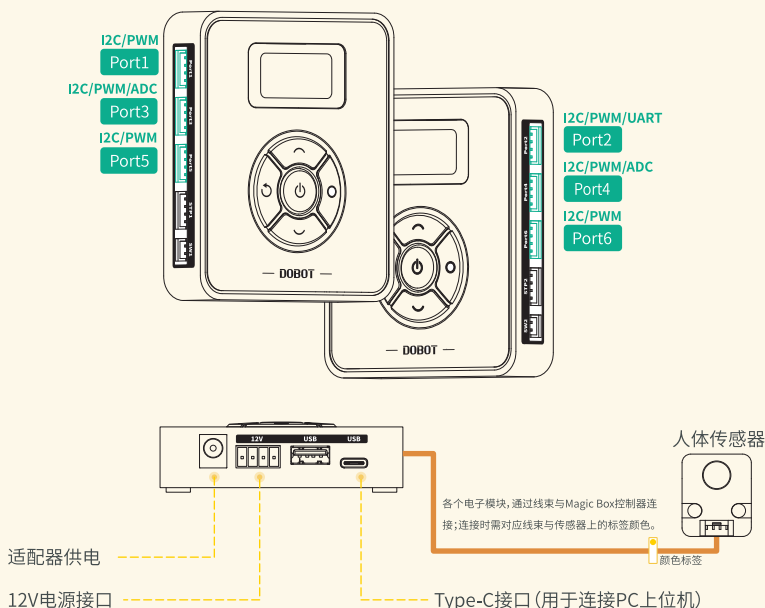
套件说明

- 该套件内含12种电子模块。可广泛用于制作各类工程实践、AI及IoT小项目。
- 产品线缆连接简单,外壳上含乐高孔可兼容乐高插销积木,快速实现无限创意。
- 支持简单易用的图形化编程和专业的Python编程。
- 搭配功能强大的Magic Box控制器进行使用,无缝衔接Dobot机器人生态。

线束连接

线束用于连接电子模块和Magic Box控制器,线束上有名称和颜色标签,可以与电子模块上的颜色标签相匹配。

传感器与Magic Box接口说明



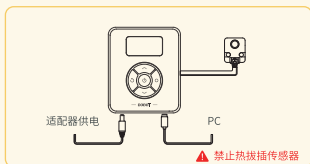
图二 传感器模块与Magic Box连接意图

各接口类型如下:

序号	模块名称	通信类型	接口	备注
1	光线传感器 旋钮电位器 声音传感器	ADC	Port3/Port4	模拟输入
2	摇杆模块 温湿度传感器 手势传感器 颜色传感器	I2C	Port1~Port6	数字输入
3	微型舵机	PWM	Port3 ~Port6	PWM输入
4	LED灯模块	单总线	Port1~Port6	
5	人体传感器 双按钮模块 光电传感器	IO	Port1~Port6	普通IO

连接与编程

步骤一 断电情况下,将传感器、**Magic Box**和数据线、电脑连接好,然后上电。



步骤二 在电脑上打开DobotLab软件(Windows、Mac等系统的电脑均可以安装该软件),选择**Magic Box**设备。



步骤三 在Magic Box设备中点击“连接设备”按钮,选择对应COM端口设备并点击“**连接**”按钮。显示“**已连接**”后可返回编辑器。



步骤四 找到“**添加扩展**”按钮,选择“**AI传感器套件**”后此时可开始编程操作。



各电子模块参数及使用方法

1. 摇杆模块

简介

摇杆模块工作原理与一般的摇杆游戏手柄类似,X、Y轴分别对应着两个10K的电位器。当摇杆进行动作时,产生相应的模拟信号并输出偏移值。Z轴方向则为一个按钮应用。

连接方式: 可连接至Magic Box任意绿色端口 (Port1到Port6)

通信方式: I2C

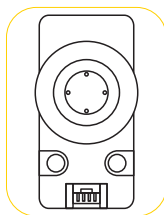
使用线束: 通用传感器线

X/Y方向输出值: 10~250

Z方向输出值: 0: 释放; 1: 按下

电压: 5V

电流: 50mA



使用说明

- 正确连接传感器与Magic Box控制器, 选择可连接的端口。
- 在DobotLab选择对应的积木块, 可实时获取数据, 用于摇杆控制机械臂抓取物品等。
- 完成图形化编程, 后续可在线调试或将脚本上传至Magic Box离线运行。

2. 双按钮模块

简介

双按钮模块提供了两个不同颜色的物理按键进行操作, 通过检测不同按键输入引脚高/低电平变化, 进而判断按键状态。

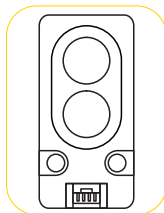
连接方式: 可连接至Magic Box任意绿色端口 (Port1到Port6)

通信方式: IO

使用线束: 通用传感器线

电压: 5V

电流: 50mA



使用说明

- 正确连接传感器与Magic Box控制器, 选择可连接的端口。
- 在DobotLab选择对应的积木块, 可实时获取数据, 用于开关控制等。
- 完成图形化编程, 后续可在线调试或将脚本上传至Magic Box离线运行。

3. 人体传感器

简介

PIR是一款人体红外传感器, 它属于"被动式热释电红外探测器", 通过检测由人体或物体发射、反射的红外辐射进行判断工作。当检测到红外时输出高电平, 并进行一段时间的延时(期间保持高电平且允许重复触发), 直至触发信号消失(恢复低电平)。

注意: 检测触发后存在2s延时。

连接方式: 可连接至Magic Box任意绿色端口 (Port1到Port6)

通信方式: IO

使用线束: 通用传感器线

检测距离: 150cm

延时时间: 2s

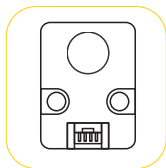
感应范围: < 100°

静态电流: < 60uA

工作温度: -20 ~ 80°C

电压: 5V

电流: 50mA



使用说明

- 正确连接传感器与Magic Box控制器, 选择可连接的端口。
- 在DobotLab选择对应的积木块, 可用于机械臂与人自动感应交互场景。
- 完成图形化编程, 后续可在线调试或将脚本上传至Magic Box离线运行。

4. 手势传感器

简介

手势传感器是一款使用I2C通信接口的3D手势识别传感器, 默认支持8种手势识别, 最大手势更新频率可达240Hz, 具备一定的抗环境光干扰能力。传感器具备稳定性强, 识别速度快, 准确率高, 功耗低(工作电流仅2.2mA)等特点, 适用于各种非接触式遥控器, 机器人交互, 人机互动游戏, 手势灯光控制等应用。

连接方式: 可连接至Magic Box任意绿色端口 (Port1到Port6)

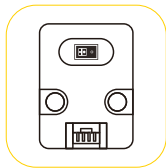
通信方式: I2C、使用线束

支持手势: 上,下,左,右,前,后,顺时针,逆时针

有效识别距离: 5cm-15cm

电压: 5V

电流: 50mA



使用说明

- 在DobotLab选择对应的积木块, 可用于非接触式控制机械臂、灯光交互等。
- 完成图形化编程, 后续可在线调试或将脚本上传至Magic Box离线运行。

5.光电传感器

简介

光电传感器也叫做光电接近开关,它是利用被检测物对光束的遮挡或反射,由同步回路接通电路,从而检测物体的有无。光电传感器将输入电流在发射器上转换为光信号射出,接收器再根据接收到的光线的强弱或有无对目标物体进行探测。L形支架是由铝合金制成的支架,用于固定光电传感器,使光电传感器的探头可以平行于桌面放置。

连接方式: 可连接至Magic Box任意绿色端口 (Port1到Port6)

通信方式: IO

使用线束: 自带线束

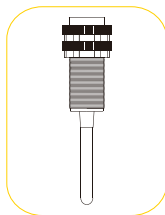
取值范围: 0 (没有遮挡)、1 (有遮挡)

标准检测物体: 太阳光10000LX以下、白炽灯3000LX以下

检测物体: 透明或不透明体

工作环境温度: -25°C ~ 55°C

响应时间: <2ms



使用说明

- 本套装内包含光电传感器本体含线缆及L型支架,可使用黑色定位环旋转进行微调,将支架夹紧。
- 传感器背后金属点为调节器,可调检测距离,顺时针加大、逆时针减小。

6.声音传感器

简介

声音传感器用于检测周围环境中的声音强度,它接收的声音强度越大,输出的信号越强对应返回值越大。

连接方式: 可连接至Magic Box特定绿色端口 (Port3或Port4)

通信方式: ADC

使用线束: 通用传感器线

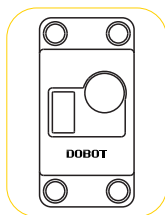
读值范围: 0-1023

灵敏度: (48dB至52dB) @1kHz

麦克风阻抗: 2.2k欧姆

麦克风频率: 16-20 kHz

信噪比S/N: 54dB



使用说明

- 正确连接传感器与Magic Box控制器, 选择可连接的端口。
- 在DobotLab软件里选择对应的积木块, 通过探头获取外界声音强弱输出相关返回值。
- 完成图形化编程, 后续可在线调试或将脚本上传至Magic Box离线运行。

注意:设置音量大小音乐播放会中断;咪头不可大力按压及磨损。

7.温湿度传感器

简介

温湿度传感器用于检测当前环境的温度和湿度值等环境信息。

连接方式: 可连接至Magic Box任意绿色端口 (Port1到Port6)

通信方式: I2C

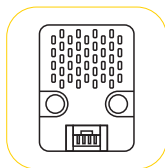
使用线束: 通用传感器线

温度测量范围: $0 \sim 60^{\circ}\text{C} / \pm 1^{\circ}\text{C}$

湿度测量范围: $10\text{-}90\% \text{RH} \pm 5\% \text{RH}$

电压: 5V

电流: 50mA



使用说明

- 正确连接传感器与Magic Box控制器, 选择可连接的端口。
- 在DobotLab软件里选择对应的积木块, 可实时获取传感器所采集到的数据。
- 完成图形化编程, 后续可在线调试或将脚本上传至Magic Box离线运行。

8.颜色传感器

简介

颜色传感器模块用于识别物体的颜色, 并会返回一组RGB数值或颜色检测结果。

连接方式: 可连接至Magic Box任意绿色端口 (Port1到Port6)

通信方式: I2C

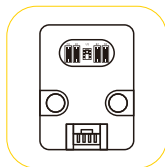
使用线束: 通用传感器线

颜色检测结果: 0:没有颜色、1:红色、2:绿色、3:蓝色、4:黄色、5:黑色、6:白色

颜色值RGB: 0 ~ 200 (值越大代表颜色越深)

电压: 5V

电流: 50mA



使用说明

- 正确连接传感器与Magic Box控制器, 选择可连接的端口。
- 在DobotLab软件里选择对应的积木块, 可实时获取传感器所采集到的数据和检测结果。
- 完成图形化编程, 后续可在线调试或将脚本上传至Magic Box离线运行。

9.LED灯模块

简介

LED灯模块包含三个全彩RGB LED灯珠, 均可独立控制亮灭和颜色。

连接方式: 可连接至Magic Box任意绿色端口 (Port1到Port6)

通信方式: 单总线

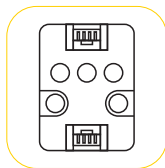
使用线束: 通用传感器线

RGB调节: 0-255

亮度调节: 0-100%

电压: 5V

电流: 50mA



使用说明

- 正确连接电子模块与Magic Box控制器, 选择可连接的端口。
- 在DobotLab软件里选择对应的积木块, 可实时控制LED灯的颜色和灯效。

10. 光线传感器

简介

光电传感器内含光敏电阻,其阻值会随着入射光强度的增加而降低,依此检测其电压的变化,通过AD转换得到光强数据信息。

连接方式:可连接至Magic Box绿色端口 (Port3或Port4)

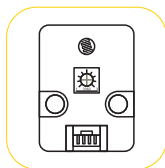
通信方式:ADC

使用线束:通用传感器线

亮度返回值:160~980

电压:5V

电流:50mA



使用说明

- 元器件外露位置可采集外界光强信息,可制作与光检测有关的小项目。
- 正确连接传感器与Magic Box控制器,选择可连接的端口。
- 在DobotLab软件里选择对应的积木块,可实时获取传感器所采集到的数据。
- 完成图形化编程,后续可在线调试或将脚本上传至Magic Box离线运行。

11. 旋钮电位器

简介

旋钮电位器是含有最高电阻为10K且阻值可由旋钮旋转调节的电阻元件,具有三个引出端。

输出电压: 0~2500mV

连接方式:可连接至Magic Box绿色端口 (Port3或Port4)

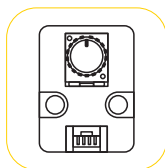
通信方式: ADC

使用线束:通用传感器线

亮度返回值: 0-407 (极值有波动属正常情况)

电压: 5V

电流: 50mA



使用说明

- 正确连接传感器与Magic Box控制器,选择可连接的端口。
- 使用旋钮调节输出的变量大小,可制作调灯光亮度或调节电机速度等小制作。
- 在DobotLab软件里选择对应的积木块,可实时获取旋钮电位器所采集到的数据。
- 完成图形化编程,后续可在线调试或将脚本上传至Magic Box离线运行。

12. 微型舵机

简介

微型舵机模块黄色为信号线,棕色为地线,红色为5V,可控制舵机180°角度旋转。舵机使用时注意供电电流和电压防止被烧毁。

连接方式: 可连接至Magic Box任意绿色端口 (Port3到Port6)

通信方式: PWM

使用线束: 通用传感器线

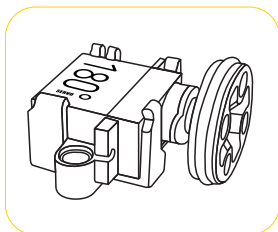
舵机速度: 0.1sec/60°/4.8V;0.09sec/60°/6.0V

扭力: 1.6kg·cm/4.8V;1.8kg·cm/6.0V

PWM频率: 50Hz/0.5~2.5MS

电压: 4.8-6.0V

空载电流: 60mA



使用说明

- 舵机模块包含配套的十字轴连接器*4、舵机圆盘*2。
- 在DobotLab选择对应的积木块,可控制舵机旋转角度。
- 完成图形化编程,后续可在线调试或将脚本上传至Magic Box离线运行。

13. 电子模块线束

简介

线束需要按照贴纸标记颜色对应传感器贴纸颜色进行配对连接。线束绿色端子部分连接Magic Box控制器的绿色端口,另一端连接传感器。

线束说明

- 第一种:通用传感器线。贴纸标记为黄色,适用于短距离应用场景。
- 第二种:传感器通用延长线束。贴纸标记为黄色,适用于长距离应用场景,方便用户扩展应用范围。

售后条款

质保细则

- 本产品自用户收到商品之日起计算,质保期限一年。签收货品时,请确认包装的完整性,由于运输原因造成的问题,本公司不承担责任。
 - 用户开箱之后请根据发货清单核对物品,若发现货品破损或残缺,请在第一时间联系当地代理商或拨打客服热线(400-800-7266)或者通过邮件(support@dobot.cc)联系我们。
 - 如果用户购买商品七日内(自用户收到商品之日起计算,含七日),产品或配件发生非人为性能故障,可以联系客服确认。若产品问题无法解决,可以申请维修或更换产品或配件,来回邮费卖家承担,超出此时间范围视为无效。
 - 线缆属于易耗产品,不享受质保服务。
 - 原装进口产品或配件不适用于该细则,均按原厂保修处理。
- ⚠注:符合以上情况的换货或者退货运费由当地代理承担(大陆地区由越疆科技官方承担),如因各国政策原因需要交纳目的地关税,由客户自行承担。

无偿维修

质保期内,且符合免费维修条款的产品发生非人为性能故障时需要给客户提供免费维修服务。

实行免费维修服务必须同时符合以下条件:

- 购买产品在规定的产品保修期限内正常使用,出现非人为的性能故障的产品。
- 无偿自维修、改装、拆解或加装及其它非人为引起的故障等。
- 提供有效的购买证明、单据及单号。

以下情况不属于免费产品维修服务的情形:

- 擅自维修、改装、拆解、开壳等行为而造成的损坏。
- 未按官方说明书要求进行的不正确安装、使用及操作所造成的损坏。
- 与非本公司认证的第三方部件同时使用时发生可靠性及兼容性问题导致的损坏。

有偿维修

- 产品发生的故障为用户自行导致或其他不可抗力因素导致,可由用户自行更换配件进行解决的,根据越疆科技售后维修收费标准为用户提供配件报价,若用户接受报价,待支付相关费用后,可直接为用户寄送配件,并给予更换指导。

- 产品故障需要进行寄回代理处维修的情况下,经技术人员判断,产品故障属于可以维修解决的,需提前告知用户相关维修费用;若用户接受报价,待支付相关费用后,维修并测试好将产品寄回,往返运费均由用户自行承担。

以下情况属于付费维修服务范围:

- 超过产品有效保修期的。
- 所有不属于免费维修情形的(详见无偿维修政策中不属于免费维修的情形)。

特别说明

- 该质保条款仅适合从官网购买的中国大陆地区客户,其他质保和支持由当地代理提供。
- 如果有无法解决的问题,请及时联系官方售后,我们会及时解决提出的问题。
- 如有其他问题,请访问cn.dobot.cc或联系当地代理。