**Elephant Robotics** 大象机器人

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小象协作机械臂

# myCobot 280 for Arduino  2023

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myCobot系列六轴协作机器人

myCobot series of six-axis collaborative robots

## ⚠ Warning

BEFORE USING MYCOBOT READ ALL INSTRUCTIONS AND CAUTIONARY MARKINGS IN THIS MANUAL

1. Do not expose the product to rain or moisture to reduce fire or shock hazard.
2. Do not place the product in or near fire.
3. Do not leave the product in a car in hot or humid weather.
4. Do not disassemble, crush or pierce the product.
5. Do not expose the product to excessive shock such as dropping from a high place.
6. Do not expose the product to high temperatures above 60 °C (140 °F).

## ⚠ Attention

Regarding the operation and secondary development of myCobot 280 for Arduino Version please read and download **Gitbook** before using it.

**Official Website**：https://www.elephantrobotics.com/en/mycobot-280arduino-en/

**myCobot**

**myCobot 280 for Arduino** 2023

## Six-axis collaborative robots

myCobot 280-Arduino uses the M5Stack-atom ESP32 as the core control. It is a entry-level robot from Elephant Robotics. The equipment can be connected to serial cable control. You can also use ARDUINO MKRWIFI1010 \ MEGA2560 \ UNO and other models of development version extension, no code migration, just a simple link, you can start the extension development.

MyCobot 280 for Arduino Six-axis collaborative robot weight 780g, payload 250g, arm span 280mm, compact but powerful, with rich hardware and software interaction modes and diversified compatible expansion interfaces, support multi-platform secondary development, effectively help users to achieve multi-scene application development.

### Unique industrial design, extremely compact

- The integrated design features a compact fuselage with a net weight of just 850g, making it easy to carry around.
- The modular design features few spare parts and low maintenance cost. The system can be quickly disassembled and replaced, enabling plug and play.

### High configuration, convenient development

- It can be connected with serial cable control, and can also use ARDUINO MKRWI-FI1010 \ MEGA2560 \ UNO and other development versions to expand, without migrating code, just simple link, you can start to expand development.
- Automatically features six high-performance servo motors that offer fast response, low inertia and smooth rotation.

### LEGO Connector, Thousands of Application Ecology

• The base and end with music high-tech parts interface, suitable for the development of various micro embedded equipment.

### Graphical programming, support for industrial robot software

• Using myBlockly visual programming software, palm free programming, easy to operate and easy to use.
• Compatible with industrial robotic arm operating software RoboFlow, support Arduino + ROS open source system.
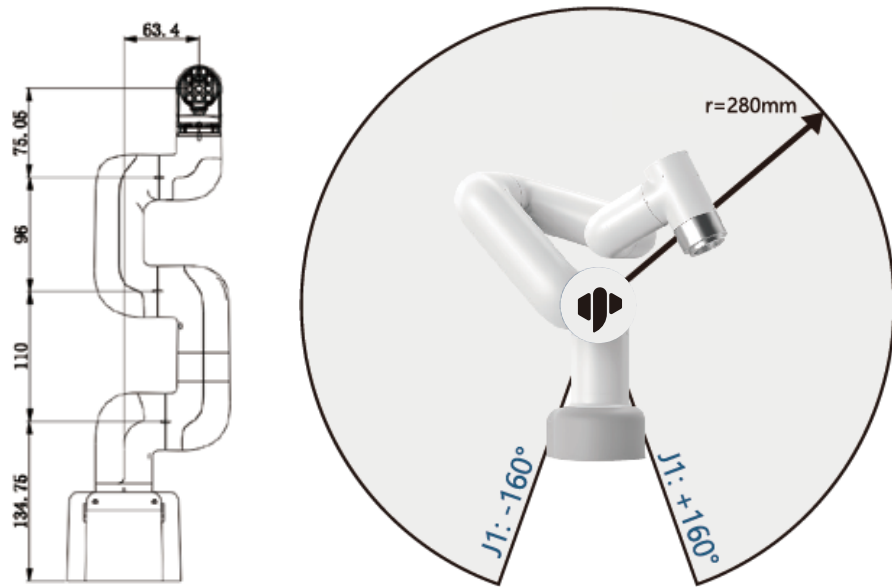
### Track entry, point saving

• myCobot supports drag instruction to record saved paths.
• Get rid of the traditional path point storage mode, you can save up to 60mins different paths.

## myCobot 280 - Design Prototype - Elephant Robot®C Series Robot

The design prototype of myCobot 280 is from All-in-one Robots launched by Elephant Robotics in China in 2018. As the first integrated collaborative robot in China, it has won the 2019 CAIMRS Industrial Robot Innovation Award and 2019 High-tech Robot Annual "Innovation Technology Award", and has been also sold to more than 30 countries at home and abroad, receiving unanimous praise and recognition from the factories of the world's top 500 enterprises.
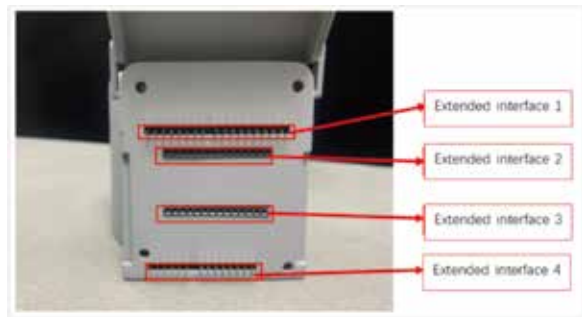
## myCobot 280 - Size and Working Range Diagram



## Product parameters

| Freedom | 6 |
|---|---|
| Payload | 250g |
| Arm spread | 350mm |
| Working radius | 280mm |
| Repeat positioning accuracy | ±0.5mm |
| Dead weight | 780g |
| Power input | DC 12V 5A 60W |
| Work environment | -5°C~45°C |

| Auxiliary control panel parameters | |
|---|---|
| Model | ATOM |
| Installation position | Posterior of the sixth joint |
| Flash | 4MB |
| Software | Non open source, can burn firmware |
| LED display | WS2512C 2020 X25 |

# Pedestal



A. The front interface of the pedestal



C. The interface on the right side of the pedestal



B. The interface on the pedestal

# myCobot Accessories



**1** Adaptive Gripper    **2** Flap Base    **3** Camera Flange    **4** Suction Pump    **5** G Base    **6** Pen Gripper

Elephantrobot expands its applications for robotic arms to create "MY-series" product line. For the new accessories, please pay attention to the official Taobao store.

## Application scenario of mycobot 280 for Arduino

The myCobot 280 for Arduino version can be used with a variety of Arduino development boards for application development. It can be connected to the host computer, expand the camera and other applications. It is the first choice for Arduino programming and development of robots.



# myStudio



**myStudio is a one-stop platform for robots**

myStudio integrates my series software and various materials.
The main functions of myStudio are: 1) Update the firmware; 2) Provide video tutorials on how to use the robot; 3) Provide maintenance and repair information (such as video tutorials, Q&A, etc.).

**Please download the latest version of myStudio to use.**

The download link is as follows:
**Officail website:** https://www.elephantrobotics.com/en/mycobot-280arduino-en/
**Github:** https://github.com/elephantrobotics/MyStudio/

在使用本产品之前，请阅读本手册中所有说明及警告提示。

- 为避免火灾或电击危险，请勿将产品暴露在雨中或潮湿的地方。
- 请勿将产品放在火中或靠近火处。
- 请勿将本产品放置或使用在炎热潮湿的地方。
- 请勿暴力拆卸本产品。
- 请勿将产品暴露在过度的冲击下，如从高处跌落。
- 不要将产品暴露在超过60℃（140℉）的高温下。

⚠ 开机必读

本册为myCobot 280 for Arduino产品画册

关于本产品的操作使用及二次开发，请先在大象机器人官网阅读并下载Gitbook相关指导说明.

下载链接：https://www.elephantrobotics.com/mycobot-280arduino-cn/

myCobot

**myCobot 280 for Arduino** 2023

# 六轴协作机器人

myCobot 280 for Arduino 机械臂基于mycobot 280 协作机械臂系列开发，使用M5STACK-ATOM ESP32核心主控，是机械臂编程教育入门产品。设备可以链接串口线缆控制，也可以使用ARDUINO MKRWIFI1010 \ MEGA2560 \ UNO 等多种型号开发板扩展，无需迁移代码，只需简单链接，即可开始扩展开发。

myCobot 自重780g，有效载荷250g，臂长350mm，有效工作半径280mm；体积小巧但功能强大，既可搭配多种末端执行器适配多种应用场景，也可支持多平台软件的二次开发，满足科研教育、智能家居，商业探索等各种场景需求。

### 独特工业设计，极致小巧

- 一体化设计，整体机身结构紧凑，净重仅780 g，十分便于携带
- 模块化设计，备件少、维护成本低，可快速拆卸更换，实现即插即用

### 高配置，便捷开发

- 内含6个高性能伺服电机，响应快，惯量小，转动平滑
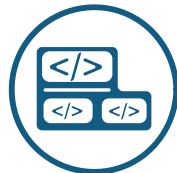- 可以接串口线缆控制，也可以使用ARDUINO MKRWIFI1010 \ MEGA2560 \ UNO 等多种型号开发板扩展。

### 乐高接头，数千应用生态

- 底座及末端带有乐高科技件接口，适用于各项微型嵌入式设备开发。

### 图形化编程，支持工业机器人软件

- 采用 myBlockly 可视化编程软件，掌上自如编程，操作简单易上手。
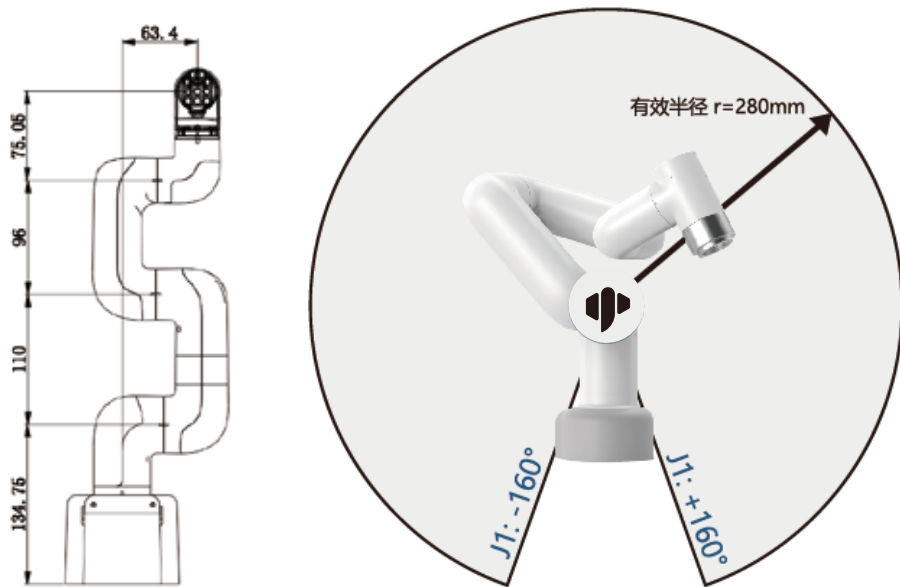- 支持 Arduino 、Python 及 ROS 开源系统。

### 轨迹录入，点位保存

- myCobot 支持拖动示教，可记录已存入的路径。
- 摆脱传统的路径点存模式，可保存最多60mins不同的路径。

# myCobot小象机械臂设计原型-大象机器人C系列all-in-one机器人

myCobot小象机械臂的设计原型为大象机器人2018年推出的国内首款 all-in-one 一体式协作机器人。作为国内首款一体式协作机器人，它曾获得2019CAIMRS工业机器人创新奖，2019高工机器人年度"创新技术奖"，远销海内外30多个国家并备受数家来自世界500强名企的一致认可与好评。
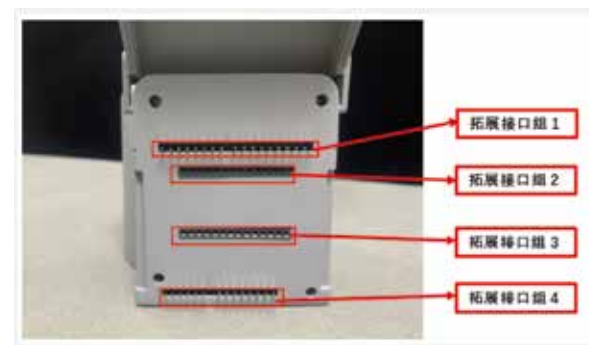


# myCobot小象机械尺寸与工作范围图



63.4

75.05

96

110

134.76

有效半径 r=280mm

J1: -160°

J1: +160°

## 产品参数

| 自由度 | 6 |
|---|---|
| 有效负荷 | 250g |
| 臂展 | 350mm |
| 工作半径 | 280mm |
| 重复定位精度 | ±0.5mm |
| 自重 | 780g |
| 电源输入 | DC 12V 5A 60W |
| 工作环境 | -5°C~45°C |

| 副控板参数 | |
|---|---|
| 型号 | ATOM |
| 安装位置 | 第六关节后方 |
| Flash | 4MB |
| 软件 | 非开源，可烧录固件 |
| LED显示 | WS2512C 2020 X25 |

## 底座接口



A. 底座正面接口



C. 底座右侧接口



B. 底座上面接口

# myCobot 产品配件



| ① 自适应夹爪 | ② 平面底座 | ③ 摄像头法兰 | ④ 吸泵 | ⑤ G型底座 | ⑥ 笔夹 |

大象机器人面向机械臂扩展应用，打造"my-系列"产品线。相关配件的上新，请关注官方淘宝店铺。

店铺名称：大象机器人

# myCobot 280 for arduino 应用场景

myCobot 280 for Arduino 版本，可以搭配多种Arduino 开发板进行应用开发，可以连接上位机，扩展摄像头等多种应用，Arduino 编程开发机器人首选。

# myStudio



myStudio 是一个一站式的机器人的使用平台。

myStudio 整合了【my系列】的软件资源及各类资料，主要功能为：

1）下载更新固件；2）查看机器人使用视频教程；3）维护和维修方面的信息（如视频教程、Q&A等）

请下载最新版的 myStudio 进行使用

软件下载链接如下：

1、官网：https://www.elephantrobotics.com/download/

2、Github：https://github.com/elephantrobotics/MyStudio/

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## 产 品 保 修 卡

用户信息（必填）：

购买人 _____ 订单号 _____ 联系电话 _____

地址 _____ 物流签收日期 _____

产品问题描述（必填）：_____

如需退换货，请事先联系客服确认退回相关信息。待客服确认后，填写此卡并将这一页随同产品一起寄回。

注：我司在法律允许范围内保留对本产品保修卡解释和修改的权利。

- 产品自签收起7日内未拆封可无理由退换，因产品退换所产生的费用及其他风险需由客户承担。
- 用户如需产品保修服务需提供相应的购买单据及产品保修卡作为保修凭证。
- 凡属于正常使用下由于产品本身质量问题引起的硬件故障，保修期内大象机器人给予免费维修。
- 保修起始日期为产品购买日或物流签收日。
- 维修更换的配件归大象机器人所有，必要时会收取适当的成本费用。

以下为详细的配件保修服务说明(如需以下产品售后服务，请事先联系客服沟通并确认相关信息)

| 舵机 | |
| --- | --- |
| 保修期限 | 保修服务 |
| ≤1个月 | 我司免费提供一个新舵机并承担寄送运费(仅一次) |
| 1-3个月 | 我司免费提供一个新舵机，由客户自行承担运费(仅一次) |
| ≥3个月 | 客户需自己重新购买 |

## 电子件

| 保修期限 | 保修服务 |
|---|---|
| ≤3个月 | 由用户拆卸后寄回，我司免费更换并承担往返运费(仅一次) |
| 3-6个月 | 由用户拆卸后寄回并承担往返运费，我司免费更换(仅一次) |
| ≥6个月 | 客户需自己重新购买 |

## 结构件，含外壳部分

| 保修期限 | 保修服务 |
|---|---|
| ≤1年 | 我司免费提供新的零件，由客户自行承担运费(仅一次) |
| ≥1年 | 客户需自己重新购买 |

特别说明：在交付产品的保修期内，本公司仅对正常使用机器人时发生的故障进行免费修理。

但在以下情况下， 将对客户收取修理费用(即使在保修期内)：

(1) 因不同于手册内容的错误使用以及使用不当而导致的损坏或故障

(2) 客户未经授权进行拆卸导致的故障

(3) 属于外壳等部件自然的消耗，磨损及老化

(4) 因调整不当或未经授权进行修理而导致的损坏

(5) 因地震、洪水等自然灾害导致的损坏

因此，请严格遵照本手册及相关手册的指示对机器人进行操作。

# WARRANTY CARD

Customer Information (Required)：

Purchaser _____ Order No. _____ Phone _____

Address _____ Logistics Receipt Date _____

Product problem description(Required)：

_____

If you need to apply for warranty service, please contact our customer service to confirm the detailed informa-tion. After confirmation, please fill in the card and send it back together with the product and the attached invoice. Note: Our company reserves the right to explain and modify the warranty card of this product within the scope of the law.

- Return service is limited to goods not opened within 7 days after the receipt date of logistics of the products. The freight or other risks incurred in return shall be borne by the customer.
- Customers should provide the purchasing invoice and warranty card as the warranty certification when a warranty is being asked.
- Elephant Robotics will be responsible for the hardware faults of products caused by the normal using during the warranty period.
- The warranty period starts from the date of purchase or the receipt date of the logistics.
- The faulty parts from the products will be owned by Elephant Robotics, and the appropriate cost will be charged if necessary.

If you need to apply for warranty service, please contact our customer service first to confirm the detailed information.

| Sever motor | |
|---|---|
| **Warranty Period** | **Warranty Services** |
| ≤1 months | Elephant Robotics offers a free new servo motor and bear the freigh. |
| 1-3 months | Elephant Robotics offers a free new servo motor, customs shall bear the freight. |
| ≥3 months | Customers need to buy it themselves. |
| Electrical Parts | |
| ≤3 months | Customers need to send it back after disassembly, Elephant Robotics shall send a new one for free and bear the freight out and home. |
| 3-6 months | Customers need to send it back after disassembly and bear the freight out and home, Elephant Robotics shall send a new one for free. |
| ≥6 months | Customers need to buy it themselves. |
| Structure Parts, including Shell Parts | |
| ≤1 year | Elephant Robotics offers free new components once, customs shall bear the freight. |
| ≥1 year | Customers need to buy it themselves. |

During the warranty period of the delivered product, the company only repairs the malfunctions that occur during normal use of the robot for free. However, in the following cases, the customer will be charged for repairs (even during the warranty period):
• Damage or malfunction caused by incorrect use and improper use different from the contents of the manual.
• Failure caused by unauthorized disassembly by the customer.
• Damage caused by improper adjustment or unauthorized repairs.
• Damage caused by natural disasters such as earthquakes and floods.

Therefore, please strictly follow the instructions in this manual and related manual to operate the robot.

- 如果您有购买意向或者任何参数疑问请添加售前小管家微信。
  If you have purchase intention or any parameter questions, please add
  pre-sales butler wechat.

- 如果列举出的问题无法帮助解决相关问题，并且有更多售后问题想要咨
  询，请添加售后小管家微信。
  Anyway, if the problem listed doesn't help solve the problem, and you
  have more after-sales problems to consult, you add a after-sales butler
  to the wechat.