Elephant Robotics mechArm 270-pi Six Articulated Robot Arm Instruction Manual

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Warning
BEFORE USING MECHARM 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 mech Arm 270-Pi, please read and download Giltbrook before using it.

Official Website: https://www.elephantrobotics.com/mecharm

Contents

The most compact 6-axis articulated robot

The mechArm 270-Pi belongs to the “mechArm” series of six-axis articulated robotic arms from Elephant Robot. It uses a Raspberry Pi microprocessor and supports ROS simulation software. It is an industrial-like configuration launched by Elephant Robot for maker innovation and robot industry-uni-versity-research services.

The body weight of mechArm270-Pi is lkg, the load is 250g, and the working radius is 270mm. The design is compact and portable. It is small but powerful, easy to operate, and can work with people safely. As the first small six-axis robotic arm of Elephant Robot, it has three advantages of ease of use, safety and economy, and is a cost-effective choice.

Classic industrial configuration, the first choice for robotic enthusiast

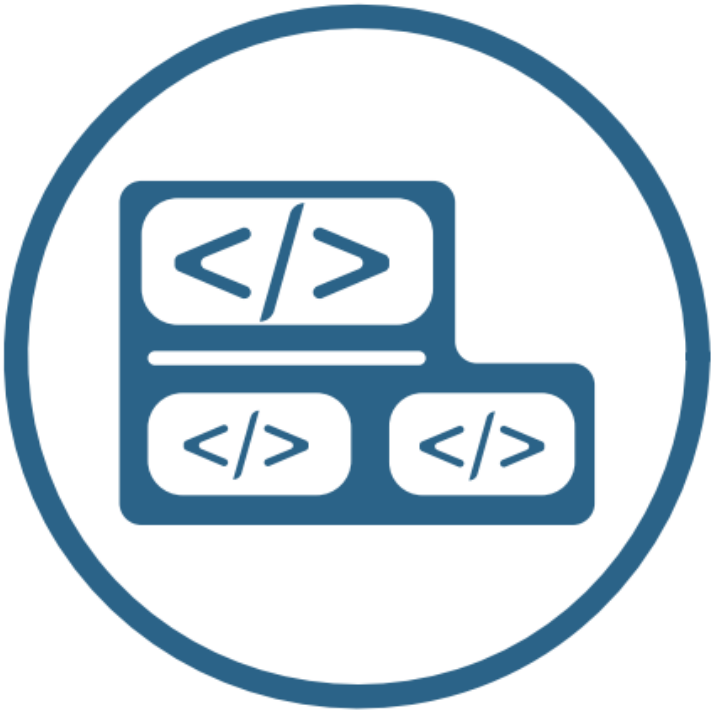
- The most classic six-axis centrosymmetric structure of industrial robots, compact and robust.
- The preferred platform for universal and vocational education, colleges and individual development, applying what you have learned to break through the barriers of production, education and research.

Embedded Raspberry Pi ecology, unlimited development possibilities

- Main Controller: Raspberry Pi, with a 1.5GHz quad-core microprocessor, running on Debian/Ubuntu platform.
- Sub-Controller: M5-Atom Lite, which uses the ESP32-PICO-D4 solution,240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi

Highly opened source, compatible with massive software and API

- Compatible with a various of API software, built-in ROS/Moveit to simulate the operation state of the manipulator, super expansibility
- From introductory drag teaching and Blocky visual programming to industrial practical operation platform, one machine opens up the whole platform of industry, academia and research.



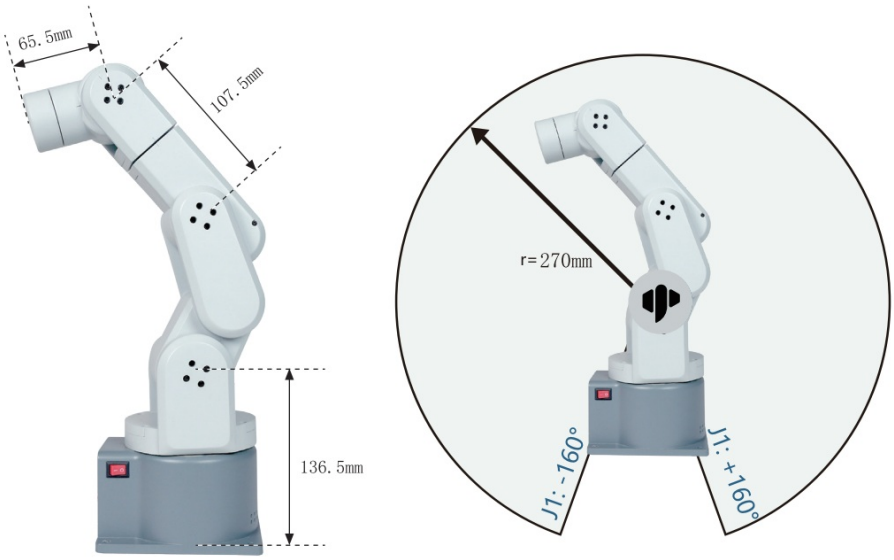
High configuration, powerful performance

- The use of brushless DC servos can achieve a repeat positioning accuracy of ±0.5mm.
- The base and the end are equipped with installation interfaces, which are suitable for the development of various peripheral products and equipment.

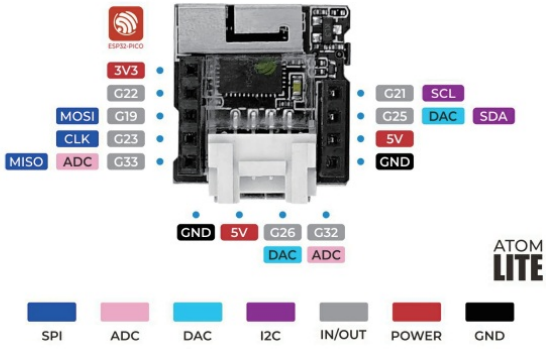
Specification

Product Name	mechArm
model.	mechArm 270-Pi
DOF	6
Repeatability	±0.5mm
Payload	250g
Weight	960g
Working radius	270mm
Material	Plastic
Power supply	8-12V 5A
Max speed	120°/s
Motor	High precision magnetic encoder servo moter

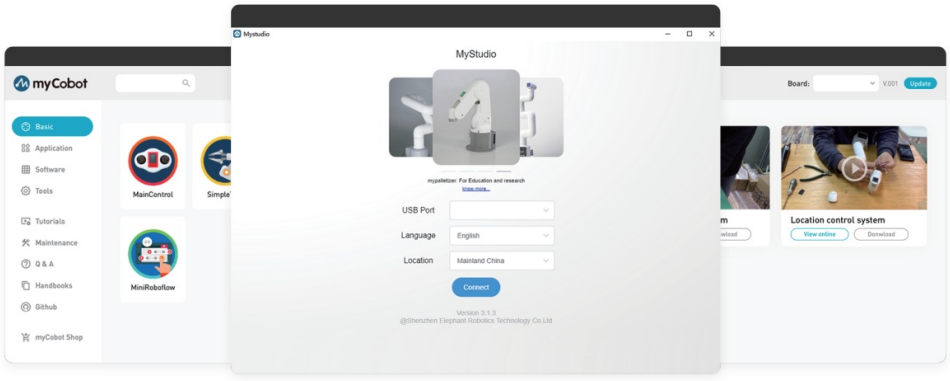
mech Arm 270-pi Size and Working Range Diagram



Control Board Pin Map



my Studio



myStudio is a one-stop platform for robots

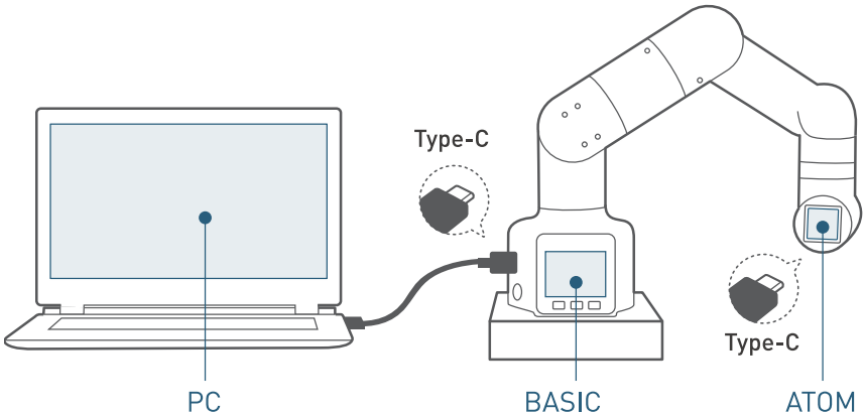
myStudio integrates mechArm software and various materials. The main functions of myStudio are: 1) Update the firmware; 2) Provide video tutorials on how to use the robot; 3) Provide maintenance and repair information (such as video tutorials, Q&A, etc.).

Please download the latest version of myStudio to use.

The download link is as follows:
Officail website: https://www.elephantrobotics.com/mechArm/
Github: httpsfigithub.com/elephantrobotics/MyStudia

Burn Table

Development environments that support the secondary development mech Arm are: my Blockly, Robo Flow, Arduino, ROS, python, etc.



mech Arm Accessory

1. Adaptive Gripper

2. Camera Flange

3. Suction Pump

4. G Base

Elephant Robotics are targeted at robotic collaboration applications, making “my-series” product line. For new information about the accessories, Follow us on Shopify and Twitter.
Shopify: https://shop.elephantrobotics.com/
Twitter: @cobotMy

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.

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.

Shenzhen Elephant Robotics Technology Co., Ltd Address: B7, Yungu Innovative Industrial Park 2, Nanshan, Shenzhen, China
Email: support@elephantrobotics.com
Phone: +86(0755)-8696-8565 (working day 9:30-18:30)
Website: www.elephantrobotics.com

Elephant Robotics

Documents / Resources

	Elephant Robotics mechArm 270-pi Six Articulated Robot Arm [pdf] Instruction Manual 270, 2023424, mechArm 270-pi, Six Articulated Robot Arm, mechArm 270-pi Six Articulated Robot Arm, Articulated Robot Arm, Robot Arm, Arm