

Elephant Robotics Unveils the Smallest 7-Axis Desktop Robotic Arm with Arm-Like Dexterity, myArm 300 Pi

myArm 300 Pi, a perfect assistant for 7-axis robotic arm learning and application.

NEWARK, NEW JERSEY, UNITED STATES, August 27, 2023 /EINPresswire.com/ -- With the improvement of scientific research technology level and the popularization of artificial intelligence, robotics is about to usher in an era of rapid development.

How to make robots get rid of the stereotype of high cost and high threshold of use, so that robots can go out of the exhibition hall into the family, has become the goal of every enterprise.

Elephant Robotics has always been committed to expanding the application scenarios of robots, so that robots can enter the household.

One of the representatives of lightweight multi-axis collaborative robots is the familiar six-axis collaborative robotic arm myCobot series, which is famous for its compact size and lightweight, and its rich and expandable functions. The myCobot series has been proven in the market for a long time, from personal creativity development to school research and learning to small commercial applications, there are mature examples,



myArm 300-1



myArm 300-2



myArm 300-3

which makes it a good choice for robotics enthusiasts to get started.

Elephant Robotics is about to launch a heavyweight new product - [myArm](#) 300 Pi

New 7-axis robot

myArm 300 Pi continues the tradition of small and lightweight desktop robots, but with 7 degrees of freedom it goes beyond other desktop robots by allowing the arm to be as flexible as a human. It was created to complete the product line and fill the entry-level robot market niche.

The myArm has seven movable joints, meaning that the myArm can perform seven independent movements in space, including three degrees of rotational freedom (rotation around the X, Y, and Z axes) and three degrees of translational freedom (translation in the X, Y, and Z axes), as well as a zero spatial attitude arm angle. myArm goes beyond a 6-degree-of-freedom arm and can move with the flexibility of a human arm.

The structural layout of myArm is centrally symmetrical, a design that gives myArm better balance and stability during operation, helping to achieve precise movement and control.

Product performance

MyArm is designed with an arm span of 300mm, a maximum load of 200g (the load at the far end is halved, and the load is 100g when the arm span is greater than 150mm), a maximum repetitive positioning accuracy of ± 0.5 mm, and a 3.3V expansion interface, which is able to adapt to more than 45 minutes of continuous work.

Hardware configuration

The myArm 300 Pi is powered by a Raspberry Pi 4B core motherboard, which is paired with Elephant Robotics' customized Ubuntu Mate 20.04 operating system, providing an operating experience similar to that of a desktop PC.

Software configuration

The myArm 300 Pi has a working radius of 300mm, and is equipped with a variety of features, such as joystick control, ROS1, ROS2 simulation control, MYBLOCKLY, GPIO interface, HDMI interface, python, and a hands-on new science curriculum.

Scenario Applications

myArm robot is the preferred assistant for quickly building robot arm discipline education, control logic teaching, robot application, ROS simulation experimental classroom, to help you quickly start 7-axis robot arm learning and application.

myArm can be mainly used for education research, creative development and business exploration.

Educational research

First of all, in education and scientific research, myArm can be used for robot posture research, robot motion path planning learning, management and utilization of redundant degrees of freedom of robots, and positive and Inverse kinematics, ROS robot development environment, robot application development, programming language development and underlying data processing and other robot-related subject education.

Creative development

Secondly, in creative development, myArm is based on the product design concept of 100% adaptability to myCobot series accessories. It has achieved perfect adaptation in terms of structure installation and software control, which greatly expands the application scenarios of myArm robots. The myArm robot also opens up nearly 100% of the hardware interface of the Raspberry Pi 4B development board and the terminal Atom, which can be matched with the user's personal Raspberry Pi 4B and M5Atom peripheral accessories for personalized scene development to meet the creative development of different users.

Business exploration

In the last business exploration scenario, the myArm robotic arm can support the expansion of other host computers, and can expand PC computers, industrial computer terminals, mobile AGV chassis, etc., so it is suitable for various application scenarios. myArm products support multiple connection control methods such as extended wired and wireless, which can meet the application requirements of complex projects. myArm can be used with different terminals to realize various scene applications, such as robot application model display, education and teaching package display, industry 4.0 application scene display, composite robot application scene display, etc.

Customization for differentiated needs

In these application scenarios, we provide different solutions for the different needs of domestic pan-industry and overseas individual developer users in the direction of robotic arms. myArm Robotics is based on the concept of 100% adaptability to the myCobot range of accessories. It realizes perfect adaptation in terms of structural mounting and software control, and provides myArm with more than ten types of end-effector attachments, which greatly expands the application scenarios of myArm and realizes the customization for differentiated needs.

Conclusion

myArm 300 PI is an innovative 7-axis robotic arm in the field of research and education, which adopts a fully wrapped center-symmetric structure design, taking into account both aesthetics and practicality. Compared with 4/6-axis robotic arms, myArm has higher flexibility and precision, the movement posture of the arm is more similar to the human arm, and the support of dozens of end accessories gives myArm more possibilities. With the customized system and the support of ROS1 and ROS2, the rich software development environment interface makes myArm an excellent teaching aid for robotics discipline learning!

The birth of myArm completes the product line of lightweight multi-axis collaborative robots, and also provides broader imagination and possibilities for the scene application of desktop small robotic arms, which fully reflects Elephant Robotics' dedication to making robotic arms a universal intelligent tool, and letting robots enter thousands of households.

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