DOBOT Magician Lite

DOBOT Magician Lite	
Degree of Freedom	4
Maximum Load	250 g
Maximum reach	340 mm
Repeatability	±0.2 mm
Voltage	100V~240V AC, 50/60 Hz
Power Input	12V ~ 5A DC
Working Environment	-5°C - 45°C
Power	60W Max
Communication	USB Virtual Serial Port / Serial Port
Software	DobotStudio/DobotLab
Weight	2.4KG
Rear Arm / Forearm	150 mm
Base Size	146 mm × 146 mm

Magic Box

Magic Box	
MCU	ARM 32-bit Cortex-M4
Main Frequency	168MHz
Voltage	100V~240V AC, 50/60Hz
Power Input	12V ~ 5A DC
Working Environment	-5°C - 45°C
Power	60W Max
Communication	USB Virtual Serial Port/Serial Port/ Bluetooth
Programming Language	MicroPython
Software	DobotStudio/DobotLab
Weight	98g
Size	95mm×80mm×21.5mm

Axis Motion

Axis Motion	
Axis 1- Base	-135° to +135°
Axis 2- Rear Arm	-5° to +80°
Axis 3- Forearm	-10° to +85°
Axis 4- End Tools	-135° to +135°
J1-J3 Max speed	300°/s
J4 Max speed	200°/s

Expansion Interface

Expansion Interface		
Power Interface	×2	4PIN, 12V-3A DC
Multi-Functional Communication Interface	×2	10PIN, Serial Communication Interface
I/O Interface	×6	Green Port, 4PIN, 3.3V/5V-IO, 5V 1A-VCC, Multi-functional interface Interface, User-Defined I/O, AD, PWM Output, I2C, etc.
Stepper Motor Interface	×2	Yellow Port, 4PIN, 2-Phase Stepper Motor, 16 Subdivision, 12V 1A
12V Power Interface	×2	Red Terminal, 2PIN, 12V, 3A Max

End Tools

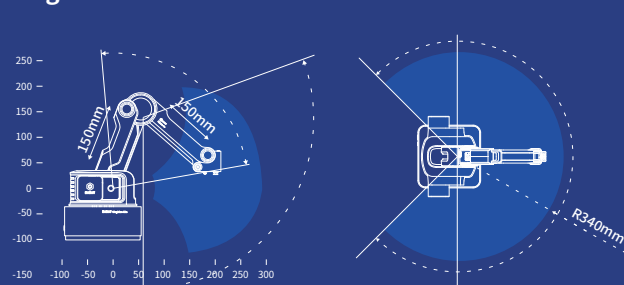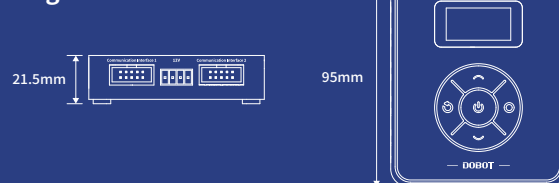| End Tools	
Pen Holder	Pen Diameter: 8-12 mm
Suction Cup	Built-in air pump drive works under negative pressure, with suction cup diameter of 10mm, 20mm
Soft Gripper	Built-in air pump drive works under positive and negative pressure, with maximum opening and closing distance of 50mm

AI Camera Kit

AI Camera Kit	
Dimensions	50mm*44mm*25mm
CMOS	1/4inch
Image pixels	1M
Image Format	YUV/MJPG
Data Format	240*320、640*480、1280*720
Maximum Image Transfer Rate	1280*720@30fps
Camera Control	Saturation、Contrast, Acutance
White balance	Auto
Exposure	Auto
Working Temperature	0°C to +50°C
Operating voltage	DC 5V
Interface	USB2.0
Voice input	Integrated microphone
Feature	All-in-one design, integrated microphone, distortion-free lens
Camera working angle	0°-135°
Function	Face recognition, image recognition, OCR text recognition, speech recognition, etc.

Basic Dimension for DOBOT Magician Lite

Basic Dimension for Magic Box

DOBOT Magician Lite
Outsmart Robots in the Future

The Perfect K12 Platform for Students, Teachers and Educators

DOBOT Magician Lite, a multi-functional lightweight intelligent robotic arm, is one of the core products in DOBOT's K12 customized artificial intelligence education ecosystem. Magician Lite enjoys numerous software and hardware interaction methods and expansion interfaces in order to maximize students' freedom to create. Through building and playing, students can learn how artificial intelligence and mechanics work. They will be also introduced to a world of robotics and how they can be used in real world. Additionally, the DOBOT hosts robotics competitions to stoke students' interest in robotics and get more of them to be involved. At the competition, students work together as a team to address challenging tasks by designing, creating and programming their own robots. This means that these students not only can put what they have learned to rigid test, but also get to celebrate their unique talents and achievements. DOBOT robotics competitions strive to provide fertile ground for budding problem-solvers to grow and prosper.

✪ AI and STEAM Powered Education Solution

Magician Lite offers project-based teaching demos that are interactive, practical and interest-oriented, aiming to foster children's logical thinking, hands-on skills and creativity. Built to be open and widely compatible, Magician Lite can power legions of miniature immersive application scenarios, which not only help children better understand how AI and robots work in real settings, but also turn them into real-world problem solvers.
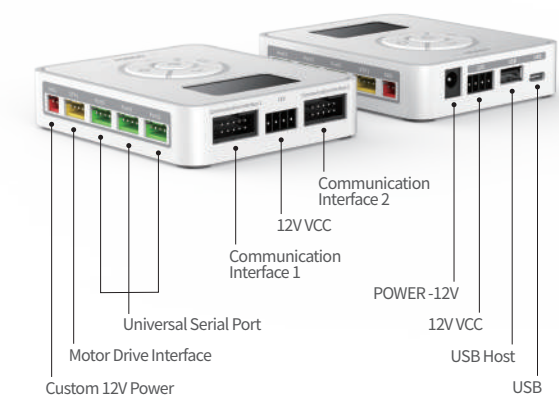
✪ Superior Quality

Excellent Performance

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Multiple End Tools

Magician Lite standard suit includes a soft gripper, suction cup, pen grasper and other changeable end tools, making a great platform for teaching students a wide range of robotic skills, for example, they can make the robot write, draw, pick and place, transport, etc.

Excellent Performance

The all-in-one Magician Lite is compact and easy to get started, making it perfect for K12 graders to practice on.

Safe and Easy to Use

a. Magician Lite is made of high-performance eco-friendly plastics and aviation-grade aluminum alloy. The robot has collision detection function, making it safe for children to be around.

b. Magician Lite is plug and play and easy for users to change end accessories. It is safe and convenient to connect the unit with end tools, requiring no electrical wiring.

c. Magician Lite has a built-in air pump to reduce the electrical wiring and additional accessories, making the teaching layout more convenient and tidy.

d. Magician Lite provides a controller for beginners to get started quickly.

✪ Magic Box for Unlimited Capabilities

Magician Lite features an external controller called "Magic Box" that separates motion control algorithm and user tasks to provide more flexibilitis for programming and creating. Magician Lite supports offline function, making it easier to program and plan the function area for the teachers when setting the teaching environment.

Expansion Interface

Magic Box comes with universal serial ports, stepper motor interfaces, power interface, and universal expansion interfaces. These interfaces enable users to expand a wide range of sensor components and related accessories to achieve more possibilities.

Bluetooth Connection

Magician Lite can be controlled via Bluetooth of the mobile devices such as iPad. Users can connect the Magic Box with another controller via Bluetooth so that the robot can collaborate with an automated guided vehicle (AGV) and other components.

Controller Box Interface

✪ Graphic Programming

With the new DobotLab software platform, students can program, create games and animations by simply dragging and dropping coding blocks together, in order to control the robot's every move and learn how AI works while exploring technology and having fun.

✪ All-Age Project-Based Teaching

Magician Lite comes with a complete curriculum system that is divided into three stages from beginner-level to advanced learner-level. The curriculum offers a variety of teaching demos that focus on experiential, project-based and exploratory-based learning. By participating in the DOBOT robotic competitions, students not only put their knowledge to test, but also get to perfect their comprehensive ability, engineering ability and innovation ability.

All-Encompassing Lesson Plans

Magician Lite goes with three lesson plans that are designed to be taught in the classroom. The lesson series cover three learning stages from beginner-level to advanced learner-level, and mainstream programming languages like Scratch and Python while weaving hardware, software and content to promote future-ready skills. While learning to program is absolutely essential, Magician Lite offers education lessons that goes beyond just programming by nurturing students' hands-on ability, creativity, computational thinking and problem-solving skills like no other educational platform can.

Teaching Demos

Magician Lite attaches many teaching demos including garbage sorting, intelligent warehousing, and smart catering. These demos center on experiential, project-based and inquiry-based learning to help students understand what is artificial intelligence and how it works, and experience AI-enabled innovative applications so that students will be better equipped to use AI tools in the future.

Robotic Competitions

By organizing robotics competitions for teenagers and youths, DOBOT provides a broad platform for students to exchange learning experience, and most importantly, have a taste of AI's unique charm through practice and its critical role in the way people live and learn. The robotic competitions prove to be an effective platform that sets children's imagination and creativity free, and the competition prizes make students feel recognized and encourage them to further their interest and exploration in robotics.

✪ Abundant Accessories for Greater Possibilities

DOBOT offers numerous kits for users to choose from, including writing and drawing kit, industry 4.0 kit, AI vision kit, and sensor kit. Coupled with intuitive programming, Magician Lite is packed with potential to achieve more and provides students and educators with unlimited opportunities to explore, discover and create.

尺寸：360mm X 250mm　含出现3mm