Product Specifications

Product Name		Magician E6
Weight		7.2 kg
DoF		6
Maximum Load		750 g
Maximum Reach		450 mm
Repeatability		± 0.1 mm
Maximum End–Effector Velocity		0.5 m/s
Range of Motion	J1	± 360°
	J2	± 135°
	J3	± 154°
	J4	± 160°
	J5	± 173°
	J6	± 360°
Maximum Individual Axis Velocity		120° /s
Power Input		100V ~ 240V AC, 50/60 Hz
Rated Voltage		48V DC, 5A
Rated Power		130W
Communication Interface	Ethernet	2 for TCP/IP and Modbus TCP communication
	USB	1 for wireless communication
I/O Interface	End–Effector	DI x 2, DO x 2, 24V x 1, GND x 1
	Base	DI × 16, DO × 16, 24V × 4, GND × 4
I/O Output		24V, total output 2A, 0.5A max. per channel
External Interface		Emergency stop switch × 1, ABZ encoder interface × 1, power interface × 1
Control Software		DobotStudio Pro
IP Rating		IP20
Base Dimensions		162 mm x 120 mm x 103mm
Working Environment		Temperature: 0–40°C; Humidity: 25–85%, non-condensing
Noise		60 dB(A)
Installation		Floor mount or side mount
Materials		Aluminum alloy, ABS plastic

* Product specifications and technical data are subject to change without further notice.

Magician E6

A Six-Axis Desktop Collaborative Robot Designed Specifically for Education and Research
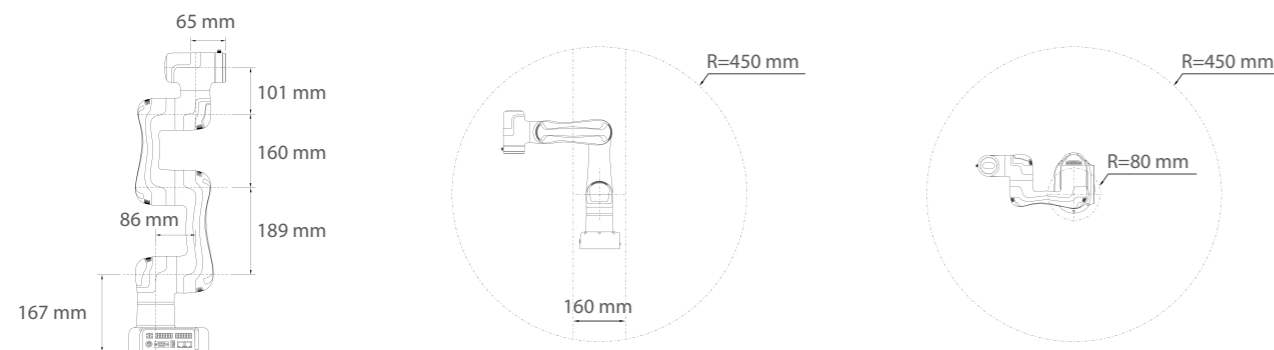
reddot award 2023 winner

Magician E6

Magician E6 is a six-axis desktop collaborative robot designed specifically for education and research purposes. It possesses the capabilities of industrial collaborative robots and supports a wide range of industrial expansion accessories. The robot can be utilized to simulate actual automation application scenarios, providing an immersive experience for education and research. With its diverse interfaces for secondary development and customized curriculum system that covers robotic structure and control principles, the Magician E6 unlocks innovative possibilities for educational and scientific research, offering an exceptional practice platform for scientific and educational research in artificial intelligence and intelligent manufacturing.

Product Features

Industrial-grade performance

The robot is equipped with a high-performance harmonic drive and servo motor, which has a repeatability of ±0.1 mm. This makes it ideal for simulating high-precision automation applications like dispensing, inserting, SMD, assembly, and sorting.

Enhanced safety

The collision detection feature ensures safe collaboration with humans and significantly minimizes the risk of collision. Thanks to the dual ring indicator, the robot's operating status can be easily determined with a quick glance.

Compact design and small footprint

The body and controller are integrated into a single unit, eliminating the need for complex wiring. The lightweight body design allows for easy handling and flexible deployment. Standard base and G-clamp allow for easy installation and quick replacement within 10 seconds.

Flexible expansion

With 16 DI/DOs, 2 network ports, 1 USB port, and 1 extension axis encoder, it supports I/O, TCP/IP, Modbus communication, and WiFi connectivity, enabling compatibility with a range of peripherals. Additionally, it offers various software interfaces to facilitate the secondary development of control methods using ROS, Matlab, Labview, C++, and other software.
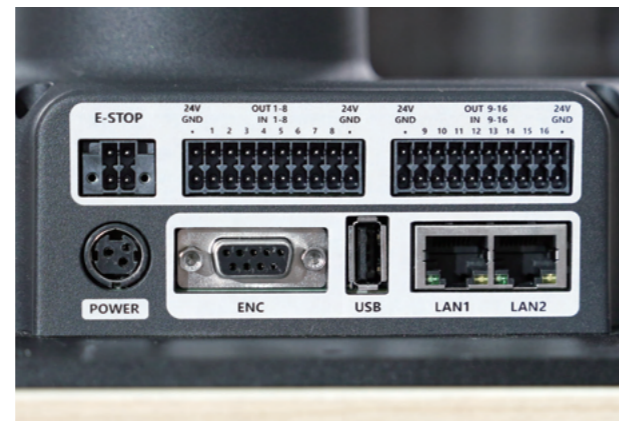
More versatile features

Various modes such as graphical programming, direct teaching control, and trajectory reproduction, are available to facilitate a quick start for beginners. It supports both Python language programming and LUA script programming to cater for various teaching requirements. The DobotStudio Pro software enhances its industrial and production capabilities, resulting in improved teaching practices. Its compatibility with multiple platforms, such as Android, Windows, and iOS, also makes it more convenient to use.

Rich ecosystem

Its compatibility with a range of industrial-grade ecosystem components, such as suction cups, grippers, and vision kits, enhances the quality and practicality of teaching practices. Moreover, it can be used with the Dobot general-purpose training bench to simulate assembly line teaching, including gripping, handling, stacking, and assembly, etc.

Teaching Resources

A variety of teaching resources are available across educational levels, including vocational and higher education, to offer extensive support for both theoretical study and practical experience, and help translate research findings into teaching practices.

Curriculum resources include:

Application of Intelligent Robot Technology, Robot Operation and Programming, Application of Machine Vision Technology, Intelligent Robot Operation System ROS, etc. Courseware, guides, case libraries and exercises are also included to enhance students' comprehension and application of robot technology.

Simulation:

It supports advanced robot principle learning and simulation. Suitable for carrying out research on robot control, simulation, logic development and other related projects using python, ROS, MATLAB.