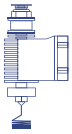
Dobot Magician

All-in-One Robot Education

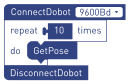
A truly cutting-edge robotic arm—it can 3D print, manipulate objects, write and draw. It has a graphical programming environment, multiple tool heads, and the capability to work with the Arduino platform. It's a robot for your creativity and desire to develop. With Dobot's exclusive tutorials and lessons, the Magician is the ideal way to learn about robotic arms, hardware development, coding, and automation.

High Precision



3D printing

Teach & Playback



Graphical Programming

DIY Supported (Extendible)

DOBOT

Share Creating Pleasure

Best multi-functional robotic arm

The advantages of high precision (0.2mm) and switchable tool heads allow for many uses: 3D printing, pick and place, write and draw, and more. Combining them brings out even more fun, learning, and creativity through unlimited possibilities. Also, Dobot Magician is the first consumer-grade robotic arm that can 3D print.

Graphical programming environment

Dobot Magician has the most multi-functional robotic arm user interface on the market. In addition to scripting (Python), it also uses Google Blockly, a graphical programming environment, where you can write codes by simply piling up blocks.

Cross-subject learning tool

Dobot Magician is an integration of programming, mechanics, electronics, and automation. It's a great STEAM* teaching device that strengthens knowledge across multiple subjects, through a high precision and user-friendly UI, enjoyable functions, and unlimited developing possibilities. Dobot Magician's immersive and explorative experience increases interest in science and technology.

*STEAM - Science, Technology, Engineering, Art, Mathematics

Highly extendable — Markers' first choice

A standardized end effector port allows you to use and create all kinds of head tools. 13 extension ports cover digital/analog I/O, power source, motor and serial port communication, and API access along communication protocols. With our official developer tutorial, you can DIY your own sensor-based accessories, creating more smart ways to use a robotic arm.

More info at afinia.com

AFINIA 3D™

Afinia 3D – a division of Microboards Technology
8150 Mallory Court, Chanhassen, MN
email: sales@afinia.com
phone: +1.888.215.3966

Dobot Magician Specifications

Specifications	
Number of Axes	4
Playload	500 g
Max. Reach	320 mm
Position Repeatability(Control)	0.2 mm
Communication	USB/ WIFI */ Bluetooth
Power Supply	100V-240 V, 50/60 Hz
Power In	12V / 7A DC
Consumption	60W Max
Working Temperature	-10 -60

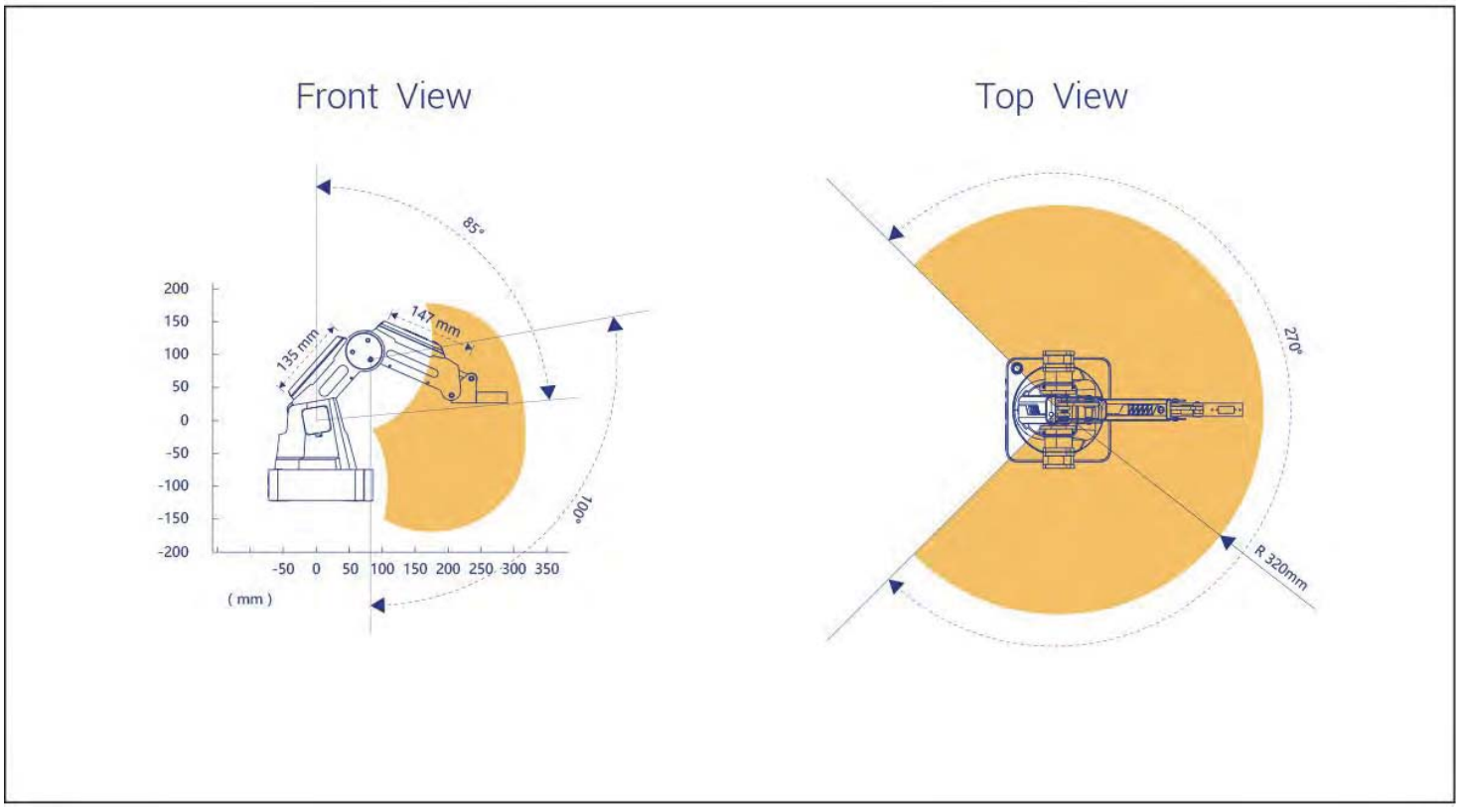
Axis Movement		
Axis	Range	Max Speed (250g workload)
Joint 1 base	-135° to +135°	320° /s
Joint 2 rear arm	0° to +85°	320° /s
Joint 3 forearm	-10° to +95°	320° /s
Joint 4 rotation servo	+90° to -90°	480° /s

Endeffectors		
3D Printer Kit	Maximum Print Size (L *W *H)	150 mm *150 mm * 150mm (MAX)
	Material	PLA
	Resolution	0.1 mm
Pen Holder	Pen Diameter	10 mm
Vacuum Suction Cap	Cap Diameter	20 mm
	Pressure	-35 Kpa
Gripper	Range	27.5 mm
	Drive Type	Pneumatic
	Force	8 N

Physical	
Net Weight (Arm and Controller)	3.4kg
Gross weight (Standard Version)	7.2kg
Gross weight (Education Version)	8.0kg
Base Dimension (Footprint)	158 mm * 158 mm
Materials	Aluminum Alloy 6061, ABS Engineering Plastic
Controller	Dobot Integrated Controller
Robot Mounting	Desktop
Packing Size (L*W*H)	307mm * 224mm * 330mm
Carton Size for Standard Version (L*W*H)	340mm * 300mm * 400mm
Carton Size for Education Version (L*W*H)	345mm * 290mm * 485mm

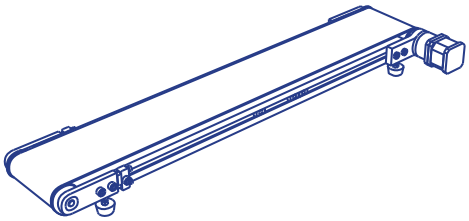
I/O Interfaces	
Extensible I/O Interfaces	1.I/O*10 (Configure as Analog Input or PWM Output)
	2. Controllable 12V Power output*4
	3. Communication Interface (UART, Reset, Stop, 12V, 5V and two I/O included)
	4. Stepper * 2

Applications	
Software	DobotStudio, Repetier Host, GrblController3.6, DobotBlockly (Visual Programing editor)
SDK (Software Develop Kit)	Communication Protocol, Dobot Program Library



Dobot Accessories

Conveyor Belt



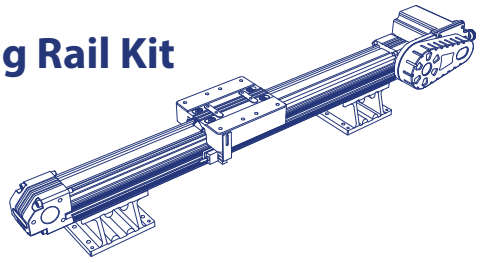
Specifications

Conveyor belt	
Payload	500 g
Effective delivering distance	600 mm
Maximum speed	120 mm/s
Maximum acceleration	1100 mm/s²
Dimension	700 mm × 215 mm × 60 mm
Weight	4.2 kg

Distance measuring sensor unit	
Measurable range	20 ~ 150 mm
Signal	Analog Output
Input	4.5 - 5.5 V

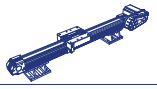
Color recognizing snesor unit	
Input	3 - 5 V
Detectable: non-glowing object	
White LED embedded, on/off controllable	

Sliding Rail Kit



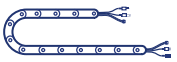
Shipping List

Sliding Rail

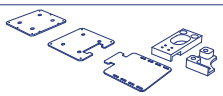


Tool Kit

Wire Set



Attachment



Assembly instructions

Specifications	
Payload	5 kg
Effective Travel Distance	1000 mm
Maximum Speed	150 mm/s
Maximum Acceleration	150 mm/s²
Repeat positioning accuracy	0.01 mm
Absolute positioning accuracy	0.25 mm
Dimension(Lenth × Width × Height)	132mm × 120mm × 55mm
Weight	4.7 kg

Vision System - Machine Learning

Vision System Specification		
Item	Specification	
HD Color Industrial Camera	Effective Pixel	3 million
	Hue	Color
	Frame Rate/Resolution	12 @2048×1536
	Data Interface	USB 2.0
White Auxiliary Light Source	Luminous Color	White
	Illumination	40000 lux
	Brightness	Continuously Adjustable (Range:0~100%), Color Temperature Const
Camera Lens	Focus	16mm
	Aperture	F1.4-F16C
	Focus Point	0.3m-Inf

Dobot Magician

All-in-One Robot Education

Dobot Box Contents