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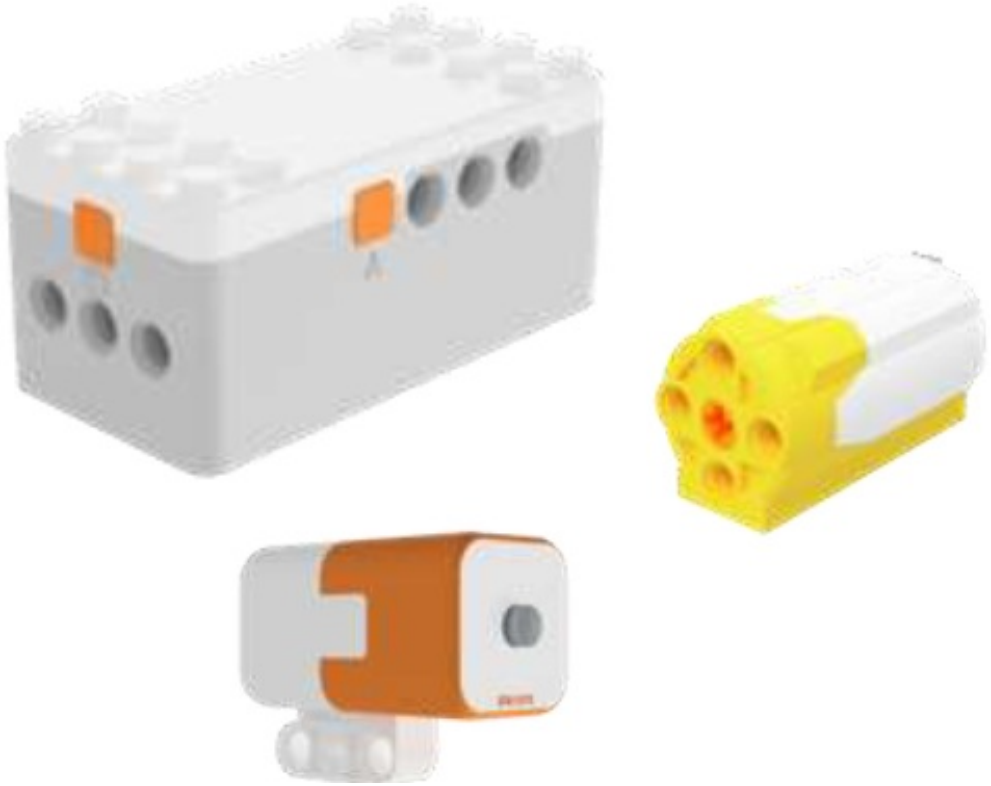
mymaga N 01Kit Programmable Educational Robot



PRODUCT SPECIFICATION

The kit is mainly used to teach the basic concepts of technology and robotics in schools (second cycle of primary and secondary education). The compatible activities focus on the practical, mechanical, and logical aspects of robot construction, applying the STEAM approach (Science, Technology, Engineering, Art, and Mathematics) to integrate different disciplines into the educational process.

Below is the detailed specification for your reference

Component	Description	Qty	Photo
Mainboard Board	Nordic nRF52833， Flash Rom 512KB， RAM 128KB， 3-axis gyroscope, 3-axis accelerometer, 3-axis magnetometer, 4-channel motor driver, 4-channel Lego stackable interface, 5 * 5 LED matrix, built-in digital buzzer, built-in EEPROM storage, built-in temperature sensor, built-in 2.4G and BLE 5.2 module	1	
Constructure Component	Pls reference the below detail	400	
Electronic Module:	LEGO connecting cable 25cm	2	
	LEGO connecting cable 35cm	2	
	Data Transfer cable	1	
	Red LED	1	
	Sound sensor	1	

	Light sensor	1	
	Obstacle avoidance sensor	1	
	Touch sensor	2	
	Motor with gear boxes	2	
	180 degree Servo motor	1	
	green LED	2	
	blue LED	2	
	Triple IO expansion module	2	

	Dual Line Follower module	1	
	RGB Module	1	
	Laser Distance Sensor	1	
	Temperature and Humidity Sensor	1	
	128x64 pixels OLED	1	
	Potentiometers	1	

Constructure Components

Name	Unit Qty	Category	Photo
TYRE NORMAL WIDE Ø43,2 X 22	4	Vehicles & Transportation	
TYRE NORMAL WIDE Ø30,4 X 14	4	Vehicles & Transportation	
CROSS AXLE 4M	8	Connectors	
CROSS AXLE 6M	2	Connectors	
CROSS AXLE 8M	2	Connectors	
CROSS AXLE 12M	6	Connectors	
CROSS AXLE 10M	2	Connectors	
CONNECTOR PEG W. FRICTION	28	Connectors	
DOUBLE CONICAL WHEEL Z12 1M	2	Vehicles & Transportation	
TECHNIC TOOTHED BAR 8M	1	Vehicles & Transportation	

TYRE FOR WEDGE-BELT WHEEL	4	Vehicles & Transportation	
ANGLE ELEMENT, 157,5 DEGR. [3]	4	Connectors	
TECHNIC STEERING-GEAR 3M	2	Vehicles & Transportation	
T. STEERING GEAR, BEARING 2M	2	Vehicles & Transportation	
CONICAL WHEEL Z12	6	Vehicles & Transportation	
CONNECTOR PEG/CROSS AXLE	12	Connectors	
BEVEL GEAR Z20	2	Vehicles & Transportation	
3M CONNECTOR PEG	4	Connectors	
DOUBLE CONICAL WHEEL Z20 1M	2	Vehicles & Transportation	
PLATE 1X2	8	Plates	
TECHNIC BRICK 1X2, Ø4.9	6	Bricks	
TECHNIC BRICK 1X4, Ø4,9	6	Bricks	
TECHNIC BRICK 1X8	4	Bricks	
BRICK 1X16, Ø4,9	4	Bricks	

PLATE 2X4, 3XØ4.9	8	Plates	
PLATE 1X4	8	Plates	
PLATE 2X8 W. HOLES	8	Plates	
BRICK 1X6, Ø4,9	4	Bricks	
BRICK 1X12, Ø4,9	4	Bricks	
PLATE 2X6 W. HOLES	8	Plates	
CONNECTOR PEG W. FRICTION 3M	10	Connectors	
DOUBLE ANGULAR BEAM 3X7 45°	2	Technic Beams	
TECHNIC ANG. BEAM 4X2 90 DEG	8	Technic Beams	
TECHNIC ANGULAR BEAM 4X6	4	Technic Beams	
MINI HAT, NO. 223	1	Minifigure Accessories	
2M FRIC. SNAP W/CROSS HOLE	14	Connectors	
2M CROSS AXLE W. GROOVE	14	Connectors	
TUBE, W/ DOUBLE 4.85 HOLE	2	Connectors	

CROSS BLOCK 3M	4	Technic Beams	
CATCH W. CROSS HOLE	10	Connectors	
ANGLE ELEMENT, 180 DEGREES	4	Connectors	
1/2 BUSH	16	Connectors	
MINI WIG NO. 5	1	Minifigure Parts	
BOBBIN	1	Miscellaneous	
COMB WHEEL	4	Technic Beams	
1 1/2 M CONNECTING BUSH	6	Connectors	
DIFFERENTIALE 3M Z 28	1	Vehicles & Transportation	
GEAR WHEEL T=8, M=1	6	Vehicles & Transportation	
CROSSAXLE 3M WITH KNOB	4	Connectors	
GEAR WHEEL Z24	4	Vehicles & Transportation	
ANGLE ELEMENT, 0 DEGREES	4	Connectors	
TRIANGEL	2	Technic Beams	

TOOTHED BAR M=1, Z=10	2	Vehicles & Transportation	
RIM WIDE W.CROSS 30/20	4	Vehicles & Transportation	
RIM WIDE 18/14 W. CROSS Ø4.8	4	Vehicles & Transportation	
CROWN- AND GEAR WHEEL Z24	4	Vehicles & Transportation	
CROSS AXLE 5M	4	Connectors	
CONNECTOR PEG	8	Connectors	
CROSS AXLE 3M	8	Connectors	
CROSS AXLE, EXTENSION, 2M	8	Connectors	
GEAR WHEEL Z16	2	Vehicles & Transportation	
WORM GEAR, 2 MODULE, FOR GEAR WHEEL	2	Vehicles & Transportation	
GEAR WHEEL 40T	2	Vehicles & Transportation	
BUSH FOR CROSS AXLE	16	Connectors	
WEDGE-BELT WHEEL Ø24	4	Vehicles & Transportation	
2X1X3 STEERING KNUCKLE ARM	4	Technic Beams	

TECHNIC 9M BEAM	4	Technic Beams	
Trans-Dark Blue Plastic Science & Technology Panels	1		
Surfboard on Ocean - Green Legs, Red Cap	3	Minifigures:	
Yellow Flowers - Black Ponytail Hair, Orange Legs	3	Minifigures:	
Total	**400**		
FLAT TILE 1X4	2	Plates	
BRICK 2X4	4	Bricks	
BRICK Ø16 W. CROSS	2	Bricks	
ROOF TILE 1X2/45°	4	Bricks	
BRICK 1X2 WITH CROSS HOLE	4	Bricks	
TECHNIC 3M BEAM	2	Technic Beams	
TECHNIC 5M BEAM	2	Technic Beams	
TECHNIC 7M BEAM	2	Technic Beams	
TECHNIC 15M BEAM	8	Technic Beams	

Product Usage Instructions

Assembly Instructions

1. Refer to the provided construction components list to assemble the robot.
2. Connect the electronic modules using the LEGO connecting cables as instructed.

Programming Instructions

1. Install the required software on your computer for programming the robot.
2. Follow the programming guide provided to create scripts for different robot functions.

Operating the Robot

1. Power on the robot by connecting it to a power source.
2. Use the provided sensors and modules to interact with the robot and test its functionalities.

General use

ASIMOV N 01Kit is a multifunctional educational development board for
Programming learning: introduction to Block Coding (MakeCode) or textual (Python, JavaScript) programming. Electronic experiments: connect sensors, motors, and other peripherals to learn basic circuit principles. Creative projects: making games, robots, IoT devices, etc.
Interdisciplinary teaching: combining knowledge of science, math, art, and other subjects.

Specialized tools and components

- Core tools
- Programming platform:
- Microsoft MakeCode (graphical/JavaScript)
- MicroPython (text programming)
- Scratch, Arduino IDE (adapters required).
- Mobile App:
    - **Micro:** bit App (wireless burn-in program, Bluetooth support).
    - Commonly used extension components

- **Sensors:** temperature and humidity, light, ultrasonic, sound sensors, etc.
- **Actuator:** Servo, motor, buzzer, LED strip.

Equipment technical details

- Hardware configuration
- Main control chip: Nordic nRF52833.
- Display: 5×5 LED dot matrix (can display icons, numbers).
- Input: 2 buttons (A/B)
- Sensor:
- Accelerometer (detects tilt and motion)
- Magnetometer (compass function)
- Temperature sensor (on-board chip)
- Communication:
- Bluetooth
- 2.4GHz radio (multi-device interconnection)
- Interface:
- GPIO, I2C, SPI, PWM, etc. supported
- Typec-USB (power supply/program burning)
- Software Support
- Support OS: Windows/macOS/Linux/Chromebook.
- Program storage: No need for an SD card, code is burned directly to the built-in storage via USB.

Connection and Configuration

- Hardware connection
- Connect the peripheral device via wire (e.g., servo to P0 pin).
- Pay attention to voltage matching (only supports 3 peripherals).
- Software configuration:
- Select the corresponding PIN(e.g., P0) in MakeCode.
- Needs to initialize the peripheral library (e.g, import music).
- Wireless Configuration
- Bluetooth pairing: transmit the program wirelessly via mobile app (e.,g. “MMicrobit”).

- Multi-device communication: send strings or values using the radio module.

Proper use and maintenance

- Recommendations for use
- **Avoid short-circuit:** Do not let the gold finger pins touch each other when connecting peripherals.
- **Static electricity protection:** Discharge by touching metal objects before operating in a dry environment. Power Management: Manual shutdown is required when not using the recommendations for a long time. Maintenance:
- **Cleaning:** Wipe the PIGO pins wth da dry cloth to avoid oxidation.
- **Storage:** Place in a dry environment, avoid high temperature or humidity.
- **Firmware Update:** Upgrade the firmware regularly through official tools.

The information contained in this product brochure may change without notice.

For more information, please contact

- sales@jpik.com
- www.jpik.com

Frequently Asked Questions

Can I use third-party sensors with the robot kit?

The robot kit is designed to work with the included sensors and modules. Compatibility with third-party sensors may vary.

How can I update the firmware of the mainboard?

Refer to the official website or contact customer support for instructions on updating the firmware of the mainboard.

Unable to recognize the device

Check if the USB cable supports data transfer (some cables can only charge). Computer side try to change USB port or restart the IDE.

Program upload failed

Make sure is displayed in “MAINTENANCE” drive mode. Reset the device (there is a reset button on the back).

LED dots do not light up

Check the power supply (USB or battery for poor contact). Verify that the program is controlling the LEDs correctly (e.g., show icon command).

Computer does not recognize the device USB driver problem

Replace the data cable or re-plugging

Program runs unresponsive Code error or insufficient power supply

Check code logic or replace battery

Sensor data abnormality Poor contact or wiring error

Reconnect the pins and make sure the voltage matches.

Bluetooth connection failure Distance or interference

Proximity to device, turn off other wireless devices

Documents / Resources

	mymaga N 01Kit Programmable Educational Robot [pdf] User Manual N 01Kit Programmable Educational Robot, N 01Kit, Programmable Educational Robot, Educational Robot

References

- User Manual

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Educational Robot, mymaga, N 01Kit, N 01Kit Programmable Educational Robot, Programmable Educational Robot

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