KEM EDU-SOLUTION

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KEM EDUSOLUTION

STEAM

Q-Scout

User Manual

Age:6+



This User Manual provides information on the building and operation of the Q-Scout. All users should read this User Manual carefully and follow the instructions inside to safely operate their Q-Scout. The Q-Scout User Manual may be updated when necessary. Please visit our website **https://wiki.robobloq.com/** to download the latest version of the User Manual.

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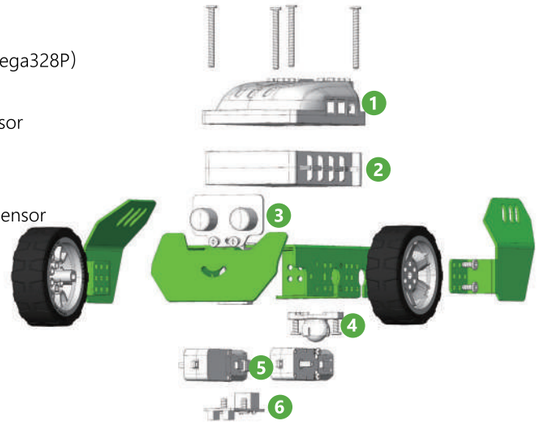
What is Q-Scout

Q-Scout is a programmable robot kit for K12 students. It includes mechanical parts, mechanical structures, and electronic modules that can be freely assembled into different forms, as well as programming software and course materials. Students will be able to build the robots from scratch and experience the fun of hands-on creation. At the same time, they will also learn how the different mechanical structures and electronic modules function and practice Scratch programming. By making programming simple and fun, the robot kit helps students develop their skills and knowledge in science, technology, engineering, arts, and mathematics!

Highlights: Entry-level robot building & coding kit. This cute robot has 20-minute building time, along with a Scratch 3.0 based graphical coding environment. Featuring ultrasonic obstacle dodging and automatic line tracking, Q-scout is fun scientifically with expanding capabilities. Q-scout is the best option as a kid's first robot.

1. Qmind (ATmega328P)
2. Power supply
3. Ultrasonic sensor
4. Ball caster
5. 130 motor
6. Line follower sensor



What is inside the kit


Chasiss (1)


Right wing (1)


Left wing (1)


Smiling bumper (1)


Z-Bracket 3x3x2 hole (2)


Qmind (1)


Tyre 75x25mm (2)


Driving wheel 56x30.8mm (2)


Ball caster (1)


130 motor (2)


Screwdriver (1)


Wrench (1)


Screw M4x42mm (5)


Screw M4x9mm (15)


Screw M3x25mm (5)


Nut M3 (10)


Screw M2.3x8mm (5)


RJ 11 cable-120mm (1)


RJ 11 cable-180mm (1)


USB cable-100mm (1)


Ultrasonic Sensor (1)


Line follower sensor (1)


Black tape (1)


User manual (1)

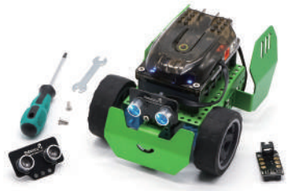
How to use the kit

1 Check that no parts are missing.



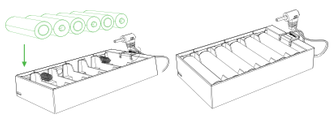
2 Build the robot.

Refer to the User Manual or the Robobloq app for assembly instructions.



3 Prepare 6 AA batteries.

(For better results, please use high-performance alkaline or NiMH rechargeable dry batteries.)



4 Download the Robobloq app to control your Q-Scout!

Available on the App Store

ANDROID APP ON Google play

Robobloq search

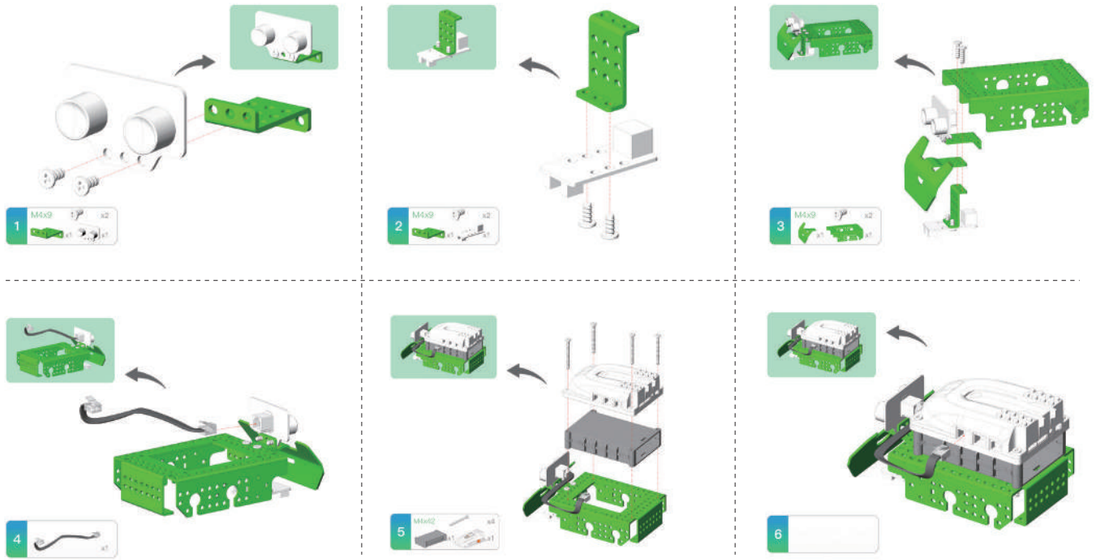
5 Program the Q-Scout using the software.



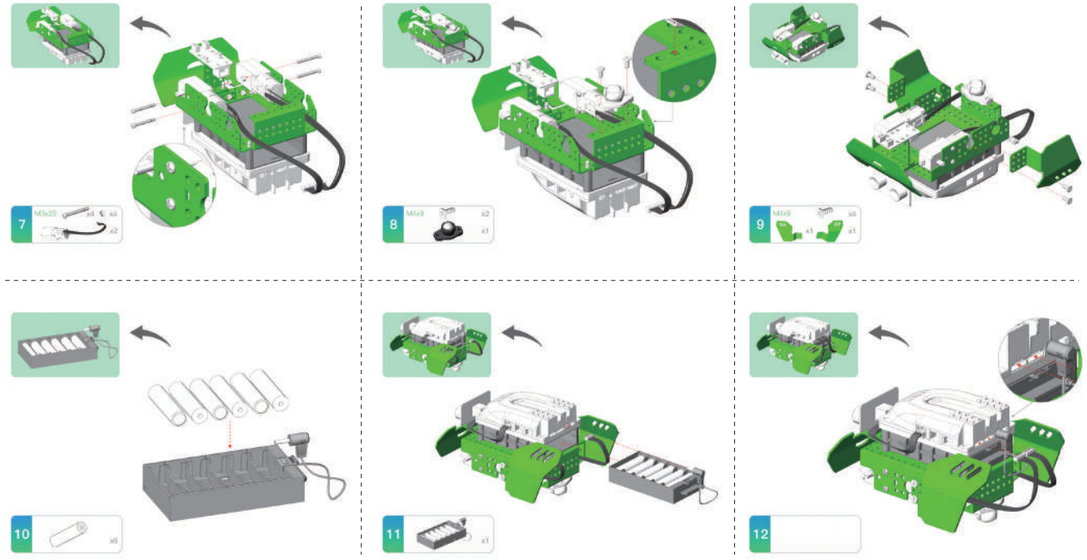
How to assemble the Q-Scout



01 How to assemble the Q-Scout

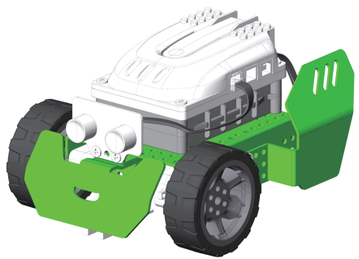


02 How to assemble the Q-Scout



03 How to assemble the Q-Scout





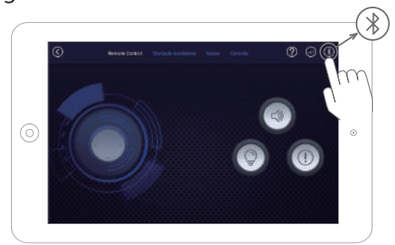
How to use the app (Android & iOS)

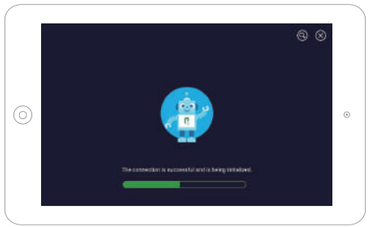
1. Download the Robobloq app to a mobile device: Search for "Robobloq" on your device's app store or scan the QR code below.

ANDROID APP ON Google play Available on the App Store Robobloq search

(Supports iOS 7.0 and Android 4.3 or higher, and Bluetooth 4.0)

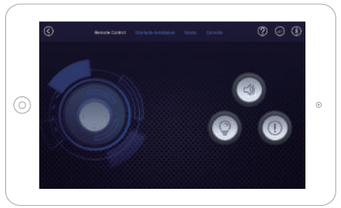
2. Turn on the power switch of the robot, open the Robobloq app, and then tap the Bluetooth icon at the top right corner of the screen.





3. Once the device is connected to the robot via Bluetooth, you can control the robot.

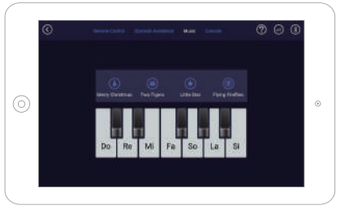
A. There are 3 modes of control: Remote Control, Obstacle Avoidance, and Music.



Remote Control Mode



Obstacle Avoidance Mode



Music Mode

B. Programming

Open the app > tap Application > Create program and drag the programming blocks to start programming the robot.
Once you are done, tap the "Play" icon at the bottom right corner of the screen and watch the robot perform the actions according to the instructions you programmed!



How to program Q-Scout using the PC software?

MyQode is a graphical programming PC software platform specially designed for Robobloq robots. You can learn how to program the robot using the MyQode platform and download the programs that you have written onto your Q-Scout.

1. Visit **www.robobloq.com/ software/download** to download the MyQode version suitable for your PC.

2. Connect your Q-Scout to your computer via a USB cable. Next, click Help-> Install Serial Driver to install driver. Make sure that your Q-Scout is displayed as "Online" status on the MyQode platform. Now you are ready to transfer what you have written to your Q-Scout.

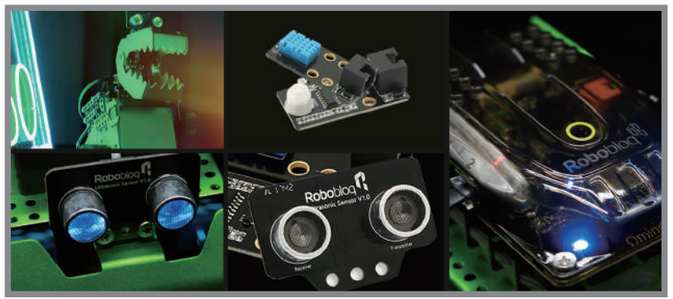


Specifications

Product	Q-Scout
Forms	1
Control Board	Arduino mega328p
Motor	130 Motor
Communication	Bluetooth 4.0
Extension Ports	3 sensor ports, 1 motor ports

Input	Button x1, Ultrasonic sensor x1
	Line follower sensor x1
Output	Buzzer x1, RGB LED x2
Battery	6 AA batteries (not included in the kit)
Software	Robobloq APP, MyQode, Arduino IDE
Weight	1150g

Robobloq also has a rich sensor ecosystem, including: light sensitive, sound, gyroscope, color, RGB LED, multipath, temperature and humidity, PIR, MP3 modules and more than 30 kinds of sensors and electronic modules, to support the function expansion and robot programming learning of the Q series metal robots. You can learn more about the sensors at Robobloq's website.



Expansion Package

Q-Scout is very malleable and supports a variety of expansion packages. You can purchase the expansion packages on our website to make morphological and functional changes to your robot.

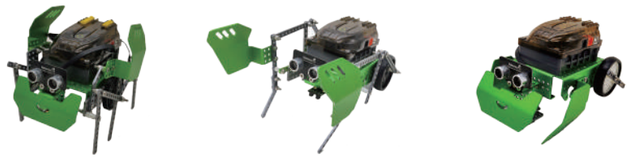
1. Sound and Light Expansion Package

Contains metal parts, light sensors, sound sensors, RGB LED, etc., which can transform your Q Scout into a light chasing robot, voice-controlled desk lamp, scorpion robot, etc.



2. Myriapod Corps Expansion Package

Rich in mechanical parts, structure, can build frog, mantis shrimp, mechanical beasts and other forms of robot, meet your imagination.



For more Expansion Package, please visit: **https://shop.robobloq.com/**

Expansion Package

3. Smart Steering Gear Expansion Package

Including steering gear and steering gear drive, RGB LED, a variety of metal parts, can be transformed into a Projector scout, Scan scout, Command baton and other forms.







4. Lamp Pead Matrix Expansion Package

Contains a variety of mechanical parts and LED lattice screen, you can build the Q Commander with it.



For more Expansion Package, please visit: **https://shop.robobloq.com/**

FAQ

For more information, please visit: **wiki.robobloq.com**

1. When I try to connect my Q-Scout via Bluetooth using the Robobloq app, a "Bluetooth connection declined" message is shown on my mobile device:

This happens when you try to connect to the robot by searching for Bluetooth devices using your mobile device. Open the Robobloq app and tap the Bluetooth icon at the top-right corner of the screen. Place the mobile device within 10-20 cm from the robot and a connection will be automatically established.

Note: Go to the Bluetooth settings of the Robobloq app to connect the robot, not the Bluetooth function of the mobile device.

2. I tried to connect my robot via Bluetooth using the Robobloq app at least 4-5 times, but it keeps saying "Bluetooth connection declined":

a. Check if the mobile device's "Location services" is enabled. Once it is enabled, tap the Bluetooth icon in the app to try connecting to the robot again. Generally, this should resolve the issue.

b. Try downloading the latest version of the Robobloq app and see if the issue is resolved. You can search for "Robobloq" in a mainstream app store to download or update it.

3. What is the "BLE" button next to port 1 of the control board 1 used for?

The "BLE" button is for Bluetooth connection. If a mobile device cannot directly connect to the robot, press the "BLE" button and the robot will search for the mobile device and establish a connection.

4. I have already connected my robot via the app's Bluetooth setting, but why doesn't it move when I use the Remote Control functions?

Try testing the other functions first: Use the app to control the lights and sound. If there is a current sound from the motor, but the robot is not moving, there are 3 ways to resolve this:

a. Batteries: The voltage provided by the batteries is insufficient. Some of the AA batteries may be too weak. Try replacing them with higher quality AA batteries. If you are using lithium batteries, try charging them first.

b. Mechanical issue: The Driving Wheel or Driven Wheel of the Q-Scout may be too tight, preventing them from rotating properly. Solution: Try using the Wrench and Screwdriver in the kit to loosen the Lock Nut on the front wheels. Try spinning the wheels by hand to see if they can move freely.

c. The initial speed is too low: Due to friction and other reasons, we recommend that when programming you should set the robot speed to at least 45 to ensure that the robot can move.

5.When I use the app to try to make my robot move forward why does my robot move backward instead?

This may be caused by incorrect connection of the left and right motors. Try switching the connection of the two motors.

Notes & Safety

Warning:

- Please only use the kit with adult supervision and assistance.
- The kit contains small parts. Please keep the kit away from the reach of any child at the age of 3 or younger to prevent choking hazard.
- Please try to only use the kit on a dry and even floor in an indoor environment and avoid contact with any liquid.
- Please do not pull any wires inside the kit with force. Please replace any worn-out wires before use.

Notes:

- Batteries are not included in this kit. For better results, please use high-performance alkaline or NiMH rechargeable dry batteries. Please read the instructions on the batteries carefully before use.
- The batteries should be properly disposed after use and should not be thrown near a heat source or buried underground.
- When not using the robot for a prolonged period of time, disconnect the robot from the power source.
- Before turning on the power switch of the robot, check to ensure that all wires are connected correctly. Incorrect connec- tions may damage the robot.
- Please ensure that the moving parts of the robot, such as the motors and steering gears, are unobstructed. Obstruction may cause a motor to overheat or even damage the motor.
- After operating the robot for a period of time, the screws may become loose. Please check and tighten them if necessary.
- When cleaning the robot, please first disconnect the robot from the power supply and then use a soft, dry cloth to clean the surface of the robot.

Q-scout FCC ID:2AOHL-RB00002
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Manufacturer.RoboBloq Co., Ltd. Made in China
Model No.:RB-00002

Warning: choking hazard-contains small parts. Not suitable for children under 6 years.

RoHS COMPLIANT

There are no restrictions of use.
MADE IN CHINA

About Robobloq

Based in Shenzhen, China, Robobloq is a high tech pioneer in Edtech solution development.We are dedicated to providing integrated solutions including STEM learning tools, teaching materials, robot competitions and international exchanges for educators worldwide.Robobloq empowers kids and students to develop hands-on abilities and coding skills, bringing their innovative ideas to life.



