

Edison

Edison V3 Technical OVERVIEW

Technical specifications for the Edison V3 robot



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Programming Edison

Edison is programmed using any of the Edison robotic programming languages: [EdBlocks](#)¹, [EdScratch](#)² and [EdPy](#)³.

The USB cable is used to connect the Edison V3 robot to download programs from any of the Edison robotics programming languages.

To connect Edison V3 to a computer or tablet, lift the USB cable out from underneath the robot and plug the USB cable into a USB-A port on the programming device.

This communication method is compatible with Mac, Linux, Windows, Android, and Chrome operating systems via the Chrome browser.

Apple's iOS devices (iPads) do not allow websites or apps to access their data port. For iOS devices programs are downloaded via screen flashing to the Edison V3 line tracking sensor.

Sensors and inputs

Obstacle detection: Two infrared (IR) LEDs (front left and right) and IR receiver module (doubles as the IR data comms and remote-control receiver)

Remote control: IR receiver module (which operates at 38kHz) allows Edison V3 to learn IR codes from the EdRemote remote control and most standard TV remote controls

Infrared data comms: IR receiver module (doubles as obstacle detection sensor and IR remote receiver)

Line tracker: Red LED and phototransistor (doubles as a barcode reader and iPad programming port)

Light sensors: Two phototransistors (front left and right)

Sound sensor: Piezo transducer (doubles as speaker and clap sensor)

Keypad: Three button keypad

- Triangle – press for on, press to start program, user programmable
- Square –press to stop a program, hold down for off (not user programmable)
- Round – press three times to read barcode, user programmable

¹ <https://www.edblocksapp.com/>

² <https://www.edscratchapp.com/>

³ <https://www.edpyapp.com/>



Outputs

Drive: Differential two-wheel drive system with wheel encoders powered by the right and left 3-volt motors. Wheel encoder resolution is 1.25mm of wheel travel.

Infrared data comms: Two IR LEDs (doubles as obstacle detection sensor)

Sound: Piezo transducer (doubles as speaker and clap sensor)

Lights: Two red LEDs (front left and right)

Processor: GigaDevice GD32F350CBT6 Arm® Cortex®-M4 32-bit MCU

Power

Battery: Internal Li-ion rechargeable battery with 90 minutes of continuous driving time avoiding obstacles. Battery capacity is 800mAh.

Recharging

The internal battery can be fully recharged from flat in 4 to 5 hours. There are two methods for recharging the battery:

USB: The internal battery can be recharged via the USB cable. Charge current is 180mA.

EdCharger: The internal battery can be recharged using the EdCharger desktop charger. Charge current is 180mA.

LEGO compatible attachment points

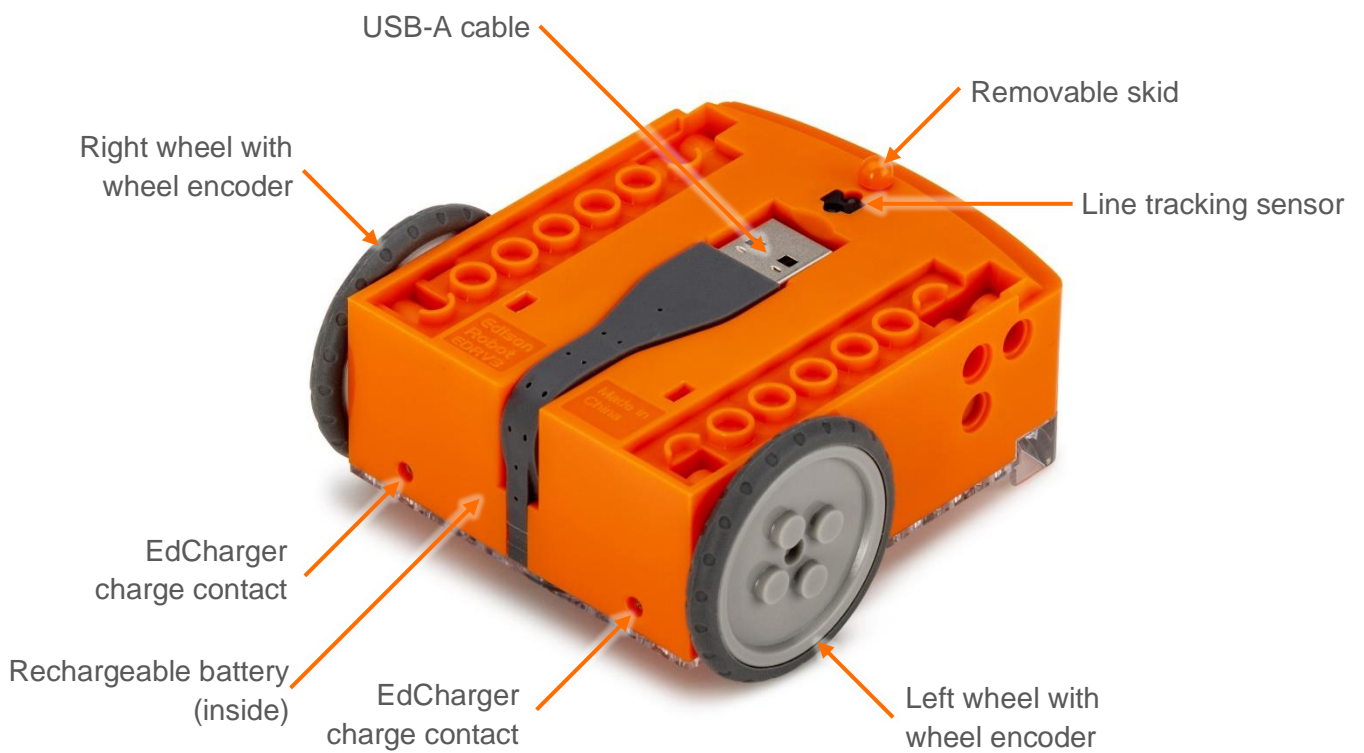
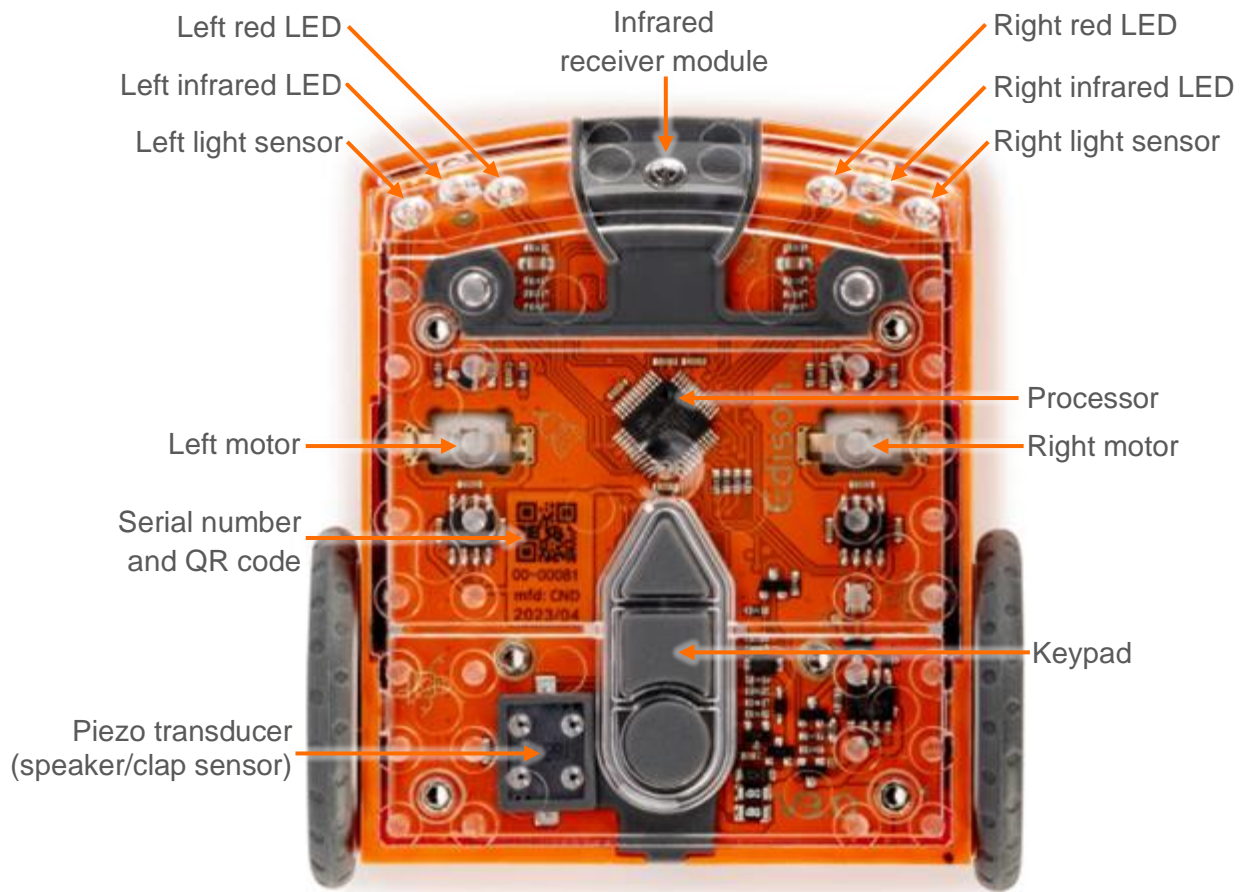
Removable skid: Taking the skid out of the robot allows Edison V3 to be used as a flat base to attach other Edison robots, or bricks.

There are three types of LEGO compatible connection points: pin holes, stud holes, and cross axle sockets. The three pin holes suit full depth pegs and the four stud holes suit shorter pegs. When Edison's wheels are removed, LEGO compatible cross axles can be inserted.

QR code and serial number

Each Edison robot has a unique serial number and QR code.







Need additional information?

You can find more information about the Edison robot's inputs, outputs, and sensors at <https://meetedison.com/edison-robots-sensors/>

Our team are here to help! For information not covered in this overview, please reach out to us at <https://meetedison.com/edison-robot-support/contact-us/>.

