

I. How to Use Neuron:

Neuron is a smart module-based electronic product. The product has many electronic modules with different functions to help children easily create works according to their own ideas. The electronic modules are easy to use owing to the compact design and magnetic interface. To create simple electronic works, children just need to connect different modules together. It can also be used to create many fun and interesting smart works by combining with the common craft-making materials; for example, small table lamps, strong light alarms, acoustic control lamps, etc.; the product is magnetic, which is convenient for children to show their own works. In addition, children can also use the Neuron APP to add more features for their works to make it better.

Nine Features

Hardware



1.

PogoPin: The modules are magnetically connected, easy to assembly and play, and convenient for children to connect different modules together. It can also prevent children from making mistakes in connecting the modules to the wrong sides. It's easy-to-use and durable for 100,000 plays ;

2.

Sensor:The Neuron creative lab has many sensors, and the modules can be divided into 3 categories according to their functions, “energy & communication”, “input”,and “output”, which correspond to green, orange and blue colors respectively, and are convenient for the users to identify the modules with different functions.Every Neuron module is equipped with an independent chip with a unique function. The sensors can collect information/values of the surrounding environment and convert the information into easy-to-read digits and other formats.

3.

Wireless and wired: Neuron modules support either wireless firmware update (via Bluetooth,WIFI) with iPads and smart phones, or firmware update and charging by connecting it directly to PCs via micro USB cables.

Software

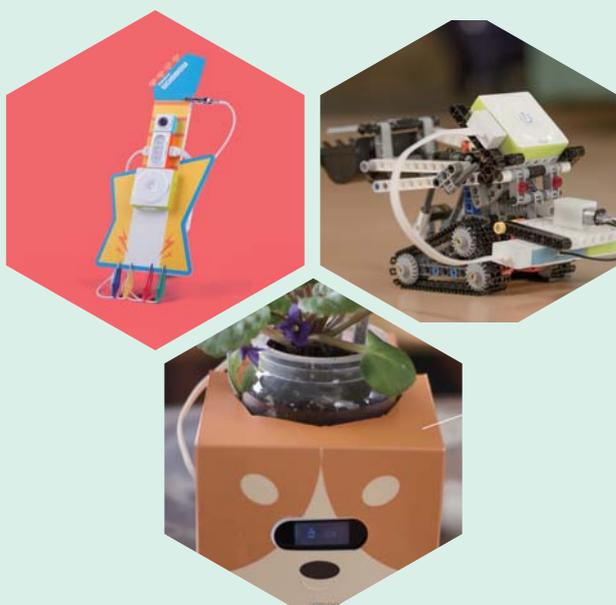
4. **Flow-Based Program:** download the Neuron APP onto your iPad or smart phone, and connect via Bluetooth or WIFI. You can now enjoy the online graphical programming. The APP also has built-in features including 10+ model lessons and guide for novice users. It's very easy to start navigating, even for someone who has absolutely no programming experience. More model lessons will be added in Neuron App.

5. **Visual Program(mBlock5):** Graphical programming software independently developed based on Scratch. It can be downloaded and used by PC users, and more than 2 million users in the world choose mBlock5 as the programming learning tool, which supports windows, macOS, Linux, Chrome OS and other user environments.

6. **IoT cloud platform:** By using the cloud control node in Neuron APP, the users can share their small works by sending the QR codes or links to friends. In addition, it's also possible to use another device to remotely control the creative works so as to show the ideas remotely.



Structures



7. **Paper-based models** (using craft-making materials) : In the neuron lab kit, there are ready-to-use paper-based models corresponding to some lessons. It is also possible to download paper-based models online, or design your own paper-based models. For kids who love craftworks, the neuron electronic building blocks can add intelligence components to the commonly-used craft-making materials, and make the final works more creative;

8. **Building blocks (LEGO)** :There are several holes on the Neuron magnetic board, adaptive to the LEGO Technical series products, which helps the building block enthusiasts make more creative works; by using the building blocks to make more engineering structures and with the assistance of Neuron's electronic features, your final works will surely have a lot of cool effects.

9. **Everyday materials:** The plants and fruits that you can see in everyday life can also be combined with neuron modules to achieve fun functions; for example, leaves, bananas, lemons, oranges, etc.

Three ways to play



1

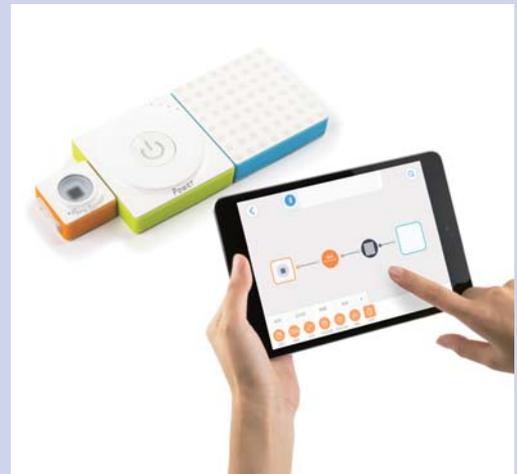
Offline mode: Each Neuron module has an independent chip and a unique function. It has some default features via factory settings. Therefore, once user opens the package, the product is readily connected to the module to achieve some simple functions, such as "light sensor + power + display = light value of the current environment"; "gyro + power + LED screen = small ball game, etc.;

For details, please refer to "Module Cards".

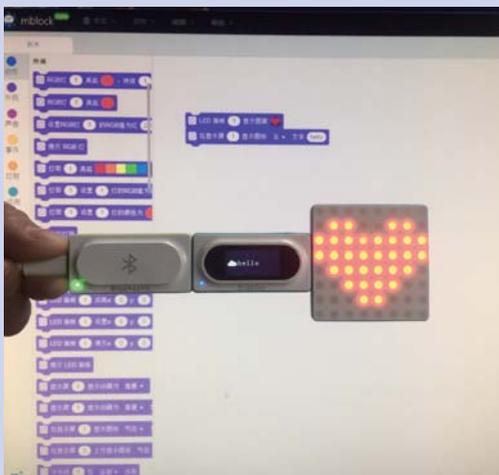
2

Online mode(Flow-based): The online mode graphical programming can be used by anyone as it's very easy to understand. Online programming focuses on developing thinking skills and creativity, other than programming. It lowers the difficulty of programming and reduces the rigid requirements of sequential logic, allowing students to pay more attention to creation of their own works. The online programming has commonly-used nodes, such as "comparison", "digit", "calculation", "otherwise", "and", "or", "switch", etc.; cloud control (IoT) nodes, time nodes, like "delay", "hold", "current time", "sequence", etc.; and advanced nodes, such as "random", "function", "valve" and other advanced programming nodes. It's easy to use, for an example, create a new project --- drag and drop nodes (auxiliary nodes) --- start connection --- enable the function;

For details, please refer to the "Description of Nodes".



3.



PC mode (mBlock5): Visual code programming software; mBlock 5, which is developed on the basis of Scratch 3.0, can be used in drag-and-drop programming and code programming. It allows users to create interesting stories, games, animations and other works, and supports makeblock series products, to facilitate the teaching and learning of programming;

Use the Neuron Bluetooth module, USB data connecting cable, and other modules to start programming in mBlock5.