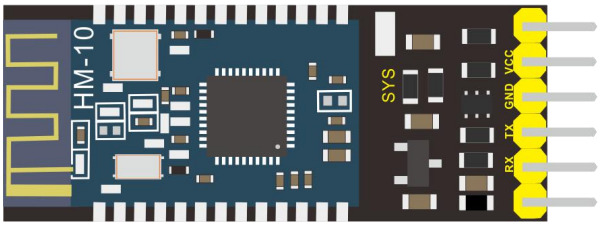
FCC ID: 2ADMFHM-10

Keyestudio HM-10 Bluetooth-4.0 V3

Compatible with HC-06 Pins



Description

Bluetooth technology is a wireless standard technology that enables short-distance data exchange between fixed devices, mobile devices, and building personal area networks (using UHF radio waves in the ISM band of 2.4 to 2.485 GHz).

The Keyestudio HM-10 Bluetooth-4.0 V3 module is a master-slave machine. When use as the Host, it can send commands to the slave actively; when use as the Slave, it can only receive commands from the host.

The HM-10 Bluetooth module supports the Bluetooth 4.0 protocol, which not only supports Android mobile, but also supports iOS system.

Technical Details

1) Bluetooth protocol: Bluetooth Specification V4.0 BLE
2) No byte limit in serial port Transceiving
3) In open environment, realize 100m ultra-distance communication with iphone4s
4) USB protocol: USB V2.0
5) Working frequency: 2.4GHz ISM band
6) Modulation method: GFSK(Gaussian Frequency Shift Keying)
7) Sensitivity: ≤-84dBm at 0.1% BER
8) Transmission rate: Asynchronous: 6K bytes ; Synchronous: 6k Bytes

9)Security feature: Authentication and encryption

10)Supporting service: Central & Peripheral UUID FFE0, FFE1

11)Power consumption: Auto sleep mode, stand by current 400uA~800uA, 8.5mA during transmission.

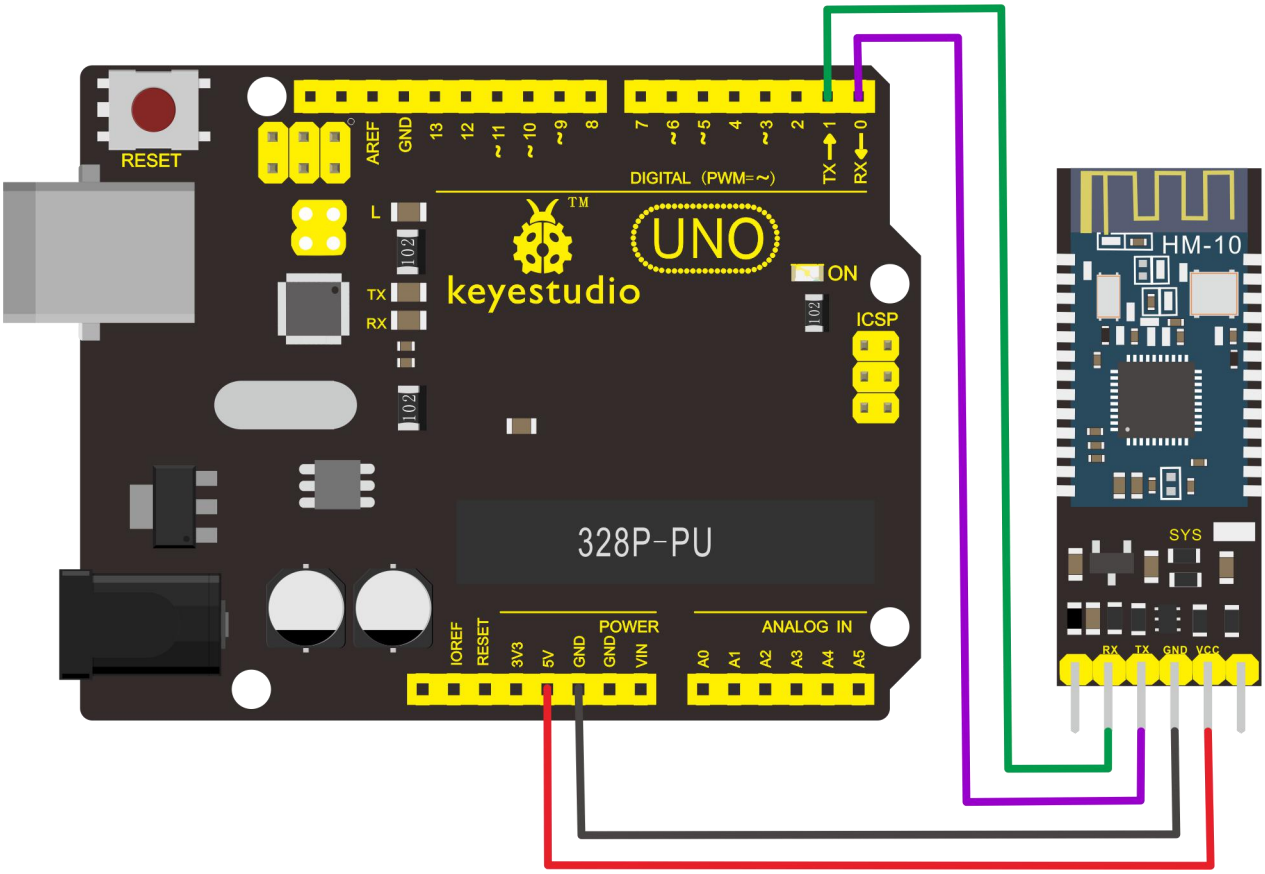
12)Power supply: 5V DC

13Working temperature: －5 to +65 Centigrade

Pins Description

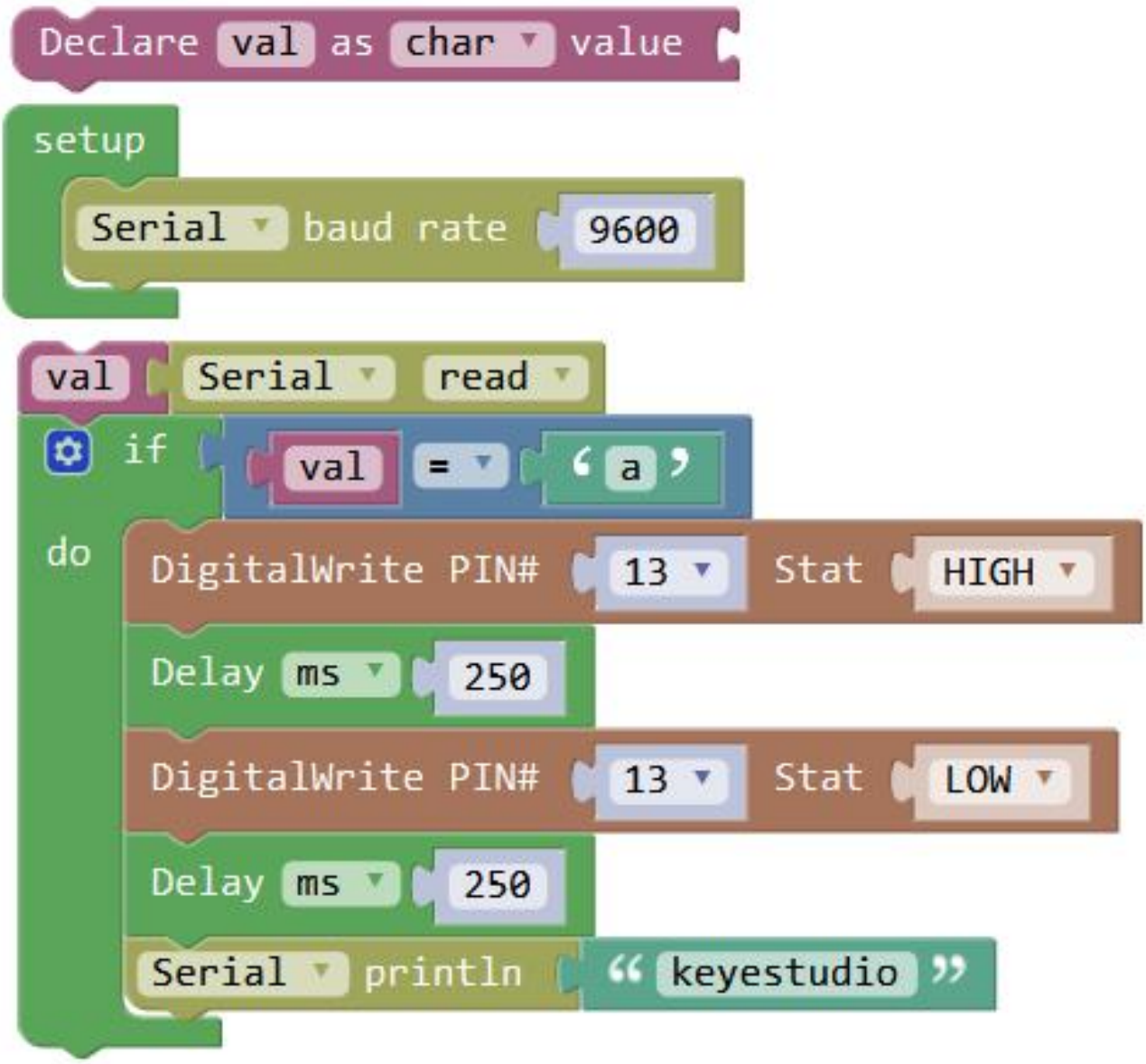
Pins	Description
BRK	Input pin; short press for control, or input a low-level single pulse of about 1000ms, you can implement the following features: (1) In sleep state: The module will be woken up to normal status. If AT+NOTI is turned on, the serial port will receive OK+WAKE (2) In connected state: The module will initiate a disconnect request (3) In standby state: The module will return to the factory default state.
RXD	Serial data input
TXD	Serial data output
GND	ground
VCC	Power positive input 5V
STATE	Output pin Indicates the working states: Slow flash in standby mode - repeat 500ms pulse; Long bright in connection state - high level. You can also set it to no flashing in the standby state, and long bright in the connection state.

Wiring Diagram



Test Code

When uploading the code, CANNOT connect the Bluetooth module first; otherwise uploading fails! You are supposed to upload the code to control board, then connect the Bluetooth module.



Result

First should install the APP on the cellphone.

For Android APP:

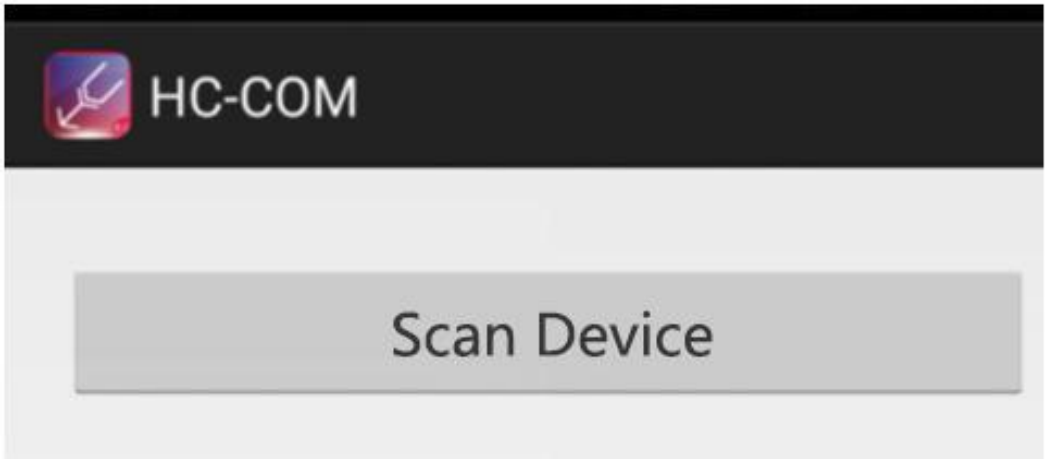
We provide you with an Android APP.

APP installed well, you can see the icon  on your Android phone.

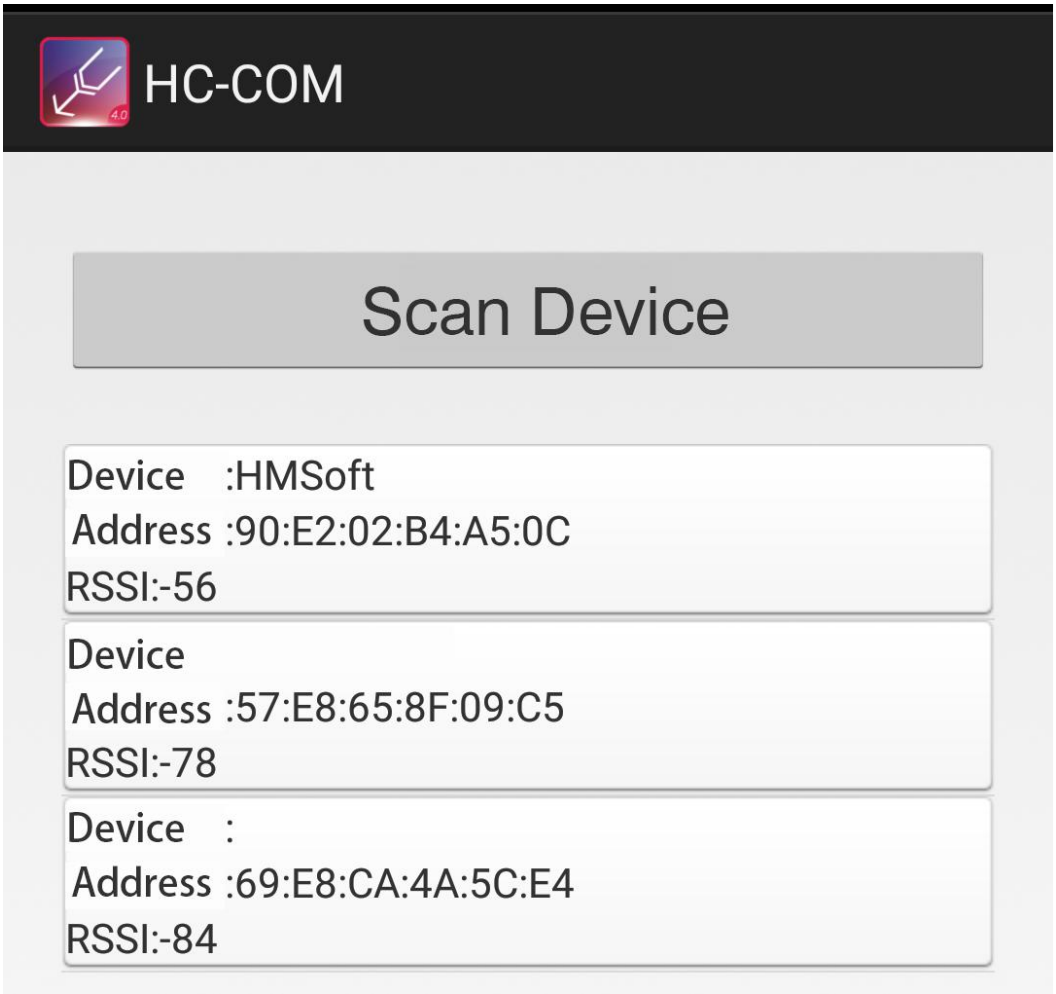
After wiring, upload the test code to UNO R3 board and then connect the

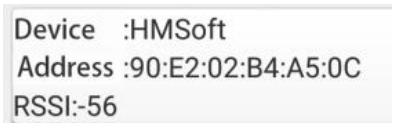
Bluetooth module. Powered on, Bluetooth module's built in LED flashes.

Open the Android APP , click to scan device. As shown below.

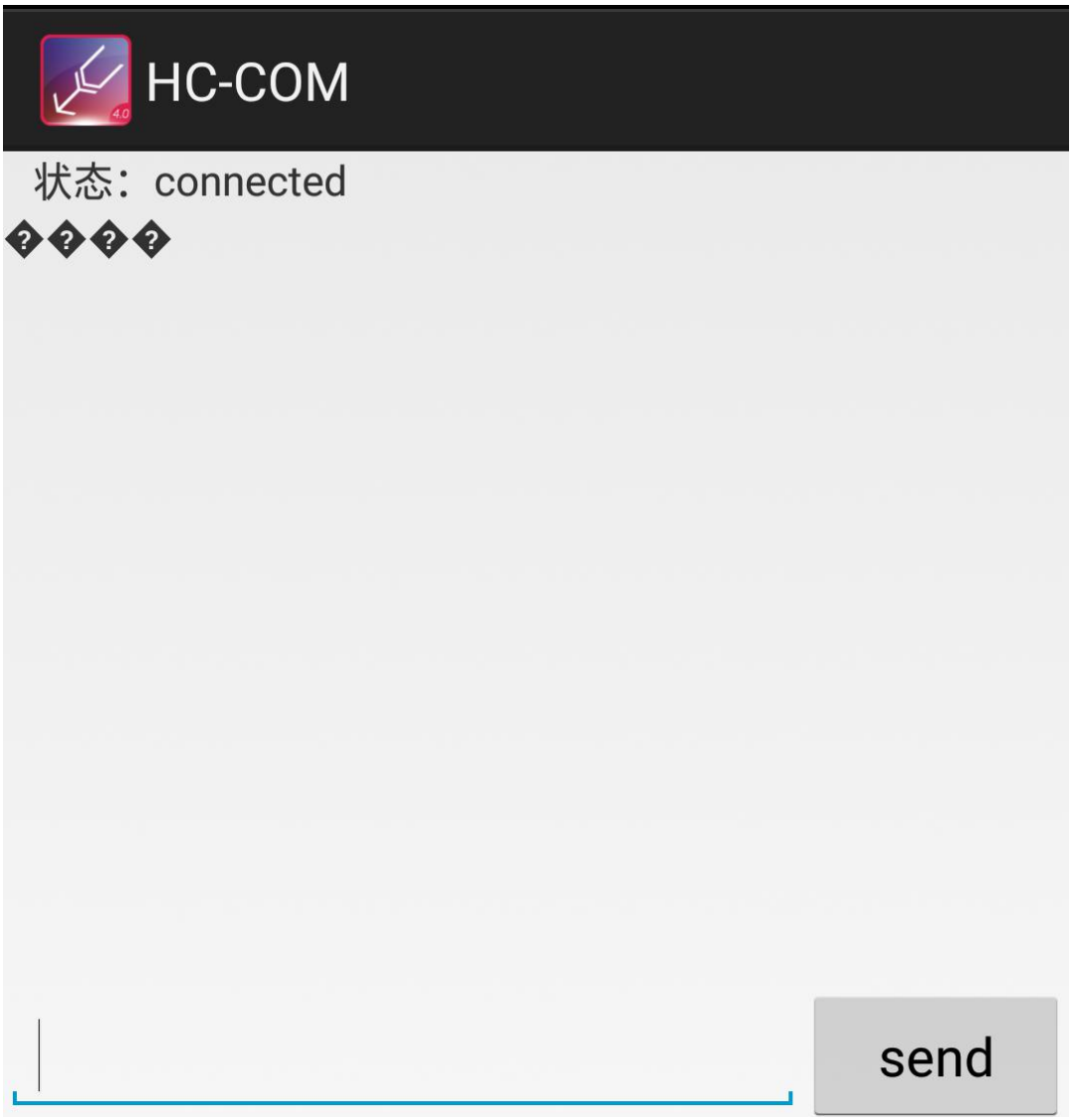


Click Scan Device to search the Bluetooth.



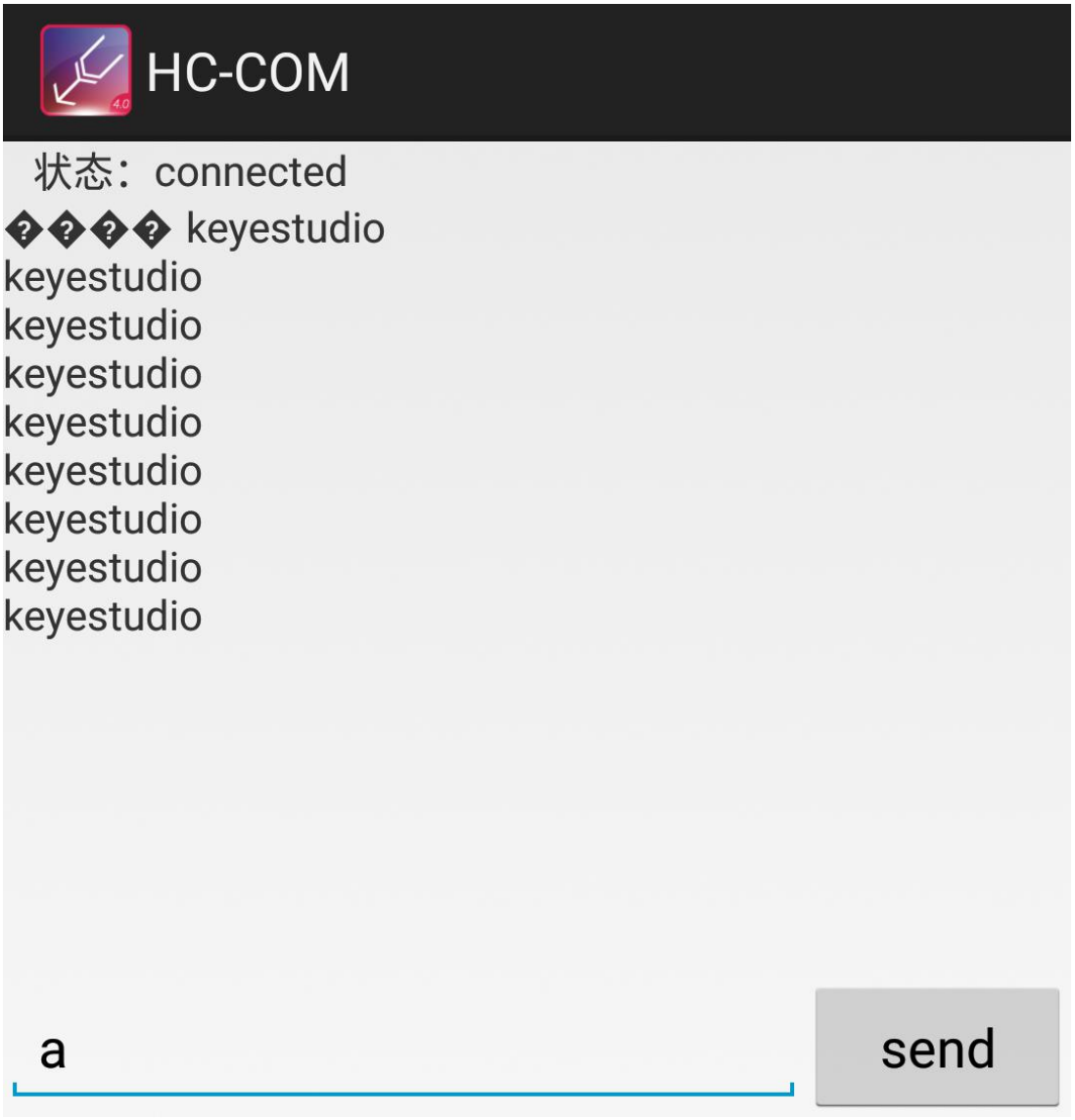
Click the first device 

to connect the Bluetooth. Connected, built-in LED on the Bluetooth module is normally on. APP interface will show the state connected.



On the bar enter letter **a**, and click to send, APP will print out the character "keyestudio" and D13 indicator on the UNO R3 board will flash once.

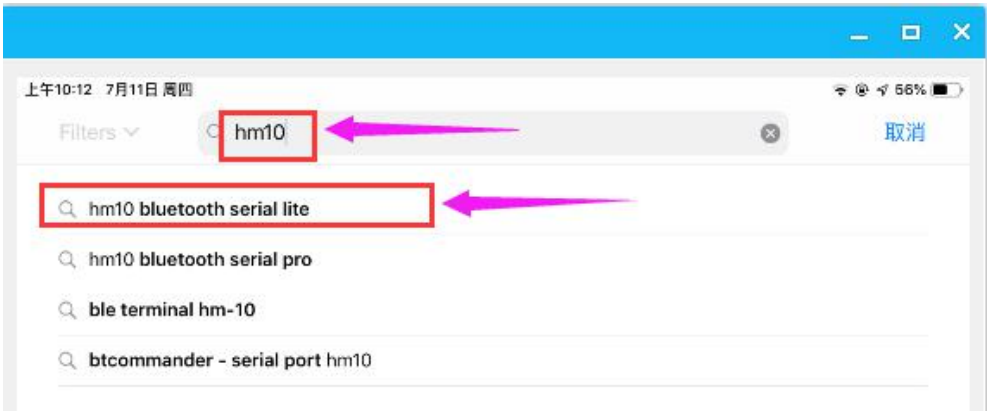
Continue to send the letter a, APP prints out multiple "keyestudio" characters and D13 indicator flashes.



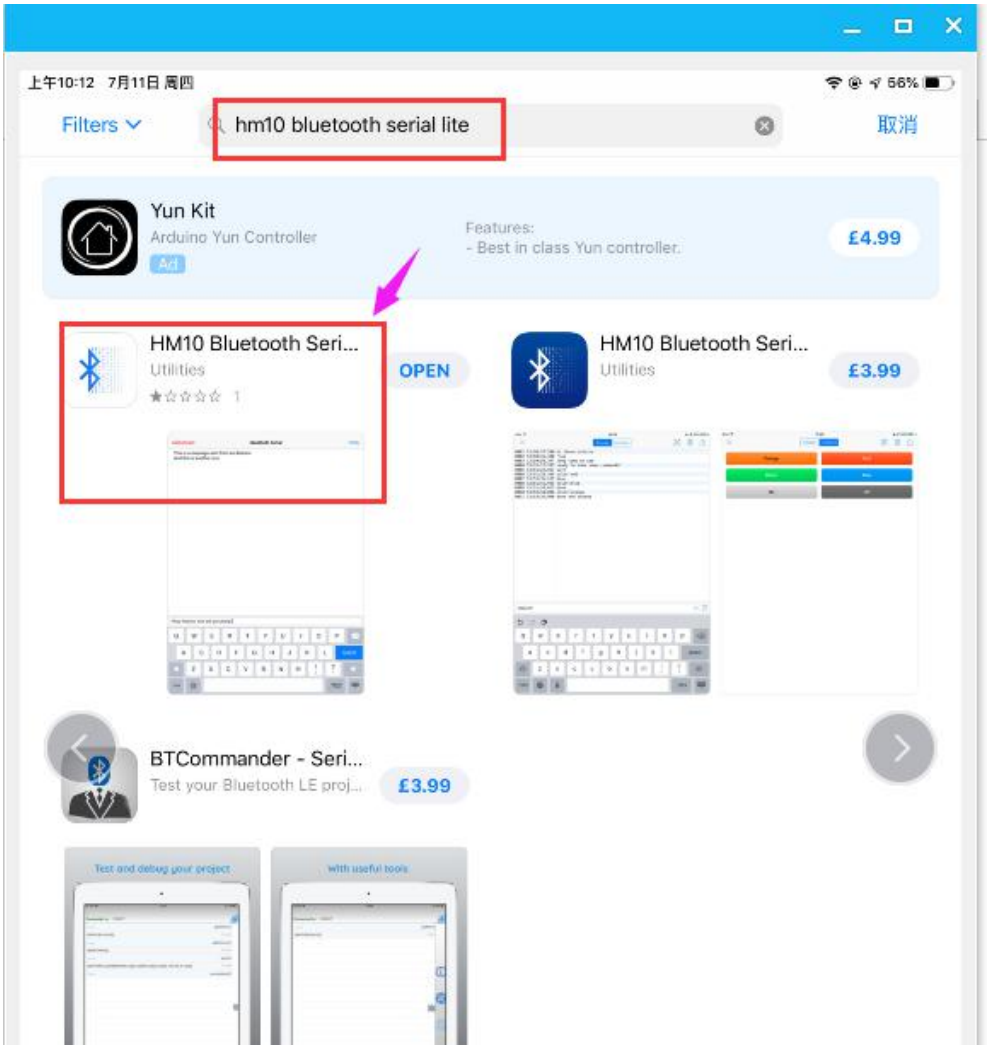
For mac/iOS APP:

You need to download the mac/iOS compatible APP in APP store.

First we enter the APP store, search hm10, and select the **hm10 bluetooth serial lite**.



Click to install the APP, as shown below.

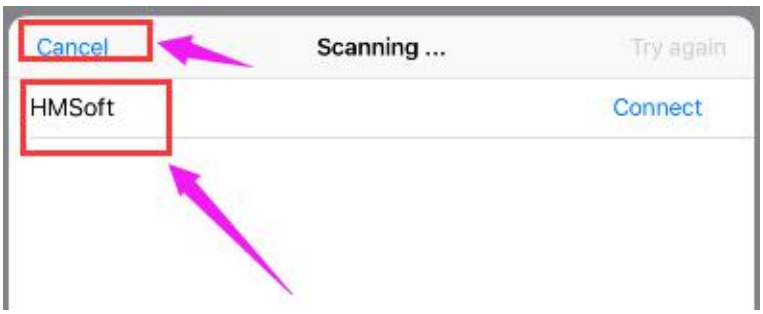


APP installed well, a Bluetooth icon  will pop up on your phone. Click to enter

the APP.

Upload the test code to control board successfully, then plug in the Bluetooth module.

Open the Bluetooth APP, click Cancel to start searching and pairing the Bluetooth module. Click HMSoft to start connecting HM-10 Bluetooth module. Connected, the built-in LED on the Bluetooth module will be from quick flash to normally on.



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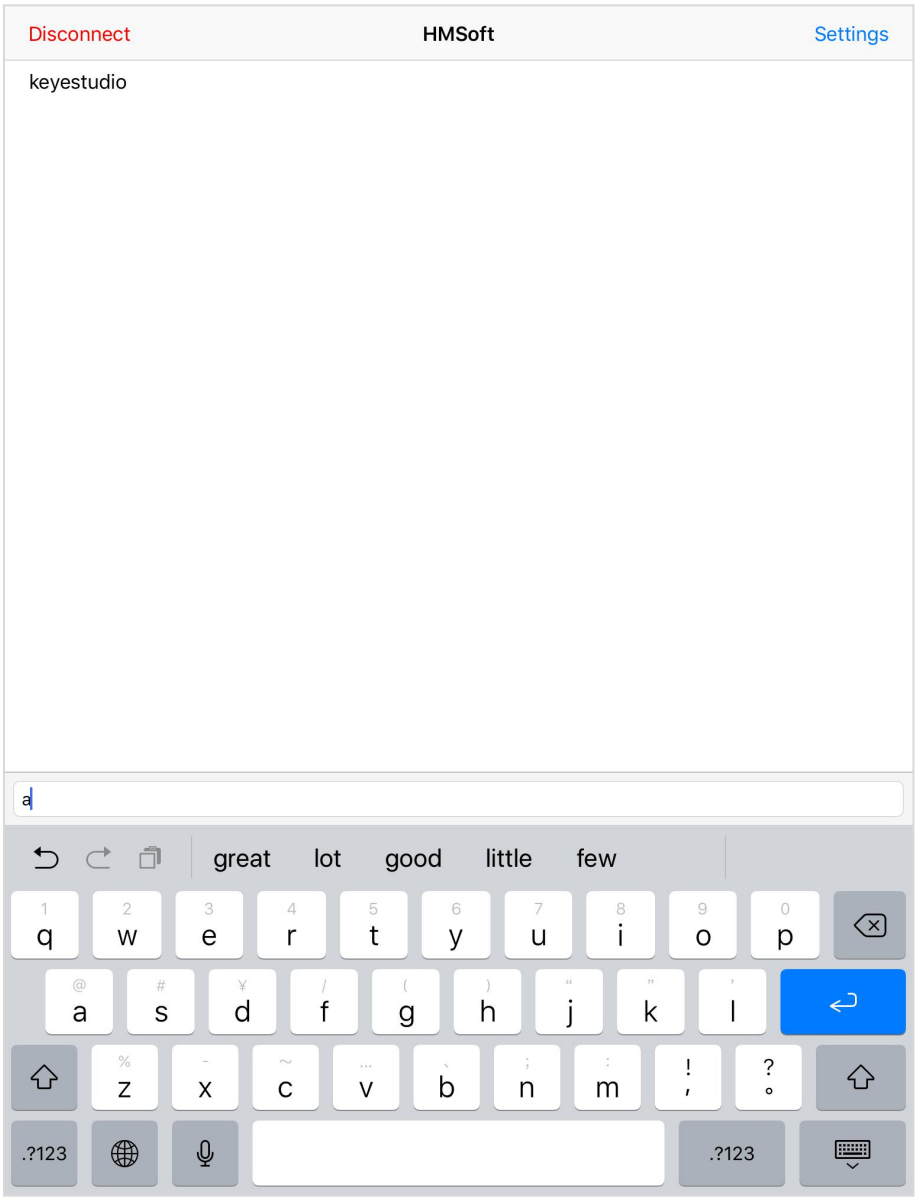
Disconnect
HMSoft
Settings
keyestudio
a
great
lot
good
little
few

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

The device has been evaluated to meet general RF exposure requirement.