

Condemn the copycat company copied behavior on HM-10!!!!!!

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and interests



JNHuaMao Technology Company

iBeacons

Datasheet

- 2 Professional bluetooth products suppliers.
- 2 Remote control module provider
- 2 data transmission module provider
- 2 PIO state acquisition module provider
- 2 Customizable bluetooth module and bluetooth solutions
- 2 Jinan high and new technology enterprise
- 2 SIG members

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**The most complete, most convenient, the most stable of
Bluetooth data transmission, remote control, PIO
acquisition module**

---- Master and slave role in one

---- Remote control without other MCU

---- The PIO data acquisition without other MCU











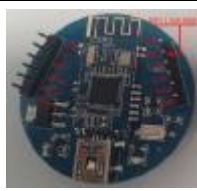

Product parameters

- Ø BT Version: Bluetooth Specification V4.0 BLE
- Ø Send and receive no bytes limit.
- Ø Working frequency: 2.4GHz ISM band
- Ø Modulation method: GFSK(Gaussian Frequency Shift Keying)
- Ø RF Power: -23dbm, -6dbm, 0dbm, 6dbm, can modify through AT Command AT+POWE.
- Ø Speed: Asynchronous: 6K Bytes
Synchronous: 6K Bytes
- Ø Security: Authentication and encryption
- Ø Service: Central & Peripheral UUID FFE0,FFE1
- Ø Power: +3.3VDC 50mA
- Ø Long range: Open space have 100 Meters with iphone4s
- Ø Power: In sleep mode 400uA~1.5mA, Active mode 8.5mA.
- Ø Working temperature:-5 ~ +65 Centigrade
- Ø Size: HM-10 26.9mm x 13mm x 2.2 mm; HM-11 18*13.5*2.2mm

2. Product overview

Welcome to choose Jinan Huamao Technology Co., Ltd. produces iBeacon products HMSensor base station, the base station to support iBeacon technology specification of all, support the deployment mode (current, permanent), you only need simple settings that can be deployed iBeacon, the base station using CR2032/CR2450 battery, the maximum standby can be as long as 1 years, this manual will guide you through the setup, deployment of base station etc..

3. Product pictures

			Not for sale	
HM-01 BT 2.1	HM-02 BT 2.1	HM-03 BT 2.1	HM-04 BT 2.1	HM-05 BT 2.1
		Class1 Testing		
HM-06 BT 2.1	HM-07 BT 2.1	HM-08 BT 2.1	HM-09 BT 2.1	HM-10 BLE 4.0
	Dual mode Testing			
HM-11 BLE 4.0	HM-12 HM-13	HM-15 BLE USB Dongle	HMSensor	iBeacon

4. Product technical specifications

4.1 iBeacon base station Size



46*36*18mm

4.2 iBeacon base station type

iBeacon base station has CR2032 and CR2450 type, if you want to test it , please choose CR2032 version, it has a good price. If you use it on you project, please choose CR2450 version , it has a long battery life.



CR2450

CR2032

5. AT Commands

iBeacon base station cannot be set through the UART, please set by mobile phone, please ensure that the iBeacon base station is in the configuration mode is set before, please use the manual instructions,

please don't refer to other command HMSoft or HMSensor, so as to avoid improper, causes the base station can not be normal use.

1. Test Command

Send	Receive	Parameter
AT	OK	None

2. Query module address

Send	Receive	Parameter
AT+ADDR?	OK+ADDR:MAC Address	None

3. Query/Set Advertising interval

Send	Receive	Parameter
AT+ADVI?	OK+ Get:[Para]	None
AT+ADVI[Para]	OK+ Set:[Para]	Para: 0 ~ F 0: 100ms 1: 152.5 ms 2: 211.25 ms 3: 318.75 ms 4: 417.5 ms 5: 546.25 ms 6: 760 ms 7: 852.5 ms 8: 1022.5 ms 9: 1285 ms A: 2000ms B: 3000ms C: 4000ms D: 5000ms E: 6000ms F: 7000ms Default: 9

		HMSoft Default: 0 HMSensor Default: 9
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The maximum 1285ms recommendations from the IOS system. That is to say, 1285ms is apple allowed, but in response to scan and connected all the time will be long.

This command is added since V517 version.

V522 allow max value F.

4. Query/Set battery monitor switch

Send	Receive	Parameter
AT+BATC?	OK+ Get:[Para]	None
AT+BATC[Para]	OK+ Set:[Para]	Para: 0 ~ 1 0: Off 1: On Default: 0

This command added in V520

5. Query battery information

Send	Receive	Parameter
AT+BATT?	OK+BATT:[Para]	Para: 000~100

There has three ways to get battery information:

- Before establishing a connection, Send "AT+BATT?" through UART.
- After established a connection, In Mode 1 or 2, remote side send "AT+BATT?"

Battery information has included in scan response data package, one hour update once. You can use Android or IOS discovery module, when module has been discovered, you can get it from scan result array.

Data format is 0x02, 0x16, 0x00, 0xB0, [reserved], [temperature], [humidity], [battery].

Android:

Included in OnLeScan function result array, you can see it direct.

iOS:

- c. Included in LeScan function result NSDictionary struct, service id is 0xB000.

6. Set iBeacon into service mode

Send	Receive	Parameter
AT+BUSHU	OK+BUSHU	

This command is added in V520, Removed in V521, Please use AT+DELO

This command set iBeacon into service mode until next power on.

BUSHU is Chinese spelling, meaning the deployment.

Note: Should to open iBeacon switch first (AT+IBEA).

7. Query/Set Characteristic

Send	Receive	Parameter
AT+CHAR?	OK+Get:[para1]	Para1: 0x0001~0xFFFFE
AT+CHAR[para1]	OK+Set:[para1]	Default: 0xFFE1

e.g. change characteristic value to 0xAAA0

Send: AT+CHAR0xAAA0

Recv: OK+Set:0xAAA0

8. Query/Set iBeacon deploy mode

Send	Receive	Parameter
AT+DELO[para1]	OK+DELO[para1]	Para1: 1, 2 1: Allowed to broadcast and scanning 2: Only allow broadcast

After receive OK+DELO[para1], module will reset after 500ms.

This command will let module into non-connectable status until next power on.

9. System Help Information

Send	Receive	Parameter
AT+HELP?	Help Information	None

10. Query/Set Module iBeacon switch

Send	Receive	Parameter
AT+IBEA?	OK+Get:[para1]	Para1: 0, 1 0: Turn off iBeacon 1: Turn on iBeacon Default: 0
AT+IBEA[para1]	OK+Set:[para1]	

iBeacon UUID is: 74278BDA-B644-4520-8F0C-720EAF059935.

This command is added since V517 version.

11. Query/Set iBeacon UUID

Send	Receive	Parameter
AT+IBE0?	OK+Get:[para1]	Para1: 0x00000001~ 0xFFFFFFFFE Default: 74278BDA
AT+IBE0[para1]	OK+Set:[para1]	

iBeacon UUID is: **74278BDA**-B644-4520-8F0C-720EAF059935.

This command can change red color string in iBeacon UUID.

This command is added since V520 version.

e.g.: Send: AT+IBE012345678 change iBeacon UUID red color string to
"12345678"

12. Query/Set iBeacon UUID

Send	Receive	Parameter
AT+IBE1?	OK+Get:[para1]	Para1: 0x00000001~ 0xFFFFFFFFE Default: B6444520
AT+IBE1[para1]	OK+Set:[para1]	

iBeacon UUID is: 74278BDA-**B644-4520**-8F0C-720EAF059935.

This command can change red color string in iBeacon UUID.

This command is added since V520 version.

e.g.: Send: AT+IBE112345678 change iBeacon UUID red color string to
"12345678"

13. Query/Set iBeacon UUID

Send	Receive	Parameter
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AT+IBE2?	OK+Get:[para1]	Para1: 0x00000001~ 0xFFFFFFFFE Default: 8F0C720E
AT+IBE2[para1]	OK+Set:[para1]	

iBeacon UUID is: 74278BDA-B644-4520-8F0C-720EAF059935.

This command can change red color string in iBeacon UUID.

This command is added since V520 version.

e.g.: Send: AT+IBE112345678 change iBeacon UUID red color string to
"12345678"

14. Query/Set iBeacon UUID

Send	Receive	Parameter
AT+IBE3?	OK+Get:[para1]	Para1: 0x00000001~ 0xFFFFFFFFE Default: AF059935
AT+IBE3[para1]	OK+Set:[para1]	

iBeacon UUID is: 74278BDA-B644-4520-8F0C-720EAF059935.

This command can change red color string in iBeacon UUID.

This command is added since V520 version.

e.g.: Send: AT+IBE112345678 change iBeacon UUID red color string to
"12345678"

15. Query/Set Module iBeacon Marjor version

Send	Receive	Parameter
AT+MARJ?	OK+Get:[para1]	Para1: 0x0001, 0xFFFFE Default: 0xFFE0
AT+MARJ[para1]	OK+Set:[para1]	

E.g. Change marjor version to 0x0102

Send: AT+MARJ0x0102, if all is okay, module will send back OK+Set:
0x0102

This command is added since V517 version.

16. Query/Set Module iBeacon minor

Send	Receive	Parameter
AT+MINO?	OK+Get:[para1]	Para1: 0x0001, 0xFFFFE

AT+MINO[para1]	OK+Set:[para1]	Default: 0xFFE1
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This command is added since V517 version.

17. Query/Set Module iBeacon Measured power

Send	Receive	Parameter
AT+MEAS?	OK+Get:[para1]	Para1: 0x0001, 0xFFFE Default: 0xFFE1
AT+MEAS[para1]	OK+Set:[para1]	

This command is added since V519 version.

18. Query/Set Module name

Send	Receive	Parameter
AT+NAME ?	OK+NAME[para1]	Para1: module name, Max length is 12. Default: HMSoft
AT+NAME[para1]	OK+Set[para1]	

e.g.

change module name to bill_gates

Send: AT+NAMEbill_gates

Receive: OK+SetName:bill_gates

19. Query/Set Pin Code

Send	Receive	Parameter
AT+PASS?	OK+Get:[para1]	Para1 is Pin Code, 000000~999999 Default: 000000
AT+PIN[para1]	OK+Set:[para1]	

e.g.

Query Pin Code

Send: AT+PIN?

Receive: OK+PIN:000000

Setup Pin Code 008888

Send: AT+PIN008888

Receive: OK+Set:008888

20. Query/Set Module Power

Send	Receive	Parameter
AT+POWE?	OK+Get:[para1]	None
AT+ POWE [para1]	OK+Set:[para1]	Para: 0 ~ 3 0: -23dbm 1: -6dbm 2: 0dbm 3: 6dbm Default: 2

21. Query/Set Module sleep type

Send	Receive	Parameter
AT+PWRM?	OK+Get:[para1]	None
AT+PWRM[para1]	OK+Set:[para1]	Para1: 0~1 0:Auto sleep 1:don't auto sleep Default: 1

Only support peripheral role.

22. Restore all setup value to factory setup

Send	Receive	Parameter
AT+RENEW	OK+RENEW	None

23. Restart module

Send	Receive	Parameter
AT+RESET	OK+RESET	None

24. Query RSSI Value

Send	Receive	Parameter
AT+RSSI?	OK+RSSI:[para1]	None

Require: AT+MODE value > 0

This command only used by Remote device query when connected.

25. Query Last Connected Device Address

Send	Receive	Parameter
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AT+RADD?	OK+RADD:MAC Address	None
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26. Query/Set Module Authentication Mode

Send	Receive	Parameter
AT+TYPE?	OK+Get:[para1]	None
AT+TYPE[para1]	OK+Set:[para1]	Para1: 0~2 0:Not need PIN Code 1:Bond not need PIN 2:Bond with PIN Default: 0

Important: If your module version is less than V515, please don't use this command. Under android 4.3 AT+TYPE1 is same to AT+TYPE2.

27. Query/Set service UUID

Send	Receive	Parameter
AT+UUID?	OK+Get:[para1]	Para1: 0x0001~0xFFFE Default: 0xFFE0
AT+UUID[para1]	OK+Set:[para1]	

e.g. Change UUID value to 0xAAA0

Send: AT+UUID0xAAA0

Recv: OK+Set:0xAAA0

28. Query Software Version

Send	Receive	Parameter
AT+VERR?	Version Information	None
AT+VERS?		

Resource:

Bluetooth Module 2.1 datasheet:

http://www.jnhuamao.cn/Bluetooth_en.zip

Bluetooth Module 4.0 datasheet:

http://www.jnhuamao.cn/Bluetooth40_en.zip

Bluetooth Module 4.0 USB Dongle

http://www.jnhuamao.cn/HMDongle40_en.zip

Bluetooth 2.1 Com Assistant for android:

<http://www.jnhuamao.cn/HMComAssistant.rar>

Bluetooth 4.0 Com Assistant for android 4.3:

<http://www.jnhuamao.cn/HMBLEComAssistant.rar>

Bluetooth 4.0 IOS Code:

http://www.jnhuamao.cn/HMSoft_iso7.zip

http://www.jnhuamao.cn/HMSoft_iso7.zip