



WH-BLE103 AT Command Set

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1. What is the AT command

AT command is used for controlling module. You can use AT command to configure and query the settings.

2. How to use the AT command

For USB device is in transparent mode normally, you must enter AT command mode at first. Then you can send AT command to configure or query the settings. After you configure the USB device, you should restart the USB device to make the settings take effect. Every time module restart will work in work mode rather AT command mode.

Every AT command must add character carriage return <CR> and line feed <LF>. In Hex, <CR> is 0x0D <LF> is 0x0A.

2.1. How to enter serial AT command mode

Please read this FAQ about entering AT command mode.

<https://www.usriot.com/support/faq/enter-serial-command-mode.html>

3. AT command set

Command	Function
Common command	
NAME	Query/Set module name
MODE	Query/Set module work mode
MAC	Query MAC address
CIVER	Query firmware version
TPL	Query/Set transmitting power
PASS	Query/Set module password
PASSEN	Query/Set connection authentication enable/disable
UART	Query/Set serial port parameters
UARTTM	Query/Set serial package time
AUTOSLEEP	Query/Set autosleep function enable/disable
DEEPSLEEP	Set module to enter Deepsleep Mode
HIBERNATE	Set module to enter Hibernate Mode
HELLO	Query/Set welcome words
ENTM	Exit serial AT command mode
RELOAD	Reset to default settings
Z	Restart the module
Connection command	
LINK	Query module connection status
SCAN	Search surrounding slave device
CONN	Connect to device by setting index number
CONNADD	Query/Set MAC address of default connection device after powering module
DISCONN	Disconnect current connection

ADP	Query/Set module broadcast enable/disable
ADPTIM	Query/Set user editable broadcast speed
AUTOCONN	Query/Set reconnecting after disconnecting enable/disable
Special function command	
MAXPUT	Query/Set max output enable/disable
TRENC	Query/Set data PC1 encryption transmission enable/disable
IBEAON	Query/Set iBeacon function
UUID	Query/Set UUID

4. AT command details

Special Characters		
Character	Note	Hex
<CR>	Carriage Return	0x0D
<LF>	Line Feed	0x0A

4.1. AT+NAME

Parameter	Description	Range
<Name>	Module name	1~15 bytes
Format		
Query	AT+NAME?<CR><LF>	
Return	<CR><LF>+NAME:<Name><CR><LF>OK<CR><LF>	
Set	AT+NAME=<Name><CR><LF>	
Return	<CR><LF>+NAME:<Name><CR><LF>OK<CR><LF>	

4.2. AT+MODE

Parameter	Description	Default Value	Range
<Mode>	Module work mode	Slave	M/m: Master device mode
			S/s: Slave device mode
			B/b: iBeacon mode
			F/f: Mesh networking mode
Format			
Query	AT+MODE?<CR><LF>		
Return	<CR><LF>+MODE:<Mode><CR><LF>OK<CR><LF>		
Set	AT+MODE=<Mode><CR><LF>		
Return	<CR><LF>+MODE:<Mode><CR><LF>OK<CR><LF>		

4.3. AT+MAC

Parameter	Description
<MAC>	Module MAC address
Format	

Query	AT+MAC?<CR><LF>
Return	<CR><LF>+MAC:<MAC><CR><LF>OK<CR><LF>

4.4. AT+CIVER

Parameter	Description
<Version>	Module firmware version
Format	
Query	AT+CIVER?<CR><LF>
Return	<CR><LF>+VER:<Version><CR><LF>OK<CR><LF>

4.5. AT+TPL

Parameter	Description	Range
<Size>	Module transmitting power	1: -19dbm
		2: -16dbm
		3: -12dbm
		4: -9dbm
		5: -6dbm
		6: -2dbm
		7: +1dbm
		8: +5dbm
		9: +8dbm
Format		
Query	AT+TPL?<CR><LF>	
Return	<CR><LF>+TPL:<Size><CR><LF><CR><LF>OK<CR><LF>	
Set	AT+TPL=<Size><CR><LF>	
Return	<CR><LF>+TPL:<Size><CR><LF><CR><LF>OK<CR><LF>	

4.6. AT+PASS

Parameter	Description	Default Value	Range
<Password>	Module password	000000	6 bytes
Format			
Query	AT+PASS?<CR><LF>		
Return	<CR><LF>+PASS:<Password><CR><LF>OK<CR><LF>		
Set	AT+PASS=<Password><CR><LF>		
Return	<CR><LF>+PASS:<Password><CR><LF>OK<CR><LF>		

4.7. AT+PASSEN

Parameter	Description	Range
<Status>	Status of connection authentication function	on/off
Format		
Query	AT+PASSEN?<CR><LF>	
Return	<CR><LF>+PASSEN:<Status><CR><LF>OK<CR><LF>	

Set	AT+PASSEN=<Status><CR><LF>
Return	<CR><LF>+PASSEN:<Status><CR><LF>OK<CR><LF>

4.8. AT+UART

Parameter	Description	Default Value	Range
<Baud rate>	Baud rate	57600	1200~2000000
<Data bits>	Data bits	8	5, 6, 7, 8
<Parity>	Parity	0	0: No parity
			1: Odd parity
			2: Even parity
<Stop bits>	Stop bits	0	0: 1 stop bit
			1: 2 stop bits
Format			
Query	AT+UART?<CR><LF>		
Return	<CR><LF>+UART:<Baud rate>,<Data bits>,<Parity>,<Stop bits><CR><LF>OK<CR><LF>		
Set	AT+UART=<Baud rate>,<Data bits>,<Parity>,<Stop bits><CR><LF>		
Return	<CR><LF>+UART:<Baud rate>,<Data bits>,<Parity>,<Stop bits><CR><LF>OK<CR><LF>		

4.9. AT+UARTTM

Parameter	Description	Default Value	Range
<Time>	Serial package time = <Time>*10ms	10. Serial package time = 100ms	1~1000
Format			
Query	AT+UARTTM?<CR><LF>		
Return	<CR><LF>+UARTTM:<Time><CR><LF>OK<CR><LF>		
Set	AT+UARTTM=<Time><CR><LF>		
Return	<CR><LF>+UARTTM:<Time><CR><LF>OK<CR><LF>		

4.10. AT+AUTOSLEEP

Parameter	Description	Default Value	Range
<Status>	Status of Autosleep function		ON/OFF
<Time>	Waiting Time to enter Autosleep mode.	<Time>=5, Waiting Time=5*5s	Waiting Time = <Time>*5s, <Time> range from 1 to 100
Format			
Query	AT+AUTOSLEEP?<CR><LF>		
Return	<CR><LF>+AUTOSLEEP:<CR><LF>AUTO:<Status><CR><LF>Time:<Time>*5s<CR><LF>OK<CR><LF>		

Set	AT+AUTOSLEEP=<Status>,<Time><CR><LF>
Return	<CR><LF>+AUTOSLEEP:<Status>,<Time><CR><LF>OK<CR><LF>

4.11. AT+DEEPSLEEP

Format	
Set	AT+DEEPSLEEP<CR><LF>
Return	<CR><LF>+DEEPSLEEP:<CR><LF>OK<CR><LF>

4.12. AT+HIBERNATE

Format	
Set	AT+HIBERNATE<CR><LF>
Return	<CR><LF>+HIBERNATE:<CR><LF>OK<CR><LF>

4.13. AT+HELLO

Parameter	Description	Range
<String>	Welcome words	0~20 bytes
Format		
Query	AT+HELLO?<CR><LF>	
Return	<CR><LF>+HELLO:<String><CR><LF>OK<CR><LF>	
Set	AT+HELLO=<String><CR><LF>	
Return	<CR><LF>+HELLO:<String><CR><LF>OK<CR><LF>	

4.14. AT+ENTM

Format	
Set	AT+ENTM<CR><LF>
Return	<CR><LF>+ENTM:OK<CR><LF>OK<CR><LF>

4.15. AT+RELOAD

Format	
Set	AT+RELOAD<CR><LF>
Return	<CR><LF>+RELOAD:OK<CR><LF>OK<CR><LF>

4.16. AT+Z

Format	
Set	AT+Z<CR><LF>
Return	<CR><LF>+RST:OK<CR><LF>OK<CR><LF>

4.17. AT+LINK

Parameter	Description	Range
<MAC>	MAC address of connected device	

<RSSI>	RSSI of connected device	
<Status>	Connection status of module	OnLine/OffLine
Format		
Query	AT+LINK?<CR><LF>	
Return	<CR><LF>PeerAddr:<MAC><CR><LF>Rssi:<Rssi>dBm<CR><LF>+ LINK: <status> <CR><LF>OK<CR><LF>	

4.18. AT+SCAN

Parameter	Description
<NUM>	Index number of slave device that be searched(Display 20 devices at most)
<MAC>	MAC address of slave device that be searched
<Size>	RSSI of slave device that be searched
Format	
Query	AT+SCAN<CR><LF>
Return	<CR><LF>+SCAN:ON<CR><LF>OK<CR><LF><LF><LF>No:<NUM> Addr:<MAC>Rssi:<Size>dBm<CR><LF>

4.19. AT+CONN

Parameter	Description
<NUM>	Index number of slave device after researching
Format	
Set	AT+CONN=<NUM><CR><LF>
Return	<CR><LF>+CONN:<NUM><CR><LF>OK<CR><LF>

4.20. AT+CONNADD

Parameter	Description
<MAC>	MAC address of default connected device after powering module
Format	
Query	AT+CONNADD?<CR><LF>
Return	<CR><LF>+CONNADD:<MAC><CR><LF>OK<CR><LF>
Set	AT+CONNADD=<MAC>><CR><LF>
Return	<CR><LF>+CONNADD:<MAC><CR><LF>OK<CR><LF>

4.21. AT+DISCONN

Format	
Set	AT+DISCONN<CR><LF>
Return	<CR><LF>+DISCONN:OK<CR><LF>OK<CR><LF>

4.22. AT+ADP

Parameter	Description	Range
<Status>	Status of broadcast	ON/OFF
Format		

Query	AT+ADP?<CR><LF>
Return	<CR><LF>+ADP:<Status><CR><LF>OK<CR><LF>
Set	AT+ADP=<Status><CR><LF>
Return	<CR><LF>+ADP:<Status><CR><LF>OK<CR><LF>

4.23. AT+ADPTIM

Parameter	Description	Range
<Time>	User editable broadcast speed	Cardinal number=10ms. For example, <Time>=2, broadcast interval is 20ms. Range from 10 to 1024
Format		
Query	AT+ADPTIM?<CR><LF>	
Return	<CR><LF>+ADPTIM:<Time><CR><LF>OK<CR><LF>	
Set	AT+ADPTIM=<Time><CR><LF>	
Return	<CR><LF>+ADPTIM:<Time><CR><LF>OK<CR><LF>	

4.24. AT+AUTOCONN

Parameter	Description	Range
<Status>	Status of reconnecting after disconnecting function	ON/OFF
Format		
Query	AT+AUTOCONN?<CR><LF>	
Return	<CR><LF>+AUTOCONN:<Status><CR><LF>OK<CR><LF>	
Set	AT+AUTOCONN=<Status><CR><LF>	
Return	<CR><LF>+AUTOCONN:<Status><CR><LF>OK<CR><LF>	

4.25. AT+MAXPUT

Parameter	Description	Default Value	Range
<Status>	Status of MAX output	ON	ON/OFF
Format			
Query	AT+MAXPUT?<CR><LF>		
Return	<CR><LF>+MAXPUT:<Status><CR><LF>OK<CR><LF>		
Set	AT+MAXPUT=<Status><CR><LF>		
Return	<CR><LF>+MAXPUT:<Status><CR><LF>OK<CR><LF>		

4.26. AT+TRENC

Parameter	Description	Range
<Status>	Status of data encryption transmission	ON/OFF
Format		
Query	AT+TRENC?<CR><LF>	
Return	<CR><LF>+TRENC:<Status><CR><LF>OK<CR><LF>	
Set	AT+TRENC=<Status><CR><LF>	
Return	<CR><LF>+TRENC:<Status><CR><LF>OK<CR><LF>	

4.27. AT+IBEACON

Parameter	Description
<UUID>	iBeacon device identifier
<Major>	Major code
<Minor>	Minor code
<RSSI>	RSSI of one meter distance
Format	
Query	AT+IBEACON?<CR><LF>
Return	<CR><LF>+IBEACON:<CR><LF>UUID:<UUID>,<CR><LF>Major:<Major>,Minor:<Minor>,RSSI:<RSSI><CR><LF><CR><LF>OK<CR><LF>
Set	AT+IBEACON=<UUID>,<Major>,<Minor>,<RSSI><CR><LF>
Return	<CR><LF>+IBEACON:<CR><LF>UUID:<UUID>,<CR><LF>Major:<Major>,Minor:<Minor>,RSSI:<RSSI><CR><LF><CR><LF>OK<CR><LF>

4.28. AT+UUID

Parameter	Description	RANGE
<UUID>	Universally Unique Identifier	
<NUM>	Type of service	AA: bleUart_Server_Uuid
		BB: bleUart_Server_Tx_Uuid
		CC: bleUart_Server_Rx_Uuid
Format		
Query	AT+UUID?<CR><LF>	
Return	<CR><LF>+bleUart_Server_Uuid: <CR><LF>DATA:<UUID><CR><LF><CR><LF>+bleUart_Server_Tx_Uuid: <CR><LF>DATA:<UUID><CR><LF><CR><LF>+bleUart_Server_Rx_Uuid: <CR><LF>DATA:<UUID><CR><LF>OK<CR><LF>	
Set	AT+ UUID =<NUM>+<UUID><CR><LF>	
Return	<CR><LF>+bleUart_Server_Uuid:<CR><LF>DATA:<UUID><CR><LF><CR><LF> successful<CR><LF> or <CR><LF>+bleUart_Server_Tx_Uuid:<CR><LF>DATA:<UUID><CR><LF><CR><LF> successful<CR><LF> or <CR><LF>+bleUart_Server_Rx_Uuid:<CR><LF>DATA:<UUID><CR><LF><CR><LF> successful<CR><LF>	

5. Contact

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7. Update History

2018-07-06 V1.0.0 established.