

USR-W600 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 USR 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 USR device, you should restart the USR 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 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
Basic command	
ENTM	Exit serial AT command mode and enter work mode
E	Query/Set AT command echo function enable/disable
Z	Restart the W600
CFGTF	Save the current setting as default settings
RELD	Reset to default settings
MAC	Query MAC address
SEARCH	Query/Set port and keyword of LAN search
MID	Query/Set W600 module ID
PLANG	Query/Set default language of Web Server
VER	Query firmware version
WSCAN	Search surrounding AP
WiFi settings command	
WMODE	Query/Set WiFi mode
WSTA	Query/Set SSID and password of connected AP
WANN	Query/Set WAN interface parameters
WSLK	Query the connection status and RSSI in STA mode
WAP	Query/Set AP mode parameters(SSID and password)
LANN	Query/Set LAN interface parameters
CHANNEL	Query/Set the channel of W600 in AP mode
HSSID	Query/Set hiding SSID enable/disable
Socket command	
SOCKA	Query/Set socket A parameters

SOCKTOA	Query/Set timeout reconnect time of socket A
SOCKLKA	Query socket A TCP connection status
SOCKDISA	Query/Set socket A establish TCP connection enable/disable
SOCKB	Query/Set socket B parameters
SOCKTOB	Query/Set timeout reconnect time of socket B
SOCKLKB	Query socket B TCP connection status
SOCKDISB	Query/Set socket B establish TCP connection enable/disable
Identity packet command	
REGENA	Query/Set status and sending method of identity packet
REGID	Query/Set identity packet ID
REGUSR	Query/Set user editable identity packet
REGCLOUD	Query/Set USR Cloud name and password
Serial port command	
UART	Query/Set serial port parameters
UARTTE	Query/Set serial port Free-Frame mode interval
RFCENA	Query/Set baud rate synchronization function enable/disable
HTTP Client mode command	
WKMOD	Query/Set work mode
HTPSV	Query/Set HTTP server address and port
HTPTP	Query/Set HTTP requesting method
HTPHEAD	Query/Set HTTP header
HTPURL	Query/Set HTTP URL
HTPCHD	Query/Set filtering HTTP header of response data function enable/disable
HTPTO	Query/Set HTTP requesting timeout time
Other command	
PING	Network PING function
WEBU	Query/Set Web Server username and password
SMTSL	Query/Set W600 smart networking mode
SMTLK	Enter smart networking mode
NTPEN	Query/Set NTP clock function enable/disable
NTPTM	Query time of NTP clock
NTPSER	Query/Set NTP server address and timezone
NTPRF	Query/Set interval of proofing time
WAPM	Set displaying MAC suffix in SSID in AP mode enable/disable; Set AP mode password; Set MAC suffix length
HEARTEN	Query/Set heartbeat packet function enable/disable
HEARTTP	Query/Set sending method of heartbeat packet
HEARTDT	Query/Set heartbeat packet data
HEARTTM	Query/Set heartbeat packet sending interval
MDCH	Query/Set WiFi exception handling status

4. AT command details

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

4.1. AT+ENTM

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

4.2. AT+E

Parameter	Description	Default Value	Range
<Status>	Status of AT command Echo function	ON	ON/OFF
Format			
Query	AT+E<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+E=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.3. AT+Z

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

4.4. AT+CFGTF

Parameter	Description	Range
<Status>	Results of saving the current settings as the default settings	SAVED: Saving successfully
		NON-SAVED: Saving unsuccessfully
Format		
Set	AT+CFGTF<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	

4.5. AT+RELD

Format	
Set	AT+RELD<CR>
Return	<CR><LF>+OK=REBOOTING...<CR><LF>

4.6. AT+MAC

Parameter	Description
<MAC>	MAC address of the W600.
Format	
Query	AT+MAC<CR>
Return	<CR><LF>+OK=<MAC><CR><LF>

4.7. AT+SEARCH

Parameter	Description	Default Value	Range		
<Port>	UDP port for searching	48899	1~65535		
<Keyword>	Searching keyword	www.usr.cn	Less than 20 bytes		
Format					
Query	AT+SEARCH<CR>				
Return	<CR><LF>+OK=<Port>,<Keyword><CR><LF>				
Set	AT+SEARCH=<Port>,<Keyword><CR>				
Return	<CR><LF>+OK<CR><LF>				

4.8. AT+MID

Parameter	Description	Range	
<MID>	W600 MID	Less than 20 Bytes	
Format			
Query	AT+MID<CR>		
Return	<CR><LF>+OK=<MID><CR><LF>		
Set	AT+MID=<MID><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.9. AT+PLANG

Parameter	Description	Default Value	Range		
<Language>	Default language of Web Server	CN	EN: English		
			CN: Chinese		
Format					
Query	AT+PLANG<CR>				
Return	<CR><LF>+OK=<Language><CR><LF>				
Set	AT+PLANG=<Language><CR>				
Return	<CR><LF>+OK<CR><LF>				

4.10. AT+VER

Parameter	Description
<VER>	Firmware version
Format	
Query	AT+VER<CR>
Return	<CR><LF>+OK=<VER><CR><LF>

4.11. AT+WSCAN

Parameter	Description
<SSID>	SSID that be searched by W600
<BSSID>	MAC address of SSID that be searched by W600
<Security>	Encryption security mode of SSID that searched by W600
<Indicator>	RSSI of SSID that be searched by W600
Format	
Query	AT+WSCAN<CR>
Return	<CR><LF>+OK=<LF><CR>SSID,BSSID,SECURITY,INDICATOR<LF><CR><SSID1>,<BSSID1>,<Security1>,<Indicator1><LF><CR><SSID2>,<BSSID2>,<Security2>,<Indicator2><LF><CR>.....<LF><CR><SSIDN>,<BSSIDN>,<SecurityN>,<IndicatorN><CR><LF>

4.12. AT+WMODE

Parameter	Description	Default Value	Range
<Status>	WiFi mode	AP	AP/STA/AP+STA
Format			
Query	AT+WMODE<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+WMODE=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.13. AT+WSTA

Parameter	Description	Range
<SSID>	SSID of connected AP	1~32 bytes and can't be", "
<PASSWORD>	Password of connected AP	Can't be", "
Format		
Query	AT+WSTA<CR>	
Return	<CR><LF>+OK=<SSID>,<PASSWORD><CR><LF>	
Set	AT+WSTA=<SSID>,<PASSWORD><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.14. AT+WANN

Parameter	Description	Range
<Mode>	How to get IP address	STATIC: Getting IP manually
		DHCP: Getting IP automatically
<IP address>	IP address	0.0.0.0~255.255.255.255
<Mask>	Subnet mask	0.0.0.0~255.255.255.255
<Gateway>	Gateway	0.0.0.0~255.255.255.255
<DNS>	DNS address	0.0.0.0~255.255.255.255
Format		
Query	AT+WANN<CR>	
Return	<CR><LF>+OK=<Mode>,<IP address>,<Mask>,<Gateway>,<DNS><CR><LF>	
Set	AT+WANN=<Mode>,<IP address>,<Mask>,<Gateway>,<DNS><CR> use Static IP method/AT+WANN=DHCP<CR> use DHCP method	
Return	<CR><LF>+OK<CR><LF>	

4.15. AT+WSLK

Parameter	Description	Range
<Status>	Connection status of W600 in STA mode	DISCONNECTED: No connection with any AP
		SSID of connected AP if connected
<RSSI>	RSSI	0-100
Format		
Query	AT+WSLK<CR>	
Return	<CR><LF>+OK=<Status>,<RSSI><CR><LF>	

4.16. AT+WAP

Parameter	Description	Range
<SSID>	SSID in AP mode	Can't have ","
<PASSWORD>	Password in AP mode	>=8 bytes and can't have ","
		NONE: No password
Format		
Query	AT+WAP<CR>	
Return	<CR><LF>+OK=<SSID>,<PASSWORD><CR><LF>	
Set	AT+WAP=<SSID>,<PASSWORD><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.17. AT+LANN

Parameter	Description	Default Value	Range
<IP address>	IP address in AP mode	10.10.100.254	0.0.0.0~255.255.255.255
<Mask>	Subnet mask in AP mode	255.255.255.0	0.0.0.0~255.255.255.255

Format	
Query	AT+LANN<CR>
Return	<CR><LF>+OK=<IP address>,<Mask><CR><LF>
Set	AT+LANN=<IP address>,<Mask><CR>
Return	<CR><LF>+OK<CR><LF>

4.18. AT+CHANNEL

Parameter	Description	Default Value	Range
<NUM>	Channel in AP mode	6	1-11
Format			
Query	AT+CHANNEL<CR>		
Return	<CR><LF>+OK=<NUM><CR><LF>		
Set	AT+CHANNEL=<NUM><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.19. AT+HSSID

Parameter	Description	Default Value	Range
<Status>	Whether hiding SSID	OFF	ON/OFF
Format			
Query	AT+HSSID<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+HSSID=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.20. AT+SOCKA

Parameter	Description	Default Value	Range
<Protocol>	Network protocol of Socket A	TCPS	TCPS: TCP Server mode
			TCPC: TCP Client mode
			UDPS: UDP Server mode
			UDPC: UDP Client mode
<IP address>	Remote Server IP address (in client mode) of Socket A	10.10.100.254	0.0.0.0~255.255.255.255
<Port>	Port number of Socket A	8899	1~65535 Local port in Server mode Remote port in Client mode
Format			
Query	AT+SOCKA<CR>		
Return	<CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF>		
Set	AT+SOCKA=<Protocol>,<IP address>,<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.21. AT+SOCKTOA

Parameter	Description	Default Value	Range	
<Time>	Timeout reconnect time of socket A	0	60-600s	
			0(Close function)	
Format				
Query	AT+SOCKTOA<CR>			
Return	<CR><LF>+OK=<Time><CR><LF>			
Set	AT+SOCKTOA=<Time><CR>			
Return	<CR><LF>+OK<CR><LF>			

4.22. AT+SOCKLKA

Parameter	Description	Range
<Status>	Socket A TCP connection Status	CONNECT/DISCONNECTED
Format		
Query	AT+SOCKLKA<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	

4.23. AT+SOCKDISA

Parameter	Description	Default Value	Range
<Status>	Allowing socket A to establish TCP connection	on	on/off
Format			
Query	AT+SOCKDISA<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+SOCKDISA=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.24. AT+SOCKB

Parameter	Description	Default Value	Range
<Protocol>	Network protocol of Socket B	NONE	TCP: TCP Client mode
			UDPS: UDP Server mode
			UDPC: UDP Client mode
<IP address>	Remote Server IP address (in client mode) of Socket B	NONE	0.0.0.0~255.255.255.255
<Port>	Port number of Socket B		1~65535 Local port in Server mode Remote port in Client mode

Format	
Query	AT+SOCKB<CR>
Return	<CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF>
Set	AT+SOCKB=<Protocol>,<IP address>,<Port><CR>
Return	<CR><LF>+OK<CR><LF>

4.25. AT+SOCKTOB

Parameter	Description	Default Value	Range	
<Time>	Timeout reconnect time of socket B	0	60-600s	
			0(Close function)	
Format				
Query	AT+SOCKTOB<CR>			
Return	<CR><LF>+OK=<Time><CR><LF>			
Set	AT+SOCKTOB=<Time><CR>			
Return	<CR><LF>+OK<CR><LF>			

4.26. AT+SOCKLKB

Parameter	Description	Range
<Status>	Socket B TCP connection Status	CONNECT/DISCONNECTED
Format		
Query	AT+SOCKLKB<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	

4.27. AT+SOCKDISB

Parameter	Description	Default Value	Range
<Status>	Allowing socket B to establish TCP connection	on	on/off
Format			
Query	AT+SOCKDISB<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+SOCKDISB=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.28. AT+REGENA

Parameter	Description	Default Value	Range	
<Status>	Status of identity packet	OFF	ID: Using 2 bytes ID code and 2 bytes ID inverse code as identity packet	
			MAC: Using 6 bytes MAC address as identity packet	
			USR: Using user editable identity packet, less than 32 bytes	
			CLOUD: Using USR Cloud ID as identity packet	
			OFF: Disabling the identity packet	
<Method>	Identity packet sending method	No Default Value	First: Sending identity packet before first package after establishing connection	
			Every: Sending identity packet in every package.	
Format				
Query	AT+REGENA<CR>			
Return	<CR><LF>+OK=<Status>,<Method><CR><LF>			
Set	AT+REGENA=<Status>,<Method><CR>			
Return	<CR><LF>+OK<CR><LF>			

4.29. AT+REGID

Parameter	Description	Default Value	Range
<ID>	Identity packet ID	1	1-65535
Format			
Query	AT+REGID<CR>		
Return	<CR><LF>+OK=<ID><CR><LF>		
Set	AT+REGID=<ID><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.30. AT+REGUSR

Parameter	Description	Range
<Data>	User editable identity packet	Length: 1~32 bytes. ASCII format.
Format		
Query	AT+REGUSR<CR>	
Return	<CR><LF>+OK=<Data><CR><LF>	
Set	AT+REGUSR=<Data><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.31. AT+REGCLOUD

Parameter	Description	Range
<ID>	USR Cloud ID	Length: 20 bytes
<Password>	USR Cloud password	Length: Less than 8 bytes
Format		
Query	AT+REGCLOUD<CR>	
Return	<C+R><LF>+OK=<ID>,<Password><CR><LF>	
Set	AT+REGCLOUD=<ID>,<Password><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.32. AT+UART

Parameter	Description	Default Value	Range	
<Baud rate>	Baud rate	115200	1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200, 128000, 230400, 460800	
<Data bits>	Data bits	8	7, 8	
<Stop bits>	Stop bits	1	1, 2	
<Parity>	Parity	NONE	NONE, EVEN, ODD, MARK, SPACE	
<Flow Control>	Flow Control	NFC	NFC: No flow control	
			FC: Hardware flow control(RTS/CTS)	
			485: Enabling RS485	
Format				
Query	AT+UART<CR>			
Return	<CR><LF>+OK=<Baud rate>,<Data bits>,<Stop bits>,<Parity><Flow Control><CR><LF>			
Set	AT+UART=<Baud rate>,<Data bits>,<Stop bits>,<Parity><Flow Control><CR>			
Return	<CR><LF>+OK<CR><LF>			

4.33. AT+UARTTE

Parameter	Description	Default Value	Range
<Interval>	Interval of adjacent bytes in serial port Free-Frame mode	20ms	20-250ms. And time interval will automatically change according to baud rate.(Baud rate<=1200, time=250ms; Baud rate>=20000, time=20ms; 1200<Baud rate<20000, time=265-Baudrate*0.01223, time is integer) So user should set baud rate before set Time interval.

Format	
Query	AT+UARTTE<CR>
Return	<CR><LF>+OK=<Interval><CR><LF>
Set	AT+UARTTE=<Interval><CR>
Return	<CR><LF>+OK<CR><LF>

4.34. AT+RFCENA

Parameter	Description	Default Value	Range
<Status>	Status of baud rate synchronization function	OFF	ON/OFF
Format			
Query	AT+RFCENA<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+RFCENA=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.35. AT+WKMOD

Parameter	Description	Default Value	Range	
<Mode>	Work mode	TRANS	TRANS: Transparent transmission mode	
			HTPC: HTTP Client mode	
Format				
Query	AT+WKMOD<CR>			
Return	<CR><LF>+OK=<Mode><CR><LF>			
Set	AT+WKMOD=<Mode><CR>			
Return	<CR><LF>+OK<CR><LF>			

4.36. AT+HTPSV

Parameter	Description	Default Value	Range
<Address>	Server address	test.usr.cn	IP address: 0.0.0~255.255.255.255
			Domain name: 1-64 bytes
<Port>	Server port	80	0-65535
Format			
Query	AT+HTPSV<CR>		
Return	<C+R><LF>+OK=<Address>,<Port><CR><LF>		
Set	AT+HTPSV=<Address>,<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.37. AT+HTPTP

Parameter	Description	Default Value	Range
<Method>	HTTP requesting method	GET	GET/POST
Format			
Query	AT+HTPTP<CR>		
Return	<CR><LF>+OK=<Method><CR><LF>		
Set	AT+HTPTP=<Method><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.38. AT+HTPHEAD

Parameter	Description	Default Value	Range
<Header>	HTTP header data	Connection: Keep-Alive[0D][0A]([0D][0A] mean Carriage Return and Line Feed, [] used to transfer meaning by HEX. And parameters must be end with [0D][0A])	Length: 0~200 bytes
Format			
Query	AT+HTPHEAD<CR>		
Return	<CR><LF>+OK=<Header><CR><LF>		
Set	AT+HTPHEAD=<Header><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.39. AT+HTPURL

Parameter	Description	Default Value	Range
<URL>	HTTP URL	/1.php[3F]([3F] means ?)	Length: 1~64 bytes
Format			
Query	AT+HTPURL<CR>		
Return	<CR><LF>+OK=<URL><CR><LF>		
Set	AT+HTPURL=<URL><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.40. AT+HTPCHD

Parameter	Description	Default Value	Range
<Status>	Status of filtering HTTP header data of response data	OFF	ON/OFF
Format			
Query	AT+HTPCHD<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		

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

4.41. AT+HTPTO

Parameter	Description	Default Value	Range
<Time>	HTTP requesting timeout time	10s	1-30s
Format			
Query	AT+HTPTO<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+HTPTO=<Time><CR>		
Return:	<CR><LF>+OK<CR><LF>		

4.42. AT+PING

Parameter	Description	Range
<Address>	Default IP address or domain name of W600	Can be IP address 10.10.100.254 or domain name www.usr.cn
<Status>	Status of ping	Success/Timeout/Unknown host
Format		
Query	AT+PING=<Address><CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	

4.43. AT+WEBU

Parameter	Description	Default Value	Range
<Username>	Web Server username	admin	Less than 16 bytes, can't be NUL
<Password>	Web Server password	admin	Less than 16 bytes
Format			
Query	AT+WEBU<CR>		
Return	<CR><LF>+OK=<Username>,<Password><CR><LF>		
Set	AT+WEBU=<Username>,<Password><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.44. AT+SMTSL

Parameter	Description	Default Value	Range
<Status>	Status of smart networking mode	sim	sim: Simple Config mode
			air: Airkiss mode

Format	
Query	AT+SMTSL<CR>
Return	<CR><LF>+OK=<Status><CR><LF>
Set	AT+SMTSL=<Status><CR>
Return	<CR><LF>+OK<CR><LF>

4.45. AT+SMTLK

Format	
Set	AT+SMTLK<CR>
Return	<CR><LF>+OK<CR><LF>

4.46. AT+NTPEN

Parameter	Description	Default Value	Range
<Status>	Status of NTP clock function	OFF	ON/OFF
Format			
Query	AT+NTPEN<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+NTPEN=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.47. AT+NTPTM

Parameter	Description	Default Value	Range	
<Time>	Network Clock time	Not Available	Clock time, format: such as 2017-07-06 15:50:00 Mon	
			Not Available	
Format				
Query	AT+NTPTM<CR>			
Return	<CR><LF>+OK=<Time><CR><LF>			

4.48. AT+NTPSER

Parameter	Description	Default Value	Range
<Address>	NTP server address	cn.ntp.org.cn	
<Time Zone>	Time zone	8	Western time zone need add '-' such as: -8
Format			
Query	AT+NTPSER<CR>		
Return	<CR><LF>+OK=<Address>,<Time Zone><CR><LF>		
Set	AT+NTPSER=<Address>,<Time Zone><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.49. AT+NTPRF

Parameter	Description	Default Value	Range
<Interval>	Interval of proofing time	30 minutes	10-720 minutes, 0 means close function
Format			
Query	AT+NTPRF<CR>		
Return	<CR><LF>+OK=<Interval><CR><LF>		
Set	AT+NTPRF=<Interval><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.50. AT+WAPM

Parameter	Description	Range
<SSID>	SSID of AP mode	Total length of <SSID> and <LEN>, less than 32 bytes
<Password>	Password of AP mode	More than 8 bytes
<LEN>	Length of MAC suffix of SSID	0 means no MAC suffix, 6 means MAC last 6 bytes, 12 means 12 bytes MAC
Format		
Set	AT+WAPM=<SSID>,<Password>,<LEN><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.51. AT+HEARTEN

Parameter	Description	Default Value	Range
<Status>	Status of heartbeat packet function	OFF	ON/OFF
Format			
Query	AT+HEARTEN<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+HEARTEN=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.52. AT+HEARTTP

Parameter	Description	Default Value	Range	
<Type>	Sending method of heartbeat packet	NET	NET: Sending to network server	
			COM: Sending to serial side	
Format				
Query	AT+HEARTTP<CR>			
Return	<CR><LF>+OK=<Type><CR><LF>			
Set	AT+HEARTTP=<Type><CR>			
Return	<CR><LF>+OK<CR><LF>			

4.53. AT+HEARTDT

Parameter	Description	Default Value	Range
<Data>	Heartbeat packet data	7777772E7573 722E636E	Less than 80 bytes
Format			
Query	AT+HEARTDT<CR>		
Return	<CR><LF>+OK=<Data><CR><LF>		
Set	AT+HEARTDT=<Data><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.54. AT+HEARTTM

Parameter	Description	Default Value	Range
<Interval>	Heartbeat packet sending interval	30s	Can be set between 1-6000s. But keep-alive time is 60s, so heartbeat packet sending interval can only take effect between 1-60s.
Format			
Query	AT+HEARTTM<CR>		
Return	<CR><LF>+OK=<Interval><CR><LF>		
Set	AT+HEARTTM=<Interval><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.55. AT+MDCH

Parameter	Description	Default Value	Range	
<Status>	Status of WiFi exception handling	10 minutes	OFF: Closing WiFi exception handling	
			ON: Opening WiFi mode switching function. Switching to AP+STA mode automatically when connecting unsuccessfully in STA mode	
			2-240 minutes: WiFi exception detection interval	
Format				
Query	AT+MDCH<CR>			
Return	<CR><LF>+OK=<Status><CR><LF>			
Set	AT+MDCH=<Status><CR>			
Return	<CR><LF>+OK<CR><LF>			

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6. Disclaimer

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7. Update History

2018-05-14 V1.0.0 created.