

USR-K3 AT Command Set

(Firmware 3014)

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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.

<http://www.usriot.com/enter-serial-command-mode/>

3. AT command set

Command	Function
Management Command	
ENTM	Exit serial AT command mode and enter work mode
Z	Restart the USR device
RELD	Restore factory settings
E	Query/Set AT command echo
System Command	
VER	Query firmware version
MID	Query/Set module name
MAC	Query MAC address
USERMAC	Set Self-defined MAC address
PDTIME	Query production data
WANN	Query/Set device DHCP or Static IP, IP address and Mask and gateway address.
DNS	Query/Set DNS address
SEARCH	Query/Set search port and keyword in LAN
RSTIM	Query/Set Timeout Reset time

CFGTF	Saving current settings as factory settings
PING1	Set PING IP address and perform a PING action
Settings webpage command	
WEBU	Query/Set settings webpage username and password
WEBPORT	Query/Set settings webpage port number
PLANG	Query/Set default language of settings webpage
UART and socket command	
UART1	Query/Set UART1 parameters
UARTTL1	Query/Set serial package time and length
SOCKA1	Query/Set socket Network protocol parameter
SOCKLKA1	Query/Set socket A connection status
WEBSOCKPORT1	Query/Set websocket port number
RFCEN1	Query/Set similar RFC2217 function enable/disable
SOCKSL1	Query/Set short connection function ON/OFF
SHORTO1	Query/Set short connection function time
SOCKTON1	Query/Set Timeout Reconnection time
NETPR1	Query/Set Network Printing ON/OFF
UDPON1	Query/Set Don't judge remote IP address and port in UDP Client ON/OFF
UARTCLBUF	Query/Set Clear UART cache before module connection ON/OFF
Modbus command	
MODTCP1	Query/Set Modbus TCP function ON/OFF
MODPOLL1	Query/Set Modbus Polling ON/OFF
MODTO1	Query/Set Modbus Polling time
Identity header command	
REGEN1	Query/Set status of identity header
REGTCP1	Query/Set Sending Method of identity header
REGUSR1	Query/Set Customer's Self-defined identity header data, only support ASCII
REGUSER1	Query/Set Customer's Self-defined identity header data, support ASCII and HEX
REGCLOUD1	Query/Set USR Cloud ID and password
Heartbeat package command	
HEARTEN1	Query/Set heartbeat package enabled/disabled
HEARTTP1	Query/Set type of heartbeat package

HEARTTM1	Query/Set heartbeat time interval
HEARTDT1	Query/Set Self-defined heartbeat package data, only support ASCII
HEARTUSER1	Query/Set Self-defined heartbeat package data, support ASCII and HEX
HTTP command	
HTPTP1	Query/Set HTTP method
HTPURL1	Query/Set URL
HTPHEAD1	Query/Set HTTP header
HTPCHD1	Query/Set filtering HTTP header of response data enabled/disabled

4. AT command details

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

4.1. AT+ENTM

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

4.2. AT+Z

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

4.3. AT+RELD

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

4.4. AT+E

Parameter	Description	Default Value	Range
<Status>	Echo of AT command	ON	ON: Enable the echo
			OFF: Disable the echo
Format			
Query	AT+E<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+E=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.5. AT+VER

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

4.6. AT+MID

Parameter	Description	Default Value	Range
<Name>	Module name	USR-K3	1~15 Bytes
Format			
Query	AT+MID<CR>		
Return	<CR><LF>+OK=<Name><CR><LF>		
Set	AT+MID=<Name><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.7. AT+MAC

Parameter	Description	Range
<MAC>	MAC address of the module.	USR MAC start with D8B04C
Format		
Query	AT+MAC<CR>	
Return	<CR><LF>+OK=<MAC><CR><LF>	

4.8. AT+USERMAC

Parameter	Description	Range
<MAC>	MAC address	USR MAC start with D8B04C
Format		
Set	AT+USERMAC=<MAC><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.9. AT+PDTIME

Parameter	Description
<Data>	Production data of module.
Format	
Query	AT+PDTIME<CR>
Return	<CR><LF>+OK=<Data><CR><LF>

4.10. AT+WANN

Parameter	Description	Default Value	Range
<Mode>	Method of how to get IP address	STATIC	STATIC: Get the IP address manually
			DHCP: Get the IP address automatically
<IP address>	IP address	192.168.0.7	0.0.0.0~255.255.255.255
<Mask>	Subnet mask	255.255.255.0	0.0.0.0~255.255.255.255
<Gateway>	Gateway address	192.168.0.1	0.0.0.0~255.255.255.255
Format			
Query	AT+WANN<CR>		
Return	<CR><LF>+OK=<Mode>,<IP address>,<Mask>,<Gateway><CR><LF>		
Set	AT+WANN=<Mode>,<IP address>,<Mask>,<Gateway><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.11. AT+DNS

Parameter	Description	Default Value	Range
<Address>	DNS server address	192.168.0.1	0.0.0.0~255.255.255.255
Format			
Query	AT+DNS<CR>		
Return	<CR><LF>+OK=<Address><CR><LF>		
Set	AT+DNS=<Address><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.12. AT+SEARCH

Parameter	Description	Default Value	Range
<Port>	UDP Port for searching	48899	1~65535
<Keyword>	Search keyword	WWW.USR.CN	1~20 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>

4.13.AT+RSTIM

Parameter	Description	Default Value	Range
<Time>	Time of Timeout Reset	3600s	0,60-65535s
Format			
Query	AT+RSTIM<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+RSTIM=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.14.AT+CFGTF

Parameter	Range
<Status>	Saved:Saving current setting as Factory settings.
Format	
Set	AT+CFGTF<CR>
Return	<CR><LF>+OK=<Status><CR><LF>

4.15.AT+PING1

Parameter	Description	Range
<Address>	IP Address or Domain Name	IP Address:0.0.0.0~255.255.255.255
		Domain Name:1-30 bytes
Format		
Set	AT+PING1=<Address><CR>	
Return	<CR><LF>+OK=SUCCESS<CR><LF>	

4.16. AT+WEBU

Parameter	Description	Default Value	Range
<Username>	Username of module	admin	1~6 bytes
<Password>	Password of module	admin	1~6 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>		

4.17. AT+WEBPORT

Parameter	Description	Default Value	Range
<Port>	Port of settings webpage	80	1~65535
Format			
Query	AT+WEBPORT<CR>		
Return	<CR><LF>+OK=<Port><CR><LF>		
Set	AT+WEBPORT=<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.18. AT+PLANG

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

4.19. AT+UART1

Parameter	Description	Default Value	Range
<Baudrate>	Baudrate	115200	600~1024000
<Data bits>	Data bits	8	5,6,7,8
<Stop bits>	Stop bits	1	1,2
<Parity>	Parity	NONE	NONE,EVEN,ODD,MASK,SPACE
<Flow Control>	Flow Control	NFC	NFC: No flow control
			FC: Hardware flow control(RTS/CTS)
Format			
Query	AT+UART1<CR>		
Return	<CR><LF>+OK=<Baudrate>,<Data bits>,<Stop bits>,<Parity><Flow Control><CR><LF>		
Set	AT+UART1=<Baudrate>,<Data bits>,<Stop bits>,<Parity><Flow Control><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.20. AT+UARTTTL1

Parameter	Description	Default Value	Range
<Time>	Serial packet time	0	0~255 ms
<Length>	Serial packet length	0	0~1460 bytes
Format			
Query	AT+UARTTTL1<CR>		
Return	<CR><LF>+OK=<Time>,<Length><CR><LF>		
Set	AT+UARTTTL1=<Time>,<Length><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.21. AT+SOCKA1

Parameter	Description	Default Value	Range
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<Protocol>	Network protocol	TCPS	TCPS: TCP Server mode
			TCPC: TCP Client mode
			UDPS: UDP Server mode
			UDPC: UDP Client mode
			HTPC: HTTP Client mode
<IP address>	Remote Server IP address (in client mode)	192.168.0.7	0.0.0.0~255.255.255.255
<Port>	Port number	23	1~65535 Local port in Server mode Remote port in Client mode
Format			
Query	AT+SOCKA1<CR>		
Return	<CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF>		
Set	AT+SOCKA1=<Protocol>,<IP address>,<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.22.AT+SOCKLKA1

Parameter	Description	Default Value	Range	Description
<Status>	Status of socket	LISTEN	IDLE	Module is booting or disable Keep-alive
			LISTEN	waiting client (Module is in TCP Server mode)
			CONNECTING	Module is connecting to TCP Server (Module is in TCP Client mode)
			CONNECTED	TCP connection is established
			CONNECTED(n)	n is the number of TCP clients which connect to module (Module is in TCP server mode)
			ERROR	Connection Error
Format				
Query	AT+SOCKLKA1<CR>			
Return	<CR><LF>+OK=<Status><CR><LF>			
Set	AT+SOCKLKA1=<Status><CR>			

Return	<CR><LF>+OK<CR><LF>
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4.23.AT+WEBSOCKET1

Parameter	Description	Default Value	Range
<Port>	Port of websocket	6432	1~65535
Format			
Query	AT+WEBSOCKET1<CR>		
Return	<CR><LF>+OK=<Port><CR><LF>		
Set	AT+WEBSOCKET1=<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.24.AT+RFCEN1

Parameter	Default Value	Range
<Status>	ON	ON/OFF
Format		
Query	AT+RFCEN1<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	
Set	AT+RFCEN1=<Status><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.25.AT+SOCKSL1

Parameter	Default Value	Range
<Status>	OFF	ON/OFF
Format		
Query	AT+SOCKSL1<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	
Set	AT+SOCKSL1=<Status><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.26. AT+SHORT01

Parameter	Description	Default Value	Range
<Time>	Short Connection time	3s	2-255s
Format			
Query	AT+SHORT01<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+SHORT01=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.27. AT+SOCKTON1

Parameter	Description	Default Value	Range
<Time>	Timeout Reconnection time	86400s	1-99999s
Format			
Query	AT+SOCKTON1<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+SOCKTON1=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.28. AT+NETPR1

Parameter	Default Value	Range
<Status>	OFF	ON/OFF
Format		
Query	AT+NETPR1<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	
Set	AT+NETPR1=<Status><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.29.AT+UDPON1

Parameter	Default Value	Range
<Status>	OFF	ON/OFF
Format		
Query	AT+UDPON1<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	
Set	AT+UDPON1=<Status><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.30.AT+UARTCLBUF

Parameter	Default Value	Range
<Status>	OFF	ON/OFF
Format		
Query	AT+UARTCLBUF<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	
Set	AT+UARTCLBUF=<Status><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.31.AT+MODTCP1

Parameter	Default Value	Range
<Status>	OFF	ON/OFF
Format		
Query	AT+MODTCP1<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	
Set	AT+MODTCP1=<Status><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.32. AT+MODPOLL1

Parameter	Default Value	Range
<Status>	OFF	ON/OFF
Format		
Query	AT+MODPOLL1<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	
Set	AT+MODPOLL1=<Status><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.33. AT+MODT01

Parameter	Description	Default Value	Range
<Time>	Modbus POLLING time	200s	200-9999s
Format			
Query	AT+MODT01<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+MODT01=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.34. AT+REGEN1

Parameter	Description	Default Value	Range
<Status>	Status of identity header	OFF	OFF: Disable the identity header
			MAC: Use MAC address as identity header
			CLOUD: Using USR Cloud ID as Identity header
			USR: Use the Customer's Self-defined identity header

Format	
Query	AT+REGEN1<CR>
Return	<CR><LF>+OK=<Status><CR><LF>
Set	AT+REGEN1=<Status><CR>
Return	<CR><LF>+OK<CR><LF>

4.35.AT+REGTCP1

Parameter	Description	Default Value	Range
<Method>	Method of Sending identity header	First	First: Send Identity header before first packet after the connected
			Every: Send Identity header in every packet.
			ALL: Sending identity header with both methods.
Format			
Query	AT+REGTCP1<CR>		
Return	<CR><LF>+OK=<Method><CR><LF>		
Set	AT+REGTCP1=<Method><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.36.AT+REGUSR1

Parameter	Description	Default Value	Range
<Data>	Customer's Self-defined identity header data	www.usr.cn	Length: 1~40 bytes
Format			
Query	AT+REGUSR1<CR>		
Return	<CR><LF>+OK=<Data><CR><LF>		
Set	AT+REGUSR1=<Data><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.37. AT+REGUSER1

Parameter	Description	Default Value	Range
<Data>	Customer's Self-defined identity header data	www.usr.cn	ASCII:Less than 40 bytes
			HEX:Less than 80 bytes
<Type>	Type of Customer's Self-defined identity header	ASCII	ASCII/HEX
Format			
Query	AT+REGUSER1<CR>		
Return	<C+R><LF>+OK=<Data>,<Type><CR><LF>		
Set	AT+REGUSER1=<Data>,<Type><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.38. AT+REGCLOUD1

Parameter	Description	Default Value	Range
<ID>	ID of USR Cloud		Length: 20 bytes
<Password>	password of USR Cloud		Length: 8 bytes
Format			
Query	AT+REGCLOUD1<CR>		
Return	<C+R><LF>+OK=<ID>,<Password><CR><LF>		
Set	AT+REGCLOUD1=<ID>,<Password><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.39. AT+HEARTEN1

Parameter	Description	Default Value	Range
<Status>	Status of heartbeat packet	OFF	ON: Enable the heartbeat packet
			OFF: Disable the heartbeat packet

Format	
Query	AT+HEARTEN1<CR>
Return	<CR><LF>+OK=<Status><CR><LF>
Set	AT+HEARTEN1=<Status><CR>
Return	<CR><LF>+OK<CR><LF>

4.40.AT+HEARTTP1

Parameter	Description	Default Value	Range
<Type>	Type of heartbeat packet	NONE	NONE: Disable the heartbeat packet
			NET: Send heartbeat packet to network
			COM: Send heartbeat to UART1
Format			
Query	AT+HEARTTP1<CR>		
Return	<CR><LF>+OK=<Type><CR><LF>		
Set	AT+HEARTTP1=<Type><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.41.AT+HEARTTM1

Parameter	Description	Default Value	Range
<Time>	Heartbeat time interval	30	1~65535 seconds
Format			
Query	AT+HEARTTM1<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+HEARTTM11=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.42.AT+HEARTDT1

Parameter	Description	Default Value	Range
<Data>	Heartbeat data	www.usr.cn	Length: 1~40 bytes

Format	
Query	AT+HEARTDT1<CR>
Return	<CR><LF>+OK=<Data><CR><LF>
Set	AT+HEARTDT1=<Data><CR>
Return	<CR><LF>+OK<CR><LF>

4.43.AT+HEARTUSER1

Parameter	Description	Default Value	Range
<Data>	Customer's Self-defined Heartbeat packet data	www.usr.cn	ASCII:Less than 40 bytes
			HEX:Less than 80 bytes
<Type>	Type of Customer's Self-defined Heartbeat packet	ASCII	ASCII/HEX
Format			
Query	AT+HEARTUSER1<CR>		
Return	<C+R><LF>+OK=<Data>,<Type><CR><LF>		
Set	AT+HEARTUSER1=<Data>,<Type><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.44.AT+HTPTP1

Parameter	Description	Default Value	Range
<Method>	HTTP method	GET	GET: HTTP GET
			POST: HTTP POST
Format			
Query	AT+HTPTP1<CR>		
Return	<CR><LF>+OK=<Method><CR><LF>		
Set	AT+H=HTPTP1=<Method><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.45. AT+HTPURL1

Parameter	Description	Default Value	Range
<URL>	HTTP URL	/1.php?	Length:1~100 bytes
Format			
Query	AT+HTPURL1<CR>		
Return	<CR><LF>+OK=<URL><CR><LF>		
Set	AT+HTPURL1=<URL><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.46. AT+HTPHEAD1

Parameter	Description	Default Value	Range
<Header>	HTTP Header	User_Agent: Mozilla/4.0	Length: 0~180 bytes,<<CRLF>> is Carriage return and line feed.
Format			
Query	AT+HTPHEAD1<CR>		
Return	<CR><LF>+OK=<Header><CR><LF>		
Set	AT+HTPHEAD1=<Header><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.47. AT+HTPCHD1

Parameter	Description	Default Value	Range
<Status>	Status of filtering HTTP header of response data	OFF	ON: Enable the filter of HTTP header
			OFF: Disable the filter of HTTP header
Format			
Query	AT+HTPCHD1<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+HTPCHD1=<Status><CR>		
Return:	<CR><LF>+OK<CR><LF>		

5. Contact

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7. Update History

2017-12-30 V1.0.0 created. Based on firmware version 3013