

USR-TCP232-ED2 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
E	Query/Set AT command echo enable/disable
Z	Reset the module
VER	Query module firmware version
ENTM	Exit AT command mode and enter work mode
MAC	Query MAC address
RELD	Restore default settings
WANN	Query/Set module WAN interface parameters.
DNS	Query/Set DNS server address
WEBU	Query/Set Web Server username and password
WEBPORT	Query/Set Web Server port number
SEARCH	Query/Set searching port and keyword
PLANG	Query/Set language of Web Server
UARTn	Query/Set serial port n parameters
UARTTLn	Query/Set serial port n serial package time and length
SOCKmn	Query/Set serial port n socket m parameters

SOCKLKmn	Query serial port n socket m connection status
WEBSOCKET1	Query/Set websocket port number
REGENn	Query/Set serial port n identity packet status
REGTCPn	Query/Set serial port n identity packet sending method
REGUSRn	Query/Set serial port n user editable identity packet data, only support ASCII
REGCLOUDn	Query/Set serial port n USR Cloud ID and password
HTPTPn	Query/Set serial port n HTTP requesting method in HTTPD Client mode
HTPURLn	Query/Set serial port n URL in HTTPD Client mode
HTPHEADn	Query/Set serial port n HTTP header data in HTTPD Client mode
HTPCHDn	Query/Set serial port n filtering HTTP header of response data in HTTPD Client mode enable/disable
HEARTENn	Query/Set serial port n heartbeat packet enable/disable
HEARTTPn	Query/Set serial port n heartbeat packet sending method
HEARTTMn	Query/Set serial port n heartbeat packet interval
HEARTDTn	Query/Set user editable heartbeat packet data, only support ASCII
PDTIME	Query production data
MID	Query/Set module name
USERMAC	Set user editable MAC address
RFCENn	Query/Set serial port n baud rate synchronization function enable/disable
SOCKSLn	Query/Set serial port n non-persistent connection function enable/disable
SHORTOn	Query/Set serial port n non-persistent connection function time
RSTIM	Query/Set serial port n timeout reset time
UARTCLBUF	Query/Set clearing serial port cache before establishing connection enable/disable
SOCKTONn	Query/Set serial port n timeout reconnecting time
MODTCPN	Query/Set serial port n Modbus RTU<->Modbus TCP function enable/disable
MODPOLLn	Query/Set serial port n Modbus polling function enable/disable
MODTON	Query/Set serial port n Modbus polling time
NETPRn	Query/Set serial port n Network printing function enable/disable
UDPONn	Query/Set serial port n don't judge remote IP address and port in UDP mode enable/disable
CFGTF	Saving current settings as default settings
PINGn	Set serial port n PING address and performing a PING action
HEARTUSERn	Query/Set serial port n user editable heartbeat packet data, support ASCII and HEX
REGUSERn	Query/Set serial port n user editable identity packet data, support ASCII and HEX

Note: USR-TCP232-ED2 has three serial ports and two sockets, so n=1,2,3 and m=A, B.

4. AT command details

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

4.1. 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>		

4.2. AT+Z

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

4.3. AT+VER

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

4.4. AT+ENTM

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

4.5. 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>	

4.6. AT+RELD

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

4.7. AT+WANN

Parameter	Description	Default Value	Range
<Mode>	Method of getting 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>		

4.8. AT+DNS

Parameter	Description	Default Value	Range
<Address>	DNS server address	208.67.222.222	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>		

4.9. AT+WEBU

Parameter	Description	Default Value	Range
<Username>	Web Server username	admin	1~5 bytes
<Password>	Web Server password	admin	1~5 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>		

4.10. AT+WEBPORT

Parameter	Description	Default Value	Range
<Port>	Web Server port number	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>		

4.11. AT+SEARCH

Parameter	Description	Default Value	Range
<Port>	UDP port for searching	48899	1~65535
<Keyword>	Searching 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>

4.12. AT+PLANG

Parameter	Description	Default Value	Range
<Language>	Web Server language	EN	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>		

4.13. AT+UARTn

Parameter	Description	Default Value	Range
<Baud rate>	Serial port n baud rate	115200	9600, 19200, 38400, 57600, 115200, 230400, 380400, 460800
<Data bits>	Serial port n data bits	8	5, 6, 7, 8
<Stop bits>	Serial port n stop bits	1	1, 2
<Parity>	Serial port n parity	NONE	NONE,EVEN,ODD,MARK,SPACE
<Flow Control>	Serial port n flow control status	NFC	NFC: No flow control
			FC: Hardware flow control(RTS/CTS)
Format			
Query	AT+UARTn<CR>		
Return	<CR><LF>+OK=<Baud rate>,<Data bits>,<Stop bits>,<Parity><Flow Control><CR><LF>		
Set	AT+UARTn=<Baud rate>,<Data bits>,<Stop bits>,<Parity><Flow Control><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.14. AT+UARTTLn

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

4.15. AT+SOCKmn

Parameter	Description	Default Value	Range
<Protocol>	Serial port n socket m 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 of serial port n socket m	23	1~65535 Local port in Server mode. Remote port in Client mode.
Format			
Query	AT+SOCKmn<CR>		
Return	<CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF>		
Set	AT+SOCKmn=<Protocol>,<IP address>,<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.16. AT+SOCKLKn

Parameter	Description	Default Value	Range
<Status>	Status of socket m of serial port n	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+SOCKLKn<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		

4.17. 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>		

4.18. AT+REGENn

Parameter	Description	Default Value	Range
<Status>	Status of identity packet of serial port n	OFF	OFF: Disabling the identity packet
			MAC: Using MAC address as identity packet
			CLOUD: Using USR Cloud ID as Identity packet
			USR: Using user editable identity packet, less than 20 bytes
Format			
Query	AT+REGENn<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+REGENn=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.19. AT+REGTCPn

Parameter	Description	Default Value	Range
<Method>	Sending method of identity packet of serial port n	First	First: Sending identity packet before first package after establishing connect
			Every: Sending identity packet in every package.
			ALL: Sending identity packet with both methods.
Format			
Query	AT+REGTCPn<CR>		
Return	<CR><LF>+OK=<Method><CR><LF>		
Set	AT+REGTCPn=<Method><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.20. AT+REGUSRn

Parameter	Description	Default Value	Range
<Data>	Serial port n user editable identity packet data	www.usr.cn	Length: 1~40 bytes

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

4.21. AT+REGCLOUDn

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

4.22. AT+HTPTPn

Parameter	Description	Default Value	Range
<Method>	Serial port n HTTP requesting method in HTTPD Client mode	GET	GET/POST
Format			
Query	AT+HTPTPn<CR>		
Return	<CR><LF>+OK=<Method><CR><LF>		
Set	AT+HTPTPn=<Method><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.23. AT+HTPURLn

Parameter	Description	Default Value	Range
<URL>	Serial port n HTTP URL in HTTPD Client mode	/1.php?	Length:1~100 bytes
Format			
Query	AT+HTPURLn<CR>		
Return	<CR><LF>+OK=<URL><CR><LF>		

Set	AT+HTPURLn=<URL><CR>
Return	<CR><LF>+OK<CR><LF>

4.24. AT+HTPHEADn

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

4.25. AT+HTPCHDn

Parameter	Description	Default Value	Range
<Status>	Status of filtering HTTP header of response data function of serial port n	OFF	ON/OFF
Format			
Query	AT+HTPCHDn<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+HTPCHDn=<Status><CR>		
Return:	<CR><LF>+OK<CR><LF>		

4.26. AT+HEARTENn

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

4.27. AT+HEARTTPn

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

4.28. AT+HEARTTMn

Parameter	Description	Default Value	Range
<Time>	Serial port n heartbeat packet interval	30 seconds	1~65535 seconds
Format			
Query	AT+HEARTTMn<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+HEARTTMn=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.29. AT+HEARTDTn

Parameter	Description	Default Value	Range
<Data>	Serial port n heartbeat packet data	www.usr.cn	Length: 1~40 bytes
Format			
Query	AT+HEARTDTn<CR>		
Return	<CR><LF>+OK=<Data><CR><LF>		
Set	AT+HEARTDTn=<Data><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.30. AT+PDTIME

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

4.31. AT+MID

Parameter	Description	Range
<Name>	Module name	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>	

4.32. 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>	

4.33. AT+RFCENn

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

4.34. AT+SOCKSLn

Parameter	Description	Default Value	Range
<Status>	Status of serial port n non-persistent connection function	OFF	ON/OFF
Format			
Query	AT+SOCKSLn<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+SOCKSLn=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.35. AT+SHORTOn

Parameter	Description	Default Value	Range
<Time>	Serial port n non-persistent connection time	3s	2-255s
Format			
Query	AT+SHORTOn<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+SHORTOn=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.36. AT+RSTIM

Parameter	Description	Default Value	Range
<Time>	Timeout reset time	3600s	0s, 60-65535s. 0s means closing the function
Format			
Query	AT+RSTIM<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+RSTIM=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.37. AT+UARTCLBUF

Parameter	Description	Default Value	Range
<Status>	Status of clearing serial port cache before establishing connection function	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>		

4.38. AT+SOCKTONn

Parameter	Description	Default Value	Range
<Time>	Serial port n timeout reconnecting time	86400s	1-99999s
Format			
Query	AT+SOCKTONn<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+SOCKTONn=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.39. AT+MODTCPn

Parameter	Description	Default Value	Range
<Status>	Status of serial port n Modbus RTU<->Modbus TCP function	OFF	ON/OFF
Format			
Query	AT+MODTCPn<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+MODTCPn=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.40. AT+MODPOLLn

Parameter	Description	Default Value	Range
<Status>	Status of serial port n Modbus polling function	OFF	ON/OFF
Format			
Query	AT+MODPOLLn<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+MODPOLLn=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.41. AT+MODTON

Parameter	Description	Default Value	Range
<Time>	Serial port n Modbus polling time	200s	200-9999s
Format			
Query	AT+MODTON<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+MODTON=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.42. AT+NETPRn

Parameter	Description	Default Value	Range
<Status>	Status of serial port n network printing function	OFF	ON/OFF
Format			
Query	AT+NETPRn<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+NETPRn=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.43. AT+UDPONn

Parameter	Description	Default Value	Range
<Status>	Status of serial port n don't judge remote IP address and port in UDP Client mode	OFF	ON/OFF
Format			
Query	AT+UDPONn<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+UDPONn=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.44. AT+CFGTF

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

4.45. AT+PINGn

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+PINGn=<Address><CR>	
Return	<CR><LF>+OK=SUCCESS<CR><LF>	

4.46. AT+HEARTUSERn

Parameter	Description	Default Value	Range
<Data>	Serial port n user editable heartbeat packet data	www.usr.cn	ASCII: Less than 40 bytes
			HEX: Less than 80 bytes

<Type>	Type of user editable heartbeat packet of serial port n	ASCII	ASCII/HEX
Format			
Query	AT+HEARTUSERn<CR>		
Return	<C+R><LF>+OK=<Data>,<Type><CR><LF>		
Set	AT+HEARTUSERn=<Data>,<Type><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.47. AT+REGUSERn

Parameter	Description	Default Value	Range
<Data>	Serial port n user editable identity packet data	www.usr.cn	ASCII: Less than 40 bytes
			HEX: Less than 80 bytes
<Type>	Type of user editable identity packet of serial port n	ASCII	ASCII/HEX
Format			
Query	AT+REGUSERn<CR>		
Return	<C+R><LF>+OK=<Data>,<Type><CR><LF>		
Set	AT+REGUSERn=<Data>,<Type><CR>		
Return	<CR><LF>+OK<CR><LF>		

5. Contact

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6. Disclaimer

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7. Update History

2017-11-08 V1.0.0 created based on firmware version 3014.