RS485 To ETH

AT Command Manual

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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 RSxxx TO ETH (hereafter called as ETH Module), it 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 ETH module, you should restart ETH module 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

- Connect module to PC via UART interface (a UART to USB module is required)
- Open Serial Assistant software on PC, and set it to 115200 8N1
- Send “+++” to module, it responses “a”
- Send “a” to confirm, and you will get a response “+OK”. Now you enter the Command Mode successfully.

3. AT Command Set

Command Function	Command Function
Basic Command	
E	Query/Set AT command echo enable/disable
Z	Restart the device
VER	VER Query firmware version
ENTM	Exit serial AT command mode and enter work mode
RELD	Restore default settings
MAC	Query MAC address
USERMAC	Set user editable MAC address
WEBU	Query/set username and password
WANN	Query/Set WAN interface parameters
DNS	Query/Set DNS server address
WEBPORT	Query/Set web server port number
UART	Query/Set serial port parameters
SOCK	Query/Set socket parameters
TCPSE	Query/Set kick-off old TCP connection enable/disable
SOCKLK	Query TCP connection status
SOCKPORT	Query/Set Local port number
RFCEN	Query/Set baud rate synchronization enable/disable
PDTIME	Query production date
Identity packet command	
REGEN	Query/Set status of identity packet
REGTCP	Query/Set Sending Method of identity packet
REGCLOUD	Query/Set USR Cloud ID and password
REGUSR	Query/Set user editable identity packet data
HTTPD Client command	
HTPTP	Query/Set HTTP request method
HTPURL	Query/Set URL
HTPHEAD	Query/Set HTTP header
HTPCHD	Query/Set filtering HTTP header of response data enabled/disabled
Heartbeat packet command	
HEARTEN	Query/Set heartbeat packet enabled/disabled
HEARTTP	Query/Set type of heartbeat packet
HEARTTM	Query/Set heartbeat packet sending interval
HEARTDT	Query/Set heartbeat packet data
Expand function command	

SCSLINK	Query/Set socket Link function enable/disable
CLIENTRST	Query/Set TCP Client mode Reset function enable/disable
INDEXEN	Query/Set Index function enable/disable
SOCKSL	Query/Set non-persistent connection function enable/disable
SHORTO	Query/Set non-persistent connection function time
UARTCLBUF	Query/Set Clear serial port cache before module establishing connection function enable/disable
RSTIM	Query/Set Timeout Reset time
MAXSK	Query/Set Maximum Client connections in TCP Serve mode
MID	Query/Set module name
H	Query help message

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>	Echo of AT command	off	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	Set AT+Z<CR>
Return	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+RELD

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

4.6. AT+MAC

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

4.7. 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>	

4.8. AT+WEBU

Parameter	Description	Default Value	Range
<Username>	Username of module	admin	1~5 bytes
<Password>	Password of module	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>		

4.9. 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>		

4.10. 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>		

4.11. AT+WEBPORT

Parameter	Description	Default Value	Range
<Port>	Port of web server	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>		

4.12. AT+UART

Parameter	Description	Default Value	Range
<Baud rate>	Baud rate	115200	600~230.4Kbps
<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+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>		

4.13. AT+SOCK

Parameter	Description	Default Value	Range
<Protocol>	Network protocol	TCPC	TCPS: TCP Server mode
			TCPC: TCP Client mode
			UDPS: UDP Server mode
			UDPC: UDP Client mode
			HTPC: HTTPD Client mode
<IP address>	Remote Server IP address (in client mode)	192.168.0.201	0.0.0.0~255.255.255.255
<Port>	Remote port number	8234	1~65535
Format			
Query	AT+SOCK<CR>		
Return	<CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF>		
Set	AT+SOCK=<Protocol>,<IP address>,<Port><CR>		
Return	<CR><LF>+OK<CR><LF		

4.14. AT+TCPSE

Parameter	Description	Default Value	Range
<Status>	How to deal with Client connection after Client connections arriving maximum in TCP Server mode	kick	keep: Don't receive new TCP Client connection
			kick: Kick-off old TCP Client connection
Format			
Query	AT+TCPSE<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+TCPSE=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.15. AT+SOCKLK

Parameter	Description	Range
<Status>	Status of TCP connection	Connect/Disconnect
Format		
Query	AT+SOCKLK<CR>	
Return	<CR><LF>+OK=<Status><CR><LF>	

4.16. AT+SOCKPORT

Parameter	Description	Default Value	Range
<Port>	Local port number	0	0: Random port
			1-65535
Format			
Query	AT+SOCKPORT<CR>		
Return	<CR><LF>+OK=<Port><CR><LF>		
Set	AT+SOCKPORT=<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.17. AT+RFCEN

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

4.18. AT+PDTIME

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

4.19. AT+REGEN

Parameter	Description	Default Value	Range
<Status>	Status of identity packet	OFF	MAC: 6 bytes MAC address identity packet
			Usr: User editable identity packet
			Off: Disable the identity packet
Format			
Query	AT+REGEN<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+REGEN=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.20. AT+REGTCP

Parameter	Description	Default Value	Range
<Method>	Sending method of identity packet	FIRST	FIRST: Sending Identity packet before first packet after the connected
			EVERY: Sending Identity packet in every packet.
			ALL: Sending identity packet with both methods.
Format			

Query	AT+REGTCP<CR>
Return	<CR><LF>+OK=<Method><CR><LF>
Set	AT+REGTCP=<Method><CR>
Return	<CR><LF>+OK<CR><LF>

4.21. AT+REGCLOUD

Parameter	Description	Range
<ID>	ID of USR Cloud	Length: 20 bytes
<Password>	Password of USR Cloud	Length: 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>	

4.22. AT+REGUSR

Parameter	Description	Default Value	Range
<Data>	User editable identity packet data	www.usr.cn	Length: 1~40 bytes
Format			
Query	AT+REGUSR<CR>		
Return	<CR><LF>+OK=<Data><CR><LF>		
Set	AT+REGUSR=<Data><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.23. AT+HTPTP

Parameter	Description	Default Value	Range
<Method>	HTTP request 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>		

4.24. AT+HTPURL

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

4.25. AT+HTPHEAD

Parameter	Description	Default Value	Range
<Header>	HTTP Header	User_Agent: Mozilla/4.0 Connection: close	Less than 200 bytes, <<CRLF>> is Carriage return and line feed.
Format			
Query	AT+HTPHEAD<CR>		
Return	<CR><LF>+OK=<Header><CR><LF>		
Set	AT+HTPHEAD=<Header><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.26. AT+HTPCHD

Parameter	Description	Default Value	Range
<Status>	Status of filtering HTTP header of response data function	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>		

4.27. 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>		

4.28. AT+HEARTTP

Parameter	Description	Default Value	Range
<Type>	Type of heartbeat packet	NET	NET: Send heartbeat packet to network server
			COM: Send heartbeat packet to serial port
Format			
Query	AT+HEARTTP<CR>		

Return	<CR><LF>+OK=<Type><CR><LF>
Set	AT+HEARTTP=<Type><CR>
Return	<CR><LF>+OK<CR><LF>

4.29. AT+HEARTTM

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

4.30. AT+HEARTDT

Parameter	Description	Default Value	Range
<Data>	Heartbeat packet data	www.usr.cn	Less than 40 bytes
Format			
Query	AT+HEARTDT<CR>		
Return	<CR><LF>+OK=<Data><CR><LF>		
Set	AT+HEARTDT=<Data><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.31. AT+SCSLINK

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

Return	<CR><LF>+OK<CR><LF>

4.32. AT+CLIENTRST

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

4.33. AT+INDEXEN

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

4.34. AT+SOCKSL

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

4.35. AT+SHORTO

Parameter	Description	Default Value	Range
<Time>	Non-persistent connection function time	3s	2-255s
Format			
Query	AT+SHORTO<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+SHORTO=<Time><CR>		
Return	<CR><LF>+OK<CR><LF		

4.36. 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>		

4.37. 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>		

4.38. AT+MAXSK

Parameter	Description	Default Value	Range
<Num>	Maximum Client connections in TCP Server mode	4	1~16
Format			
Query	AT+MAXSK<CR>		
Return	<CR><LF>+OK=<Num><CR><LF>		
Set	AT+MAXSK=<Num><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.39. AT+MID

Parameter	Description	Default Value	Range
<Name>	Module name	USR-TCP232-30X	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>		

4.40. AT+H

Parameter	Description
<Message>	Help message
Format	
Query	AT+H<CR>
Return	<CR><LF>+OK=<Message><CR><LF>