

USR-N520 AT Command Set

(Firmware 3033 V1.0.5)

File version: 1.0.1

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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.

Powered successfully, we can setting the module with UART.

The default UART port parameters of the module are: baud rate 115200, no parity, data 8 and stop 1.

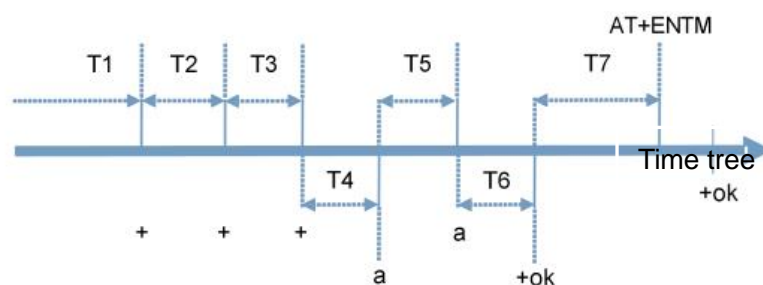
Recommend to use secureCRT software tool or testing program of USRIOT.

Below are using the secureCRT to operate AT command:

Need two step as below:

- Fill “+++” in the UART. After the module receive the “+++”, then will return an “a” to confirm;
- When you receive an 'a', then you need to send other 'a' within 3 seconds
- After that, module will return “+ok” to enter into the command mode.

Fill “+++” and “a” need to achieve in the time to reduce the chance of entering command mode while working normally accidentally. Detail requirement are as follows.



Time requirement:

T1 > the interval of serial port package

T2 < 300ms

T3 < 300ms

T5 < 3s

Change transparent transmission mode to AT command mode :

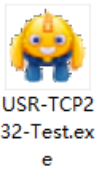
1. Serial mode device send “+++” to module continuously. If the module received ‘+++’ successfully then it will send “a” back.

2. When module received “a” and then user need to send other “a” to uart within 3s.
3. The module will return ‘+ok’ when module received ‘a’ successfully. And enter into command mode

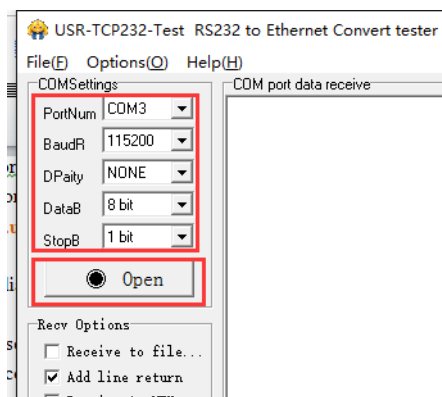
Change AT command mode to transparent transmission mode:

1. Serial device send “AT+ENTM”to module.
2. After the module receive the commend, feedback “+ok”, then back to the previous working mode.

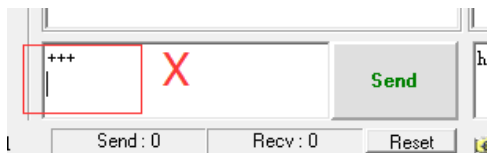
Example: Use USR-TCP232-Test.exe software to send serial command or use your own serial software or MCU send command to our module.



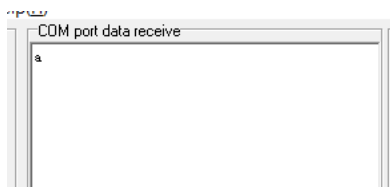
Open test program and configure the serial parameters. Click ‘Open’:



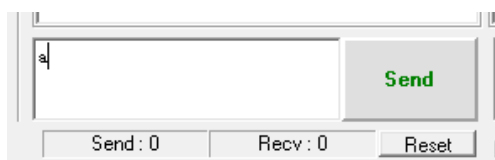
Send +++ to serial. **Notes** do not add a SPACE or ENTER, that will not return the correct character.



If you give a correct command, the module will return an 'a' likes this:



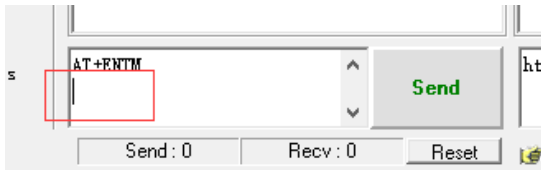
When you receive an 'a', then you need to send an 'a' within 3 seconds. You can not add any SPACE or ENTER either.



The module will return +Ok. The the module enter into the AT command mode.



Now you can send AT command to the module, but you should add an ENTER after your command.



3. Error Code

| Error | State |
|-------|-------------------------|
| ERR1 | Invalid command format |
| ERR2 | Invalid command |
| ERR3 | Invalid Operator |
| ERR4 | Invalid Parameters |
| ERR5 | Operation not allowed |
| ERR6 | No operation permission |

4. AT command set

| Command | Function |
|----------------|---|
| E | Query/Set AT command Echo function enable/disable |
| Z | Reset the module |
| VER | Query firmware version |
| ENTM | Exit serial AT command mode and enter work mode |
| MAC | Query MAC address |
| USERMAC | Set MAC address |
| RELD | Restore default settings |
| WANN | Query/Set WAN interface parameters |
| MID | Query/Set module name |
| DNS | Query/Set DNS address |
| WEBU | Query/Set Web Server username and password |
| WEBPORT | Query/Set Web Server port number |
| SEARCH | Query/Set searching port and keyword in LAN |

| | |
|-----------------------|--|
| PLANG | Query/Set default language of Web Server |
| RSTIM | Query/Set timeout reset function time |
| UARTCLBUF | Query/Set whether clearing serial port cache before module establishing connection |
| UARTn | Query/Set serial port n parameters |
| UARTMDn | Query/Set serial port n work mode |
| UARTTLn | Query/Set serial port n serial package time and serial package length |
| RFCENn | Query/Set serial port n baud rate synchronization function enable/ disable |
| SOCKAn | Query/Set serial port n socket A parameters |
| SOCKBn | Query/Set serial port n socket B parameters |
| SOCKLKA | Query serial port n socket A connection status |
| SOCKLKB | Query serial port n socket B connection status |
| SOCKSLn | Query/Set serial port n non-persistent connection function enable/ disable |
| SHORTOn | Query/Set serial port n non-persistent connection function time |
| SOCKTONn | Query/Set serial port n timeout reconnect time |
| MODTCPn | Query/Set serial port n Modbus RTU<=>Modbus TCP function enable/disable |
| MODPOLLn | Query/Set serial port n Modbus Polling enable/disable |
| MODTON | Query/Set serial port n Modbus Polling time |
| NETPRn | Query/Set serial port n Network Printing function enable/disable |
| WEBSOCKETPORT1 | Query/Set serial port 1 Websocket port number |
| REGENn | Query/Set serial port n identity packet enable/disable |
| REGTCPn | Query/Set serial port n sending method of identity packet |
| REGUSERn | Query/Set serial port n user editable identity packet data |
| REGCLOUDn | Query/Set serial port n USR Cloud ID and password |
| HTPTPn | Query/Set serial port n HTTP requesting method in HTTP Client mode |
| HTPURLn | Query/Set serial port n URL in HTTP Client mode |
| HTPHEADn | Query/Set serial port n HTTP header in HTTP Client mode |
| HTPCHDn | Query/Set serial port n filtering HTTP header of response data enable/ disable |
| HEARTENn | Query/Set serial port n heartbeat packet function enable/disable |
| HEARTTPn | Query/Set serial port n heartbeat packet type |
| HEARTDTn | Query/Set serial port n user editable heartbeat packet data |
| HEARTTMn | Query/Set serial port n heartbeat packet interval time |

Note: USR-N520 has 2 serial ports, so n=1,2.

5. AT command details

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

5.1. 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> | | |

5.2. AT+Z

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

5.3. AT+VER

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

5.4. AT+ENTM

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

5.5. 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> |

5.6. 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> | |

5.7. AT+RELD

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

5.8. AT+WANN

| Parameter | Description | Default Value | Range |
|--------------|--|---------------|--|
| <Mode> | 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 | 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> | | |

5.9. AT+MID

| Parameter | Description | Default Value | Range |
|-----------|----------------------------|---------------|------------|
| <Name> | Module name | USR-N520 | 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> | | |

5.10. 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> | | |

5.11. 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> | | |

5.12. AT+WEBPORT

| Parameter | Description | Default Value | Range |
|-----------|-----------------|---------------|---------|
| <Port> | Web Server port | 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> |

5.13. 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> | | |

5.14. AT+PLANG

| Parameter | Description | Default Value | Range |
|------------|--------------------------------|---------------|-------------|
| <Language> | Web Server language | 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> | | |

5.15. AT+RSTIM

| Parameter | Description | Default Value | Range |
|-----------|-----------------------------|---------------|--------------|
| <Time> | Timeout reset function time | 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> |
|--------|---------------------|

5.16. AT+UARTCLBUF

| Parameter | Description | Default Value | Range |
|-----------|--|---------------|--------|
| <Status> | Whether clearing serial port cache before module establishing connection | 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> | | |

5.17. AT+UARTn

| Parameter | Description | Default Value | Range |
|----------------|--|---------------|------------------------------------|
| <Baud rate> | Baud rate | 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+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> | | |

5.18. AT+UARTMDn

| Parameter | Description | Default Value | Range |
|-----------|-------------------------|---------------|--------------------------|
| <Mode> | Serial port n work mode | SWITCH | SWITCH/RS232/RS422/RS485 |
| Format | | | |
| Query | AT+UARTMDn<CR> | | |

| | |
|--------|--------------------------|
| Return | <CR><LF>+OK=<Mode>CR<LF> |
| Set | AT+UARTMDn=<Mode><CR> |
| Return | <CR><LF>+OK<CR><LF> |

5.19. AT+UARTTLn

| Parameter | Description | Default Value | Range |
|-----------|-------------------------------------|---------------|--------------|
| <Time> | Serial port package time | 0 | 0~255 ms |
| <Length> | Serial port 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> | | |

5.20. AT+RFCENn

| Parameter | Description | Default Value | Range |
|-----------|--|---------------|--------|
| <Status> | Status of 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> | | |

5.21. AT+SOCKAn

| Parameter | Description | Default Value | Range |
|--------------|---|---------------|-------------------------|
| <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) | 192.168.0.201 | 0.0.0.0~255.255.255.255 |

| | | | |
|--------|--|------------------|--|
| <Port> | Port number | n=1,2 port=23,26 | 1~65535 Local port in Server mode Remote port in Client mode |
| Format | | | |
| Query | AT+SOCKAn<CR> | | |
| Return | <CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF> | | |
| Set | AT+SOCKAn=<Protocol>,<IP address>,<Port><CR> | | |
| Return | <CR><LF>+OK<CR><LF> | | |

5.22. AT+SOCKBn

| Parameter | Description | Default Value | Range |
|--------------|--|---------------------------|--|
| <Protocol> | Network protocol | NONE | TCPC: TCP Client mode |
| | | | UDPC: UDP Client mode |
| <IP address> | Remote Server IP address (in client mode) | 192.168.0.201 | 0.0.0.0~255.255.255.255 |
| <Port> | Port number | n=1,2 port=20105/20108 | 1~65535 Local port in Server mode Remote port in Client mode |
| Format | | | |
| Query | AT+SOCKBn<CR> | | |
| Return | <CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF> | | |
| Set | AT+SOCKBn=<Protocol>,<IP address>,<Port><CR> | | |
| Return | <CR><LF>+OK<CR><LF> | | |

5.23. AT+SOCKLKA

| Parameter | Description | Default Value | Range |
|-----------|-------------|---------------|-------|
|-----------|-------------|---------------|-------|

| | | | |
|---------------|----------------------------------|------|---|
| <Status> | Status of serial port n socket A | IDLE | IDLE: Module is booting or disabling Keep-Alive function |
| | | | 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+SOCKLKA<CR> | | |
| Return | <CR><LF>+OK=<Status><CR><LF> | | |

5.24. AT+SOCKLKBn

| Parameter | Description | Default Value | Range |
|---------------|----------------------------------|---------------|---|
| <Status> | Status of serial port n socket B | IDLE | IDLE: Module is booting or disabling Keep-Alive function |
| | | | 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+SOCKLKBn<CR> | | |
| Return | <CR><LF>+OK=<Status><CR><LF> | | |

5.25. 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> | | |

5.26. AT+SHORTOn

| Parameter | Description | Default Value | Range |
|-----------|--------------------------------|---------------|--------|
| <Time> | 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> | | |

5.27. AT+SOCKTONn

| Parameter | Description | Default Value | Range |
|-----------|----------------------------|---------------|----------|
| <Time> | Timeout reconnect 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> | | |

5.28. 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> |

5.29. 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> | | |

5.30. AT+MODTON

| Parameter | Description | Default Value | Range |
|-----------|----------------------------|---------------|-----------|
| <Time> | 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> | | |

5.31. 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> |

5.32. AT+WEBSOCKETPORT1

| Parameter | Description | Default Value | Range |
|-----------|------------------------------|---------------|---------|
| <Port> | Websocket port | 6432 | 1~65535 |
| Format | | | |
| Query | AT+WEBSOCKETPORT1<CR> | | |
| Return | <CR><LF>+OK=<Port><CR><LF> | | |
| Set | AT+WEBSOCKETPORT1=<Port><CR> | | |
| Return | <CR><LF>+OK<CR><LF> | | |

5.33. AT+REGENn

| Parameter | Description | Default Value | Range |
|-----------|------------------------------|---------------|--|
| <Status> | Status of identity packet | OFF | OFF: Disabling identity packet |
| | | | MAC: Using MAC address as identity packet |
| | | | CLOUD: Using USR Cloud ID as identity packet |
| | | | USR: Using user editable identity packet |
| Format | | | |
| Query | AT+REGENn<CR> | | |
| Return | <CR><LF>+OK=<Status><CR><LF> | | |
| Set | AT+REGENn=<Status><CR> | | |
| Return | <CR><LF>+OK<CR><LF> | | |

5.34. AT+REGTCPn

| Parameter | Description | Default Value | Range |
|-----------|--------------------------------|---------------|--|
| <Method> | Identity packet sending method | First | First: Sending identity packet before first package after establishing connection. |
| | | | Every: Sending identity packet in every package. |

| | | |
|---------------|------------------------------|---|
| | | ALL: Sending identity packet with above 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> | |

5.35. AT+REGUSERn

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

5.36. 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> | |

5.37. AT+HTPTPn

| Parameter | Description | Default Value | Range |
|---------------|------------------------------|---------------|----------|
| <Method> | HTTP requesting method | 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> |

5.38. AT+HTPURLn

| Parameter | Description | Default Value | Range |
|-----------|---------------------------|---------------|---------------------|
| <URL> | HTTP URL | /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> | | |

5.39. AT+HTPHEADn

| Parameter | Description | Default Value | Range |
|-----------|------------------------------|-------------------------|---------------------|
| <Header> | HTTP Header | User_Agent: Mozilla/4.0 | Length: 0~180 bytes |
| Format | | | |
| Query | AT+HTPHEADn<CR> | | |
| Return | <CR><LF>+OK=<Header><CR><LF> | | |
| Set | AT+HTPHEADn=<Header><CR> | | |
| Return | <CR><LF>+OK<CR><LF> | | |

5.40. AT+HTPCHDn

| Parameter | Description | Default Value | Range |
|-----------|--|---------------|--------|
| <Status> | Status of filtering HTTP header of response data | ON | 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> | | |

5.41. AT+HEARTENn

| Parameter | Description | Default Value | Range |
|-----------|------------------------------|---------------|--------|
| <Status> | Status of heartbeat packet | 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> | | |

5.42. AT+HEARTTPn

| Parameter | Description | Default Value | Range |
|-----------|----------------------------|---------------|---|
| <Type> | Type of heartbeat packet | NONE | NONE: Disabling the heartbeat packet |
| | | | NET: Sending heartbeat packet to network server |
| | | | COM: Sending heartbeat to serial side |
| Format | | | |
| Query | AT+HEARTTPn<CR> | | |
| Return | <CR><LF>+OK=<Type><CR><LF> | | |
| Set | AT+HEARTTPn=<Type><CR> | | |
| Return | <CR><LF>+OK<CR><LF> | | |

5.43. AT+HEARTDTn

| Parameter | Description | Default Value | Range |
|-----------|----------------------------|---------------|--------------------|
| <Data> | 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> | | |

5.44. AT+HEARTTMn

| Parameter | Description | Default Value | Range |
|-----------|-------------|---------------|-------|
|-----------|-------------|---------------|-------|

| | | | |
|--------|----------------------------|----|-----------------|
| <Time> | Heartbeat packet interval | 30 | 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> | | |

6.Contact

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